

## *Influences of ‘Kosmos’ in ‘Earth and Man’*

*Philip K. Wilson*

In January and February 1849, a newly emigrated European natural philosopher, Arnold Guyot, delivered a series of twelve lectures before the Lowell Institute in Boston. These “enormously popular” lectures introduced several hundred listeners to a new depth of geographical understanding.<sup>1</sup> For in these lectures, Guyot expanded the view of geography from a descriptive gazetteer of places and chronology of discovery to an all encompassing view of geography as “the mutual [inter]actions of . . . different portions of physical nature upon each other . . . the perpetual play of which . . . might be called the life of the globe.”<sup>2</sup>

Although the newly arrived Guyot was, beyond his investigations into glacial motion, still a relatively unknown figure in the world of science, his lectures attracted many New England savants including Edward Everett, Henry Wadsworth Longfellow, Nathaniel Hawthorne, Horace Mann, Benjamin Pierce, George Ticknor, and Cornelius Conway Felton, the Elliot Profes-

1. Antonello Gerbi, *The Dispute of the New World: A History of a Polemic, 1750-1900* (Pittsburgh, PA: University of Pittsburgh Press, 1973), p. 525.

2. Arnold Guyot, *Earth and Man: Lectures on Comparative Physical Geography, in its Relation to the History of Mankind*, 2<sup>nd</sup> ed., rev., (Boston: Gould, Kendall and Lincoln, 1849), p. 21. For relatively recent assessments of Guyot, see especially Edith Ferrell, “Arnold Henry Guyot 1807-1884,” *Geographers: Biobibliographical Studies* 5 (1981): 63-71; George Kish, “Carl Ritter’s Influence on American Geography,” in Karl Lenz (ed) *Carl Ritter – Geltung und Deutung* (Berlin: Dietrich Reimer, 1981), pp. 205-211; Philip K. Wilson, “Arnold Guyot and the Pestalozzian Approach to Geology Education: A Model for 21st-Century College Science?,” *Eclogae Geologicae Helvetiae* 92 (1999): 321-325; and Richard J. Schneider, “‘Climate Does Thus React on Man’: Wildness and Geographical Determinism in Thoreau’s ‘Walking,’” in Richard J. Schneider (ed) *Thoreau’s Sense of Place: Essays in American Environmental Writing* (Iowa City, IA: University of Iowa, 2000), pp. 45-60. Philip K. Wilson is currently preparing a book-length scientific biography of Guyot, tentatively entitled *Glaciers, God, and Geography: Neuchâtel’s Arnold Guyot (1808-1884) at Princeton*. Guyot is also featured in the collaborative work that Robert H. Silliman and Philip K. Wilson are preparing, tentatively entitled, *Naturalists from Neuchâtel: The Agassiz Circle in American Science*.

sor of Greek Language and Literature who worked with Guyot to translate the lectures, delivered in French, into English for readers of the *Boston Daily Traveler* newspaper. These translations were gathered later that year into the book titled, *Earth and Man: Lectures on Comparative Physical Geography, in its Relation to the History of Mankind*.

As a brief testimony of *Earth and Man*'s immediate success, I turn to a few contemporary commentators. American Congregational mission administrator Rufus Anderson regarded it as "among the most valuable works produced in the age to which we belong."<sup>3</sup> Benjamin Pierce, Harvard's Perkins Professor of Astronomy and Mathematics, claimed that Guyot "set himself to work at the foundation of an almost new science, with the ability and simplicity of a true master; he has developed profound and original views . . . in the most attractive and eloquent . . . language." The new publication, he continued, shows Guyot's "ingenious investigations, sustained by faithful and conscientious research," to be "an invaluable addition to science; while the vivid and picturesque earnestness of their utterance, cannot fail to charm the least learned of his readers."<sup>4</sup>

Given Guyot's Swiss heritage, one might expect his geohistorical view to have taken the form of a vast *paysage* or landscape. The Swiss portrait of nature was, after all, an archetype of the Romantic vision. Guyot's pursuits, however, extended far beyond the aesthetic, metaphysical appreciation of the earth so common among Romantic period writings. Having studied both history and geography, Guyot combined these two fields in his vision of the earth as a primary document and argued that the earth held special significance to everything that had been connected to it throughout its history.

Interrogations and interpretations of the earth depended upon the observers' viewpoint and refinements in the observer's instrumentation; both categories that typified the Humboldtian scientific traveler of Guyot's era.<sup>5</sup> By considering the earth as an interpretable document, Guyot, like Humboldt, began to shift the paradigm of earth studies from the subjective theoretical realm to one which perceived the earth as a measurable object. This paper examines how Guyot promoted reading the earth primarily within a Humboldtian context. A brief background of Guyot shows that he developed views consistent with Humboldt in explaining the earth as a diverse, yet interconnected organic whole. Guyot's explicit reliance upon Humboldtian

3. Rufus Anderson to Arnold Guyot, July 11, 1849, Princeton Historical Society.

4. "Advertisement," in Guyot, *Earth and Man*, p. 3.

5. For a generalization of Humboldtian science, see Susan Faye Cannon, "Humboldtian Science," in her *Science in Culture: The Early Victorian Period* (New York: Dawson and Science History Publications, 1978), pp. 73-110, and Anne Marie Claire Godlewski, "From Enlightenment Vision to Modern Science? Humboldt's Visual Thinking," in David N. Livingstone and Charles W.J. Withers (eds) *Geography and Enlightenment* (Chicago: University of Chicago, 1999), pp. 236-275.

methods of observation and measurement as physiographical explanations of the world around him is examined, although one key distinction between their world views is acknowledged. Curiously, Guyot's elaboration upon this physiographical distinction points to another similarity between his views and those of Humboldt on the issue of slavery. Finally, *Earth and Man* is argued to be one of the best known U.S. popularizations of the physical geography sections that Humboldt addressed in *Kosmos*.

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### *Arnold Guyot's Berlin Influences*

Prior to migrating to the States, Guyot had gained renown for his University of Berlin studies on the morphology and temperatures of lakes and for his post-doctoral scientific investigations demonstrating that the earth and its coverings co-existed in a dynamic relationship.<sup>6</sup> Spending six weeks studying the Central Alps with Louis Agassiz during the summer of 1838 had provided Guyot with new insight into his Helvetic homeland.<sup>7</sup> As he reported to the Geological Society of France in the following September, Guyot had uncovered some key findings regarding glacial structure and motion.<sup>8</sup> His explanations were consistent with a view that all nature experienced an ongoing conflict between progress and regress over time. Like glaciers, the earth itself had developed according to struggles between opposing physical forces. If the earth appeared to be a static organism, it was only because the counterpoised forces had reached some temporary state of resolution or equilibrium.<sup>9</sup>

Guyot's explanation of nature's eternal struggle resonated with much of the natural philosophy and theology he had studied in Berlin. Guyot matriculated at the University of Berlin in 1829 intending to study theology, but soon turned his interest toward natural philosophy (i.e., science).<sup>10</sup> While in Berlin, Guyot was directly exposed to the *Naturphilosophie* influence of the Univer-

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6. Guyot's 1835 doctoral dissertation, *De Naturali Lacuum Divisione*, is dedicated to Humboldt and Ritter.

7. James D. Dana, "Memoir of Arnold Guyot 1807-1884," *Biographical Memoirs of the National Academy of Sciences* 2 (1886): 321.

8. Guyot's talk, "Observations sur Les Glaciers des Alpes," before the Société Géologique de France in Porrentruy was noted in the *Bulletin de la Société Géologique* 9 (1838): 407. Guyot gained geological renown in Switzerland for his studies on the morphology and temperatures of the lakes of Neuchâtel and Morat, and for uncovering the laws of glacial motion. In the US, his extensive and comparative hypsometrical measurements allowed him to produce accurate topographical maps of the Appalachian, Allegheny and Catskill Mountain ranges. In addition, through the support of Joseph Henry, then Secretary of the Smithsonian Institution, Guyot established fifty weather stations in New York state – modeled upon the earlier stations he designed in Switzerland – from which he gathered standardized climatological data. As James Roger Fleming discussed in *Meteorology in America, 1800-1870* (Baltimore: Johns Hopkins University Press, 1990), pp. 117-122, Guyot's stations expanded into the Government Signal System, now known as the U.S. Weather Bureau.

sity's elite. Many of these individuals focused Guyot's thinking of the struggles represented in history and geography in terms of progressive evolution. Georg Wilhelm Friedrich Hegel analyzed the progressive migration across the globe in terms of the intermingling of the folksongs of one nation with another. Leopold Ranke reinforced the idea of progress in the content of nation building. Heinrich Steffans encouraged Guyot to look at natural history and geography in terms of moral and physical evolution. Johann Neander, who approached theological history through biography, viewed progress as the result of divine influence upon individual human life.

But an even greater influence upon Guyot's progressive view of geohistory came through the ideas of the Berlin geographer and pedagogue, Carl Ritter. The earth, according to Ritter, had been divinely provisioned as "the school of man; its highest function being to assist him in his training, and to prepare him for the discharge of the noblest duties of life."<sup>11</sup> It was a dynamic, living organism, that contained regions of text like a book within which the history of all life forms could be found and upon which the history of mankind's progress could be read.

Guyot focused primarily upon the regional development of the continents. Peculiar characteristics "lead US to suspect the existence of a general law," he surmised. The continents "disclose an arrangement which cannot be without purpose . . . [and it is] our duty to seek to comprehend it."<sup>12</sup> "[S]cience may attempt to comprehend . . . the destinies of nations, by examining with care the theatre, seemingly arranged by History for the realization of the new social order, towards which humanity is tending with hope."<sup>13</sup> Guyot hoped

9. After orally sharing his discoveries with the natural philosophy community in September 1838, Guyot was persuaded by Agassiz to contribute his findings into the collective pool of knowledge that Agassiz was assembling. These findings were published as *Études sur les Glaciers in 1840*, with Agassiz receiving recognition for what, in actuality, was a collective effort. This work secured Agassiz's recognition as the glacial evangelist of Ice Age geology. The extent to which Guyot and others received due recognition for their respective discoveries during their lifetimes remains unresolved. It is clear, however, that Guyot remained faithful to the agreement made with his lifelong friend and countryman. Only after considerable persuasion did Guyot publish the true account of the discoverers' respective findings in "Observations sur Les Glaciers des Alpes en 1838," *Bulletin de la Société des Sciences Naturalles de Neuchâtel* 13 (1883): 156-169, long after Agassiz's death.

10. William Libbey, Jr., Memoir of Arnold Guyot," *Third Annual Report from the E.M. Museum of Geology & Archeology* (Princeton: The Princeton Press, 1884), p. 16.

11. Carl Ritter, "The External Features of the Earth in their Influence on the Course of History," a paper delivered before the Royal Academy of Berlin, translated by William Leonhard Gage in Gage's edited *Geographical Studies of the late Professor Carl Ritter of Berlin* (Cincinnati and New York: Van Antwerp, Bragg & Co., 1861), p. 314. Ritter's influences upon geographical thinking are developed nicely in Hanno Beck, *Carl Ritter Genius of Geography: On His Life and Work* (Berlin: Dietrich Reimer, 1979), Manfred Büttner (ed) *Carl Ritter: Zur Europäisch-Amerikanischen Geographie an der Wende vom 18. zum 19. Jahrhundert* (Paderborn: Ferdinand Schöningh, 1980), Karl Lenz (ed) *Carl Ritter – Geltung und Deutung* (Berlin: Dietrich Reimer, 1981), and *Carl Ritter: Werk und Wirken* (Gotha: VEB Hermann Haack, 1983).

12. Guyot, *Earth and Man*, p. 48.

to “disclose” this “hidden influence” which the arrangements of and life on the continents “exercise upon the life of man.”<sup>14</sup>

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### *Humboldt's Influence upon Guyot*

Guyot's thinking was also profoundly influenced by Alexander von Humboldt. No one during Guyot's formative years had personally observed more of the total earth and its inhabitants than the polymathic naturalist, explorer, and bio-geographer, Humboldt. Guyot arrived in Berlin shortly after Humboldt had gained wide acclaim from delivering what became the foundation for his magnum physiographical opus, *Kosmos* published two decades later. Humboldt was a regular attendee at Ritter's lectures on geography – lectures that Guyot also attended as a student.<sup>15</sup> Guyot paid tribute to Humboldt in many of his own writings and employed Humboldtian empirical skills in his physiographical explorations and measurements throughout Europe and North America.<sup>16</sup>

Guyot adopted Humboldt and Ritter's expressed belief in *Zusammenhang* – or a literal “hanging togetherness” of all things. In organicist terms, the earth must be viewed as a whole, dynamic, developing organism comprising Nature, man, and moral and intellectual life all interconnected or “hanging together.” Humboldt's brother, Wilhelm, acknowledged that it was Alexander who had brought “for the first time true harmony” into the study and measure of the universe. This interconnectedness implied a “grand harmony,” but a harmony that could be discussed in terms of unifying many diverse geographical parts.<sup>17</sup>

Unity, for these comparative physiographical geographers, frequently implied uncovering laws of nature. As Guyot stated in his regionalized discussion of the continents, a “comparison of the characteristic[s]” of these landforms leads to “certain features of resemblance” that suggest the “existence of a general law” accounting for all landforms across the globe.<sup>18</sup> Such similarities, he noted, included the finding that “the southern points of all the continents [were] high and rocky . . . extremities of mountain belts,” that east of each of these southern points one finds a large island or groups of islands,

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13. Guyot, *Earth and Man*, p. 33.

14. Guyot, *Earth and Man*, p. 241.

15. *The Life and Times of Alexander von Humboldt* (New York: Rudd and Carleton, 1859), pp. 426-427.

16. Upon Humboldt's death, Guyot was invited to speak in New York at the American Geographical and Statistical Society's Tribute to the Memory of Humboldt. His remarks were later published in *Journal of the American Geographical and Statistical Society* 1 (1859): 242-245.

17. Margarita Bowen, *Empiricism and Geographical Thought: From Francis Bacon to Alexander von Humboldt* (Cambridge: Cambridge University Press, 1981), p. 215.

18. Guyot, *Earth and Man*, p. 48.

and that a “deep bend” is found along the western sides of these southern continents.<sup>19</sup>

Guyot’s fixation upon terrestrial distinctions was greatly enhanced through Humboldt’s new views of the New World. Indeed, Guyot embedded Humboldt’s findings within a system of geographical ordering that he delineated as the three Laws of Contrasts:<sup>20</sup>

- Contrasts between the Continental (Northern) Hemisphere and the Oceanic (Southern) Hemisphere.
- Contrasts between the Old and New Worlds.
- Contrasts between the 3 Northern and 3 Southern Continents.

In regard to the first contrast, Guyot shared Humboldt’s views that the seas held significant influence upon the distribution of temperatures, rain and winds over land. As to the second contrast, here relying heavily upon both Ritter and Humboldt, Guyot developed general distinctions between Old and New world geography. He characterized the Old World as being more of a continental mass, elongated by countries East to West, most of which experienced similar temperate climates. In contrast, most parts of the New World were, he argued, relatively closer to the vast oceans, elongated North to South, and they experienced a gradual transition in climates, temperate and tropical, across the long axis. Guyot also compared the “assemblages” of physical characteristics on the Northern versus the Southern continents, suggesting what he called “three double worlds” of varying habitation.<sup>21</sup> Historical contrasts between northern/southern, temperate/tropical regions of the Old World were, he argued, “reproduced in the New World more strongly...between North America with its temperate climate, its Protestant and progressive people, and South America, with its tropical climate, its Catholic and stationary inhabitants.”<sup>22</sup>

In the words of historian Susan Faye Cannon, “Any romantic can climb a mountain; the Humboldtian wanted to use its height as a laboratory for observing extreme conditions of existence.”<sup>23</sup> Many of Guyot’s early investigations of nature and his *Earth and Man* lectures show his alignment with the Humboldtian, empirically-based *Naturforscher* (students of nature) who relied upon direct observation, measurement and experimentation of the physiographical world around them. He found the isothermal lines that Humboldt had introduced to be visually helpful to his own mapping of geographical spaces. He also found a great “usefulness” of employing continental “profiles” based upon the altitude of specific regions to add another visual dimen-

19. Guyot, *Earth and Man*, pp. 36-37.

20. Guyot, *Earth and Man*, pp. 115-116.

21. Guyot, *Earth and Man*, p. 42.

22. Guyot, *Earth and Man*, p. 317.

23. Cannon, *Science in Culture*, p. 78.

sion to geographical knowledge. Although a “few thousand feet of height...are nothing to the mass of the globe,” he argued, they “change entirely the aspect and the character of a country.”<sup>24</sup> Thus learning the altitude of a place was a “necessary complement” to knowing its geographical placement in order to fully appreciate its habitability.

Humboldt had closely related his hypsometric measurements of altitude with plant biogeography. His identification of similar plant assemblages in similar topographical spaces exalted him to the level, in historian Janet Browne's view, of the “statesman...of the vegetable world.”<sup>25</sup> But, as evidenced in the title of his work, *Earth and Man*, Guyot focused more upon the importance of altitude and climate to human assemblages.

In his 1849 *Earth and Man*, Guyot placed human history within the earth's geological past. In this way, the progressive development of the earth since the origin of mankind was mutually dependent upon the progressive development of humanity. Humans and nature were thought to “share the same destiny.” By working towards an in-depth understanding of nature, humans began to better appreciate the necessity of their care and conservation of nature. Humans' social responsibility for nature was, in essence, a form of self preservation. It was a dynamic, living organism that contained regions of text like a book within which the history of all life forms could be found and upon which the history of mankind's progress could be read.

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### *Key Distinction between Guyot and Humboldt*

For a discussion of man, however, Guyot found Humboldt's 1820s lectures and his later *Kosmos* to be incomplete. Only two of Humboldt's 61 lectures in 1827 had been devoted to ethnography.<sup>26</sup> Although *Kosmos* clearly documented the “intellectual advancement of man,” Humboldt left the place of human geography over the course of history as “unresolved.”<sup>27</sup> To advance these ideas further, Guyot relied upon the input of the Berlin geographer, Carl Ritter – the individual whom he claimed actually “put a soul into the material body of Humboldt's *Cosmos*.”<sup>28</sup> According to Ritter, “It is a strong faith that our globe, like the totality of creation, is a great organism, the work of an all-wise Divine Intelligence, an admirable structure, all the parts of which are purposely shaped and arranged, are mutually dependent, and by the will of the Maker fulfil, like organs, specific functions which combine themselves

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24. Guyot, *Earth and Man*, p. 52.

25. Janet Browne, *The Secular Ark: Studies in the History of Biogeography* (New Haven: Yale University Press, 1983), p. 52.

26. *The New Englander* 70 (1860): 293.

27. Bowen, *Empiricism and Geographical Thought*, p. 246.

28. Arnold Guyot, “Carl Ritter: An Address to the Society,” *Journal of the American Geographical and Statistical Society* 2 (1860), Pt. 1, 62-63.

into a common life.”<sup>29</sup> Through Ritter, Guyot began to perceive that the dynamic progressive forces associated with structural changes on the earth and in man were processes that were employed by the creator since the creation of the globe. In striking distinction from Humboldt, Guyot argued that a complete understanding of the interconnectedness of earth and man was interpretable only within a teleological context – one which would also provide an enhanced understanding of the Creator.

Ritter has argued that the progressive development of human civilization was dependent upon the diversity of physical terrestrial features. Similarly, Guyot’s dual investigations into history and geography led him to conclude that when we “glance upon the annals of Nations” we find that “the civilizations representing the highest degrees of culture...at different periods of history, do not succeed each other in the same places, but pass from...one continent to another, following a certain order.”<sup>30</sup> This arrangement of and life on the continents he deemed the geographical march of history. Asia, Europe, and North America represented what he claimed to be “the three grand stages of humanity in its march through the ages.”<sup>31</sup> By virtue of the physical structure and qualities, each continent contributed towards particular developmental stages in mankind’s “education.” Asia was the “cradle where man passed his infancy, under the authority of law, and where he learned his dependence upon a sovereign master.” Europe provided the “school where his youth was trained, where he waxed in strength and knowledge, grew to man, and learned at once his liberty and moral responsibility.” America, according to Guyot, served as “the theatre” of man’s activity “during the period of manhood; the land where he applies and practices all he has learned, brings into action all the forces he has acquired, and where he is still to learn that the entire development of his being and his own happiness, are only possible by willing obedience to the laws of his Maker.”<sup>32</sup>

Guyot’s argument appeased many progressive-minded U.S. readers who envisioned grandiose future developments within their own country. Supporting the Manifest Destiny thinking that resonated with many of his Lowell Lecture listeners, Guyot argued, that history and geography have worked for America “not to give birth and grow [in]to a new civilization, but to receive

29. Guyot, *Carl Ritter*, p. 48.

30. Guyot, *Earth and Man*, p. 300.

31. Guyot, *Earth and Man*, p. 327.

32. Guyot, *Earth and Man*, p. 327. Curiously, Guyot omitted Africa in this grand march. Ritter had described Asia as the sunrise, Africa, as the noon, and Europe as the sunset of this progress, with North America representing a new sunrise. For Ritter, who had written extensively on this continent, as being in the “consistent midday” position of the grand march. This position was attributed to its “smoothness of outline as well as the uniformity of climate” which enticed its inhabitants to “slumber and to shun outside contacts.” Preston E. James and Geoffrey J. Martin, *All Possible Worlds: A History of Geographical Ideas*, 2<sup>nd</sup> ed., (New York: John Wiley and Sons, 1981), p. 129.

one ready-made, and to furnish forth for man, whose education the Old World has completed...the scene most worthy of his [future] activity. It is here that all the peoples of Europe may meet together, with room enough to move in; may commingle their efforts and their gifts; and carry out, upon a scale of grandeur hitherto unknown the life-giving principle of modern time – the principle of free association.”<sup>33</sup> “Will any one believe that...[it] was only an accidental occurrence” that “Luther drew the Bible forth from the dust of libraries...at the moment when Columbus discovered the New World.”<sup>34</sup>

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### *Similar Abolitionist Perspectives*

Although Humboldt did not share Guyot's views about this progressive march or, more especially, the role of the Creator, it was this part of Guyot's work that brings out a strikingly similar viewpoint between these two geohistorians. *Earth and Man* garnered the support of several leading Boston abolitionists including Charles Sumner, a leader among US political opponents to slavery; George Hillard, Sumner's one-time law partner who had also written on geography and history, though more from a view of commerce that was evident in Guyot's work;<sup>35</sup> and Edward Kirk, the Congregationalist minister who would later travel with Guyot in the Southern States.<sup>36</sup> Boston publishers Gould, Kendall and Lincoln, included these abolitionists' views as testimonial support in the preliminary pages of several editions of this work. What was the special appeal of this work among these abolitionists? Guyot had, after all, only recently arrived in the States and was still a relatively unknown figure in the world of science. Moreover, his close friend and previous Academy of Neuchatel colleague, Louis Agassiz, had already offered support to polygenist thinking, noting that negroes descended from a different ancestral lineage than whites – a view that garnered Agassiz considerable support from Southern slave owners.<sup>37</sup> Indeed, many may have assumed that Guyot, whose work also received Agassiz's strong endorsement, held similar but, as of yet, unspoken beliefs. Such assumptions, however, would have been false.

Perhaps the abolitionists supporting Guyot coincidentally represented a sampling of the Boston's intelligentsia whose words any publisher would have been all too happy to cull from in order to enhance book sales. Alterna-

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33. Guyot, *Earth and Man*, p. 297.

34. Guyot, *Earth and Man*, p. 322.

35. George S. Hillard, *The Connection Between Geography and History* (Boston: William D. Ticknor, 1846).

36. David O. Mears, *Life of Edward Norris Kirk, D.D.* (Boston: Lockwood, Brooks, and Co., 1877), pp. 257-269.

37. Louis Agassiz's "Sketch of the Natural Provinces of the Animal World and their Relation to the Different Types of Man," previously published in 1845 as "Notice sur la Géographie des Animaux" in "Revue Suisse" appeared as a prefatory essay in J.C. Nott and G.R. Gliddon, *Types of Mankind* (London: Trübner, 1854), pp. lviii-lxxvi.

tively, perhaps these men were selected as local supporters of Manifest Destiny – a theme that had attracted proselytizers on both sides of the slavery issue.<sup>38</sup> Many in the U.S. held high hopes that their young nation would continue to look into her own soil and substance for something more than agricultural almanac wisdom. Fulfilling such a plan required devotion to the study of both earth and man. In their view, Guyot had arrived at precisely the right time, with a new scientific outlook, that would accelerate the fulfillment of their destined quest.

All of this may have been true, but perhaps the abolitionists also envisioned Guyot as offering something more to United States' readers. His appeal to abolitionist ideology is evident through the narrative he crafted, particularly regarding the interconnectedness between the earth and its inhabitants. To further explore this appeal, I turn briefly to two different focal points.

As one point, Guyot's endorsement of the progressive geographical march of history turned his readers' attention specifically to North America. But in the minds of many, the despicable, savage nature of slavery would forever impede the United States from reaching its geohistorically determined destiny. As another point, interspersed among his Humboldtian descriptions of continents, oceans, and climates, Guyot crafted his narrative with metaphors that vividly involved the image of slavery. As such, the work of this newcomer held a timely appeal for his North American audiences.

History, Guyot noted, had unfolded according a pattern of distinct human races, all descended from one common ancestor, but diversely distributed throughout the globe. Similar to the forces underlying continent developments, the forces of history, too, may have been universal, but they were not universally distributed. The balmy tropics, he argued, were inhabited by inward looking beings who, isolated from other cultures, were forced to look only upon their own earthly surrounds to discern intellectual and spiritual meaning. Being isolated, they had "nothing to temper or correct them," and thus they remained a stationary culture for thousands of years. Change may have affected the natural history of these lands, but tropical humans remained as savage and uncivilized as they had since the beginning of man. Guyot also sought evidence of a progressive march across continents in terms of moving towards advanced stages of moral and intellectual character.

Looking further into the specifics of this moral progressiveness, we find Guyot's heavy reliance upon the rhetoric of slavery. For example: When man,

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38. For recent overviews that discuss slavery within Manifest Destiny thinking, see Thomas R. Hietala, *Manifest Design: American Exceptionalism & Empire* (Ithaca: Cornell University Press, 1985, revised edition 2003), and Anders Stephanson, *Manifest Destiny: American Expansion and the Empire of Right* (New York: Hill and Wang, 1995).

“a child still” is “brought into the presence” of the “massive forms” and “physical vigor” of nature, he “must have felt himself, not merely a dependent, but a slave.” The river, the sun – “everything becomes to him an object of worship. He acknowledges the powers of nature as his gods, to whose mercy he feels himself to be committed, and accepts for his supreme rule the inflexible law that governs the heavenly bodies. He is falling from the world of liberty into that of necessity.”<sup>39</sup> “During long centuries of these first ages, man has...learned...that he depends on the will of a master, but that master is an inexorable despot, devoid of love. He can only fear him, if he obeys him, it is as a slave; he loves him not, nor adores him, for love presupposes liberty.”<sup>40</sup>

Guyot’s physical geography was, in essence, comparative geography. In regards to man’s enslavement to nature, he argued that in the tropics, the “life of the body over masters that of the soul; the physical instincts of our nature [over] those of higher faculties; passion, sentiment, [and] imagination predominate over intellect and reason.” Here, man is “conquered” by nature – he “submits to the yoke, and becomes again the animal man, in proportion as he abandons himself to these influences, forgetful of his high moral destination.”<sup>41</sup> This enslavement was contrasted to life in the temperate regions where “physical nature is not a tyrant, but a useful helper” and the “soul [rules] over the body” as man does over nature.<sup>42</sup> People within these regions have experienced what he called a “great emancipation from the dominion of nature.”<sup>43</sup>

I find that many times Guyot appears to have been talking about the freedom from enslavement in a specific religious context. That is, the freedom offered by turning to Christ, more specifically a Protestant perspective of Christ. The “physical man,” Guyot argued, “is not the true man...but a beginning. There is another, new-born, but destined to grow up in him, and to unfold the moral and religious nature until he attains the perfect stature of his master and pattern, who is Christ.”<sup>44</sup> Living with Christ, there is “no more idolatry, no more servitude; for he liberates man from the yoke of evil that restrains the freedom of his moral being.”<sup>45</sup>

The “progress, whereto at present all civilized society aspires,” Guyot claimed, is shown “by the beautiful formula, drawn from the gospel, but so shamelessly perverted by the false friends of progress...in words that are the

39. Guyot, *Earth and Man*, p. 305.

40. Guyot, *Earth and Man*, pp. 305-306.

41. Guyot, *Earth and Man*, p. 269.

42. Guyot, *Earth and Man*, p. 270.

43. Guyot, *Earth and Man*, p. 323.

44. Guyot, *Earth and Man*, pp. 264-265.

45. Guyot, *Earth and Man*, p. 311.

motto of the present age – Liberty, Equality, Fraternity.” Liberty to “unfold all the living forces, and all the good tendencies of man.” Equality of “rights lying in the moral nature of man.” Fraternity, “which is the law of the gospel...that unites and makes alive; a free people...unobstructed [in their] individual growth...[yet maintaining a] diversity in [their] unity.”<sup>46</sup>

However, this gospel-based freedom is also tied in to the U.S. fulfilling her destiny in the great march. Just how America will reach her goal, Guyot argued, “will be in proportion as man shall be faithful to the law of his moral nature, which is the divine law itself.”<sup>47</sup> Moving from the rhetorical to the literal, Guyot admonished slavery. Fulfillment of the divine destiny in the U.S. will only be achieved, he argued, “when slavery, that fatal heritage of another age, which the Union still drags after it, as the convict drags his chain and ball, shall have disappeared from this free soil, freed in the name of liberty and Christian brotherhood, as it has disappeared from the fundamental principles of its law.”<sup>48</sup> Slavery was a “taint” in the United States that “continued to betray the nature of the continent and the period of human progress to which [the United States] belongs.”<sup>49</sup>

For Guyot, slavery was the lingering impediment that kept the U.S. from fulfilling her divinely inspired geohistorical destiny. He was confident that, in due course, freedom would win over slavery. He was a visionary, promoting scriptural and scientific reasons for reforming the racial injustices. Yet, at least in *Earth and Man*, Guyot does not appear to have been as agitated about a pressing need to immediately free the slaves as were abolitionists like Sumner, and Hillard, and Kirk and Humboldt. Rather, he was a believer in gradual processes. Destiny was of critical concern to this devout Calvinist. However, he appreciated that change over time, progress over the earth and in man moved, we might say, with glacial swiftness. His belief about this rate of change was consistent with what he observed in determining the laws of glacial motion. Although more of a gradualist in this thinking, his sentiment was similar to that of the immediatist thinking of Humboldt. “Without doubt,” Humboldt argued, slavery was the “greatest of all the evils which have afflicted mankind.” Humboldt has criticized the savagery of slavery he found in Cuba and in New Spain, but he directed his greatest ridicule against the slavery perpetuated within that country that proclaimed freedom as its cornerstone – the United States.

Curiously, Humboldt and Guyot’s writings both faced unwanted abridgements in the hands of others. Humboldt’s findings on slavery in Cuba were first published in French (1826) and Spanish (1827); the first English transla-

46. Guyot, *Earth and Man*, pp. 319-320.

47. Guyot, *Earth and Man*, p. 327.

48. Guyot, *Earth and Man*, p. 298.

49. Guyot, *Earth and Man*, p. 302.

tion appearing in 1856. In the English version, the pro-slavery Southern translator, J.S. Thrasher, omitted any reference to slavery in attempt to downplay Humboldt's characterization of its savage brutality. Humboldt's indignation with Thrasher's treatment played out in a number of New York newspapers until the end of Humboldt's life (1859).<sup>50</sup>

In an 1850 British publication of Guyot's *Earth and Man*, an editor expunged "every sentence favourable" to the United States.<sup>51</sup> It seems that three-quarters of a century after the American Revolution had not quelled all of England's animosity towards the States. Although the editor sought to popularize much of Guyot's new view of geography, he prevented readers from encountering Guyot's argument that the New World, and especially the United States, was the ultimate seat of humankind's perfection.

Guyot, who was otherwise generally reserved and reticent in his mannerisms, launched an attack against this publication in the revised U.S. edition of *Earth and Man* also published in 1850. This "mutilated edition," Guyot argued, included many passages "not advanced by the author." Moreover, in other places, "over thirty pages of the original edition...have been suppressed" which were "essential to the continuity of the argument" as well as "containing [the] conclusions" about the United States that Guyot had previously drawn.<sup>52</sup>

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### *'Earth and Man' popularizes 'Kosmos'*

Although new and original to many U.S. readers, Guyot's *Earth and Man* popularized a geohistorical view that had been central to German Romantic idealism. Employing the ethos of Humboldt, Guyot guided his readers both across the globe and through history. Like Humboldt, he took his argument one step further than many of the romantics, venturing from the realm of the speculative to that of a measurable reality. Guyot evoked Ritter's belief that Humboldt "endowed with the spirit of antiquity and with a mathematical method, passed through the entire domain of physics...astronomy, geology, and...physiology" whereupon he convincingly "employed his method as the measuring rod of the world."<sup>53</sup> For Guyot, the *Totalorganisation* of the Cosmos was physically observable within the earth and in its inhabitants. Civilization became perfected in proportion to developmental advances. The

50. For a documented overview of Humboldt and slavery, see Philip S. Foner (ed), *Alexander von Humboldt on Slavery in the United States* (Berlin: Humboldt-Universität zu Berlin, n.d.)

51. "E. Gover, Sen." published this so called "Revised" edition. Review of *Earth and Man*, *The Princeton Magazine* 1 (1850): 335.

52. Guyot, *Earth and Man*, Preface to the Second Edition, p. 8.

53. Carl Ritter, Introductory Essay to General Comparative Geography (Erdkunde), William Leonhard Gage, trans., *Geographical Studies of the late Professor Carl Ritter of Berlin* (Cincinnati and New York: Van Antwerp, Bragg & Co., 1861), p. 128.

“physical domain” of the civilized nations of each continent expanded its extent and population accordingly. Physical development of both the earth and humanity corresponded to moral development. Progress occurred, according to divine guidance, in precisely the regions that allowed for the passage of both the geographical and the human soul.

The popularity of *Earth and Man* prompted at least thirty one printings in the U.S. into the twentieth century, as well as five British editions, and foreign translations in German (1851, 1873) and French (1888). Although it may be virtually unknown today, Guyot’s *Earth and Man* was the *National Geographic* of its age. Contemporaries had argued that Humboldt’s *Kosmos* and Ritter’s *Erdkunde* would “together be handed down to posterity as an enduring monument of the extent to which the knowledge of nature, and especially of its relation to man, had been carried into the nineteenth century.”<sup>54</sup> To “define the relative value” of Humboldt and Ritter was “needless,” contemporaries argued, since their works complemented each other, adding to a grand and complete summation of knowledge of the natural world. Perhaps the lasting appeal of Guyot’s *Earth and Man* was primarily due to the author’s ability to extract key components from both Humboldt and Ritter and to synthesize them into what one contemporary reviewer claimed to be the “most clear, attractive, and simple introduction to one of the most useful and grand studies to which the human mind can be devoted.”<sup>55</sup>

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54. *The New Englander*, p. 280. Ritter’s “*Die Erdkunde im Verhältniss zur Natur und zur Geschichte des Menschen*” appeared in German in 19 volumes between 1822 and 1859.

55. *The Methodist Magazine* (New York) 3<sup>rd</sup> Series, 9 (1849): 501.