

“Thus, as I believe”:

Darwin’s Presence as Proof in *The Origin of Species*

by

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“It is strange to be here. The mystery never leaves you alone.”

--John O'Donohue

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Abstract

The task that Charles Darwin faced in compiling “On the Origin of Species” (1859) is what Gillian Beer describes as the writing of “imaginative history.” Describing processes of variation in organisms and selection of favorable traits in the whole economy of nature meant arguing for processes that were beyond Darwin’s powers of observation. Through a focus on microcosms of domestic selection, Darwin establishes what empirical proofs he can. However, in order to speak for general laws of nature, Darwin must extend his empiricism to address processes he cannot directly witness. Through the use of imaginary illustrations, analogy, personified agents, and poetic metaphors to address processes beyond observation, Darwin combines the empirically observed with the imagined and poeticized. As his argument moves between empiricism and poeticism—between the visible evidence he has observed, the evidence he has collected from others, and the evidence he has more broadly imagined or inferred—Darwin’s distinct presence is a crucial mechanism in creating a sense of identification with his readers, assuring readers of his repeated conviction, and appealing to readers’ own trust in the arguments being made.

Because the natural processes he describes require explanations that cannot be directly witnessed and must instead be imagined and held in mind, Darwin’s perspective, as the source from which the imagined illustrations are formed, is crucial. From his introduction, Darwin establishes himself as an impressionistic being capable of awe, frustration, and surprise. This point of view that is carried throughout the text, and is one that allows him to create a rapport and sense of familiarity with his readers. In addition, his personal point of view and repeated assurance of belief in the minute and infinitely complex connections between living beings balances elements of the empirical and more broadly literary. This thesis firstly seeks to explore how, uniquely combining science and poetry, Darwin shifts from visible, empirical proofs to analogous and imaginative illustrations form his larger arguments for natural selection. More specifically, however, this thesis focuses on the necessity of Darwin’s presence—his intimate, personal point of view—in persuading readers to believe in the natural processes he describes.

Over the course of revision, we see Darwin bow to critical responses to his personal presence in the work, and remove himself from the argument at great lengths. “I am strongly inclined to believe” becomes “there is reason to believe,” and even “there is reason to believe” becomes “there is good evidence.” This thesis will attempt to illustrate how the pressures on and development of his text point to a more objective, scientific stance that separates itself from more distinct uses of literary techniques. While Darwin’s presence is reduced during revision, this thesis argues that his attempt towards objectivity contributes, in various instances, to a sense of uncertainty and qualification within his arguments. His testimony of personal belief and assertion of conviction is, in this way, crucial to the arguments he is making. What Darwin’s absence in his revised work exposes, this thesis would argue, is the crucial importance of his *presence* to begin with.

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Introduction

Men can do nothing without the make-believe of a beginning. Even Science, the strict measurer, is obliged to start with a make-believe unit, and must fix on a point in the stars' unceasing journey when his sidereal clock shall pretend that time is Nought. His less accurate grandmother Poetry has always been understood to start in the middle; but on reflection it appears that her proceeding is not very different from his.

—George Eliot, *Daniel Deronda*

In his quiet study at Down House, surrounded by volumes on natural history and specimens of curiosity, Charles Darwin shuffled through his notes and journals. Carefully, from documentation of his years of travel, study, and observation of the natural world, Darwin extracted what would famously be called an “Abstract” of his findings: *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, first published in 1859. Contained in the English countryside, amid his domesticated plants and pigeons, Darwin boldly sought to address a natural world run by processes beyond his powers of observation. Broadly, Darwin’s text—“one long argument” (362)—describes the ways in which organisms produce observable, unique variations and how the usefulness in nature of these inheritable variations determines the organisms’ opportunities to survive. George Levine, in his introduction to Darwin’s text, describes the challenge of this task: “Having demonstrated that domestic animals produced variations and that humans could select variations for inheritance, Darwin still had to prove that these conditions existed in nature, that ‘nature gives successive variations’ not only to domestic animals but to wild ones” (*The Origin of Species*, xxxviii). Unable to directly observe the processes of modification and selection in the infinite expanse of nature, Darwin begins through the microcosmic view of domestic selection, asserting:

It is...of the highest importance to gain a clear insight into the means of modification and coadaptation. At the commencement of my observations it seemed to me probable that a careful study of domesticated animals and of cultivated plants would offer the best

chance of making out this obscure problem. Nor have I been disappointed... I may venture to express my conviction of the high value of such studies, although they have been very commonly neglected by naturalists. (13)

Arguing that the “careful study of domesticated animals and of cultivated plants” has provided him with evidence illuminating larger processes in nature, Darwin begins a practice that is carried throughout his text; he takes what empirical evidence he has collected and extends it to speak for general laws of nature that are beyond the powers of empirical observation. More specifically, the presence of Darwin’s point of view, his assurance that “it seemed to me probable” and, similarly, “Nor have I been disappointed,” becomes the crucial way in which he persuades readers of his larger arguments. He grounds his larger claims in intimate, human perceptions, foregrounding his personal point of view as a persuasive means of presenting his evidence and larger claims. Furthermore, establishing his argument, Darwin explains:

Although much remains obscure, and will long remain obscure, I can entertain no doubt, after the most deliberate study and dispassionate judgment of which I am capable, that the view which most naturalists entertain, and which I formerly entertained—namely, that each species has been independently created—is erroneous. (15)

Boldly declaring what “will” remain obscure and, similarly, that the view of independent is “erroneous,” Darwin is deeply present in the claims—exposing the necessity of his presence in the arguments he forms. He demonstrates simultaneous humility and authority, acknowledging he has studied and judged as well as he is “capable,” while firmly stating “I can entertain no doubt.” Similarly, his own admission that the view of independent creation was once one he shared, Darwin uses personal testimony and point of view as persuasive mechanisms in correcting a flawed view.

Gillian Beer explains: “Evolutionary theory emphasizes human awareness of the *past* and obliges us to study a world from whose history we are largely absent. We must survey an antiquity in which we have no place” (21). Darwin must, in this way, insert himself into

arguments about forces in nature that he cannot witness. His empirical findings must lend themselves to broader analogies, metaphors, and even imaginary illustrations in an attempt to illustrate natural processes beyond Darwin's domestic microcosm. A combination of empiricism with imagination, Darwin's argument becomes a unique blend of science and poetry. Darwin, confined in the present and absent from a past that his argument attempted to re-envision, was faced largely with the cognitive task of accumulating empirical proofs and combining them with imagined evidence. "Nothing is easier than to admit in words the truth of the universal struggle for life, or more difficult—at least I have found it so—than constantly to bear this conclusion in mind," Darwin confesses. "Yet," he asserts, "unless it be thoroughly engrained in the mind, I am convinced that the whole economy of nature, with every fact on distribution, rarity, abundance, extinction, and variation, will be dimly seen or quite misunderstood." As Darwin emphasizes the importance of bearing in mind the struggle for life, we are reminded, too, that in order to better comprehend the "whole economy of nature," what we are faced with is not the ability to directly witness the "universal struggle for life," but to engrain it in the mind. In this way, Darwin's argument must be, in large part, imagined. At both moments of empirical findings and imagined or metaphoric illustrations, however, Darwin's distinct perspective and personal point of view is present, appealing to readers' trust, quietly and assuredly persuading his readers to believe in the arguments he is making.

Despite the magnitude of Darwin's evolutionary theory and his arguments for general laws of nature, his text is firstly and deeply rooted in the accumulation of directly empirical, sensory evidence. Darwin marvels at the diversity of his domestic pigeons, the slave-making instincts of ants, and the intricate architecture of the beehive. "He must be a dull man," he exclaims, "who can examine the exquisite structure of a comb, so beautifully adapted, without

enthusiastic admiration” (Darwin, 186). As the domestic and vivid examples Darwin presents to his readers become pieces of his larger arguments in favor of natural selection, so too does his familiar and personal narration become the persuasive means through which he presents his theories. The quality and reliance on point of view and subjective belief are evident as Darwin attempts to apply the same conviction he displays in his empirical findings to processes he must illustrate through different means.

Turning to metaphor, analogy, and even personified agents like “Nature,” Darwin enters into imaginative and poeticized ways of arguing for processes that he cannot directly observe. His poetic illustrations help expand and illuminate for his readers complexities in the natural world, while they simultaneously provide Darwin’s own argument with a sense of authority and grandeur. Beyond the microcosms of pigeon keeping and gardening, Darwin’s point of view guides readers through descriptions of the endlessly complex and changing affinities in nature. Often adopting a poetic and, at moments, prophetic gaze, Darwin speaks with a continued sense of belief in his theories as they move from domestic, microcosmic examples to the greater processes in nature. Within the shifts from empirical certainty to analogous or imagined examples, Darwin’s intimate perspective and distinctively human voice serve to subtly remind readers of his firm conviction and belief in the processes he is describing. Readers are confronted with processes that Darwin has not always observed, but often imagined or inferred. As biographer Janet Browne describes:

In an era when natural philosophers were consciously coming to rely on idioms of prediction, experiment, demonstration, and discovery, when accredited truths of nature were established by seeing and believing, Darwin’s approach was doubly unusual. He was inviting people to believe in a world run by irregular, unpredictable contingencies, as well as asking them to accept his solution for the simple reason that it seemed to work. (56)

Although Darwin establishes what proofs he can based on “seeing,” his use of analogy and imaginative illustrations in his broader arguments require readers, not only to accept “unpredictable contingencies,” but also to trust Darwin’s subjective perspective, his assurance of belief. Throughout the different means of addressing his argument, Darwin maintains his personal point of view, continually assuring his readers of his own trust in the theories being described, and encouraging *them* to trust.

This thesis firstly seeks to explore the ways in which Darwin’s argument combines elements of empiricism and poeticism, and to show how such shifts from visible, empirical proofs to analogous and imaginative illustrations form his larger arguments for natural selection. Although the *Origin* is often described as scientific text with literary elements (metaphor, personification, analogy) embedded within it, I would like to consider the ways in which “science” and “literature” are interdependent when we look at the formation of Darwin’s arguments. Moving from what he has observed to what he can more broadly infer or imagine, Darwin combines the empirically observed with the imagined poeticized. Science, “the strict measurer,” as George Eliot describes, is uniquely combined with poetry and imagination, allowing Darwin to weave an argument largely based on natural processes he cannot empirically witness. In particular, this thesis seeks to show the intricate ways in which reliance on personal point of view gives Darwin his power in persuading readers to accept his arguments and believe in the greater theories he attempts to articulate. The necessity of Darwin’s persuasive personal testimony, his appeals to trust, and displays of confidence all function to infuse the natural processes he is arguing with a sense of vivid immediacy and believability.

By the time Darwin published his final edition of the text in 1876, under the shortened title “*The Origin of Species*,” his personal presence and voice are greatly diminished in favor of

scientific objectivity. However, what this thesis attempts to show are the ways in which Darwin's *presence* gives the *Origin*'s larger arguments their persuasive power. In other words, the very natural processes described in his text require, to a large degree, Darwin's intimate perspective and subjective point of view. Articulating what he cannot empirically observe, Darwin uses conviction, testimony of belief, and appeals to for his readers to believe in order to infuse the natural processes in his argument with a sense of power and truth. Readers, like Darwin himself, are unable to directly witness the processes being described in the *Origin*; yet, they hear Darwin's conviction and are even drawn into his perspective, as he attempts to make new—even make strange—the natural world and our understanding of it.

Chapter 1: Webs of Evidence, Appeals to Trust

1.1 Darwin's "I"

As Charles Darwin presents his evidence in *The Origin of Species*, his voice comes through the text as that of a man with unique and substantive experience in naturalism—experience that has provided him with an authoritative position from which he can present his theory. Below the title, in the first edition of his work, we read: “By Charles Darwin, M.A., Fellow of the Royal, Geological, Linnean, Etc., Societies; Author of ‘Journal of Researches During H.M.S. Beagle’s Voyage Round the World’.” Before Darwin begins to describe his larger argument, he claims the authority of an individual, respected naturalist. His scholarly credentials are impressive; his breadth of his knowledge is wide and diverse (as he belongs to multiple societies); he has traveled around the world; and published an account of his voyages. This attention to Darwin’s self, his position as a gentleman of science, is subtly carried throughout the larger argument of his text.

Despite the caliber of his qualifications, Darwin also appears in the text as an individual who understands and shares the perspective of his larger audience. Retaining a familiar, human tone, he frequently acknowledges difficulties, exclaims in astonishment, and addresses his readers intimately. This familiar perspective that Darwin assumes is often complicated as he appears not simply to sympathize with the concerns of his readers and to see, at various moments, through their eyes, but seeks also to guide his readers’ understanding—helping us see what *he* sees. Darwin’s presence within *The Origin* is both sympathetic and authoritative, recognizing the challenges that his theory presents to a reader’s mind while firmly correcting his readers’ prior conceptions of the natural world. We will see, too, that Darwin’s intimate presence

and reliance on personal point of view form the foundation of his larger arguments and provide persuasive power to his text.

Darwin's persuasive narrative strategies, which I will argue are integral to his argumentation in the *Origin of Species* are aligned, too, with his interactions with his fellow naturalists, many of whom were essential in collecting the evidence that would later become *The Origin*. As a respected gentleman of science in Victorian England, Darwin was a noted figure in a community consisting of the geologist Charles Lyell, biologist Thomas Henry Huxley, and botanists Joseph Hooker and Asa Gray, of America. In addition to his interactions with fellow naturalists, Darwin created a network of correspondence that spread throughout England, seeking not solely fellow scientists, but all manner of individuals. As Browne explains:

[Darwin] also hunted down anyone who could help him on specific issues, from civil servants, army officers, diplomats, fur-trappers, horse-breeders, society ladies, Welsh hill-farmers, zookeepers, pigeon-fanciers, gardeners, asylum owners, and kennel hands, through to his own elderly aunts or energetic nieces and nephews. (11)

He wrote letters to various authorities and experts in networks that stretched around the globe, from India to Jamaica to Australia and China—correspondence that appears in *The Origin* as Darwin invokes various experts and his interactions with them, occasionally in place of empirical evidence. Darwin learns of the Kattywar breed of striped in India from a Colonel Poole, and is given information of the English racehorse from Mr. W. W. Edwards (140). Furthermore, he asserts: “I may state that I have collected cases of leg and shoulder stripes in horses of very different breeds, in various countries from Britain to East China; and from Norway in the north to the Malay Archipelago in the south” (140). While Darwin presents his assurance in the findings of Poole and Edwards and, similarly, addresses further “cases,” he gives his readers impressionable certainty of others' findings, rather than direct proof. In this way, the evidence that Darwin began compiling even long before the publication of *Origin* was often as much

experiential—from second-hand reports—as it was directly experimental. Mirroring the great “web of affinities” (Darwin, 343) between living beings that he comes to emphasize in his argument, Darwin created his own social web of evidence and scientific accounts.

Years before the publication of *The Origin of Species*, Darwin’s exchanges with others, along with his own observations and experimental findings, helped form what he called his “big book of species,” an enormous manuscript that would be later edited into *The Origin*. In compiling this manuscript, Darwin demonstrated influential rhetorical skill with regards to obtaining help and information from various experts. As Browne describes: “Darwin made the most of his position as a gentleman and scientific author to obtain what he needed. He was a skilful strategist...Like countless other well-established figures of the period, Darwin regarded his correspondence primarily as a supply system, designed to answer his own wants” (12). I would argue that Darwin’s persuasive abilities in correspondence are further developed in Darwin’s narrative voice within *The Origin*. While he often presents himself as intimately part of a collective “we,” we will see Darwin also establish himself as a narrator whose speaks with higher authority when examining the natural world. Amid Darwin’s charismatic exclamations of awe and astonishment, readers are often and directly called upon to put their trust in Darwin and his argument—even when he is addressing elements that are uncertain or unobservable.

Examining Darwin’s argumentation in *The Origin*, we see his rhetoric working subtly—often through variations between pronouns (“I” versus “we” versus “he”)—as he leads readers away from the idea that species have been independently created, and instead towards an understanding of his own argument for descent with modification through natural selection. This narrative exchange, one in which Darwin’s language creates authority both by separating himself from his readers *and* by aligning himself with them, is one that revels in awe, observation, and

even confusion, and requires not only reason and comprehension, but sensory and imaginative understanding as well. As scholar Gillian Beer explains:

The tone of a single man speaking, the presenter of the evidence, the creator of the theory, is a necessary counterpoise to that speculative extension back through time and change which is also crucial to the argument. And the emphasis upon sense experience, particularly colour and touch, means that our medium of experience is not simply necessarily, but warmly, human. (67)

Darwin's intimate, human voice—a “necessary counterpoise” to the task of describing evolutionary history—draws attention to the vastness of the argument Darwin is attempting to make. While Darwin is contained in the present, in his study at Down House, his garden, his task is to describe natural development taking place over great expanses of a past that he has not been witness to. Through his distinct narrative voice and perspective of a “single man speaking,” Darwin is able to ground the magnitude of his argument in a familiar exchange with his readers from which to build a rapport of belief. In the way he asserts, “We can, perhaps, on these views, understand some facts” (94) we will see Darwin frequently join adopt a collective perspective as he persuades readers of his fuller arguments.

In the opening lines of his introduction, Darwin exclaims: “When on board H.M.S. ‘Beagle,’ as a naturalist, I was much struck with certain facts in the distribution of the inhabitants of South America, and in the geological relations of the present to the past inhabitants of the continent” (11). He continues: “These facts seemed to me to throw some light on the origin of species—that mystery of mysteries, as it has been called by one of our greatest philosophers” (11). Darwin's reflection on his *Beagle* voyage, a trip that began in 1831 and lasted five years, immediately casts a reflective tone upon the *Origin*'s introduction—a sense that the argument Darwin is about to make is full of personal anecdote and experience. Here we also see glimmers of a complex weaving of direct science or empiricism with poetics or Romantic musings in the

combination of “facts” with “mystery.” The facts are extracted from Darwin’s experiences, but are subtly conjoined with a larger sense of wonder, awe, and even uncertainty. Similarly, while his first sentence briefly addresses the subject of geologic time and its expansiveness, topics he will later address in the text (“relations of the present to the past inhabitants”), it is “I” and Darwin’s reactions during his voyage that first catch the reader’s attention. Darwin admits he was “struck,” drawing focus to himself as an impressionable being—an individual capable of surprise, reflection, and realization. As he continues in his introduction, his use of “I” is resounding, as he moves from a humble tone that often characterizes his work to a voice of clear and firm authority. On the first page he notes:

After five years’ work I allowed myself to speculate on the subject, and drew up some short notes; these I enlarged in 1844 into a sketch of the conclusions, which then seemed to me probable: from that period to the present day I have steadily pursued the same object. I hope that I may be excused for entering on these personal details, as I give them to show that I have not been hasty in coming to a decision...My work is now nearly finished; but as it will take me two or three more years to complete it, and as my health is far from strong, I have been urged to publish this Abstract. (Darwin, 11)

Darwin’s draws our attention to the “personal details” of not only his careful study and reflection over the course of several years, but startlingly to his fragility and mortality. In addition, there is lingers a simultaneous sense of humility and subtle authority, as Darwin expresses he was “urged” to publish his text. Just as readers are given a sense of Darwin’s placement in a greater society of naturalists from his brief biography (“By Charles Darwin, M.A...”), so too are they reminded of a community of authoritative support for Darwin’s work—those who have urged him to publish.

Despite the intimacy of this early narrative acquaintance, Darwin’s personable tone maintains an air of authority. Telling us of the five years over which he focused on his subject matter and the way in which his “sketch” developed, Darwin defends himself, asserting: “I have

not been hasty in coming to a decision.” He laments, later in the introduction: “This Abstract, which I now publish, must necessarily be imperfect. I cannot here give references and authorities for my several statements; and I must trust to the reader reposing some confidence in my accuracy.” However, he ends authoritatively, firmly stating that he is “convinced that Natural Selection has been the main but not exclusive means of modification” (12,18). In one way, Darwin’s use of “I” emphasizes his presence as an impressionable being and a familiar, charismatic voice; in another, it presents him as a superior, scientific authority. By being “convinced,” Darwin speaks in the tone of one who has made his observations and hypotheses and who can conclude that his evidence is convincing enough for him to make his case (however imperfect it may be). His readers have not yet seen (nor, as I will later argue, will they necessarily see) all of the evidence that Darwin has, but he conveys his conviction about the authority of evidence he has collected. He may be the “single man speaking” as described by Beer, but he is also a unique and ambitious visionary—a mortal, impressionable being setting out to address that “mystery of mysteries.”

1.2 Unique Empiricist

Darwin’s intimate, impressionistic perspective established in the introduction of his text becomes the tone through which he presents his empirical evidence and larger claims about descent with modification and natural selection. In his opening chapter on “Variation under Domestication,” Darwin shares his experience of breeding domestic pigeons, exclaiming that “The diversity of the breeds is something astonishing” (27) and moving on to describe the widely varying features of the birds, from their feathers to jawbones. Levine describes the “effectiveness (and affective-ness)” (20) of Darwin’s prose, explaining:

It is one that almost invariably surprises new readers: the quality of ‘personal testimony,’ a voice, however often muted, of a personality, and the intimation in it—even if the intimation is not officially part of the overall argument—of a narrator who loves the natural world and who finds it not only in exotic places, but at home. (*Darwin the Writer*, 20)

While Darwin’s personal voice might not be “officially part” of his argument, I would argue that his voice is key to the argument’s persuasive power. Darwin’s meticulous observations and mounds of evidence may speak for themselves in various instances, but the force of Darwin’s own belief and conviction—“analogy leads me to believe” (243); “these facts alone incline me to believe” (86)—serve to encourage a reader’s belief. Darwin’s personal, narrative reflections are conveyed with immediacy through his point of view. In this way, they often appear as analogous to or interchangeable with a reader’s own experience. Such is the case as Darwin admits: “I have found it difficult, when looking at any two species, to avoid picturing to myself, forms *directly* intermediate between them” (227). Although he directs readers’ attention to his own difficulties, he continues: “But this is a wholly false view; we should always look for forms intermediate between each species and a common but unknown progenitor” (227). As Darwin argues against a false view that even he admits is difficult to avoid, he uses a personal perspective as a foundation from which to assert, more broadly, what “we should always look for.”

Amid many of Darwin’s observations and arguments remains this sense of personal struggle and admission of difficulty in working through the theories being presented. Even after his lengthy and detailed observations, Darwin acknowledges that:

I have discussed the probable origin of domestic pigeons at some, yet quite insufficient, length; because when I first kept pigeons and watched the several kinds, knowing well how true they bred, I felt fully as much difficulty in believing that they could ever have descended from a common parent, as any naturalist could in coming to a similar conclusion in regard to the many species of finches, or other large groups of birds, in nature. (Darwin, 33)

Along with his customary tone of humility (“insufficient length,” he bemoans), Darwin once again draws attention to his presence as an impressionable human being, sharing with us his admission that, despite all he has presented and argued in favor of descent with modification, he, initially, had difficulty finding the idea true. Like many of Darwin’s moments of doubt, difficulty, and admission of struggle, this confession once again draws attention to his distinctly human point of view—a point of view that sympathizes, frets, and struggles to understand, in the same way that his readers may have felt when first encountering the work. Having previously stated “I am fully convinced that the common opinion of naturalists is correct, namely that all [domestic pigeons] have descended from the rock-pigeon,” (29) Darwin later chides naturalists who can not accept such descent occurring outside domesticity, in the state of nature. Moving beyond those who refuse to see how such modifications under artificial selection could occur in nature, Darwin extends the principle of descent, applying his argument for variation to nature and the process of natural selection. However, by beginning firstly with a nod to his own difficulty in imagining such variation to be possible, Darwin’s first person point of view serves as a persuasive strategy. By grounding his argument firstly in specific, human testimony (even in testimony of struggle), Darwin helps lead his readers from safe proof of domestic examples to the broader, bolder argument of descent and modification of species in nature.

While Darwin’s intimate point of view subtly guides and persuades his readers to trust his conviction and, in turn, trust in his larger arguments, the prominence of his personal voice was also the focus of some critical disdain when *The Origin* was first published. Although his familiar tone was popular with Victorian readers, there were those who condemned it as a problematic element in the work (Browne, 55). Darwin’s contemporary Richard Owen, one of the most distinguished zoologists and paleontologists of the period, established himself as a

harsh critic of Darwin's theory and work, calling attention to the issue of Darwin's voice itself. As quoted by Browne, Owen expresses distaste: "If I must criticise, I shd. say, we do not want to know what Darwin believes & is convinced of, but what he can prove" (99). In addition, Browne writes: "The charm of the writing, [Owen] said perversely, was that it was the 'voice of Darwin himself'" (99). Similarly, an anonymous review published in 1860 points out Darwin's reliance on personal conviction, noting:

Mr. Darwin does not pretend to have any *direct evidence* that a species, or even a variety, ever *did* originate by the process of Natural Selection...He only *believes* that certain 'varieties' have originated under a very different though analogous process...and he has *imagined*,—for that is the word rather than *discovered*, — he has imagined a corresponding though dissimilar method, through which 'varieties' *might be* established by natural means alone." (*Living Age*, 486)

Over the course of revision—from his first edition in 1859 to his sixth and final in 1876—Darwin's edits reveal sensitivity to such complaints about the prominence of his personal conviction in the argument. In addition, they point to a degree of controversy with his rhetorical strategy as an impressionable narrator rather than a certain, objective presenter of facts. From the first to the final edition, "I do not think it is possible" becomes "it is not possible"¹; "Nevertheless I am strongly inclined to believe" becomes "Nevertheless there is reason to believe"²; and, in numerous other instances, Darwin's belief or perception is removed in favor of more objective certainty. And yet, as I will continue to argue, it is Darwin's rhetorical strategy of personal witness and attention to perception, intuition, and belief throughout the first edition which guide his readers along, not only helping them trust Darwin as a naturalist, but trust in his fuller argument.

¹ Respectively, *Origin* 1st ed., 25; *Origin* 6th ed., 13

² *Origin* 1st ed., 86; *Origin* 6th ed., 76

1.3 Trusting Darwin

We have seen a sense of intimacy in Darwin's narration throughout the first edition of *Origin*, in the way he relies on personal testimony to create a sense of familiarity with his readers, as well as a sense of persuasion. By moving from acknowledgement of difficulty to expression of belief in the validity of his argument, Darwin creates a rhetorical stance heavily reliant on personal conviction and assertion of his belief. His argument is filled with vivid and extensive examples of the natural phenomena he has personally observed—from the “uniformly white fantails with some uniformly black barbs” of his domestic pigeons to the “*Lobelia fulgens*” with its “infinitely numerous pollen-granules” in his own garden (Darwin, 31, 69). In this way, his readers are able to see the great lengths to which Darwin has carefully observed and collected pieces of intricate evidence to help build his greater arguments. In the same way that Darwin speaks directly of his credentials and his assurance of belief, he presents the domestic examples that he has collected, not as detached evidence, but as natural phenomena *he* has witnessed. Darwin's first person point of view, his reliance on subjective expressions of trust in his convictions, ushers in his empirical evidence. Yet at moments, Darwin moves rhetorically beyond his own perceptions as the means to make his argument, and appears to join with a collective “we”—aligning himself with his readers, and us with him.

After his descriptions of his pigeons' “fantails,” Darwin acknowledges that “We can understand these facts, on the well-known principle of reversion to ancestral characters, if all the domestic breeds have descended from the rock-pigeon” (31). The subtle use of “we” and *our* ability to understand is aligned with Darwin's argument for descent with modification. In other words, we can understand the details he describes *only* through an acknowledgement of descent and natural selection. The subtle power with which he pushes his argument is seen also in his

nod to the “well-known principle of reversion.” The structure of Darwin’s argument here presents a simple, but almost inescapable, logic. The argument for descent hinges on that of a familiar principle that we *know well*—making the shift to believing in the principle of descent seamless. While Darwin appears to adopt a collective view, it ultimately serves as a persuasive strategy, a way to assert his own argument. In addition, from the opening lines of his first chapter, Darwin declares, “When we look to the individuals of the same variety... When we reflect on the vast diversity of the plants and animals... I think we are driven to conclude” (17). In this way, Darwin appears to ‘look’ with us, to conclude with us, and, in doing so, creates a sense of common understanding with his readers. By alternating between “I look” or “I conclude” and “we look” and “we...conclude,” Darwin persuades readers to identify with him and, furthermore, to trust in him. Levine more broadly addresses this rhetorical strategy:

Darwin becomes a narrator of his scientific argument who knows what it *feels like* to encounter the sometimes overwhelming facts and ideas he describes, who has experienced what readers, confronted by these facts and ideas, will be thinking and feeling, and who seeks ways to lead them through their doubts and reluctance, as he had moved himself, to his own exhilarating sense of the world newly perceived. (*Darwin the Writer*, 78)

Levine rightly addresses the frequency with which Darwin conveys to his readers a sense that he has shared and overcome the difficulties they may face. Darwin marvels that his pigeons could have descended from the same source, although he ultimately argues that they have. In addition, he expresses: “I have sometimes felt much difficulty in understanding the origin of simple parts,” and again, “I will not here enter on these several cases, but will confine myself to one special difficulty, which at first appeared to me insuperable” (Darwin, 163, 194). And yet, Darwin’s attention to what he does *not* find to be difficulties in comprehension outweighs his focus on what he has struggled with. In a chapter explicitly titled “Difficulties on Theory,” Darwin addresses possible objections to his argument, while continually asserting his own conviction. “I

can see no difficulty...in the continued preservation of individuals” (152), Darwin argues, similarly declaring, “Nor can I see any insuperable difficulty in further believing it possible that the membrane-connected fingers and fore-arm of the Galeopithecus might be greatly lengthened by natural selection” (153). Such repetitions of Darwin “see[ing] no difficulty” throughout his argument once again draw attention to the importance of his own point of view as a necessary persuasive tool in his argument. Because of such persuasive strategies, the idea of Darwin ‘leading’ his readers is complicated.

Darwin’s rhetoric often creates an analogous and empathetic relationship with his readers—whether through admission of shared difficulty or attention to what “we” see and understand—but reliance on his readers to trust him often allows for gaps in evidence and leaps in reasoning. Although his readers are led to new understandings of the general laws of nature that Darwin describes, they are not always invited to follow exactly the steps in Darwin’s process of arriving at his conclusions. Instead, readers are implored to trust in authorities they do not know and evidence they do not see. In his chapter on variation, Darwin establishes that “after deliberation,” he has “taken up domestic pigeons” (27), furthering asserting: “I have kept every breed which I could purchase and have been most kindly favoured...especially by the Hon. W. Elliot from India, and by the Hon. C. Murray from Persia” (27). In this way, Darwin subtly presents, not only his own experience, but also figures of distinction that help bolster his evidence and create a global community of authority, supplementing his own argument. Once again, we are reminded of Darwin’s position as a gentleman of science, interacting with individuals of honored ranks and societal positions.

Describing international networks of exchange between breeders and keepers of pigeons in which he has a place, Darwin begins a practice that continues through *Origin*: that of noting

and synthesizing the studies and observations of other naturalists and scientific authorities, as well as describing his interactions with them. We are often introduced to a variety of authorities and, whether we recognize their names or not, we are struck and persuaded by Darwin's invocation of them. As Steven Shapin describes in *A Social History of Truth*: "No scientist, however expert, encompasses the knowledge of his or her science *as an individual*" (25). Darwin is no exception. Compiling his evidence through networks of correspondence, he weaves an argument in *Origin* that is highly dependent on human networks and trust in the experiences of others. Describing the process of pollination of trees, Darwin tells us: "and at my request Dr. Hooker tabulated the trees of New Zealand, and Dr. Asa Gray those of the United States, and the result was as I anticipated" (89). What Darwin gives his readers is not an account of second-hand findings, but rather his own assurance that what was found aligns with and advances his own argument.

Persuasion, in this way, is as much reliant on the personal and social networks that Darwin references, as it is on his empirical findings. We are required to trust not only in Darwin, but in Darwin's trust of others. Darwin's text is uniquely social in this way. Having built evidence through networks of correspondence with various experts, Darwin synthesizes the information he has received and presents his own conclusions. As Shapin proposes: "Trust is a creative as well as a conservative force in science. Since each acceptance of authoritative knowledge at the same time modifies existing usage, trusting is an unending means for the extension and modification of knowledge" (25). From the geologist Charles Lyell to John James Audubon and Frederick Cuvier, Darwin's invocation of other noted figures allows him to utilize a community of authority that furthers his argument beyond what he has observed and noted—despite the fact that the evidence that Darwin himself has collected is vast and detailed.

The idea that Darwin patiently ‘leads’ his readers through their “doubts and reluctance,” as Levine suggests, is not the only way that Darwin makes his argument. We have seen Darwin’s invocation of various authorities stand, in his text, in place of explicit evidence. “[I]t would appear from information given me by Mr. Watson, Dr. Asa Gray, and Mr. Wollaston,” Darwin notes, “that generally when varieties intermediate between two other forms occur, they are much rarer numerically than the forms which they connect” (149). Yet Darwin does not give a broader account of the information. He instead states: “If we may trust these facts and inferences...then, I think, we can understand why intermediate varieties should not endure for very long periods” (149). In this way, Darwin’s presence as a careful and respected naturalist comes to stand in, at various moments, for the evidence he has collected (or the evidence his correspondents have collected). In such moments, his own judgment—an impressionistic and subjective instrument—is enough to advance the arguments he is forming.

The prominence of Darwin’s voice and human perceptions allows for moments when Darwin subtly keeps from showing his evidence, despite his assertion of its validity. At one point, in reference to the number of differences between a certain species, he asserts, “I have endeavored to test this numerically by averages, and, as far as my imperfect results go, they always confirm the view” (Darwin, 56). Later, speaking on the subject of hybrids, he notes, “Lastly, and this is another most remarkable case, a hybrid has been figured by Dr. Gray (and he informs me that he knows of a second case)” which limits our access to the evidence he is describing within the parenthetical (Darwin, 141). His empirical presence is suddenly challenged as he replaces visible evidence with an assumption that his readers will trust evidence that is not before them, instead relying on Darwin’s own expressions of conviction in his conclusions. At such moments, Darwin’s belief in the evidence he has observed and collected mediates our

exposure to the evidence itself. We see Darwin's conviction, but not his empirical findings. In addition, in his chapter on Natural Selection, Darwin calls attention to "a short digression" into a discussion of the reproduction of hermaphrodites, of which he says, "I am strongly inclined to believe that with all hermaphrodites two individuals...concur for the reproduction of their kind" (Darwin, 86). He continues, however, "I must here treat the subject with extreme brevity, though I have the materials prepared for an ample discussion," concluding:

What reason, it may be asked, is there for supposing in these cases that two individuals ever concur in reproduction? As it is impossible to enter on details, I must trust to some general considerations alone.

In the first place, I have collected so large a body of facts, showing...that with animals and plants a cross between different varieties...gives vigour and fertility to the offspring...these facts alone incline me to believe that it is a general law of nature (utterly ignorant though we be of the meaning of the law) that no organic being self-fertilises itself for an eternity of generations. (Darwin, 86)

What this body of facts leads Darwin to describe is his belief in a "general law of nature." And yet, his audience never sees the facts he has collected; in fact, Darwin tells us there is no room for all the details. But Darwin's following claim, that "On the belief that this is a law of nature, we can, I think, understand several large classes of facts...which on any other view are inexplicable," is presented with such firm authority that we scarcely question his withholding evidence (87). In fact, Darwin enters a broader, common perspective when he says, "we can, I think, understand." Despite the lack of directly empirical evidence, Darwin has "led" his readers to a new understanding—one of a "law of nature" (87). The repetition of "belief" emphasizes the need for a human, even intuitive, reception of the "general law." Darwin's first expression of belief is subjective: "these facts alone incline me to believe." Yet, he expands the affective quality of belief by later expressing, more broadly: "On the belief." Furthermore, he draws his readers in, rhetorically, through his use of "we can," but our understanding is only possible through *Darwin's* reasoning, as it hinges on "I think."

In this manner, Darwin's argument does not consistently guide the reader through the same steps of observation he has taken. In discussing the laws of variation, Darwin laments,

It is hopeless to attempt to convince any one of the truth of this proposition without giving the long array of facts which I have collected, and which cannot possibly be here introduced. I can only state my conviction that it is a rule of high generality. I am aware of several causes of error, but I hope that I have made due allowance for them. (129)

The word "hopeless" can be seen as a genuine gesture of humility or, perhaps, recognition of the real difficulty facing him. And yet, Darwin's continuous refusal to present all of the proof he has collected, instead resting on his own assurance in what he knows, gives him a unique authority. It requires that readers believe in Darwin's conclusions, even if they aren't shown the evidence he has seen. Darwin's own convictions, then, come to stand, at moments, in place of empirical proofs. In his chapter on Instinct, Darwin explains, "I am well aware that these general statements, without facts given in detail, can produce but a feeble effect on the reader's mind. I can only repeat my assurance, that I do not speak without good evidence" (177). As Darwin's argument develops throughout the *Origin*, readers are called upon, not to simply comprehend the evidence that Darwin has placed before them; they are called upon to trust him.

The withheld empiricism that Darwin demonstrates, as he repeatedly reminds us of evidence he has and gestures toward it (without showing it) invokes a sense of imagination on the part of his readers. We are asked, in other words, to trust what Darwin is telling us, but we must also—in order to reasonably understand the processes of change he is describing—fill in the gaps for ourselves. Instead of solely being an empiricist who relies on illustrations of experiential evidence in order to make his argument, Darwin becomes a unique empiricist and voice of a guide within his text. He implores his readers to believe in evidence he cannot adequately present in his text, requiring us to follow the inferences that take Darwin's argument

from mounds of evidence he reports to have collected, to the descriptions of general laws of nature he presents in his text.

As Darwin presents his diagram for the divergence of species, we explicitly see his attention to empirical argument combined with a subjective belief in the argument he is making. After asking his reader to turn to his diagram, he explains: “The accompanying diagram will aid us in understanding this rather perplexing subject” (Darwin, 107).

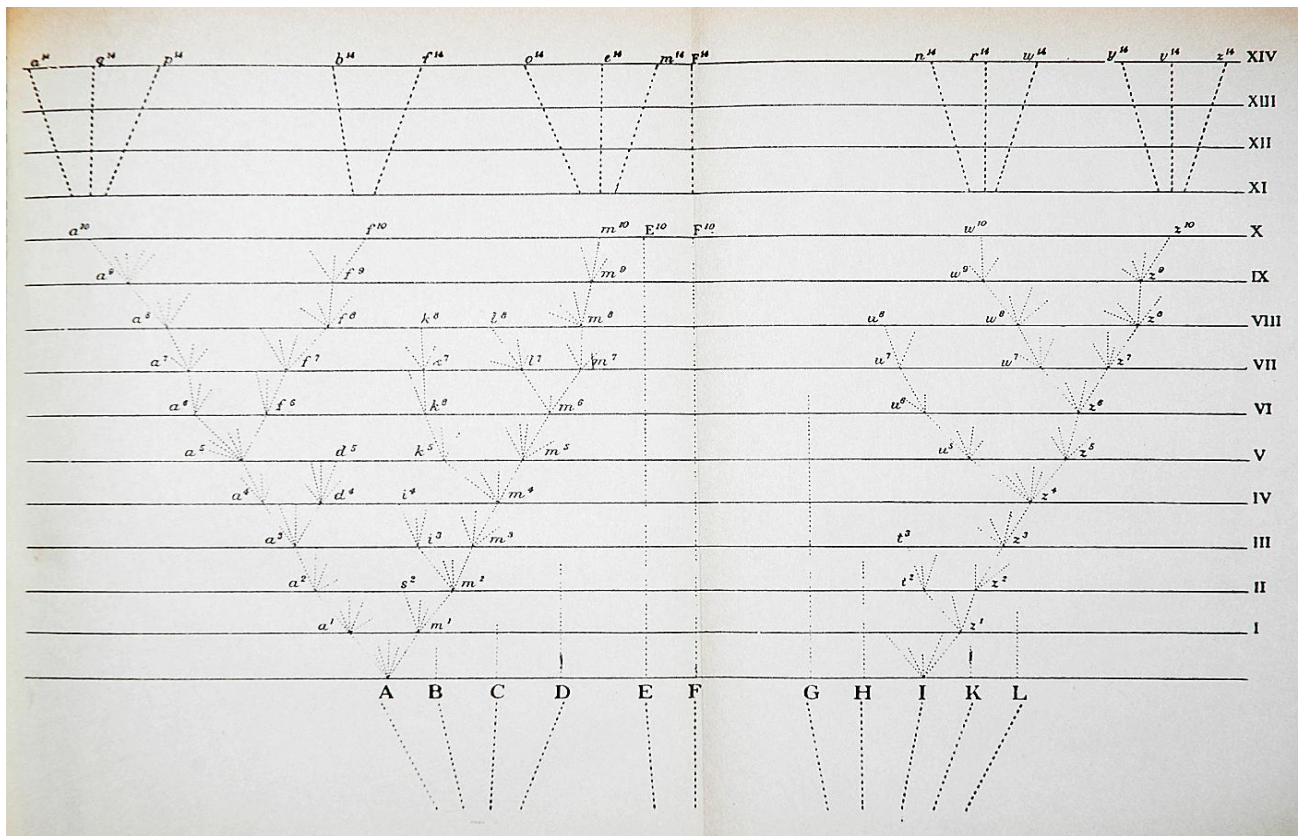


Figure 1 Diagram representing the divergence of species, first appeared in *On the Origin of Species by Natural Selection*, 1859.

By acknowledging the “perplexing subject,” Darwin once again places himself in a sympathetic rhetorical position that appears to level him with his readers. The diagram is there to help “us”—Darwin apparently included. And yet, as Darwin describes the complex processes of divergence, we are reminded of the way in which understanding of the evidence is situated deeply in

Darwin's subjective belief—a narrative position that functions persuasively because of the relationship of trust Darwin emphasizes throughout his text. He gives detailed explications about the variations and divergences of species, explaining: “After a thousand generations, species (A) is supposed to have produced two fairly well-marked varieties, namely a¹ and m¹” (Darwin, 104). And yet, Darwin frequently comes to rest on the mechanism of his own belief in asserting his claims. Amid his careful and incisive attention to the processes of varieties diverging from species, Darwin furthers his argument through his own perception, asserting: “I do not suppose that the process ever goes on so regularly as is represented in the diagram”; and, similarly, “I do not doubt that the process of modification will be confined to a single line of descent” (106). We see this situating of scientific, even mathematical, explanations within a subjective expression of belief: “By continuing the same process for a greater number of generations...we get eight species, marked by the letters a¹⁴ and m¹⁴, all descended from (A). Thus, as I believe, species are multiplied and genera are formed” (Darwin, 107). Rhetorically, what the argument for descent here rests on is not the explanations alone, but Darwin's belief that it is so. Unlike his vivid descriptions of pigeons and bees, Darwin's chart is not a description of reality, but rather an imagined reality that he has invented. In this way, his expressions of belief are not empty gestures, but rather continuous and persuasive strategies that allow his readers to follow the leaps he must make from the evidence he has collected to that which he can infer. In fact, it is through Darwin's diagram that we see examples of Darwin's use of analogy and imaginary illustrations to move beyond the evidence he has collected. Empirical evidence can only take him so far; it is merely a piece of the whole in his argument for natural selection.

“The other nine species...of our original species,” Darwin tells us, “may for a long period continue transmitting unaltered descendents; and this is shown in the diagram by the

dotted lines not prolonged far upwards from want of space” (Darwin, 107). He emphasizes, with regard to the diagram, “these breaks are imaginary,” and, similarly: “In the diagram I have assumed that a second species (I) has produced, by analogous steps...either two well-marked varieties” (Darwin, 107). In this way, we are reminded of Darwin’s need to express his argument through means that extend far beyond empirical proofs. What he can visibly demonstrate in the chart is only a portion of the argument. In fact, we are reminded: “In the diagram, each horizontal line has hitherto been supposed to represent a thousand generations, but each may represent a million or hundred million generations” (Darwin, 109). We have seen Darwin gesturing towards evidence he has collected, but cannot adequately show (and so must rely on our trust in its validity). We see, too, the lingering presence of evidence that Darwin cannot truly observe or prove—evidence that is, in this way, invented in order to illustrate a natural law. Darwin’s ability to extract arguments of general laws from empirical evidence is often replaced by a need to address processes that can’t be observed because they are beyond the reach of empiricism.

Throughout the *Origin*, the presence of Darwin’s intimate voice and attention to “I” creates a sense of familiarity and trust between himself and his readers. This persuasive strategy, grounded in Darwin’s perceptions and personal convictions, rests greatly on Darwin’s synthesis of the findings of others; domestic examples; and assertion to his readers that the pieces of evidence he has collected, both directly and from others, help build larger arguments about processes in nature. However, we will come to see Darwin gesturing even more broadly at the topics of time and complexity in nature and, in doing so, poetically addressing processes neither he nor his readers is directly witness to. As the branching lines in of descent in his divergence chart drop from the edges of the page, this “lack of space” points more broadly to the need for a

larger leap of faith that Darwin requires: faith in evidence that Darwin must conjure and imaginatively illustrate for his readers.

Chapter 2: Authority of a Poet

2.1 Imagined Evidence

The evidence that Darwin offers within the *Origin* is firstly situated in the present—in his observations of pigeons, domesticated plants, and insects. We have seen this empirical, experiential data build an authoritative and scientific foundation in Darwin’s argument: one that provides trustworthiness and familiarity for his readers. And yet, as we see with Darwin’s use of the tree of divergence, there are many ways in which the present is not enough for Darwin to adequately make his argument. Returning again to Beer’s argument of evolutionary history requiring us to look back on a past in which we are largely absent, “an antiquity in which we have no place,” we see the way in which *The Origin* requires an argument that can adequately address time and change that we are not actually witness to. Darwin’s early illustrations of the diversity he has personally witnessed serve to ease his readers into understanding by allowing them to feel they are able to see the minute details being described.

While this rhetorical strategy works to create a rapport and relationship of trust with his readers, the larger scope of the theory he is arguing for—that of natural selection—demands the ability to see processes that empiricism can’t adequately observe. As Darwin himself admits, “I do believe that natural selection will always act very slowly, often only at long intervals of time, and generally on only a very few of the inhabitants of the same region at the same time” (95). Pigeons and gardens—examples that adhere tightly to Darwin and his personal testimony—are only microcosmic examples of the natural diversity and change Darwin is arguing for. The processes at work in natural selection are, in Darwin’s argument, acting on the “whole economy of nature” throughout time and the present. In this way, describing such processes is not simply a matter of scale; it is temporal. It requires Darwin to take his observations from the present, and to

infer from them what he can about the past. He must metaphorically extend his sight—and the sight of his readers—in order to truly encompass the vast periods of time he is attempting to describe. As Beer notes:

“‘Relative similarities’, ‘graduated differences’—these are the major topics of *The Origin*, but instead of examining them only spatially in the present moment attainable by the experimental method, Darwin seeks to examine them also through time, through that which is not ‘present to our eye.’ . . . He must give primacy to imagination, to the perception of analogies, and must extend the study of forms fixed in the present moment into a study of their mutability and transience as well as their powers of transformation and of generation.” (98)

The idea of extending his empiricism becomes apparent as Darwin makes imaginative leaps that take him far beyond an empirical pose relying on observation and experiential evidence. “In order to make it clear how, as I believe, natural selection acts,” Darwin explains, “I must beg permission to give one or two imaginary illustrations” (Darwin, 85). This assertion works in multiple ways. He retains a humble appeal to his readers (“I must beg permission”) in order to allow for evidence he does not have, but must instead invent. And yet, he expresses that such imaginary illustrations are *necessary* to describe the process of natural selection—as Darwin believes it to be. Similarly, when Darwin notes “But how, it may be asked, can any analogous principle apply in nature? I believe it can and does apply most efficiently” we are once again reminded of the need for analogies that Darwin trusts—and implores us to trust—to help describe the processes he is attempting to articulate (98). In this way, as such illustrations and analogies replace the domestic examples Darwin firstly relies on, we see his empiricism replaced by evidence that his mind invents, often in the form of analogy and metaphor. While his acknowledgement of the necessity for such imaginative leaps is occasionally addressed directly, we see him extend his proofs subtly and gradually, beginning with what he has actually seen and stretching this evidence to speak for longer periods of time.

Moving to his third chapter on Natural Selection, he claims, “Man can act only on external and visible characters,” and further: “We see nothing of these slow changes in progress” (Darwin, 76, 77). “Slow though the process of selection may be,” Darwin continues to argue, “if feeble man can do much by his powers of artificial selection, I can see no limit to the amount of change, to the beauty and infinite complexity of the co-adaptations between all organic beings” (Darwin, 96). Juxtaposed with the powers of “feeble man,” the process of selection appears limitless, and it is *Darwin* who sees this possibility. Similarly, after pages of empirical evidence about his domestic pigeons that emphasize his reliance on personal testimony as a means for establishing his argument and persuading his readers, Darwin extends in his observations.

In a passage that scolds breeders who refuse to believe their stock could have descended from a single species, Darwin explains that such breeders “ignore all general arguments, and refuse to sum up in their minds slight differences accumulated during successive generations...May they not learn a lesson of caution, when they deride the idea of species in a state of nature being lineal descendents of other species?” (Darwin, 34) He suggests links between organic beings that are ignored by breeders—those who *should know better*, as Darwin intimates. His argument comprehends the connections between “successive generations” and advising others to do the same exhibits the unique perspective that Darwin demonstrates in his text—one that emphasizes vastness and infinitude, rather than the restricted scope that others are subject to. Darwin is able to move past the breeders’ limited scope and their domestic microcosm, to describe broader natural laws and processes at work. While George Levine describes this sense of expansion when he explains, “infinitude gives to natural selection much of its mythic force, and to the *Origin’s* prose, as it emerges from empirical fact, its persistently hypothetical nature” (*Darwin the Writer*, 93). He develops this idea further saying:

These infinite extensions of life, which moves slowly but is everywhere, through fields of the known and unknown, lead readers by way of incremental experience on the crucial steps toward acceptance of what Darwin offers, in his first four chapters—a simple, rational, and empirical argument. (93)

As Levine suggests, Darwin's early attention to certainty in domestic examples and assurance in his careful study ground his text in a basic argument, derived from pieces of empirical evidence. These empirical details—what can be “known”—give Darwin a foundation that builds toward descriptions of processes he cannot observe—processes which are, in many ways, “unknown.” From his vivid domestic observations and his constant appeal to personal conviction and belief, Darwin persuasively expands his observations beyond what can be empirically known or proven. His ability to describe “infinite extensions of life” becomes possible by his own extensions of observation—from empirical to imaginary. Beginning as the intimate and familiar voice of a pigeon keeper, a gardener, a trusted naturalist, Darwin asserts, at different moments, the ability to envision and narrate greater expanses of evolutionary history. As Stanley Hyman describes in his book *The Tangled Bank*: “Some of the book's prophetic quality comes from Darwin's predominant tone of personal testimony: I was there, I saw it, this happened to me” (35). Although Darwin's argument is firstly situated in his position as a careful naturalist who has tested, observed, and collected impressive empirical data, it builds from an empirical foundation to speak more broadly for evolutionary history and against the view that species were created independently.

Darwin's practice of replacing the view of independent creation with that of natural selection is (as in the case of his empirical evidence) uniquely situated within his own perceptions. I would argue that, in this way, as Darwin's focus shifts between describing empirical examples and inferring greater laws of nature, the consistency of Darwin's personal point of view plays a valuable persuasive role in the argument. By establishing a perspective of

personal testimony which transitions to arguments for larger natural processes, Darwin argues for laws of nature in a similar way that he describes his domestic examples—making the shift from empirical evidence to inference rhetorically seamless for his readers. Darwin lays out carefully collected, empirical evidence on the subject of the hive-bee, concluding, “I believe that the hive-bee has acquired, through natural selection, her inimitable architectural powers” (188). So does he, in reference to the geographical distribution of species, more broadly express: “I believe this grand fact can receive no sort of explanation on the ordinary view of independent creation” (316). These connected expressions of belief, moving from the minute and intricate workings of the bee to the widespread placement of species, appear to present the varying degrees of Darwin’s evidence (from the directly observed to widely inferred) as equally capable of being believed in Darwin’s argument. Furthermore, in his chapter on the Laws of Variation, Darwin asserts:

He who believes that each equine species was independently created, will, I presume, assert that each species has been created with a tendency to vary, both under nature and under domestication, in this particular manner, so as often to become striped like other species of the genus. (142)

This idea of a flawed belief is striking, particularly in the way that Darwin follows up with a scathing correction of such a belief or view. Directly after his description of the faceless “He,”

Darwin expresses:

To admit this view is, as it seems to me, to reject a real for an unreal, or at least for an unknown, cause. It makes the works of God a mere mockery and deception; I would almost as soon believe with the old and ignorant cosmogonists, that fossil shells had never lived, but had been created in stone so as to mock the shells now living on the sea-shore. (142)

While this passage exhibits the way in which Darwin fiercely critiques the view of independent creation, it also shows the way in which Darwin actually aligns theology, in some way, with his own argument for modification and natural selection. In other words, while those believing in

independent creation, but not understanding the laws of variation make a mockery of God, Darwin seems to suggest that his own theory does not. We see this pattern of correction once again in the chapter on Difficulties on Theory when Darwin declares that “He who believes in separate and innumerable acts of creation will say, that in these cases it has pleased the Creator to cause a being of one type to take the place of one of another type; but this seems to me only restating the fact in dignified language” (Darwin, 156). In both instances, the reflection back to Darwin himself—to his own impressions (“as it seems to me,” “but this seems to me”)—points again to Hyman’s argument about the connection between personal testimony and the text’s prophetic quality.

There is a sense of personal assertion and boldness in Darwin’s language; he draws attention to himself and his perceptions while advancing claims about the works of God and faulty views of creation. Not only do these passages represent Darwin’s correction of a flawed view, they demonstrate what Hyman is describing when he says, “The effect of [the] tone of personal testimony is to heighten the immediacy of what is essentially a new religious message, a new testament or covenant” (36). Although we have seen the lengths to which Darwin’s argument depends on appeals to trust in evidence—even in absent evidence—Darwin’s prophetic tone amplifies the persuasive power of his larger claims. The scorn of “He who believes” conjoined with the “old and ignorant cosmologists” gives the passage a sense of Darwin redirecting an antiquated view of the world. In addition, the references to Darwin’s *own* perceptions of this antiquated conception call attention to his point of view as a crucial lens for his larger arguments.

2.2 Darwinian Time

As Darwin corrects what he argues is a flawed view that makes “the works of God a mere mockery and deception,” we see the way in which *his* view—one that sees species in terms of natural selection—replaces the “ordinary” view, as Benjamin Bradley calls it, of independent creation (Bradley, 220). Not only does Darwin argue firmly for his theory as a more legitimate view of nature, one that doesn’t “mock” the Creator, Darwin’s view as it applies to time and change demonstrates the characteristic ability of Darwin’s sight to penetrate, more deeply than our sight is capable, into the workings of nature in order to guide his readers to see and comprehend what he is attempting to argue. Although he demonstrates an ability to compress time and argue for processes that are far beyond any powers of literal sight or observation, Darwin’s use of time also romantically and poetically demonstrates the complexities of nature.

We often see Darwin’s compression of time into arguments that appear startlingly concise, considering the way he has addressed incomprehensibly vast periods. For example, concluding his chapter on “Geographical Distribution,” Darwin states:

The endurance of each species and group of species is continuous in time; for the exceptions to the rule are so few, that they may fairly be attributed to our not having as yet discovered in an intermediate deposit the forms which are therein absent, but which occur above and below; so in space, it certainly is the general rule that the area inhabited by a single species, or by a group of species, is continuous. (325)

Here Darwin speaks for vast periods of time, asserting to his readers the clear and continuous stretch of species development. In addition, the use of time within Darwin’s argument is not solely in regards to filling in gaps of the past. As he acknowledges that, spatially, it is “the general rule that the area...is continuous,” Darwin speaks for time as it projects forward—into continued endurance of species. “Both in time and space,” Darwin continues to tell us, “species and groups of species have their points of maximum development” (Darwin, 325). It is in such moments where we see Hyman’s idea of Darwin’s prophetic tone. Not only can Darwin illustrate

change in the past, he is able to describe continuous change, projecting beyond the present. Observing Darwin's narrative handle of time and space as it applies to the development of species and the distribution of species around the globe, we also gain a sense of Darwin as uniquely clairvoyant in his rhetorical stance. The grandness of his language ("Both in time and space") works in multiple ways; at once giving him the authority of a naturalist predicting change and development, and, additionally, giving him the authority of an imaginative, Romantic poet or epic narrator. As Gillian Beer explains, "Evolutionary history is first a form of imaginative history. It cannot be experimentally demonstrated sufficiently in any present moment. So it is closer to narrative than to drama" (8). Darwin is, in this way, presenting a narrative for evolutionary history. By inferring what he can from his domestic findings and weaving his inferences into broader illustrations of natural processes, Darwin is able to narrate spaces of evolutionary history that he can't truly access with observational or empirical insight.

Although Darwin occasionally compresses time for the sake of argumentative clarity, his prose also expresses poetic or prophetic grandeur. He draws us into an understanding of the world, newly derived, emphasizing the interconnectedness of living beings as he states, in "On the Geological Succession of Organic Beings," that "We can understand how it is that all the forms of life, ancient and recent, make together one grand system; for all are connected by generation" (275). "We" are suddenly brought to an understanding of interconnectedness, of community with "all the forms of life." And yet, there remains a second sense of community, subtly present in his argument: the community of "we" who are able to understand and accept the argument that Darwin is presenting to us. Although there remains the same sense of directness that occurs when Darwin speaks "Both of time and space," as was earlier discussed, his attention to "one grand system" elevates his view of time as something profoundly philosophic and, I

arguably, poetically romanticized. Scholar Gary Willingham-McLain explains that “The vision of nature Darwin wants his readers to experience is only possible after a process of increasing self-consciousness on the part of the observer” (73). I would argue, Darwin’s narrative as it applies to time demonstrates this need. In order to understand that all forms of life “are connected by generation,” Darwin’s reader must experience a certain degree of awareness, and even discomfort, in trying to grasp a concept that connects all living things across time. Similar to the way in which he corrects an “ordinary” view of independent creation with his argument for adaption and natural selection, the narrative that he provides for time emphasizes complexity, often through Romantic gestures. As Darwin closes his chapter on “Natural Selection,” he poetically reflects:

As buds give rise by growth to fresh buds, and these, if vigorous, branch out and over-top on all sides many a feebler branch, so by generation I believe it has been with the great Tree of Life, which fills with its dead and broken branches the crust of the earth, and covers the surface with its ever branching and beautiful ramifications (Darwin, 114).

Again, through his reference to generations, Darwin demonstrates a narrative strategy allowing him to speak for periods of time that have elapsed and changes that have occurred over such periods. This language, with its notable “Tree of Life” metaphor, demonstrates a Romantic nod to the complexities of nature in a way that adds a further sense of majesty to his argument. The passage, both an analogy (“As...so”) and a famous metaphor, is grounded in Darwin’s expression of subjective belief. Darwin situates himself in the midst of the poetic inference, once again utilizing “I believe” as a narrative position from which his inference develops. In addition, the “ever branching and beautiful ramifications” show the way in which Darwin’s narrative for evolutionary history does not counter the creationist view by disenchanting or simplifying the workings of nature. Rather, Darwin’s view adds a sublimely and infinitely more complex lens to natural processes—one fully understanding of the beauty unfolding.

2.3 “What the mind cannot grasp”

Darwin’s poetic “Tree of Life,” with its “ever branching and beautiful ramifications,” provides a sense of fullness and complexity to the passage of time and to the continual changes occurring in nature. Although he is able, in this moment, to compress time and contain the natural profusion he is describing within the bounds of metaphor, his readers are given a sense of expanding beauty and continuous change. Darwin’s final metaphorical gesture demonstrates a similar simultaneous compression and exploration of complexity, as he muses,

It is interesting to contemplate an entangled bank, clothed with many plants of many kinds, with birds singing on the bushes, with various insects flitting about, and with worms crawling through the damp earth, and to reflect that these elaborately constructed forms, so different from each other, and dependent on each other in so complex a manner, have all been produced by laws acting around us. (384)

Within the early metaphor of The Tree of Life and this final view of an “entangled bank,” Darwin poetically and vividly expands our view of the world, although the metaphors are almost strikingly at odds—the orderly branching of a great tree juxtaposed with a tangled bank teeming with insects and worms. And yet, from the damp earth below to the upward reach of budding branches, these distinctive metaphors contain a common sense of knowingness about the complexities of generations. Even the reference to “laws acting around us” serves to contain and govern the natural profusion of such “elaborately constructed forms.”

However, there is also an argument throughout Darwin’s text that, despite all that he has shown us of the natural diversity and interconnectedness of species in nature, there are spaces that neither his argument nor our own understanding can reach. Entwined with Darwin’s attempts to illustrate complexity is a lingering sense of mystery within the natural world and the expanse of the past that must be acknowledged and considered but that cannot be fully comprehended. Within the first pages of his great “Abstract,” Darwin hints, subtly, “The laws

governing inheritance are quite unknown” (Darwin, 22). Such small suggestions of what is “unknown” and what is beyond the scope of understanding build throughout the text—as the reminder of what we *don’t know* sometimes overpowers what we do. Despite a complicated narrative positioning in which he moves from “I” to “we” as he attempts to convince his readers of his theory, Darwin’s repeated use of “our ignorance” demonstrates limits that even Darwin is subject to. And yet, as we will see, by Darwin drawing attention to what cannot be known, we see a unique persuasive strategy unfold. By declaring what is beyond the mind’s grasp, Darwin quietly asserts his own evidence as a positive, as something that he believes *can* be known.

Demonstrating the interconnectedness of species through descent with modification, Darwin draws a somewhat less poetic illustration of the world than the budding Tree of Life when he muses, “We can clearly see how it is that all living and extinct forms can be grouped together in one great system; and how the several members of each class are connected together by the most complex and radiating lines of affinities” (343). In contrast to his description of the “grand system” in which all forms of life are interconnected, this “great” system and its “several members of each class” appear more aligned with an ordered, Linnaean view of the world as opposed to a Romantic musing. Yet, such systematic or taxonomic certainty is challenged as Darwin continues to explain: “We shall never, probably, disentangle the inextricable web of affinities between the members of any one class” (343). Regarding the intricate system of beings—living and extinct—what Darwin chooses to emphasize is not our ability to fully comprehend the intricate interconnectedness of natural beings, but rather the impossibility of it.

In fact, Darwin’s argument *demand*s, to some degree, the acknowledgment and understanding of our own ignorance. He directly addresses the limits of what we can fully know or reason. As Gillian Beer describes: “His text is an unusually extensive fiction—one which

deliberately extends itself towards the boundaries of the literally unthinkable, which displaces the absoluteness of man's power of reason as an instrument for measuring the world" (Beer, 99). Yet in this "extensive fiction," Darwin's subjective point of view—his unique abilities to imagine, infer, and believe—becomes its own "instrument for measuring the world." The scale of a world covered by the ever-branching "Tree of Life" cannot, in other words, be explained through reason grounded in observation—not even through the piles of empirical evidence Darwin has gathered. Just as he reasons for processes of continuous change and infinite complexity—processes far beyond empiricism—Darwin boldly reflects on what is *beyond* our (or perhaps, more importantly, *his*) reason. Darwin directly and repeatedly invokes this disruption. He remarks, "We should not forget that only a small portion of the world is known with accuracy"; later, he adds that "The mind cannot possibly grasp the full meaning of the term of a hundred million years; it cannot add up and perceive the full effects of many slight variations, accumulated during an almost infinite number of generations" (Darwin, 247, 378). Beyond merely acknowledging the complexity of the world and generations of species, these moments require us to recognize incomprehensibility in the natural world. In this way, we are reminded again of the prophetic quality in Darwin's rhetoric. He argues with force and conviction about processes that extend beyond empirical observation, while boldly declaring what cannot be known. In this way, contained in this acknowledgment of what is beyond the mind's grasp, is also a subtle argument that what Darwin has presented in his text is *not* unreasonable, but rather contained within the bounds of what *can* be understood as true.

In his chapter "On the Imperfection of the Geological Record," Darwin draws particular attention to the limits of what we can understand with regard to the expanse and age of the world. Within his section *On the lapse of Time*, Darwin boldly declares that

He who can read Sir Charles Lyell's grand work on the Principles of Geology, which the future historian will recognise as having produced a revolution in natural science, yet does not admit how incomprehensibly vast have been the past periods of time, may at once close this volume. (228)

It is in this moment that Darwin draws overt attention to our acceptance of what we cannot fully comprehend. Although Darwin prophetically peers ahead in time, deciding what the "future historian" will recognize as valuable, he places a demand on his readers to acknowledge time as an "incomprehensibly vast" force. In fact, this demand is so striking that, on Darwin's terms, it requires a conscious self-evaluation by the reader. What a reader must accept in this moment is a world that is beyond the reach of reason—we are directly required to accept a world that is incomprehensibly vast. If we won't accept it, Darwin quite gruffly suggests that we *find a new book*.

As the section on time continues, we are met with a unique narrative, as Darwin muses on the wearing away of rocky cliffs over time. "It is good," we are told, "to wander along lines of sea-coast, when formed of moderately hard rocks, and mark the process of degradation" (Darwin, 229). And yet, watching hard rock worn away presents itself as a sort of poetic fiction that Darwin has constructed. The literal "process" of degradation is, arguably, too slow to witness with the naked eye, in the same way that the natural selection is a slow process of minute change. . It is endeavor that extends beyond one lifetime or many, in the same way that Darwin's own evolutionary theory attempts to illustrate a process that we have not been witness to. What Darwin's poetic narrative draws our attention to is an understanding of the world that is ungraspable, out of reach. Continuing, Darwin asserts:

A man must for years examine for himself great piles of superimposed strata, and watch the sea at work grinding down old rocks and making fresh sediment, before he can hope to comprehend anything of the lapse of time, the monuments of which we see around us. (229)

The objective that Darwin describes, that of comprehending such a lapse of time, is an impossible one. We must survey geological layers of earth, observing the sea grind rock to sediment, before we can even *hope* to comprehend the passage of time. These moments capture a sense of the sublimity of nature, as Darwin himself demonstrates the limits of comprehension when he reflects on the scale to which “the surface of the land has been so completely planed down by the action of the sea” (230), declaring: “The consideration of these facts impresses my mind almost in the same manner as does the vain endeavor to grapple with the idea of eternity” (231). Once again, Darwin inserts his own perceptions, draws attention to his own mind, as he makes his argument. Subtly, he emphasizes the “facts,” even as he acknowledges the immense and even impossible weight of fully bearing them in mind.

Demonstrating such a difficulty—grappling with even the *idea* of eternity—Darwin once again draws a reader’s attention to a sense of the incomprehensible expanse of time. Even more excitedly, Darwin exclaims, “What an infinite number of generations, which the mind cannot grasp, must have succeeded each other in the long roll of years!” (232) By acknowledging what our minds cannot grasp and through a reminder of how vast and ever changing have been generations over time, our view of the complexities of the natural world is expanded—perhaps even more than it is through the poetic metaphors of tree or entangled bank. As he suggests to us what we cannot fully understand, his use of what is incomprehensible serves, not only to expand his readers’ views of the natural world, but as a subtle mechanism of asserting his argument.

While Willingham-McLain argues that Darwin asks his readers “to accumulate and comprehend what large groups of these elements present in their totality—even as he emphasizes the impossibility of such a totalizing view”(69). However, he fails to see the power of this impossibility with regards to Darwin’s argument. The impossibility of a totalizing view or

gesture to the incomprehensible sublime is, I would argue, of two-fold importance. On one hand, it serves Darwin's argument by emphasizing the infinite complexity present in the nature world—an awareness that requires imaginative leaps of faith. On the other, it serves to contain Darwin's own evidence and argument within the bounds of what we can understand. Darwin summarizes his chapter on "Geographical Distribution" declaring:

[I]f we make due allowance for our ignorance of the full effects of all the changes of climate and of the level of the land... if we remember how profoundly ignorant we are with respect to the many and curious means of occasional transport... I think the difficulties in believing that all the individuals of the same species, wherever located, have descended from the same parents, are not insuperable. (322)

Within this passage, and in similar moments, the idea of "our ignorance" directly serves as a means of comprehending the argument Darwin is making and the world he is attempting to describe. In telling us that if we "make due allowance" for our ignorance, and, furthermore, if we "remember" how ignorant we are, believing in what Darwin is arguing is made easier. Ignorance is not denied or pushed away, but appears, instead, as a tool in Darwin's argument, allowing us to acknowledge and face the limits of what we can't fully know. In this way, as Darwin sections off what is "incomprehensible," he uses this vastness not only to expand our view of nature's complexity—complexity that expands beyond what we can reasonably comprehend—but also to place his own argument in the bounds of what can be more easily believed and understood. Darwin has already metaphorically and prophetically addressed vast complexities in nature (i.e. the "ever branching and beautiful ramifications" of the great Tree of Life). By acknowledging that which we cannot know, that of which we are "ignorant," Darwin indirectly keeps his own complex arguments about the natural world in the scope of what we can know, or at least infer. In other words, by sectioning off what we can't comprehend, his own argument and evidence—even if withheld or appearing as "imaginary illustration[s]"—quietly and persuasively become

what we *can* comprehend. As Darwin moves beyond the empirical evidence that forms the foundation of his argument, his poetic and prophetic musings add a lens of infinite complexity to the natural processes he is describing. Combining vivid, empirical proofs with imagined, metaphorical evidence, Darwin continually utilizes a personal perspective from which to assert belief in broader natural processes. Through this point of view, Darwin's expresses the same belief and conviction in his imagined, analogous examples—even in the limits of what we can know—as he does in his domestic proofs. These continuous expressions of personal conviction and appeals to greater belief allow Darwin to weave together his empiricism and poeticism into larger arguments about general laws of nature.

Conclusion: Agency, Revision, and Loss of Voice

Although Darwin's subtle reminder of what is beyond our comprehension helps to contain his own argument—from his analogies to complex metaphors—in the bounds of what we can understand, his argument is not without its own gaps or instabilities. We have seen Darwin simultaneously critique the “old cosmologists” and express disbelief at the idea of independent creation, while aligning elements of theology with his own arguments. While, in such moments, Darwin heightens the grandness of his theories, we also recognize what Gillian Beer describes when she says: “Darwin was...obliged to dramatise his struggle with natural theological assumptions within a language weighted towards natural theology. He must write against the grain of his discourse” (53). This need to write against a discourse steeped in natural theology and divine intent can be seen in Darwin's steady replacement of the view of independent creation with his own argument. And yet, Darwin asks: “Have we any right to assume that the Creator works by intellectual powers like those of man?” Similarly, in the second edition of his text, published in 1860, he famously inserts the Creator into the final passage; “There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or one” is transformed to read: “There is grandeur in this view of life...having been originally breathed by the Creator into a few forms or one³.” Similarly, in the conclusion of all editions, Darwin boldly declares:

To my mind it accords better with what we know of the laws impressed on matter by the Creator, that the production and extinction of the past and present inhabitants of the world should have been due to secondary causes, like those determining the birth and death of the individual. When I view all beings not as special creations, but as the lineal descendents of some few beings which lived long before the first bed of the Silurian system was deposited, they seem to me to become ennobled. (Darwin, 383)

³ Respectively, *Origin* 1st ed., 384; *Origin* 2nd ed., 490

In this way, Darwin selectively uses the presence of a divine power to provide authority and power to his own arguments. We see a tension or flux with regards to Darwin both pushing against an old view that he scorns, and using elements of theology to give his own argument power. This unsteadiness, with Darwin scorning and simultaneously echoing elements of theological arguments, more broadly exposes Darwin's attempts to infuse his own argument with the authoritative certainty and grandeur, even as he pushed against the deterministic mode of natural theology.

Despite an effort to make his argument strong and persuasive to readers, Darwin's prose often exposes the challenge of articulating what change and adaptation are attributed to. Variations and favorable adaptations are among the pieces of argument that Darwin repeatedly attributes to "chance." However, there is arguably something unsteady in the term; Darwin gives chance no further or precise foundation. Although he asserts it authoritatively as a potential cause of variation, Early in his text, Darwin states: "every slight modification, which in the course of ages chanced to arise... would tend to be preserved" (75). In a customary appeal to the reader, where he calls upon us to imagine, trust, and remember, Darwin expands on this notion of chance: "It is, however, far more necessary to bear in mind that there are many unknown laws of correlation of growth, which... will cause other modifications, often of the most unexpected nature" (78). This differs, in a sense, from Darwin's gesture to our ignorance, to what the mind can't comprehend, in the way that he grounds the unexpected in "laws." Additionally, as Darwin tells us to "turn to the nectar-feeding insects in our imaginary case," he follows: "Bearing such facts in mind, I can see no reason to doubt that an accidental deviation in the size and form of the body... might profit a bee or other insect" (85). Just as he grounds the "unknown" in "laws,"

which give a sense of security to his argument, we are to bear “facts” in mind to help with an explanation of “accidental” processes.

“Mere chance,” Darwin tells us, “might cause one variety to differ in some character from its parents...but this alone would never account for so habitual an amount of difference” (98). But Darwin is unable to show what exactly *does* account for the difference. In fact, it isn’t until significantly later in his text when Darwin admits, “I have hitherto sometimes spoken as if the variations...had been due to chance. This, of course, is a wholly incorrect expression, but it serves to acknowledge plainly our ignorance of the cause of each particular variation” (115). This admission so late after his frequent use of the term creates instability in his argument, which exposes one of the many difficulties Darwin exhibits with regard to describing the process of natural selection. He attempted to present his argument in a way that pushed against the deterministic mode of natural theology, but his text exposes an element of flux with regard to precise articulation. By repeatedly referring to chance as a cause of variation and modification, while suddenly decrying it as a “wholly incorrect expression,” Darwin disrupts its precision. In this way, we might see “chance” as partly standing in for what Darwin can’t fully explain; we may come to see it, too, in conjunction with the different modes he uses to address agency—namely the role of nature personified (often interchangeable with “Natural Selection”) and even, as we have seen, his occasional use of the Creator. This sense of agency is often subtly present, through multiple modes.

Early in his chapter on “Natural Selection” and in his text itself, Darwin argues, “the conditions of life are supposed to have undergone a change, and this would manifestly be favourable to natural selection, by giving a better chance of profitable variations occurring; and unless profitable variations do occur, natural selection can do nothing” (75). Continuing, he

explains that the variations need not be extreme, seeing that “man can certainly produce great results by adding up in any given direction mere individual differences, so could Nature, but far more easily, from having incomparably longer time at her disposal” (76). In these passages, we see Darwin’s focus move between agents—from natural selection that “can do nothing” if variations are not profitable, to a personified figure of Nature, gendered as female in a classically poetic move. In a similar moment, Darwin argues that

Man can act only on external and visible characters: nature cares nothing for appearances, except in so far as they may be useful to any being. She can act on every internal organ, on every shade of constitutional difference, on the whole machinery of life. Man selects only for his own good; Nature only for that of the being which she tends. (76)

Man (the antagonist) and his means of artificial selection are here opposed with the omniscient and encompassing care of Nature who acts on the “whole machinery of life.” What man is to artificial selection, the metaphor of Nature becomes to natural selection. In this way, Darwin’s metaphor of Nature allows him to move beyond domestic microcosms—beyond artificial selection—and allows him to speak instead with authority for broader expanses of nature. In a similar way that Darwin uses the presence of “chance” to address what is simply unexpected, or beyond any explanation he can give, he uses metaphorical agents to authoritatively address processes he can’t directly witness. Closely following this passage, Darwin tells us: “It may be said that natural selection is daily and hourly scrutinising, throughout the world, every variation, even the slightest” even though “We see nothing of these slow changes in progress” (77). Paralleling the opposition of man seeing only visible characteristics, while Nature can see in terms of every creature’s well being, Darwin’s description of natural selection—as an active, conscious force—opposes it to our inability to even fully see the variations that are being selected. The forces of Nature and natural selection begin to blend together as agents in the

processes that Darwin is describing, in this way appearing integral to the formation of his argument.

During the process of revision, as Darwin attempts to clarify terms, bolster his argument with new evidence, and address criticisms of his work, he calls attention to the problem of such metaphors in his argument. In the first edition of his text, the roles of natural selection and nature appear in his argument, often interchangeable with one another, yet by Darwin's final edition, "nature" becomes uniformly capitalized, no longer blending into the fabric of his language, but appearing overtly metaphorical. More directly, Darwin revises "It may be said that natural selection is daily and hourly scrutinising" to read: "[I]t may metaphorically be said."⁴ As George Levine suggests: "By the sixth edition, Darwin apologizes for his metaphors, but even then he doesn't edit them away" (*Darwin and the Novelists*, 100). In his fifth edition, published in 1869, Darwin explicitly clarifies his use of Nature, stating: "Nature, if I may be allowed to personify the natural preservation or survival of the fittest, cares nothing for appearances, except in so far as they are useful to any being" (*Origin* 4th ed., 95). By directly explaining his metaphors, I would argue that Darwin separates them from the inner-workings of his argument. They become more pronounced, more ornamental, rather than integrated within his prose as the un-capitalized "nature" originally appeared. Throughout revision, Darwin displays a sense of authorial power as he asserts: "So again it is difficult to avoid personifying the word Nature; but I mean by Nature, only the aggregate action and product of many natural laws, and by laws the sequence of events as ascertained by us" (*Origin* 3rd ed., 85). It may be argued that Darwin's explanations of his metaphors serve to stabilize elements of his argument that were previously problematic. Through

⁴ Respectively, *Origin* 1st ed., 77; *Origin* 2nd ed., 63

explicit attention to what is strictly “metaphorical,” Darwin de-poeticizes certain elements of the *Origin* and makes room for more scientific arguments that attempt to rest on objective certainty.

By the final edition, however, Darwin does not replace his “imaginary illustrations” with empirical ones, nor does he edit away his use of analogy or the metaphoric Tree of Life. The task of describing evolutionary history remains, as Beer described, the task of creating “imaginative history.” While these imaginative shifts occur throughout all editions of his text, by the final edition, the lessened presence of Darwin’s own voice—his expressions of personal belief—can be felt. At moments, in gestures towards scientific objectivity, we see Darwin adjusting his argument in favor of greater evidence and proofs. With regards to the intercrossing of species, Darwin comes to conclude, in his first edition: “this I believe to be the case” but later exchanges it for: “this I find to be the case.”⁵ In such instances, Darwin exchanges subjectivity for heightened scientific authority. However, what I will argue we see from such removal of personal voice is not in fact a new sense of certainty in Darwin’s arguments, but a sense of unsteadiness—a sense that without his personal voice of assurance, Darwin must, in some degree, qualify his arguments.

In his first edition, Darwin argues: “I can see no reason to doubt that natural selection will continually tend to preserve those individuals which are born with constitutions best adapted to their native countries” (123). His assertion of personal conviction is connected to a similar sense of absoluteness with regards to natural selection; it *will* continue to preserve such species. The active, positive nature of Darwin’s belief gives the very process his argument describes a sense of positive force. Just as Darwin’s perspective has a sense of absoluteness (“no reason to doubt”), so too does the process described in his argument contain definitiveness in its emphasis

⁵ Respectively, *Origin* 1st ed., 91; *Origin* 6th ed., 80.

on “will.” However, by the final edition, the passage is greatly altered. “[N]atural selection,” Darwin argues, “would inevitably tend to preserve those individuals which were born with constitutions best adapted to any country which they inhabited” (*Origin* 6th ed., 114). As Darwin removes his own sense of belief and positive conviction, so too does he remove a sense of decisiveness from the process he is describing. Natural selection becomes qualified; it “would” tend to preserve such species. In this way, the presence of Darwin’s intimate voice and subjective point of view are not merely ornamental gestures in his argument, but modes that give greater strength and motion to the natural processes his argument describes. The expression of Darwin’s own belief appears, I would argue, as inextricably linked to the process of natural selection as he endeavors to assert it as truth.

Furthermore, Darwin originally asserts, “So, again, I do not doubt that some apparent correlations, occurring throughout whole orders, are entirely due to the manner alone in which natural selection can act” (126), once again linking his own certainty with a definitive claim about the manner in which natural selection functions (i.e. “entirely due”). Yet this, too, is edited to read: “Some other correlations are apparently due to the manner in which natural selection can alone act (*Origin*, 6th ed., 117). While Darwin once again attempts to remove his own presence and allow his claims to stand on their own, he creates a new sense of uncertainty in his argument. Darwin’s inclusion of subjective belief presents a bolder assertion of his theories—the correlations are *entirely* due. By grounding his argument in perception and personal conviction, rather than an objective truth that would only allow for as much assertions that could be directly proven, Darwin is able to make bolder claims about his theories. Without Darwin’s presence, his argument lacks complete certainty and exposes gaps in explanation (“are apparently due”). Similarly, Darwin’s assertion that “I strongly suspect that some well-known laws with respect to

the plumage of male and female birds, in comparison with the plumage of the young, can be explained on the view of plumage having been chiefly modified by sexual selection” is transformed to read: “Some well-known laws, with respect to the plumage of male and female birds... can partly be explained through the action of sexual selection.⁶” While “I strongly suspect” and “having been chiefly modified” express positive knowledge, “can partly be explained” leaves something unaddressed. What, in other words, explains the other parts of the “well-known laws”?

The pattern of such revision reveals the necessity of Darwin’s first person point of view to the arguments themselves. His personal perspective does not merely present natural processes to his readers; it instills the processes with a definitive sense of power and positive force. In his first edition, Darwin’s conviction, his unique expressions of confidence in his arguments, give the inner-workings of his arguments a quality of certainty—a sense that his own conviction is tied to deeper truth in the processes he argues for. Beer writes that Darwin “did not *invent* laws. He *described* them” (46). And yet, if we study the rhetoric of Darwin’s argument—its heavy reliance on subjective point of view and testimony of belief—what I argue we see is the necessity of Darwin’s presence in the larger processes his text describes. Infused with testimony of belief and intimate persuasion, his “descriptions” are deeply rooted in Darwin’s point of view; and it is Darwin’s own “descriptions”—his illustrations between evidence, both empirical and imagined—that give his arguments power and a sense of truth.

Revision exposes Darwin’s use of “Nature” becoming overtly metaphorical and his personal perspective diminishing in favor of objective, scientific claims. In this way, we arguably see a formation of distinct discourses emerge in Darwin’s text as what is overtly “literary”

⁶ Respectively, *Origin* 1st ed., 81; *Origin* 6th ed., 70.

separates itself from the stricter “science” of the argument. However, what this separation exposes is the power of the interdependent relationship between the scientific and literary in Darwin’s original argument. Just as revision reveals an absence of Darwin’s voice in an attempt towards scientific objectivity, so does it, in turn, expose the importance of Darwin’s *presence* in his first edition. In revision, we see instances where the lessened presence of Darwin’s point of view does not, in fact, give his objective claims added power, but instead leaves them qualified. Because the processes that Darwin sought to describe require illustrations that cannot be directly witnessed and must instead be imagined and held in mind, Darwin’s perspective—the source from which the imagined illustrations are formed—is crucial. Darwin’s personal perspective and repeated assurance of belief and conviction in the minute and infinitely complex connections between living beings that he articulates balances elements of the empirical and more broadly literary or poetic. Attempting to write “imaginative history,” as Beer argues, Darwin is inextricably linked to the elements that make up the larger arguments of his text. His belief, his conviction in the imaginary illustrations he offers, the metaphors he invents, the webs of evidence he compiles. His presence is not an ornamental gesture, not merely a voice hidden behind the arguments of his text, but is crucial to the larger argument of his text. Encouraging his readers’ belief in processes beyond literal sight, Darwin expresses his own awe and belief in the processes in nature that the *Origin* describes—a human, personal perspective that endeavors to give the infinite system of nature a sense of heightened power, grandeur, and complexity.

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