THE 'EMERSON MUSEUM' AND THE DARWIN EXHIBIT: OBSERVATION, CLASSIFICATION AND DISPLAY IN THE EARLY WORKS OF RALPH WALDO EMERSON AND CHARLES DARWIN

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Abstract

This article builds on the work of Lee Rust Brown, whose *Emerson Museum* (Harvard UP, 1997) established the museum as a model through which Ralph Waldo Emerson's writings could be approached and explained. Taking into account both nineteenth-century curatorial practices and present-day museum theory, I expand Brown's model to include the specific curatorial practices of observation, classification, and display. I show how Emerson and his British contemporary, Charles Darwin, drew upon these practices in their thoughts and in their writings. I demonstrate how both men employed the techniques of observation and classification as their primary means of analysis, and how, in recording their results, they followed similar paths of display—private thought to printed notebook, printed notebook to published page.

While most critics place Emerson and Darwin on opposite sides of a humanistic/scientific divide, I contend that the Emersonian and Darwinian conceptions of the natural world converge in their mutual understanding of that world as fluid and evolving, not static and fixed, and in their attention to the fundamental relationships between organisms and their environments. While Emerson and Darwin, undeniably, reached different conclusions, my article shows how their shared methodological approach, deeply influenced by contemporaneous ideas about museum display, results, in both cases, in a narrative that links natural order and language. I argue that the works of Emerson and Darwin can each be understood in terms of a process of translation between nature and language, one in which hidden relations are revealed over time.

I also bring to light Darwin's ambivalence about the museum as a method of conveying information and ideas to the public. By contrasting Darwin's concerns about the limitations of museum display with Emerson's wholehearted embrace of the curatorial practices of the time, I show how Darwin arrives at his decision to describe the process of evolution by natural selection in the form of a book. I conclude that only with the underlying concept of the museum in his mind, and with an awareness of its limits, was Darwin able to embrace language as the tool that would allow him to fill in the gaps between his own observation and classification of the natural world and the resultant display of his evolutionary theory.

In November 2005, a major exhibit on Charles Darwin (1809-1882) opened at the American Museum of Natural History in New York City. Prior to the opening, Michael Novacek, the curator of the museum's Division of Palaeontology, guided reporters through the exhibition. In front of a case displaying Darwin's magnifying glass, Novacek paused to explain 'It's a very simple instrument. We want people to

get the sense that he defined biology, and yet he used very simple tools'.[1] The next month, my own visit to the museum confirmed this perception. At the exhibit's entrance, next to a cage of live Galapagos Finches, a placard proclaimed Darwin the foremost 'observer of nature'. As the hall merged into a room of fossils and skeletons, I noticed in the bottom right corner of each enclosure the words 'Looking Closely' in large red type, and prominently positioned, a small, handheld magnifying glass.[2]

Certainly Charles Darwin looked closely at the elements of life. In 1831, at the age of 22, Darwin embarked on a round-the-world voyage aboard the *HMS Beagle*. Employed as the ship's naturalist, Darwin spent over five years observing life in remote parts of the world, collecting a vast array of specimens, and recording his ideas and impressions in a series of notebooks and journals. These writings, edited and rearranged, were published first in 1839, and again in 1845, as the volume now titled *Voyage of the Beagle*.[3]

In 1833, while Darwin was in the midst of his journey, Ralph Waldo Emerson (1802-1882) set sail for Europe, suffering a crisis of religious faith and, in addition, seeking consolation for the death of his first wife. On 13 July of that year, Darwin in Montevideo prepared crates of specimens to be sent back aboard a mail ship, where he hoped they would reside in the 'largest & most central collection' of England.[4] Simultaneously, Emerson in Paris paid his celebrated visit to the famed natural history museum at the *Jardin des Plantes*. While Darwin dried plant clippings, preserved animal samples and cleaned and labelled fossils and rocks, Emerson explored the French museum's botanical and geological collections. He examined its zoological cabinets (arranged by Georges Cuvier), and studied its shell displays (laid out by Jean-Baptiste Lamarck). On that day in July, both men were processing specimens—Darwin in his makeshift laboratory, and Emerson in his mind. The next day, Emerson remarked in his journal 'I am moved by strange sympathies; I say continually 'I will be a naturalist''.[5]

Unlike Darwin, Emerson never became a naturalist. Instead, he embarked upon

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1 Ben McGrath, 'Darwin in Manhattan,' *The New Yorker*, 21 November 2005, <http://www.newyorker.com/printables/talk/051121ta_talk_ mcgrath> [accessed 13 January 2010] (para. 7).

2 Between 2005 and 2008, the Darwin exhibit travelled to Boston, Chicago, and Ontario, before becoming incorporated into the Darwin Centre of the Natural History Museum in London, which opened its doors on 15 September, 2009. More information about the Darwin exhibit can be found on the American Museum of Natural History website: < http://www.amnh.org/exhibitions/darwin/>. More information about the Darwin Centre can be found on the Natural History Museum website: < http://www.nhm.ac.uk/about-us/darwin-centre/index.html>.

3 The *Voyage of the Beagle* was first published in 1839 as the third volume of the *Narrative of the Surveying Voyages of His Majesty's Ships Adventure and Beagle, between the years 1826 and 1836, describing their examination of the Southern Shores of South America, and the Beagle's Circumnavigation of the Globe*. Captains Philip King and Hugh Fitzroy penned the first two volumes. In 1845, the *Voyage of the Beagle* was published separately, as the *Journal of Researches into the Natural History and Geology of the countries visited during the voyage of H.M.S. Beagle round the world under the command of Capt. FitzRoy*. This second edition, now known as the *Voyage of the Beagle*, is the version cited in this paper.

4 Quoted. in Janet Browne, *Charles Darwin: Voyaging* (New York: Knopf, 1995), p. 208.

5 Ralph Waldo Emerson, *The Journals of Ralph Waldo Emerson, 1820-1872*, eds. Edward Waldo Emerson and Waldo Emerson Forbes (New York: Houghton Mifflin, 1910), III, p. 163. Referred to hereafter as *J*.

a career as a lecturer and essayist, delivering 'The Uses of Natural History' in late 1833, composing *Nature* in 1836, and publishing his first series of essays in 1841.[6] Through his public appearances and additional written works, Emerson applied his experience at the *Jardin des Plantes* to produce, in his words, a 'natural history of the intellect.'[7] Emerson's visit to the museum in Paris has been recognized by Lee Rust Brown, in *The Emerson Museum*, as a significant influence on his later intellectual direction. Brown's conception of the museum as an 'assignment of huge varieties of natural particulars, brought from all parts of the earth, to the unifying structures of a few ideational systems', provides a construct for the analysis of Emerson's strategies of writing.[8] To Brown's construct, I will add that the processes of classification that underlie the order of the museum, and the techniques of observation that are assumed of its visitors, suggest a more precise model of interpretation for Emerson's oeuvre. What is more, these classificatory processes and observational techniques are central to Darwin's work as well.

The nineteenth century, the century of Emerson and of Darwin, has been widely recognized as 'The Museum Age'. In his eponymous book, Germain Bazin identifies the French Revolution as the catalyzing moment in the formation of the modern museum. With an immediate need to educate a new, and newly powerful, middle class, the government tasked a group of science professors with converting the former royal botanical gardens into a museum of natural history for public use. John Pickstone notes that the British Museum 'played a similar role in London, along with the botanical gardens at Kew, initially developed as a royal estate'. By the mid-nineteenth century, as Pickstone explains, these museums 'were seen as collecting places for imperial treasures and as inventories of imperial possessions and resources'. Pickstone's emphasis is on how public officials perceived natural history museums as expressions of national identity and imperial might, and Richard Fortey confirms: 'The great proliferation of museums in the nineteenth century was a product of the marriage of the exhibition as a way of awakening intelligent interest in the visitor with the growth of collections that was associated with empire and middle-class affluence'. But in his account, Fortey also underscores the social function of museum-going for the visitors, themselves: 'Attendance at museums was as much associated with moral improvement as with explanation of the human or natural world,' he explains.[9] As the overwhelming public response to the Great Exhibition of 1851 would soon confirm, the British people were eager to educate themselves by

6 Emerson continued to lecture and publish essays until his death in 1882, the same year as Darwin's. For a more detailed timeline, see 'The Complete Works of Ralph Waldo Emerson' online at: <http://rwe.org/pages/time-line.htm>.
7 The title of Emerson's 1870 lecture series.
8 Lee Rust Brown, *The Emerson Museum: Practical Romanticism and the Pursuit of the Whole* (Cambridge: Harvard University Press, 1997), p. 60.
9 Germain Bazin, *The Museum Age*, trans. Jane Van Nuis Cahill (New York: Universe Books, 1967), p. 20. John V. Pickstone, *Ways of Knowing: A New History of Science, Technology, and Medicine* (Chicago: University of Chicago Press, 2000), p. 74. Richard Fortey, *Dry Storeroom No. 1: The Secret Life of the Natural History Museum* (New York: Knopf, 2008), p. 42.

observing the objects of empire on display.

Emerson seems not to have considered the opportunities for social improvement, or the expressions of imperial power, when he attended the natural history museum at the *Jardin des Plantes*. Instead, the 'strange sympathies' that affected him upon viewing Cuvier's cabinets and Lamarck's shells indicate the start of his own 'romance' with natural history. This romantic attraction to the natural world, as Lynn Merrill has shown, imbued the ethos of the Victorian Age. But what Lynn Barber depicts as a 'national obsession' of the nineteenth-century took root nearly a hundred years previously. Upon the first publication of Linnaeus's *Systema Naturae*, in 1735, as Harriet Ritvo explains, systems for classifying plants and animals were immediately hailed 'as both a symbol and an agent of a larger intellectual triumph, one that could ultimately reverse the traditional relationship between humans and the natural world'.[10] While the specifics of Linnaeus's classification system would soon be challenged by Cuvier and others, the idea that classification could lead to mastery and control over a particular area of knowledge, and hence position man at the pinnacle of the great chain of being, was embraced by natural historians, government officials and private citizens alike.

Simultaneously, on the other side of the Atlantic, Americans were just beginning to be affected by what David Reynolds terms 'the science bug'. For the most part, United States citizens continued to insist on an order that placed God above both human beings and the natural world. As Reynolds points out, the noted Yale scientist Benjamin Silliman was able to declare, as late as 1818, in the first issue of the *American Journal of Science*, that 'The whole circle of physical science… everywhere demonstrates both supreme intelligence, and harmony and beneficence of design in THE CREATOR'.[11] Not only does Silliman's invocation of the 'whole circle' of science run counter to the metaphor of the chain of being that dominated British scientific discourse at the time, but it demonstrates there was little credence in America given to an interpretation of natural history which gave humans preeminence. According to Silliman, and to most Americans in the early years of the nineteenth century, nature was undeniably ordered by God—even if scientists had learned to name and classify His creations.

It would thus be easy to place Emerson and Darwin on opposite sides of a scientific divide. Emerson certainly believed that the order of nature was arranged by God. Darwin, of course, came to view nature as a reflection of the process of evolution by natural selection. Emerson, moreover, perceived nature as a metaphor for the mind. Darwin, for his part, understood nature as a mechanism in which man played only a minor part. But the Emersonian and Darwinian conceptions of the natural world converge both in their mutual understanding of the natural world as one

10 Lynn Merrill, *The Romance of Victorian Natural History* (New York: Oxford University Press, 1989), p. 1. Lynn Barber, *The Heyday of Natural History, 1820-1870* (New York: Doubleday, 1984), p. 9. Harriet Ritvo, *The Platypus and the Mermaid, and Other Figments of the Classifying Imagination* (Cambridge: Harvard University Press, 1997), p. 18.
11 David S. Reynolds, *Waking Giant: America in the Age of Jackson* (New York: Harper Collins, 2008), p. 220.

that is not static, but is fluid and evolving, and also in their attention to the fundamental relationships between organisms and their environments.[12]

In addition, Emerson and Darwin share a number of scientific influences. Joan Richardson notes that both men studied the theories of Cuvier and Lamarck, as well as earlier works by Augustin de Candolle, Alexander von Humboldt and Charles Lyell, among others.[13] With this knowledge—and poetic inclination—it is possible to view Emerson and Darwin themselves as figures for Darwin's famed finches. Although they have comparable intellectual origins, the men were separated by geography and culture. They evolved independently and eventually derived separate conclusions. Nevertheless, Emerson and Darwin continued to rely on similar methods of analysis: techniques of observation and classification. Furthermore, in recording the results of these analyses, Emerson and Darwin again follow similar paths: private thought to printed notebook, printed notebook to published page.

The construct of the museum courses through each of these processes—in Emerson as a guiding principle, and in Darwin, as I will demonstrate, as a goal of research. But the museum fulfils its most elucidatory capacity for readers, that is to say, for visitors to the works of each great thinker. The museum reinforces techniques of observation by encouraging careful and nuanced examination, and clarifies order through the classification of the objects on display. Visible elements are arranged so as to expose invisible relationships, thus conveying knowledge from private to public, from expert to amateur. The museum both performs and produces narrative—in particular, a narrative that links natural order and language. In a sense, the projects of Emerson and Darwin can each be understood in terms of a process of translation between nature and language, one in which hidden relations are revealed over time. In his project, Darwin described instances of evolution. Emerson, by contrast, adumbrated his project in terms of eyeballs, circles, and rotations. But both scholars draw upon the museum's theoretical underpinnings and its practices of display. In reading Emerson's early lectures and essays as they contrast with Darwin's *Voyage of the Beagle*, the construct of the museum emerges as the idea that illuminates each author's particular strategies and goals.

The museum instructs its visitors in the technique of observation—the primary method employed by both Emerson and Darwin. In her work on Georges Cuvier, Dorinda Outram explains how his galleries, the same that Emerson viewed at the *Jardin des Plantes*, were 'full of objects to be looked not *at*, but *into*'. Outram demonstrates how Cuvier's style of presentation encouraged an observational mode attuned to issues of depth and relation. In *The Birth of the Museum*, Tony Bennett, following Pierre Bourdieu, describes how curators continue to arrange installations so

12 Joseph Carroll's *Evolution and Literary Theory* (Columbia: University of Missouri Press, 1995) provides a thorough account of Darwin's attention to the relation between organism and environment, and its impact on the emergence of modern literary theory.

13 Joan Richardson, *A Natural History of Pragmatism: The Fact of Feeling from Jonathan Edwards to Gertrude Stein* (New York: Cambridge University Press, 2007), p. 88.

that visitors 'can both *see* [the objects] on display and *see through* them to perceive the hidden order of art which subtends their arrangement'.[14] Bennett traces the emergence of a model for museum curation that emphasises looking 'into' and seeing 'through.' Both Emerson and Darwin, in their private journals and published works, put this museum model of observation on display.

Emerson, in his lectures and essays, describes a method of observation that is learned, immersive, and ultimately, metaphoric. In 'The Uses of Natural History', Emerson's first lecture delivered several months after his visit to the *Jardin des Plantes*, he employs his experience at the museum to demonstrate how the 'instructed eye' learns to perceive the 'history of the thing' in a single glance.[15] Emerson suggests that the scholarly study of natural history adds the impetus to spontaneously uncover the historical essence of individual artefacts. In *Nature* Emerson loosens the academic strictures on observation and instead proposes a new kind of transcendental sight. He explains 'The axis of vision is not coincident with the axis of things and so they appear not transparent but opaque'.[16] Emerson no longer believes that clarity can be achieved through the study of natural history alone. In order to penetrate the opacity of things, man must first observe himself. Man, he writes, 'cannot be a naturalist until he satisfies all the demands of the spirit' (*PE*, p. 48). When he succeeds in decoding his mind, man will then be able to decipher the 'solution in hieroglyphic' to the order of natural things (*PE*, p. 8).

Emerson's process of cerebral exploration as experiential and immersive is similar to the process of 'informed' observation that he demonstrates at the museum (*EL*, p. 17). In *Nature,* Emerson famously describes a moment of transcendent sight: 'Standing on the bare ground, —my head bathed by the blithe air and uplifted into infinite space, —all mean egotism vanishes. I become a transparent eyeball; I am nothing; I see all; the currents of the Universal Being circulate through me; I am part or particle of God' (*PE*, p. 11). In this passage, Emerson's normal visual processing is replaced by an instance of universal sight. He not only acquires the ability to perceive the transparency of things; his eyes themselves become transparent. He becomes immersed in and integrated with nature, 'part or particle of God'. For Emerson this experiential observation offers divine clarity. Modelled after his revelatory visit to the *Jardin des Plantes*, he 'come[s] to look at the world with new eyes' (*PE*, p. 49).

Like Emerson's description of his transcendent experience in *Nature*, Darwin's chronicle of his transformative encounters with nature in the *Voyage of the Beagle* also illustrates well-honed techniques of observation. But while Emerson explicitly

14 Dorinda Outram, *Georges Cuvier: Vocation, Science and Authority in Post-Revolutionary France* (Dover: Manchester University Press, 1984), pp. 175-6. Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (New York: Routledge, 1997), p. 35.

15 Ralph Waldo Emerson, The Early Lectures of Ralph Waldo Emerson, eds. Stephen Whicher and Robert Spiller (Cambridge, Mass.: Belknap-Harvard University Press, 1966), p. 17. Referred to hereafter as EL.

16 Ralph Waldo Emerson, *The Portable Emerson*, eds. Carl Bode and Malcolm Cowley (New York: Viking, 1981), p. 48. Referred to hereafter as *PE*.

conveys his techniques to his audience—for Emerson, after all, the method is the message—Darwin's methods must be gleaned from the vast catalogue of his account. Rather than broadly describing his techniques, Darwin demonstrates them with visual acuity and literary precision. Take, for example, his entry on the rocks of St. Paul:

> The rocks of St. Paul appear from a distance of a brilliantly white colour. This is partly owing to the dung of a vast multitude of seafowl, and partly to a coating of a hard glossy substance with a pearly lustre, which is intimately united to the surface of the rocks. This, when examined with a lens, is found to consist of numerous exceedingly thin layers, its total thickness being about the tenth of an inch. It contains much animal matter, and its origin, no doubt, is due to the action of the rain or spray on the birds' dung.[17]

In this passage, Darwin models the techniques of 'looking closely' and 'seeing through'. He first notes the rocks' appearance 'from a distance'. Then he observes the rocks from close up, noting the composition of the sediment on their surface. With a 'lens', he examines the sediment in detail, recording its consistency and measuring its 'thickness'. Finally, he theorizes about its 'origin'. Because he has performed so thorough an investigation, he has 'no doubt' as to the nature of the substance. At all times, however, Darwin's observing eye is invisible: he uses the passive voice to describe what are presumably active procedures: 'is united', 'when examined', and 'is found'. As the museum offers implicit instruction through the arrangement of its installations and displays, Darwin convinces his readers through example, not explication. His are instructions for a penetrating technique of total observation.

For both Emerson and Darwin, observation is only the first step in the investigation of natural phenomena. The second, equally significant stage, is classification. Classification conveys order, as in the museum exhibit in which visible objects are arranged so as to convey invisible forms and relations. According to Tony Bennett, all museum exhibits 'are involved in organizing an exchange between the fields of the visible and the invisible which they establish'. Bennett's conception of classification is free and open; it encourages the 'exchange' and production of ideas. As recent scholarship on Victorian curatorial practices has shown, however, the order that is conveyed through the systems of classification employed by nineteenth-century museums is more socially fraught. 'In the case of England', Jonah Siegel explains 'the period leading up to the first Reform Bill of 1832 marks the forceful beginning of a national debate about the place of people in the museum, and the role of the museum in shaping the people'. Siegel suggests that the natural history

17 Charles Darwin, *From So Simple A Beginning: The Four Great Books of Charles Darwin,* ed. E.O. Wilson (New York: Norton, 2006), p. 37. Referred to hereafter as *SB*.

museum in fact 'shares characteristics not only with such emergent social structures as the newly reformed schools and universities but also with more popular venues, such as the pleasure ground, the park, even the public house—indeed, with the modern city itself'.[18] Just as designs for parks and cities took into account how the masses might be ordered and arranged, so too did the natural history museum. Its classifications conveyed the scientific order of biological specimens and the social order of British society.

Always attendant to issues of ideology embedded in social structures, Michel Foucault, in *The Order of Things*, explores the function of the museum in terms of resistance and exposure. Interestingly, Foucault illustrates his ideas about the empowering aspects of classification with the example of Cuvier's cabinets: 'One day, towards the end of the eighteenth century, Cuvier was able to topple the glass jars of the Museum, smash them open and dissect all the forms of animal visibility that the Classical age had preserved in them'. Foucault describes Cuvier's installation at the *Jardin des Plantes* as a 'mutation in the natural dimension of Western culture', an unexpected development that is later revealed to have held a competitive advantage over others. In keeping with the Darwinian scheme of survival of the fittest, Cuvier's exhibit does not effect immediate change. Rather, in Foucault's words, it 'provides the basis for the exterior possibility of a classification' that 'arises from the depths of life, from those elements most hidden from view'.[19] Here, Foucault suggests that encouraging visitors to arrive at their own criteria for classification, as the 'invisible' cues of Cuvier's cabinets enabled Emerson to do, may help to 'topple' the dominant ideologies of the time, and to reveal alternate manifestations of forms of culture that may have been suppressed or 'hidden from view'.

When Emerson visited the *Jardin des Plantes* he grasped the ways in which the museum's system of classification revealed hidden elements and relationships, even if he was not attuned to the issues of empire subtended by the objects' arrangement. Upon returning home, he remarked in his journal 'How much finer things are in composition than alone. 'Tis wise in man to make cabinets' (*J*, III, p. 161). In 'The Emerson Museum', the essay that preceded his book of the same name, Brown examines this journal entry for clues to understanding the origins of Emerson's transcendental thought: 'Series, form, organization, relation—these are the key terms of the visual experience Emerson explores. They pertain to the intellectual practices, actual and possible, of 'man the observer''.[20] Indeed, in the introduction to *Nature*, Emerson defines his project, an explication of the natural world, as a process of 'enumerating the values of nature and casting up their sum' (*PE*, p. 8). In 'The American Scholar' Emerson more explicitly propounds the museum model of

18 Bennett, p. 35. Jonah Siegel, *The Emergence of the Modern Museum: An Anthology of Nineteenth-Century Sources* (New York: Oxford University Press, 2008), p. 4.
19 Michel Foucault, *The Order of Things: An Archaeology of Human Sciences* (New York: Vintage, 1994), pp. 137-8, p. 138, p. 268.
20 Lee Rust Brown, 'The Emerson Museum,' *Representations*, Vol. 40 (Autumn 1992), pp. 57-80, (p. 58).

classification as a way to understand the invisible relation between nature and intellect:

> To the young mind every thing is individual, stands by itself. By and by, it finds how to join two things and see in them one nature; then three, then three thousand; and so, tyrannized over by its own unifying instinct, it goes on tying things together, diminishing anomalies, discovering roots running under ground whereby contrary and remote things cohere and flower out from one stem. It presently learns that since the dawn of history there has been a constant accumulation and classifying of facts (*PE*, pp. 53-4).

In this account, Emerson outlines a developmental process that explains how individuals progress from perception of discrete objects to the unification of experience through a system of classification. He presents this process, repeated over time, in the figurative language of tree 'roots' and flowers 'stems', connoting both a historical and a generative relation among natural things. Anticipating Darwin's model of the 'Tree of Life', Emerson asserts that nature not only supplies the items to be classified, but also functions as a model for the system of classification that best organises its diverse specimens (*SB*, p. 533).

Emerson employs the museum model of classification both as a critical practice and as a compositional technique. Having amassed a diverse collection of writings in his notebooks and journals, Emerson, according to Brown, 'wished for a compositional method that would bring out relations already inherent in the textual material; the pathways hidden within the miscellaneous writing would make up the outline of a new, more necessary disposition'.[21] More precisely, after his visit to the museum, Emerson began to perceive his thoughts as specimens.

In a letter to Thomas Carlyle Emerson described his first collection of essays in terms that partially belie its careful, museum-like, arrangement:

> In a fortnight or three weeks my little raft [the 1841 *Essays*] will be afloat. Expect nothing more of my powers of construction,—no ship-building, no clipper, smack, nor skiff even, only boards and logs tied together… I dot [sic] evermore in my endless journal, a line on every

21 Brown, 'Museum', p. 59.

> knowable in nature; but the arrangement [of the *Essays*] loiters long, and I get a brick-kiln instead of a house.[22]

By likening his publication to a 'little raft' instead of a 'clipper' and 'brick-kiln instead of a house' Emerson suggests that his essays may supply basic building materials, but are limited nonetheless in their practical applications. This relationship is suggestive of the interactive exchange that occurs when visitors view objects in a museum. In Emerson's words, 'A classification is nothing but a cabinet. The whole remains to be done thereafter' (*J*, III, p. 284). The cabinet may furnish a model of classification, but it is the viewer who must apply his interpretative powers in order to extract meaning from its contents. If the cabinet here is the life raft, man must arrive at the museum ready to row.

For Darwin to arrive at his theory of evolution by natural selection, he required a vessel much more seaworthy than 'boards and logs tied together'—and in point of fact, the *Beagle* was a *Cherokee*-class ten-gun brig. But in terms of conceptual durability Darwin recognised that he would require an interpretive framework that would bend with the social forces of the time, while sailing forward into the future. George Levine suggests that Darwin's ideas about evolution acquired cultural currency 'not only because they developed out of and reinforced the givens of his moment and the ideological commitments of many who first read him, but because they managed to bring something to the argument that allows them to survive their particular history and feed other, even contradictory, uses. Levine suggests that Darwin's ideas themselves were adaptable. Undeniably, Darwin crafted his theory as a supplement to existing ideas rather than as a revision. He incorporated geographical ideas from Humboldt, geological concepts from Lyell, and, as Levine has shown in his other works, narrative strategies from an array of Victorian novels. At the same time, he established his revolutionary claim that God had not placed each creature individually on the earth.[23]

But Darwin's writing suggests that he recognized the museum process of classification—the same that provided Emerson with his interpretative framework—as an additional ideological 'given' onto which he might graft his ideas about the evolution of the natural world. In the *Voyage of the Beagle*, Darwin presents abundant examples that illustrate his understanding of how classification can reveal hidden influences among species and across time. In Bahia Blanca, Darwin unearthed the fossilised bones of a Toxodon, 'perhaps one of the strangest animals ever discovered':

22 Quoted in Lawrence Rosenwald, *Emerson and the Art of the Diary* (New York: Oxford University Press, 1988), p. 72.

23 George Levine, *Darwin Loves You: Natural Selection and the Re-Enchantment of the World* (Princeton: Princeton University Press, 2006), p. 16. Also see Levine's other works, *Darwin and the Novelists: Patterns of Science in Victorian Fiction* (Chicago: University of Chicago Press, 1988) and *Dying to Know: Scientific Epistemology and Narrative in Victorian England* (Chicago: University of Chicago Press, 2002).

> In size it equalled an elephant or megatherium, but the structure of its teeth… proves indisputably that it was intimately related to the Gnawers, the order which, at the present day, includes most of the smallest quadrupeds: in many details it is allied to the Pachydermata: judging from the position of its eyes, ears, and nostrils, it was probably aquatic, like the Dugong and Manatee, to which it is also allied. How wonderfully are the different Orders, at the present time so well separated, blended together in different points of the structure of the Toxodon! (*SB*, p. 94)

This investigation of the Toxodon involves several types and layers of classification. Darwin assigns the Toxodon a size equal to the elephant and other large beasts. Based on an assessment of its facial features, he locates the Toxodon within the aquatic order. Decoding the internal 'structure of its teeth,' Darwin determines the Toxodon's likeness to other animals ('the smallest quadrupeds'). Using visual indicators and contextual cues, Darwin divides its 'blended' attributes into the 'well separated' categories of his 'present day'. Using this method, Darwin 'indisputably prove[s]' the Toxodon's relation to other species and determines its 'probable' place in time.

On the Galapagos Archipelago, Darwin develops a new focus on the formulation of his theory of evolution by natural selection. After observing the islands' indigenous finches, he concludes that 'seeing this gradation and diversity of structure in one small, intimately related group of birds, one might really fancy that from an original paucity of birds in this archipelago, one species had been taken and modified for different ends' (*SB*, pp. 330-1). Again, Darwin evaluates his observations in terms of 'structure' and 'related groups'. This, according to Gillian Beer, is Darwin's primary focus: 'What Darwin emphasizes is relationship—the ordinary chain of generation—the sense of progeny and diversification, of a world in which profusely various forms co-exist, unseen and yet dependent on each other and related to each other by blood or need'.[24] These relationships, which Darwin reveals through his process of classification, will eventually yield 'that great fact—that mystery of mysteries—the first appearance of new beings on this earth' (*SB*, p. 329).

Darwin, like Emerson, required a method of writing that would convey the specificity and range of the relationships he discerned on his round-the-world voyage. In fact, significant critical attention has been paid by Beer, Levine and others to the ways in which Darwin employs literary techniques to emphasize the relation between specific instances and ideal forms. But fewer scholars have explored how Darwin accounts for the limitations of written expression in conveying the wonder if the natural world. Joan Richardson touches on the similarities and differences between

24 Gillian Beer, *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction* (Boston: Ark, 1985), p. 45.

Emerson and Darwin in terms of the challenge of composition:

> Both Emerson and Darwin addressed themselves to solve the same problem concerning the possibilities of adequate description in language but projected different thought experiments to demonstrate their results. Though both learned key lessons about the organization and presentation of ideas and envisioning from the same core of texts, their purposes were different. Most significantly, Darwin had to integrate the actual facts evidenced by his explorations in the fossil record into his account. Emerson, poised just earlier enough in time and without the first-hand experience in the field of bones and rocks, could present his evidence figuratively.[25]

Richardson describes the divergence between Darwin and Emerson in terms of the more literal, factual explanation of the former and the more figurative, literary exegesis of the latter. For example, while Emerson in *Nature* detects 'analogy' between the 'human hand' and the 'flipper of the fossil saurus,' Darwin's accounts of discoveries like the Toxodon skeleton are scientific and precise (*PE*, p. 30). It is my premise, however, that Emerson's and Darwin's ideas converge in their shared conception of nature as a repository of facts that must be examined, categorized, and, ultimately, transcribed into text.

As in the museum, in which, according to Gaynor Kavanagh, objects are perceived as representing larger ideas and therefore are selected for the 'evidence value' they necessarily contain, Emerson and Darwin consider the choice of particular specimens as imbued with deeper meanings that must be contemplated and extracted.[26] In *Nature*, Emerson intones 'Nature never became a toy to a wise spirit. The flowers, the animals, the mountains, reflected the wisdom of his best hour, as much as they had delighted the simplicity of his childhood' (*PE*, p. 9). For Emerson, nature proffers endless evidence to the 'wise spirit', evidence that requires constant study. In 'The American Scholar' Emerson again characterizes nature as a collection of facts that must be interrogated in order to unravel their full meaning: 'The ambitious soul sits down before each refractory fact; one after another reduces all strange constitutions, all new powers, to their class and their law, and goes on forever to animate the last fibre of organization, the outskirts of nature, by insight' (*PE*, p. 54). The facts of nature, for Emerson, are 'refractory'—enigmatic and unyielding—but also, in the sense of the refraction of light, capable of mind-altering, illuminating, flashes of 'insight'.

Darwin too perceives nature as a series of 'truly wonderful' facts (*SB*, p. 345).

25 Richardson, pp. 168-9.
26 Gaynor Kavanagh, *Dream Spaces: Memory and the Museum* (Leicester: Leicester University Press, 2000), p. 99.

But where Emerson derives infinite knowledge from a single bird or rock, Darwin finds enlightenment in exacting linkages of disparate objects and observations. On the last leg of his voyage, Darwin assesses the trip's utility in terms of the thought processes that it invokes: 'In conclusion, nothing can be more improving to a young naturalist, than a journey in distant countries. The excitement from the novelty of objects, and the chance of success, stimulate him to increased activity. Moreover, as a number of isolated facts soon become uninteresting, the habit of comparison leads to generalization' (*SB*, p. 431). For Darwin this process of linking 'isolated facts' to produce generalizations is the most illuminating application of the study of nature, and it is the most revolutionary 'habit' that his writing discloses. One might argue that Darwin's greatest discovery is not actually the theory of evolution, which, after all, was prefigured in the works of Lamarck, Lyell, and others. Rather, one could consider Darwin's seminal contribution to be the way in which he employs language to create a narrative in which 'direct evidence' is integrated into a compelling account of the changing natural world.[27]

Language equips Darwin, like Emerson, with the tools to convert his particular interpretations of nature into narratives for public display. Both men employ language in order to guide readers through their respective journeys—Darwin's around the world, and Emerson's through the mind. Both men rely, figuratively, on another book—the Book of Nature—as their own guide for 'reading' the natural world.

The method of deploying language as an 'investigative model' is nowhere more apparent than in their respective treatments of geology. In 'The Poet' (1844) Emerson describes the language of his day as 'fossil poetry'. He elaborates: 'As the limestone of the continent consists of infinite masses of the shells of animalcules, so language is made up of images or tropes, which now, in their secondary use, have long ceased to remind us of their poetic origin' (*PE*, pp. 252-3). Here Emerson employs the figure of fossilized shells in order to illustrate the process of literary excavation that he believes is required of the modern poet.

There is no indication that Emerson read Darwin's *Voyage of the Beagle* (although Darwin read *Nature* in 1841).[28] Had Emerson read Darwin's description of the shoreline of Patagonia, however, he would have discovered a worthy companion to his archaeology of verse:

> Here along hundreds of miles of coast we have one great deposit, including many tertiary shells, all apparently extinct... These beds are

27 This quotation is taken from Darwin's account of the formation of barrier reefs. He pre-empts claims of hand-waving by prefacing his theory with the following: '"It may be asked, whether I can offer any direct evidence of the subsidence of barrier-reefs or atolls; but it must be borne in mind how difficult it must ever be to detect a movement, the tendency of which is to hide under the water of the part affected"' (*SB*, p. 407). 'Nevertheless', he continues, and proceeds to outline his theory over several pages by means of the aforementioned process of generalization from isolated facts.
28 Beer p. 65. Much later, on 7 June, 1873, in a letter to George Cupples Darwin remarked that he did not think he and Emerson would have much in common. The letter can be located in the library of the American Philosophical Society.

> covered by others of a peculiar soft white stone, including much gypsum, and resembling chalk, but really of a pumiceous nature… These white beds are everywhere capped with a mass of gravel, forming probably one of the largest beds of shingle in the world… When we consider that all these pebbles, countless as the grains of sand in the desert, have been derived from the slow falling masses of rock on the old coast-lines and banks of rivers; and that these fragments have been dashed into smaller pieces, and that each of them has since been slowly rolled, rounded, and far transported, the mind is stupefied in thinking over the long, absolutely necessary, lapse of years. Yet all this gravel has been transported, and probably rounded, subsequently to the deposition of the white shells, and long subsequently to the underlying beds with the tertiary shells… What a history of geological changes does the simply-constructed coast of Patagonia reveal! (*SB*, pp. 163-5)

In his analysis, Darwin probes deeply into the geological composition of the Patagonian coast, and reaches far back in evolutionary time. The result is a 'history' of geological transformation that is narrated like poetry, with similes ('countless as the grains of sand'), metaphors (fragments 'dashed' along the rocks), and evocative phrases ('the long, absolutely necessary, lapse of years'). If Emerson's design was to reattach language to nature, Darwin's aim was perhaps the reverse—to fasten nature to language as if the two had never been apart.

The desire to bind nature to language, to establish a method of 'reading' the natural world, relates to the construct of the museum as well as it does to the works of Emerson and Darwin. Citing Emerson's journal entry about the *Jardin des Plantes*, in which he 'insists on its resemblance to devices (grammar, alphabet, dictionary) that classify elements of speech and prescribe rules for writing', Brown argues that Emerson acknowledges that the museum 'reorganizes nature more effectively than an ordinary book, but that the difference between the garden and the book is a matter of degree rather than structure or intention'. This represents a departure from Foucault's ideas about nineteenth-century natural history museums as classificatory structures that function only so far as to create a precondition for writing. As Foucault states 'By limiting and filtering the visible, structure enables it to be transcribed into language.'[29] Nevertheless, conceiving the relation between the museum and the book as a 'matter of degree' may further elucidate Emerson's and Darwin's shared reliance on the techniques of observation and classification and may illuminate, in Emerson's case, the fascination with, and in Darwin's the ambivalence about, the museum as a model of display.

29 Brown, 'Museum,' p. 69. Foucault, p. 135.

Emerson's fascination with the museum has been much discussed and explicated. Darwin's ambivalence about the museum, however, has not yet received significant critical attention. Throughout the *Voyage of the Beagle*, Darwin, in fact, expresses frustration at the inadequacy of contemporary museum display:

> Who from seeing choice plants in a hothouse, can magnify some into the dimensions of forest trees, and crowd others into an entangled jungle? Who when examining in the cabinet of the entomologist the gay exotic butterflies, and singular cicadas, will associate these lifeless objects, the ceaseless harsh music of the latter, and the lazy flight of the former,—the sure accompaniments of the still, glowing noonday of the tropics? (*SB*, pp. 423-4)

For Darwin, 'seeing' and 'examining' are no match for the immersive experience of travel abroad. For no-one but the 'learned naturalist' are these hothouses and cabinets adequate representations of the beauty and complexity of nature (*SB*, p. 423). At one point, Darwin remarks at how a bird fluttering by appears as if 'a vilely stuffed specimen has escaped from some museum, and has come to life again!'[30] For Darwin, the sight of this creature, and its association with the museum, triggers feelings of 'vileness' and displeasure. Nevertheless, Darwin took the time to visit the Botanic Garden in Rio (a 'short but most pleasant excursion' (*SB*, p. 55)) and he occasionally he refers to the Zoological Gardens in London in a positive light.

Given this ambivalence, it is particularly interesting that Darwin employs a figure for the museum—the hothouse—to articulate his feelings of frustration concerning his written account of the *Beagle*'s voyage:

> When quietly walking along the shady pathways, and admiring each successive view, I wished to find language to express my ideas. Epithet after epithet was found too weak to convey to those who have not visited the intertropical regions, the sensation of delight which the mind experiences. I have said that the plants in a hothouse fail to communicate a just idea of the vegetation, yet I must recur to it. The land is one great wild, untidy, luxuriant hothouse, made by Nature for herself, but taken possession of by man, who has studded it with gay houses and formal gardens. (*SB*, p. 424)

In this passage, Darwin compares the diminished impression conveyed by the written

30 Quoted in John Tallmadge, 'From Chronicle to Quest: The Shaping of Darwin's 'Voyage of the Beagle," *Victorian Studies*, Vol. 23 (Spring 1980), p. 341.

record of his travels to the decreased impact of the greenhouse display in contrast to the actual experience of nature. Although he feels his language is 'too weak to convey' the fecundity of the tropics, as the hothouse similarly 'fail[s] to communicate' the luxuriance of the botanical world, he returns to the figurative power of language, in the metaphor of the hothouse, to encase the 'wild, untidy' abundance of nature in the pages of his book.

What is the significance of Darwin's reluctant acceptance of the limitations of expressive language in terms of the experience of the profusion of nature within the hothouse? Quite possibly, with the underlying concept of the museum in his mind, Darwin was able to begin to identify language as a tool that could fill in the gaps between observation, classification and display. It is this realization, after all, that later enabled him to record his theory of evolution by natural selection in the *Origin of Species*. Referring to that book, Beer states, 'Darwin displays, categorizes, and argues, but does not expect to contain the workings of the world in his mind, or ever fully understand them'.[31] Conceivably, Darwin's experience of writing the *Voyage of the Beagle* provided him with the first indication that the 'workings of the world' could not entirely be contained in his mind, but could only be represented, in his thought and on the page, through the collection and display of specimens.

It is an interesting footnote to the history of the development of museums that Darwin's theory of evolution, more than any other event, changed the way in which museum displays were, and continue to be, organized and executed. In *Pasts Beyond Memory*, Bennett explains how, after Darwin, 'evolutionary principles of classification and exhibition' began to subtend the arrangements of most major natural history museums. These types of displays are characterised by an emphasis on epochal time and an attention to narratives of progress, in order to account for the fact that evolution '[can] not be seen directly'. Museum-goers, therefore, function as characters in, not narrators of, the story of evolution. According to Bennett, the museum itself has evolved into a 'machinery for producing progressive subjects'.[32] At present, the museum supplies a narrative apparatus for representing the history of the natural world through the processes of observation, classification and display.

At the new Darwin Centre at the Natural History Museum in London, displays of butterflies, fossils, and skeletons—some oversized and backlit, some equipped with miniature magnifying glasses—lead into a seven-storey cocoon-shaped structure. I watch as visitors follow along a spiralling path, clustering in front of a case of beetles before becoming distracted by the life-size replica of an ostrich around the bend. How fitting, I think to myself, that the exhibit is designed to be navigated in the path of an expanding circle. I recall Emerson: 'The eye is the first circle; the horizon which it forms is the second; and throughout nature this primary figure is

31 Beer, p. 46.
32 Tony Bennett, *Pasts Beyond Memory: Evolution, Museums, Colonialism* (New York: Routledge, 2004), p. 2, p. 162. Bennett, *Birth*, p. 47.

repeated without end' (*PE*, p. 228). A small child standing by, perhaps intuiting the endless repetition, or more likely, because he is not tall enough to be able to 'look closely' into the display cases, asks to play with his mother's mobile phone. I continue on, contemplating circles.

Emerson shared Darwin's belief that 'looking closely' would reveal invisible correspondences between things. Both Emerson and Darwin relied upon similar techniques of observation, and of classification, in order to make these correspondences known. Emerson observed and classified nature with the aim of understanding himself and interpreting his role in the book of nature. Darwin observed and classified nature in order to understand its unrecorded history, interpreting objects as evidence for his theory of evolution by natural selection. Both drew upon the museum as a model and as a method, Emerson through his thoughts, and Darwin through his actions. While they diverge in their conceptions of the natural world and the position of man within it, Emerson and Darwin are joined in their embrace of the ability of language to transport and to transcend. Emerson's lectures and essays, and Darwin's *Voyage of the Beagle*, exemplify techniques for 'reading' nature. Through the museum model of display, and through the animating power of language, Emerson and Darwin inscribe these techniques in the history of time.

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