THE ROMANCE OF NATURAL HISTORY:
THE IMAGINATIVE PROJECT OF PHILIP HENRY GOSSE

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Abstract

Philip Henry Gosse (1810-1888), the British naturalist, biologist and science populariser, is the type of writer who will, on the same page, transcribe the minute details of the orientation of ‘small nuclear lamina’ on the ‘angular plates’ of a tortoise, and refer to the whole as a ‘high-domed house of bones’. Memorably described by Stephen Jay Gould as ‘the David Attenborough of his day’, Gosse wrote popular natural history volumes that sought an unsteady balance between exacting biological detail, engaging narrative anthropomorphism, and firm natural theology. These registers contribute to a discursive practice, exploration of which will inform my own approach to Gosse’s oeuvre.

Gosse’s writing caught the imagination of the Victorian reading public: works such as A Naturalist’s Rambles on the Devonshire Coast (1853) brought the middle class to the shore; The Aquarium (1854) brought the shore back into the middle class home; and The Romance of Natural History (1860) taught the ‘Poet’s Way’ of nature studies. But, as Lynn Merrill puts it, ‘Of Philip Gosse, two legacies remain—both of them unfortunate’. Today Gosse is remembered principally as a symbol, rather than a writer: as the withholding, Calvinist bully of Edmund Gosse’s Father and Son (1907), or as the supposedly feeble casuist of the Omphalos model (1857), who sought to run Genesis and geology in parallel, through a model of implied history. In each, he remains the defeated party in the battle of ideas which marked the latter half of the Victorian era. This thesis seeks not to redeem Gosse from these interpretations, as such, but to trace his own imaginative project: to read a model of natural history which animates his writings, and which is peculiar to him among the wealth of nineteenth-century popularisers of science.
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The matriarch of that great American cultural institution *The Simpsons* once reproached her son: ‘Bart, don’t make fun of grad students; they’ve just made a terrible life choice’. And while such words do have the habit of edging to the front of the mind as one stares at a flashing cursor on a blank Word document, my time researching and writing this project has been richly rewarding. A PhD, insofar as it represents a life choice, offers you the chance to find your voice: as a writer, as a researcher, as a nascent teacher and a notional scholar. It gives you the opportunity to enter your voice in dialogue with colleagues, with contemporaries, and with those whose work you have come to admire. It’s a choice, therefore, that I’m thankful I made.

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Finally, to my partner, Lee-Von Kim, whom I met at UWA during my candidature, and whose presence in my life remains by far the greatest reward of my time as a postgrad. Leevs, you make everything easier to see. Made a pretty good life choice.
Philip Henry Gosse (1810-1888) is sitting on a margin of grass on the bluff of Byng Cliff, overlooking Chesil Beach, Dorset, in April, 1852. He has made his way up to the head of the cliff, ‘through thickets of thurze and bramble’, and is enjoying a moment’s quiet reflection, under a ‘constant alternation of sunshine and shadow’:

The birds and insects were enjoying the spring sunshine. A dozen larks were scattered about the sky, and humbler songsters were chirping among the brambles. A few wild bees were humming over the turf, which glittered with the yellow pilewort and bright-eyed daisy, but afforded as yet few of those flowers that bees delight in. Among the grass at the very verge of the precipice, as I sat there a moment to survey the shore below, I found that curious beetle, *Meloe proscarabaeus*, a rather large insect of a deep dull indigo tint, easily recognisable, should you ever fall in with it, by its very short wing-cases, which do not cover half its enormous distended body. I took it up gently in my fingers, when it helplessly crumpled its legs, as if it had learned the lesson divinely taught, but which Christians find it so hard to practise—“Resist not evil,”—and lay passively in my hand, weeping at every joint of every limb a tear of orange-coloured fluid, that had conferred the name of Oil-beetle upon it. This liquor, which had a rank odour, stained the skin of my hand; and I soon put down my captive, who was glad to disappear among the stalks of the grass.

This picture, taken from the early pages of his 1854 work, *The Aquarium*, is typical of the sort drawn by Gosse in any of his popular scientific volumes. Here he populates his scene descendingly in taxonomic specificity, numerical distribution and spatial orientation: from birds and insects as a class, to a dozen larks in the sky, a few bees hovering above the turf, down to a single, specific beetle, hidden among the grass. His

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intent in scaling the cliff was to look upon the shore as a ‘widened prospect’, but, as we shall see, Gosse seems always to be constitutionally incapable of holding to the panoramic: inevitably he finds himself drawn to the objects at his fingertips. The cliff’s inhabitants are gently anthropomorphised: each is busy with industry, given intention, direction and dimension. They participate in his emotions; as Gosse enjoys the sun’s warmth and light, so do chirruping song-birds; as he searches the ground for visually appealing plant-life, so do diligent bees. The inhabitants form a social set as much as they do an ecology; they exist in a Paleyean equilibrium of warm light and interactive harmony. The notion that one may ‘fall in’ with an oil beetle, for example, should one perform the correct social manoeuvres, is the type of fond narrative conceit in which Gosse delights. As Lynn Merrill has elsewhere noted, Gosse’s eye often is drawn to colour: the scene as a whole is framed by the rotation of light and shade; the beetle’s dull colouration distinguishes it from the relentlessly glittering yellows of the ‘bright-eyed’ daisies and pilewort weeds. Indeed, the interaction with the beetle is, at its rudest level, a colour exchange, beginning with an indigo invitation, and ending with an orange reproach. Gosse’s suggestion of a pre-cognitive theological affinity with the beetle, as one who has ‘learned the lesson divinely taught’ from the Gospel of Matthew—‘resist not evil’—is both a moral homily and an attempt at humour; a biblical invocation and a self-aware reflection on his own propensity for ascribing mental states to invertebrates. Gosse would know well that the orange-coloured fluid secreted by the Meloe is a poison that does not merely stain the skin, but actively can cause painful blisters; his beetle is not turning the other cheek. Its attributed relative passivity speaks

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7 Merrill writes, ‘One cannot help but note [...] Gosse’s fascination with visually exciting objects, particularly those having beautiful colours, and with the play of light over them.’ Lynn Merrill, *The Romance of Victorian Natural History* (New York: Oxford University Press, 1989), 201. This aspect of Gosse’s descriptive technique is discussed in more detail in Chapter Five.
to a certain position on the moral authority of the naturalist in the natural space: Gosse’s relentless, inquiring fingers represent, at least in one moral economy, a malevolence.

I. The Twin Legacies

It is in this register that Philip Henry Gosse’s popular natural history works are written: an admixture of exacting biological detail, knowingly unscientific anthropomorphism, and a bullish natural theology. Gosse published more than forty volumes between 1840 and 1886, his focus in these works varying, but his narrative cadence consistent. His early work consists mostly of broad, unspecialised surveys of natural history, organised in two general categories: geographical regions and biological kingdoms, each driven by a distinct scientific and narrative impulse. Gosse did not attend university; he learnt his trade auto-didactically, through a pedagogical strategy manifested in these two categories of preliminary work. The latter, organised around scientific divisions, such as the two-volume *An Introduction to Zoology* (1844), or the five-book series *Natural History, Mammalia* (1848)/ *Birds* (1849)/ *Reptiles* (1850)/ *Fishes* (1851)/ *Mollusca* (1854), essentially are textbooks for children, and tend towards the derivative, as R.B. Freeman and Douglas Wertheimer point out in their indispensable *Philip Henry Gosse: A Bibliography* (1980). Gosse ‘did not know enough general zoology from personal experience to produce a satisfactory book with

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1 The two categories can also be marked by publisher: the biology guides are published through The Society for Promoting Christian Knowledge, while the geographically-themed books through Longman or John Van Voorst.
such wide scope”, and as such his work in these volumes acts as synthesis, or a review of the literature on the current state of zoology and biology, aimed at the inexperienced and the scientifically eager. Gosse writes in his ‘Introductory Remarks’ to the first volume of *An Introduction to Zoology*:

> The beginner in scientific studies is apt to be discouraged by the boundlessness of the field over which he glances. The number of the objects of his study is so vast, that he knows not where to begin his selection. And, indeed, this view is sometimes depressing to the experienced naturalist, who loving his science for its own sake, earnestly desires its perfection; but who is compelled to feel how little progress can be made in the short period of his life.  

For Gosse, then, the teacher and the student share disconsolations, a point of unity which shades the demarcation between the two. This is apt, as these early, generalised study books see him operating in both roles, master and pupil. His didactic impulse is self-compelling: the research manifested in these volumes is as much for his own scientific instruction as for his reader. He is teaching himself as he writes. The foundational task of the amateur naturalist, of ‘where to begin his selection’, seems in these volumes to resolve in biological technicalities and Linnaean classifications. Gosse notes in his notional thesis statement to *Natural History, Birds*, for example, that within that book, ‘The systematic divisions of modern science are adhered to; and their distinctive characters succinctly, but correctly, and clearly given’. Such a

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1 R.B. Freeman and Douglas Wertheimer, *Philip Henry Gosse: A Bibliography*. (Folkestone: Dawson, 1980), 20. As Freeman and Wertheimer aptly note, the exception which proves the rule is *Natural History, Mollusca*.  
2 *An Introduction to Zoology*. (London: Society for Promoting Christian Knowledge, 1844), ix. All subsequent references are to this edition.  
3 *Natural History, Birds*, (London: Society for Promoting Christian Knowledge, 1849), iii. The tone of voice in the *Natural History* series is dry and factual. The opening of the first chapter gives a representative flavour: ‘The numerous Class of vertebrated animals which we are about to consider, differs from that of the *Mammalia*, in that the young are not born alive, but are produced from eggs; which consist of a living point, attached to a globular sac of nutriment, called the yolk, surrounded by a layer of *albumen*, the glaire, and inclosed in two series of membrane, and a hard calcareous shell’.
statement represents in short form Gosse’s earliest philosophy for dry-mouthed pedagogical biology: a presentation of classificatory architecture, rendered into prose with precision, concision and clarity, deferred always to an external authority. There is little or no narrative component at work; the very structure of these volumes is taken from systematic divisions: chapters often are defined by Order, sub-headed into Family, and focused on Genus.7 These divisions he borrows from respected sources; he notes for Birds that he ‘has followed in his arrangement and nomenclature, the ‘Genera of Birds’ of Mr. G.R. Gray; not only on account of the intrinsic authority of that work, but because it is the system of which the noble collection of Birds in the British Museum is arranged and named’.7 Indeed, intrinsic authority is an interesting notion for Gosse. His text-book surveys are accretions of the work of established, prominent members of the scientific fraternity: he quotes long passages from William Jardine to provide discussion on birds, for example; Thomas Bell, his cousin, is conscripted for reptiles; William Yarrell for fish; George Johnston for molluscs, and so on. Their authority gains its inherence, perhaps, from a different type of Linnaean distinction, marked by Gosse in his aforementioned ‘Introductory Remarks’ to An Introduction to Zoology:

Naturalists may be divided into two classes, according to the department of study in which they labour. The first are those who, by philosophic induction, comprehensive research, and enlarged generalisation, endeavour to discover ‘the grand and harmonious plan upon which all organic creation is believed to have been formed,’ to trace, link by link the complex folds of that mighty chain which runs through all orders of being. The other class consists of that far more numerous body, who choose the humbler sphere of

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1 In Natural History, Birds, for example, the order Accipitres, or Birds of Prey, is subdivided into families of Vulturidae, Falconidae and Strigidae, or Vultures, Falcons and Owls. (These classifications since have changed—Falcons comprise an order separate from the other diurnal birds of prey).

2 Natural History, Birds, iv. George Robert Gray’s Genera of Birds (1844-49) describes almost fifty thousand species, and remains the seminal work of nineteenth-century avian classification.
field observation, a task to which no capacity is incompetent, and in the prosecution of which there is a peculiar freshness which never satiates.⁹

Gosse’s biology primers demonstrate a nascent talent for organisation and synthesis that is at least a bibliographic simulation of the first order of naturalist, but he belongs, of course, to the second. Indeed, one can discern his self-classification here in his language—the first class is feted by augmentatives: comprehensive, enlarged, complex, mighty, and is sponsored by a phrase from Bell, taken from A History of British Reptiles (1839). The second class seeks comfort in the majority: a numerous body, a humble field, to which any ability can apply itself. It is nature in praxis, rather than theory, the authority to pronounce on it is contingent, rather than intrinsic, and presents as a field for personal edification, rather than scientific advancement. The most ready distinction between Gosse’s biology surveys and the geographical surveys of the 1830s and 40s can be found in this division: the former represents the work of the first class of naturalist, the latter, the second.

Gosse reminds us in An Introduction to Zoology that the first and most broad division of the animal kingdom comes from Aristotle, in The History of Animals (~350 B.C.): those that have blood, and those that do not. This distinction stands, if it is not too grand to say so, for Gosse’s two classes of survey work. It is in his geographical works that Gosse begins to show his vitality as a writer. These books, including important early volumes The Canadian Naturalist (1840), Letters From Alabama (1859, but written in the late 1830s) and Birds of Jamaica (1847), privilege the empiricism central to the ‘more numerous body’ of the second category of naturalist. The experiential quality of the natural world is emphasised, perhaps owing

⁹ An Introduction to Zoology, x.
to the foundation of these books as extrapolated travel diaries, recorded by Gosse during his travels in the Americas in the first half of the nineteenth century. A principle of nature-by-the-naturalist is fundamental—Gosse records not just the zoological facts of a region, but also the naturalist’s experience of those facts, interactively and in motion. This is set out with force in the early pages of *A Naturalist’s Sojourn in Jamaica* (1851):

Natural History is far too much a science of dead things; a necrology. It is mainly conversant with dry skins furred or feathered, blackened, shrivelled, and hay-stuffed; with objects, some admirably beautiful, some hideously ugly, impaled on pins, and arranged in rows in cork drawers; with uncouth forms, disgusting to sight and smell, bleached and shrunken, suspended by threads and immersed in spirit (in defiance of the aphorism, that “he who is born to be hanged will never be drowned”) in glass bottles. [...] Two names are given to every one; the whole is enveloped in a mystic cloud of Graeco-Latino-English phraseology (often barbaric enough);—and this is Natural History!*

His language is startling, particularly set against the relative bloodlessness of his ‘succinct, clear, correct’ rhetorical strategy for the biology texts. The objects of collection and observation are here almost paganised: *blackened, shrivelled, bleached, shrunken*; not so much a catalogue of the necrological as elements of the necromantic. One can discern clearly the divergence of imperative and idiom between the two contemporaneous forms of his early work, then, between the placed and the unplaced. This disagreement presents a curious dissonance. In his biological text-books, Gosse is not merely an advocate for, but an active source of, ‘the mystic cloud’. When in *An Introduction to Zoology* he reverentially traces the history of zoological classification to Aristotle, he praises that early taxonomy as representative of ‘the versatility of [Aristotle’s] genius, the extent of his researches, the soundness of his judgment, and

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*A Naturalist’s Sojourn in Jamaica* (London: Longman, 1851), v.
the grandeur of his ideas'. But in *A Naturalist's Sojourn in Jamaica*, gone are the awed platitudes to the intrinsic authority of the scientific classes, and the appeals to the honest yeomanry of the ‘humbler sphere of field observation’. The judgment of the two instead is inverted. Gosse continues:

The author would not be misunderstood. He is far from despising the labours of those who describe and catalogue the specimens that travellers send to the cabinets of Europe. Careful and minute descriptions, accurate admeasurements, and distinctive names are absolutely indispensable to science; *but they must not be confounded with science itself*. Valuable as these details are, they form only the stepping-stone by which we arrive at the knowledge of animals […]. Let closet-science take its true place as the handmaid of Natural History; arranging and appropriating the observations of the true naturalist, and enabling him to record them with precision.

It is an important distinction—perhaps even a professional one—marking the boundary between the biologist and the naturalist, but acknowledging the traffic between the two. And by indexing his notion of *true* natural history against a sense of place, and, moreover, by setting that place exclusively in the New World—as he does, with each of his geographically-themed books finding itself in America, Canada or Jamaica—Gosse seems to be marking out a sense of change. Of course, his travel narratives still contain ‘careful and minute descriptions’ and ‘distinctive names’, but such particulars are not the focus of these works. Instead it is a sense of *incident* that is common; again, nature in praxis, rather than theory. He revels in the chance encounter with the natural world, favouring contingency over classification; Gosse’s American books abound with these joys of serendipity. *The Canadian Naturalist* takes its materials from the daily journal kept by Gosse while living in the Canadian North-east, but takes its form as an imagined dialogue between a father and son. It thus retains the spontaneity of youth,

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11 *An Introduction to Zoology*, xiii.

12 *A Naturalist's Sojourn in Jamaica*, vii-viii.
as the son-figure encounters nature with the excitement of fresh eyes. Each ‘careful and minute description’ is framed by its contingency as an encounter, rather than its permanency as a scientific form: ‘Look! What is this among the grass?’; ‘Did you see that very large moth that just darted along, over our heads?’.

*Letters From Alabama* and the two Jamaica books are written in a voice more arch and mature, perhaps, but nevertheless retain a similar exhilaration at accidental encounters. Indeed, *Birds of Jamaica* takes this principle as an organising strategy, as Gosse notes:

> Perhaps a word of apology may be thought needed for the minuteness with which the author sometimes recorded dates, and other apparently trivial circumstances, in his observations. It is because of his conviction, that an observer is hardly competent to determine what circumstance is trivial, and what is important: many a recorded fact in science has lost half its value from the omission of some attendant circumstance."

The importance of circumstance, of the ephemera of natural history, its *minutiae* rather than its *minuteness*, is perhaps what separates these early narrative strategies. Although Gosse venerates the Gilbert White school of observation, he seems to want to make a break from that style of amateur observer which James Moore calls collectively, and somewhat pejoratively, the ‘covey of clergymen-naturalists’, and to elevate natural theology to a science in its own right.\(^4\) It seems almost covert, however, to have competing, contemporaneous accounts such as these, praising collection and classification from one side of the mouth, and disparaging it from the other. Which is to take precedence? Which is public and which is private?

Gosse made his reputation as ‘the David Attenborough of his day’, to borrow Stephen Jay Gould’s illuminating comparison, during the mid-to-late 1850s, in his

\(^{13}\) *Letters From Alabama* (London: John Van Voorst, 1847), iii-iv.

series of how-to guides for the middle class public on biological specifics. By this time, Gosse’s personal experience with formal biology had deepened, and A Naturalist’s Rambles on the Devonshire Coast (1853), The Aquarium (1854), Tenby (1856) and Evenings at the Microscope (1859), demonstrate an expert’s familiarity with littoral flora and fauna, and seem to represent an equilibrium point between the competing dialectic of science and storytelling, found in his early work. Here we see him reconciling his two competing positions. The seaside books find their drive in the notion of the availability of the natural world—its vitality and its potential for domestication. These works established Gosse as perhaps the most well known representative of the scientific class in Britain. And, although his public reputation and living was made by these popular volumes, Gosse published prominently in the esoteria of marine biology; his full-length works of classification and description represent a genuine contribution to nineteenth-century science, beginning with the two-volume A Manual of Marine Zoology (1855/56), leading to what might be deemed his masterwork in the field, Actinologia Britannica (1858-1860). Again we see registered in these works the ambivalence that has pulled him since the 1830s—he clearly respects ‘the mystic cloud’—perhaps just not for public consumption. Further to these published full-length books, Gosse wrote pamphlets for passing public interest, and contributed actively to numerous specialist journals throughout his life. He authored more than two hundred articles for Natural History Review, Entomologist, Annals and Magazine of Natural History, Proceedings of the Royal Society, Transactions of the Linnean Society, among many others.  

17 A fuller list can be found in Freeman and Wertheimer’s Bibliography. I have by necessity overlooked discussion of an important stream of Gosse’s early work. From 1847, Gosse wrote a four-book set on
in its review of *Tenby* in 1856, ‘Mr Gosse is beyond all comparison the most voluminous writer on Natural History among the present generation of men: his powers are as inexhaustible as his subject. Volume follows volume with a rapidity that is marvellous; and the last has always the rare merit of appearing the best’.  

Of these volumes, however, few are popularly remembered. None is in print.

As Merrill notes, in *The Romance of Victorian Natural History* (1989):

> Of Philip Gosse, two legacies remain—both of them unfortunate. Philip Gosse the entomologist, marine biologist, naturalist, nature illustrator, and populariser of the wonders of nature through the written word is forgotten. If anyone thinks of Gosse at all, it is as the stern, unyielding, grimly pious parent of Edmund Gosse, so vividly portrayed in *Father and Son*. Or, in the context of religion, P. H. Gosse might be remembered as the hapless fighter of a rearguard action against evolution, *Omphalos: An Attempt to Untie the Geological Knot*.

As with Gosse’s oil beetle, each of the legacies begins in inquiry, and ends in a stain. The two legacies borne in *Father and Son* (1907) and *Omphalos* (1857) agitate at Gosse’s reputation from distinct fronts. The latter, his most notorious public mis-step, affected his regard ‘among the present generation of men’, popularisers and would-be professionals alike. Written at the height of his popularity, and pre-dating the *Origin of Species* watershed by two years, *Omphalos* sought not necessarily to reconcile Genesis with geology, but to allow the two to exist in parallel. The book explicates the lands of the Bible, *Monuments of Ancient Egypt* (1847), *Sacred Streams* (1850), *The History of the Jews* (1851), and *Assyria* (1852). These are each long, detailed and researched books, and they each contain at least some natural history, though not enough to justify inclusion in this study.


7 In the post-Project Gutenberg publishing environment, however, several small publishing houses will print on-demand paperback facsimiles of some of Gosse’s volumes.

8 Merrill, 190.

9 Despite the impression that Gosse and Darwin were of warring tribes, the two remained cordial correspondents throughout their lives. They often would perform experiments to assist in each other’s research. Moreover, Gosse actively, though perhaps unknowingly, contributed to Darwin’s theory of evolution by natural selection. Darwin wrote to Gosse in September 1856 to confirm details for his discussion on the descent of common pigeons from wild rock pigeons, in the celebrated opening chapter of *Origin*. Darwin writes in his letter: ‘I am working hard at the general question of variation,
Gosse’s model of prochronism, which held that the earth has an implied history, rather than a true past; that vestiges of an ancient time were created new, to look old. Geological layers exist twice of time, each holding a diachronic age of several thousand years, and a prochronic age of scores of millions. Edmund suggests that his father’s animating impulse for writing the book was an antipathy towards Charles Lyell, but the model proves Lyell both wrong and right, quite consciously. Indeed, it does not touch him: it merely allows him to work in parallel to revealed truth. It is a disingenuous trick in a way, and, outside of the evangelical press, Omphalos was received with attendant derision. As Edmund summarises in Father and Son, more or less accurately: ‘But alas! Atheists and Christians alike looked at it and laughed, and threw it away’. That Gosse’s reputation suffered cannot be doubted, but it remains in error that casual references to him in survey works on Victorian science should commonly insist that his intellectual disgrace from the book was terminal. Philip Appleman, for example, in the Norton collection of Darwin’s writings, calls Gosse a ‘laughing-stock’; Martin Sim repeats that charge—‘Despite all of [his] accomplishments, in time he became a laughingstock’—and describes him as a ‘crank’; A. S. Byatt in Possession has her character Mortimer Cropper refer to him as ‘the tragically misguided naturalist’, Michael Freeman contends that, ‘the expert collector and observer, author

paying for this end special attention to domestic Pigeons. This leads me to search out how many species are truly rock Pigeons, i.e. do not roost or willingly perch or nest in trees. Temminck puts C. leucocophala (your Bald-Pate) under this Category. Can this be the case? Is the loud Coo to which you refer in your interesting ‘Soujourn’ like that of a domestic Pigeon'. The Correspondence of Charles Darwin, Vol. 6, 1856-1857. (Cambridge: Cambridge University Press, 1990), 227. Gosse mentions the ‘energetic coo’ of the Baldpate in A Naturalist’s Sojourns in Jamaica (1851), 173.

Edmund Gosse, Father and Son, (1907; London; New York: Oxford University Press, 1974), 62. All subsequent references are to this edition.


of poetic works in nature, in the end remained a humble slave to revelation'. But *Omphalos* did not represent an ‘end’, certainly not to Gosse’s scientific output. Several of his most regarded works were written or published post-1857: *Evenings at the Microscope* and *Letters from Alabama* appeared in 1859, to broad acclaim, and his crowning achievement in marine biology, *Actinologia Britannica*, began its twelve-part publication through John Van Voorst from 1858, running for two years. In 1860, one of Gosse’s best-selling works was published, the two-part *The Romance of Natural History*, which sought to study the natural world in ‘the poet’s way’, as he puts it, dealing ‘not with statistics, but with the emotions of the human mind’.* Romance is the only Gosse work to contain no natural theology imperative whatsoever: he seeks not to find the Divine hand in nature, but rather, a poetic feeling. Edmund describes it as ‘the most picturesque, easy and graceful of all his writings’, and ‘even now a sort of classic’.

The note of finality in Freeman’s summation shares a distinctive echo with Edmund’s cadence in *Father and Son*, and thus expresses aptly the important connection between the continuing currency of the first legacy, and the sustained popularity of the second. The second legacy affects Gosse not as a scientist, but as a man; as a father, and as a Victorian. *Father and Son: A Study of Two Temperaments* is a masterful, complicated memoir of generation. If *Omphalos* fulcrums around the intractable tension between science and religion, *Father and Son* finds its hermeneutic drive in the conflict of science and aesthetics. An autobiographer’s fractious relationship to truth is the stuff of an extensive and ever-increasing body of

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*c* Edmund Gosse, *Father and Son*, 125.
scholarship, as will be discussed in part in my first chapter, but few memoirs begin
with such an openly confident declaration of unimpeachable veracity as Edmund’s:
‘the following narrative, in all its parts, and so far as the punctilious attention of the
writer has been able to keep it so, is scrupulously true’. If the two subordinate clauses
give a slightly halting air to the declaration, they are is insufficient to overcome the
plain meaning of his terminal adverb: scrupulously. In order to keep close the notion
of the cross-pollination of the two legacies, perhaps the best illustration for the
problematic nature of Edmund’s work can be seen in his recounting of the Omphalos
controversy, touched on above:

My Father had never admired Sir Charles Lyell. I think that the famous
‘Lord Chancellor manner’ of the geologist intimidated him, and we
undervalue the intelligence of those whose conversation puts us at a
disadvantage. For Darwin and Hooker, on the other hand, he had a
profound esteem, and I know not whether this had anything to do with the
fact that he chose, for his impetuous experiment in reaction, the field of
geology, rather than that of zoology or botany. Lyell had been threatening to
publish a book on the geological history of Man, which was to be a bomb-
shell flung into the camp of the catastrophists. My Father, after long
reflection, prepared a theory of his own, which, as he fondly hoped, would
take the wind out of Lyell’s sails, and justify geology to readers of ‘Genesis’.

One can readily see the complications of Edmund’s rhetorical architecture here. In a
short passage, Edmund rests his analysis on speculative or uncertain assertions: I
think; I know not whether. His charge that Gosse’s dislike of Lyell roots itself in being
intellectually cowed remains freely uncorroborated. He seeks a condescending false
consensus with the reader through his pronouns, ‘we’ and ‘us’, in the subsequent
epigram on the nature of conversational prejudice. Similarly, the notion that Lyell
threatened to publish what would become Geological Evidence of the Antiquity of

* Edmund Gosse, Father and Son, 3.
* Edmund Gosse, Father and Son, 61.
Man (1863) suggests a mutual animus, which impugns Lyell’s scientific compulsions as much as Gosse’s. And further, as posited in my following chapter on Omphalos, Gosse’s ‘impetuous experiment in reaction’ is not, in fact, conducted in ‘the field of geology’. It is, in fact, a book of zoology and botany—a category which remains one of its chief failings, as I shall in part argue. The Philip Gosse of this passage, and of Father and Son broadly, is jealous, petty and hubristic: a man who conducts his scientific endeavours on a level of personal slight. He is an overbearing Calvinist patriarch: quick to anger, arbitrary to discipline, rapine, retrograde, anti-intellectual, amodern. In short, Edmund Gosse has written his father as the God of the Old Testament. He commits the most fundamental of ecclesiastical conflations, framing his theological disputes as filial oppressions.

This instinct represents, writ large, the aspect of Edmund’s literary life that David Amigoni describes as ‘notoriously imaginative scholarship’. Indeed, this element of Edmund’s writing is worth pausing over for a moment. James Hepburn, in his introductory essay to the 1974 Oxford edition of Father and Son, writes scathingly of Edmund’s plastic relationship to the truth, noting: ‘It is in fact astonishing how little criticism of any sort has ever been levelled against the book [...] Why should he who was inaccurate about Sir Philip Sidney, Donne, Gray, and Swinburne be taken at face value about himself and his father unless it were that he charmed his modern readers with their own prejudices?’ Edmund’s carelessness as a biographer and literary critic was the subject of continuous chatter in lettered circles. His systematic imprecision became a feature of his writing that Henry James—a friend and ally—would describe as

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32 James Hepburn, ‘Introduction’ in Edmund Gosse, Father and Son, xiii.
a ‘genius for inaccuracy’.” The errors in The Life and Letters of John Donne (1899) and The Life of Algernon Charles Swinburne (1917), to take Hepburn’s examples, appear to be the sum of low-level inattentiveness and simple misfortune, of a like kind despite being almost two decades removed. Edmund is accused of misreading Donne (both poetically and quite literally—Ann Thwaite points out that, ‘as one of his critics said, he was not very good at deciphering seventeenth-century handwriting’), and his Swinburne work was palled by an original sin dating to his entry in the Dictionary of National Biography, in which he misattributed some juvenilia in Fraser’s Magazine, signed with ‘ACS’, to Swinburne. But his early biography, Gray (1882), presents a curious case. Thwaite provides a thorough examination of an extant copy of the work held at Pembroke College, Cambridge, annotated by the American Gray scholar, Leonard Whibley:

   It would be tedious to go through Gosse’s errors in detail, but their varied nature can be easily indicated. Gosse wrote, ‘Gray took no exercise whatever’, which is contradicted by an array of evidence in the poet’s letters, for instance: ‘At present I am better and take long walks again’; [...] In many cases, Whibley contents himself with such notes as ‘This is an assumption based on ignorance’, or ‘This is a rash statement, contrary to fact’.

One must be careful not to infer too much from this, nor indeed hastily to cross-pollinate Whibley’s criticism of Gray to Father and Son, despite the temptation. Nevertheless, the consistency of inaccuracy gives force to Hepburn’s hesitations. At the very least, Edmund’s capacity for assumption-making and rashness remains difficult to cast from one’s mind when reading Father and Son’s less parsimonious passages. Famously, Edmund’s literary inaccuracies, and capacity to charm his reader,

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Footnotes:

34 Ann Thwaite, Edmund Gosse, 401.
35 Ann Thwaite, Edmund Gosse, 235.
became the stuff of scandal in 1886. John Churton Collins’s forensic deconstruction—published in the *Quarterly Review* in October 1886—of Edmund’s series of lectures collected and published as *From Shakespeare to Pope: An Inquiry into the Causes and Phenomena of the Rise of Classical Poetry in England* (1885); an imbroglio on which Whibley is no doubt feeding back. In an at times withering review, Collins accuses Edmund of being first among an ascendant ‘herd of scribblers’ gaining regnancy in the academy:

Scarce a day passes in which some book is not hurried into the world, which owes its existence not to any desire on the part of its author to add to the stores of useful literature, or even to a hope of obtaining money, but simply to that paltry vanity which thrives on the sort of homage of which society or certain kind is not grudging, and which knows no distinction between notoriety and fame."

Collins is a pedant, his review is often cynical, and as Edmund noted in an ensuing pamphlet war conducted in the pages of the *Athenaeum*, his gripe is personal, rather than professional."

Ann Thwaite reminds us, by way of consolation, that it was the *Quarterly* who ‘snuffed out John Keats’."

And Joseph Dalton Hooker, in a letter to Francis Darwin in October 1886, compares Edmund favourably to Charles Darwin: ‘I believe that the *Q. R.* has just treated Gosse as badly almost as it did the ‘Origin,’ […]

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* Edmund’s reply appeared in *The Athenaeum* (3078 (1886): 534-5). In it, he accuses Collins of bearing a strange obsession with his writing—he follows me sometimes like my own evil conscience”—and concludes, as did many followers of the debate, that Collins has overplayed his hand: ‘If my reviewer had kept within the bounds of moderation, had he shown less heat, had I thought him honest in his assumption of a ‘painful duty,’ I should have borne a reasonable punishment with resignation. But he passes all bounds of moderation, and no one needs be surprised if I turn to defend myself’. *The Athenaeum* followed the debate for five issues, and included two replies from Collins, two from Algernon Swinburne, who had been roused to the dispute by Collins’s claim that Swinburne had borne similar criticism from him with quiet dignity and tacit admission—in fact Swinburne had not seen Collins’s original review. The November 20 issue included a note from the editor considering the topic closed, perhaps in the knowledge that Collins would otherwise decline to consider it so.
It is abominable that a Review of such standing should seek out ignorant and incompetent and even prejudiced and hostile reviewers to write in such cases.”

Of course, it seems problematic to accuse Edmund of dilettantism respecting his own life. But perhaps this is the point. On his own life, Edmund has no Collins, no Ezra Pound, no Leonard Whibley—no ‘evil conscience’ to audit his assertions. He is on surer ground. In a sense, Edmund does to his father what Collins attempted to do to Edmund. The titular referents of Edmund’s memoir are reversible, in the Wordsworthian sense. Merrill contends, ‘if anyone thinks of Gosse at all, it is as […] the parent of Edmund Gosse.’ Therefore, Edmund is as much the sire of his father as his father is of him. Edmund remains the warden of his father’s fame; Father and Son has never been out of print; it has inspired literary adaptations (Peter Carey’s 1988 novel Oscar and Lucinda) and television programmes (Dennis Potter’s 1976 series Where Adam Stood), each casting Philip Gosse as an object (in two senses of the word) to Edmund’s subject.

— Joseph Dalton Hooker, The Life and Letters of Joseph Dalton Hooker, Vol. 2, Leonard Huxley, ed (London: John Murray, 1918), 302. Samuel Wilberforce famously reviewed Origin of Species at length in Quarterly Review (108 (1860): 225-264), suggesting, among other things, that ‘In the name of all true philosophy we protest equally against such a mode of dealing with nature, as utterly dishonourable to all natural science, as reducing it from its present lofty level as one of the noblest trainers of man’s intellect and instructors of his mind, to being a mere idle play of the fancy, without the basis of fact or the discipline of observation.’ (250).

— Merrill, 190.
II. The Defensive School: Thwaite, Wertheimer, Merrill

Perhaps the principal mischief of the two legacies, however, is that scholarship on Gosse tends to be conducted in a defensive register. One scarcely can find any literature focusing on Gosse that does not mention the status of his legacies, even if in order to quarrel with them. The popular impression of Philip Gosse is of a man locked in internal conflict, caught between two poles; a pincer, as it were, of wider cultural interpretations. On one side, the scientific method: observation, description, classification, empiricism, modernity, progress; on the other, strict Calvinism: revealed truth, oppressive politics. Douglas Wertheimer, in his important unpublished thesis, *Philip Henry Gosse: Science and Revelation in the Crucible* (1977), refers to these poles as ‘Bloomsbury’ and ‘Hackney’, as representative of ‘the two predominant forces in Gosse’s life’—the latter being the meeting room of the first of the Gosse’s chapter of the Brethren; the former, the site of the British Museum. But Wertheimer understands that to regard the two as in conflict within Gosse, and rehearsed in his writing or study, is to misconstrue something essential. As Wertheimer puts it, ‘these forces cannot be properly understood in isolation. Gosse the naturalist was impossible without Gosse the Christian’.

Indeed, Gosse is not a writer caught between worlds. What is striking about his theological and scientific concerns is not their intractable tension, but their perfect unity. Merrill writes that ‘the conflict between Scripture and biological science was never resolved for him’—but this, I would argue, is not the case. The Hackney and

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* Merrill, 191.
Bloomsbury schools, to use Wertheimer’s useful appellations, remained in complete harmony for Gosse; never were they in conflict. He did not choose the Bible over Lamarck, Chambers, or Darwin: such did not present itself as a choice. He exists in what James Moore memorably called ‘the realm of certainty and fixity’. The idea that his *Omphalos* was a rearguard action, then, or helpless bulwarking against a rising tide, pitting his faith against his profession, is a misunderstanding. Gosse never wavered in his belief in the explanatory power of his theory of *prochronism*. His spirited defence of the theory, set out in the correspondence pages of the *Natural History Review* in 1858, in response to a letter in the same by the geologist Joseph Beete Jukes rebuking the *Review* for its (qualified) praise for *Omphalos*, shows his fortitude on this point. Jukes had described Gosse’s reasoning for the *Omphalos* theory as ‘of the most flimsy character’, arguing that it relies on *non-sequitur* and circular logic; its root idea ‘is an obvious one, which had been alluded to by others, and must have occurred to most men who thought on the subject at all, but never appeared to anyone before worth the trouble of elaboration’. Gosse remained unswayed by so demeaning a critique from so eminent a geologist, however, and his defence, unlike his theory, proceeds from scriptural certainties. He notes:

> Christians cannot forget that there is another, and a quite independent source of information. Information on the very subject—not incidental only, but direct and historic; not confined to generals, but descending into copious details—has been given by One infinitely competent to instruct us; One to whom mistake is impossible; One in whom there is no darkness at all.

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Moore, 193.


Gosse is being disingenuous here—his response is an evasion of Jukes’s main criticisms, and simply adds to the notion that he is trading on vicious reasoning. Nevertheless, such a defence is revealing; he later adds: ‘Others may go to the Bible for what is called ‘theology’, and to nature for ‘science’. I cannot divide them. I cannot look at the Bible with one eye, and at nature with the other: I must take both together, but always giving the Word the paramount authority’.

Gosse’s failings here are theologically bound, however. His *Omphalos* and his parenting have as their limiting resource his deep, abiding commitment to Scripture. As such, it seems an irony that his foremost defenders mount their challenges to conventional wisdom in a language of theology and geology: Merrill hopes to sweep aside ‘the pathetic, unappealing monuments to P.H. Gosse’, so that ‘the zestful naturalist beneath may be excavated again’. She wishes to ‘bring light once more’ not to Gosse the figure, Gosse the metaphor, or Gosse the cautionary tale, but to Gosse the household name, the gifted naturalist. Indeed, the impulse to exhume Gosse from layers of popular sediment accumulated over the fossil of his reputation, is a common one. Douglas Wertheimer invokes a similarly earthy idiom, speaking of his wish to table ‘a new geography’ for Gosse, with ‘detailed charting of the terrain’ by ‘reconstructing lines of longitude and latitude *de nova*’. He seeks to redress the balance of Edmund-genic criticism, ‘in the belief that a more faithful estimation of Philip Gosse’s life and work is as possible as it is desirable’. Thwaite—whose work on the Gosses is without rival: her dual biographies on father and son, *Glimpses of the Wonderful* (2002) and *Edmund Gosse: A Literary Landscape* (1984) represent the

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* Merrill, 190.
* Wertheimer, 10.
* Wertheimer, 16.
most extensive study on each—shares a similar instinct. In her introduction to *Glimpses of the Wonderful*, she recalls an incident quoted in her biography of Edmund, pertaining to Edward Marsh’s *A Number of People* (1939):

Marsh recorded that one of Edmund’s assailants (and he had many in his long life as a literary critic), ‘the redoubtable Dr. Furnivall’, was eventually ‘seized with remorse and told his victim that in the darkness of the night the words JUSTICE FOR GOSSE had appeared on his bedroom wall in letters of fire’.

Thwaite then reflects:

I had no such Belshazzar-like visitation, but the message had seemed equally clear. When I had finished trying to do justice to the son, I then saw I needed to do further justice to the father. Edmund’s portrait is so distorted that it needs to be corrected."

The leitmotif in each of the three accounts is that Gosse needs to be saved, if not in the Biblical sense, at least the liturgical. Thwaite, Wertheimer, and Merrill share the same impulse, and couch it in a common language: studies of Gosse must hold to ideas of justice, faithfulness, correction, exhumation, and resurrection. Each seeks to save Philip Gosse from historical infamy. It is here that I feel I may make a break. Wertheimer, Merrill and Thwaite have, I would contend, succeeded. James Hepburn’s astonished disquiet in 1974 of ‘how little criticism of any sort has ever been levelled’ against *Father and Son* has now been overturned."

Studies of Philip Gosse no longer need to frame themselves as heavy exhumational earth-works or even brush-stroke palaeontology to bathe in light Gosse’s scientific credentials. It is not my intention in this study to add to the critical discourse that suggests that Philip Henry

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*Thwaite, xvii.*
*Hepburn, xvii.*
Gosse is not as a bad as he is made out to be. This stream of inquiry has been vital, important, and, in a sense, brave; but I feel I may now take it, as it were, as read.

Perhaps I can frame my point of departure through Thwaite, and her ostensible thesis statement at the end of the preface to *Glimpses*. She holds that, ‘[I]t is as a man, not as a scientist, a writer or an artist, that Philip Henry Gosse is most remarkable’. In contrast, I would contend the inverse: Gosse as a man, a motif, an icon and a cautionary metaphor no longer holds particular interest. Edmund’s ‘two temperaments’ model is as unhelpful as it is self-serving. Instead, it is precisely as a scientist, writer, and artist that I find Gosse most compelling. I wish to trace Philip Gosse’s imaginative project: to read a model of natural history which animates his writings, which is peculiar to him ‘among the present generation of men’, as the *Zoologist* put it. But this project does not seek to place him historically within the pantheon of Victorian popularisers of science; rather, it wishes to find him within his own writings. Gosse is the type of writer who can, on the same page, transcribe the minute details of orientation of the ‘small nuclear lamina’ of a tortoise’s ‘angular plates’, while referring to the whole as a ‘high-domed house of bones’. To him, the natural world is one to be described as the preserve of strict, biological detail, and as social environment. His descriptive technique is his own; a blend of cold analysis and warm, fond description, reaching to a teleological argument for the existence of God. This thesis will examine Gosse in each of these roles: the teacher, the father, the marine biologist, the amateur theologian, and the populariser, as part of his writerly project. This study is not one of science, but of literature; I am interested in Gosse as a writer, rather than in Gosse as a figure.

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* Thwaite, xx.
* *Omphalos*, 250.
I have been influenced here by George Levine’s project for Darwin in his 2006 work, *Darwin Loves You*. In his book, Levine seeks to extract Darwin from what Derek Attridge calls Darwin’s ‘idioculture’, and to feed him back through it, carefully.\(^5\) Darwin’s name has become heavy with ideology, and Levine wishes to shore up the term ‘Darwinian’, not by denying appropriations of Darwin’s name and thought, but by rejecting any *necessary* connection between Darwin and succeeding ideological invocations. As Levine puts it, ‘No doubt, there is a clear connection between Darwin’s science and rampant, dog-eat-dog capitalism. But [...] the connection is not *intrinsic* but contingent’.\(^5\) And so, just as Levine wishes to wrest Darwin’s name from Holocaust deniers, Wall Street bankers, and reality television contestants, not by denying their claim to Darwinian support, but by showing that such a claim is only indirect, I wish to reclaim Philip Gosse from his iconic Victorian status; from his twin legacies. I do not wish to refuse such readings as Appleman’s or Sim’s, or even Edmund’s: all, in some measure, are valid. Gosse *can* seem like a crank; the proliferation of his writings would seem to demonstrate that Edmund *does* nurse something of a legitimate grievance in an absent father. But there is nothing necessary about such things.

Thwaite sees Gosse as a central figure in the Victorian redefinition of faith. As she puts it, ‘it is the combination of cool, objective scientific observation of the natural world and the complete passionate commitment to the truth of the Bible that puts Philip Henry Gosse at the heart of the Victorian crisis of faith’.\(^5\) I wish to examine this ‘combination’ equally, but not towards placing him at the centre of any ideological

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\(^5\) Thwaite, 2.
faultline. Sydney Eisen reminds us that the word ‘crisis’ itself ‘implies the emergence of a condition of disturbance from both a previous and a later less critical state. A crisis, then, must have both a discernable beginning and end, and the issues which are at stake must be identifiable’. No such faith-based arc exists in Gosse’s beliefs; we can place him centrally only if we regard *Omphalos* as a tacit admission of doubt: this it is not. Gosse emerged from the *Omphalos* controversy neither changed nor sated. Indeed, it is important to locate Gosse carefully here, within the wider discourse of Victorian belief and unbelief. In his important article, ‘The Victorian Crisis of Faith and the Faith that was Lost’, Frank M. Turner challenges the commonly held idea that the widespread loss-of-faith experienced by many in the mid-to-late nineteenth century was a necessary product of the post-Enlightenment march of reason. Why, he asks, did a crisis of faith arise not in a moment of diminution in religious sentiment, but at an augmentation? The long British response to the French Revolution, the demise of the Anglican confessional, and the upturn in the evangelical movement all contributed to a surge in British religious prominence in the early-mid nineteenth century. As Turner puts it:

> Political reaction, denominational rivalry and evangelicalism expanded the arena of religion in terms of both personal belief and social behaviour far beyond the normal existential and tragic dilemmas of life and death that seem always to arouse religious sentiments. In so doing, these forces of intensified religiosity sowed the dragon’s teeth that generated the soldiers of unbelief [...]

This expansion and intensification of personal religious life

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*Gosse is often claimed as a member of the Plymouth Brethren, but, as Thwaite points out, this is not strictly accurate. The Brethren are famously schismatic and readily splintering, and the notion of a ‘Plymouth Brethren’ is complicated. Moreover, Gosse ‘denied any connection with Plymouth’ (Thwaite, *Glimpses*, 114), and perhaps it would be more accurate to describe him as a member of a Hackney Brethren. See Anne Arnott’s thoughtful autobiography, *The Brethren: An Autobiography of a Plymouth Brethren Childhood* (1969), or Michael Bachelard’s more recent *Behind the Exclusive Brethren* (2008) for further discussion of the continuing flux of the movement.*
transformed religion into a significant and problematic burden. Increasing numbers of people for a variety of reasons had to define or redefine their thinking about the nature and meaning of religious activity.  

For Turner, the crisis of faith reinscribes the faith in crisis. These elements attach to Edmund—it is he who belongs at the heart of the crisis of faith; Father and Son, for all its faults, pumps boiling blood into the loss-of-faith autobiographical vein—but they do not touch Gosse. Gosse exists at the near side of the crisis: he is a figure that stands as representative of the fixity and sureness against which the generational loss-of-faith rebelled. What places him near such a debate is not his confusion but his consistency.

To return to Wertheimer, however, ‘Gosse the naturalist was impossible without Gosse the Christian’, and it is in Gosse’s science that we may find an arc. It has, to borrow Eisen’s terms, ‘a discernable beginning and end’. It is this that I wish to illustrate.

III. The Romance of Natural History: The Imaginative Project of Philip Henry Gosse

It is my contention, then, that Philip Gosse’s canon of writings form an imaginative project peculiar in Victorian natural history, in both senses of the term. It remains an oeuvre ill-served by the irreducible presence in existing scholarship of the combined discourses of his legacies, both supported and challenged. His work demonstrates a primary desire to share, inform, and enthuse his readership about the symmetries of...

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* Frank M. Turner, ‘The Victorian Crisis of Faith and the Faith That was Lost’ in Victorian Faith in Crisis, 11.
the natural world, in an inimitable cadence of piety and whimsy. His scrupulous artist’s eye for detail and matchless work-ethic combine with a strict, slightly outmoded natural theology, to form a rich corpus of natural history writing, designed to educate and entertain. I shall take as an organising principle the notion of address—Gosse writes in a didactic mode, but the reader to whom this impulse is directed is shifting throughout Gosse’s career. He writes to the child, both notional and actual, to the amateur, to the professional, and, finally, to the layman. He is, in this regard, not simply a populariser of science, but a public intellectual.

My first chapter will examine the Philip Gosse most familiar to the reading public: the overbearing, fundamentalist patriarch of Edmund’s Father and Son. In it, I seek to place the book into a broader literary tradition of the ‘Son’s Book of the Father’, as Richard Freadman calls the subgenre, * and show the long shadow that it cast in two directions: firstly, over Gosse’s nineteenth-century work, and, subsequently, over the genre of filial memoir. I shall pivot from Frank Turner’s contention that the loss-of-faith memoir feeds back on, and simulates, the faith-that-was-lost rhetorical architecture precipitating it—in this case, Gosse’s natural theology—and seek to re-read Father and Son as a work representative of Gosse’s public successes, rather than his failures. The sober, analytical pretensions of the ‘Study of Two Temperaments’ is, more accurately, an examination of two men with remarkably similar temperaments and public ambitions. Edmund’s view—not that of the titular child, but of an adult reflecting on a career perhaps of disappointments—illuminates his father’s work as that not of a failed, anachronistic, and eccentric Victorian, but an entrenched one.

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Edmund writes on Philip because his father has a reputation. Philip Gosse holds the status in the mid-nineteenth century that Edmund wished for at the fin-de-siècle.

Chapter Two engages with Gosse’s first published monograph, The Canadian Naturalist, as part of his early, geographically-arranged survey guides, which included Letters from Alabama and his two Caribbean books, Birds of Jamaica and A Naturalist’s Sojourn in Jamaica. I shall canvass the notion of narrative strategies in Gosse’s early work, and seek to locate his nascent, youthful voice as a writer of popular natural history. The Canadian Naturalist was written in situ from 1837, and represents Gosse as a young man, experiencing his first enchantment with the natural world, while working as a co-operative farmer in Lower Canada. The book is written in dialogue form, as a conversation between a father and a son; and I shall examine this structure as an opening narrative strategy, framing the notion of the didactic and the dialectic as modes of scientific communication. Gosse addresses his observations here to the notional child, and I shall discuss the scientific and pedagogical implications of such a device, and seek to make plain the distinction Gosse seeks to draw in his early books, and with which he seems concerned, between the naturalist and the biologist. As Edmund would mirror in Father and Son, Gosse occupies both roles, of young and old, of teacher and learner.

The third chapter examines Gosse’s littoral works of the 1850s, which court an audience of amateur shore-going middle-class tourists. A Naturalist’s Rambles on the Devonshire Coast and The Aquarium became the volumes for which Gosse made his name as a public intellectual. These books engaged the Victorian reading public, and effected genuine social change. I argue that Gosse’s descriptive technique for the books precedes invention; that his narrative cadence in Rambles involves an
invocation of the diminutive in his description of rock-pools, creating a domestic space outside of the home, which inevitably led to the popularisation of the aquarium. I contend that the ensuing craze for nature in the home was a product of this careful rhetorical framing.

Chapter Four seeks to re-examine the *Omphalos* controversy, and reinstate the book into Gosse’s canon of writings, from its current place in his ideological burdens. I shall argue that *Omphalos* represents a failure of address—Gosse writes his book for the professional scientific class, as an attempt to re-calibrate scientific assumptions, post-Vestiges. Although the book remains the orange stain on Gosse’s hand, I shall argue that if one re-addresses the book, to regard it in the same category as *The Canadian Naturalist*, say, and his other broadening fauna books for the amateur, it retains some value. In Gosse’s attempt to forge an unfalsifiable theory of geology, he conducts a worthwhile survey of zoology and botany. *Omphalos* is the only Gosse book that describes the tri-partite kingdom of nature: animal, vegetable and mineral. Moreover, it is my contention that *Omphalos* is, paradoxically, one of Gosse’s less openly theological books, in that it seeks not to adumbrate a particular theological position, but rather, to challenge supposedly received ideas. It is, I shall argue, an agnostic book. It represents Gosse not at his most fundamentalist, but rather, at his most ambitious.

My final chapter returns to Gould’s wonderful phrase for Gosse—‘the David Attenborough of his day’—and examines Gosse’s enduring legacy as a populariser, by comparing him with his modern-day analogue. By engaging with Gosse’s only scientific book written for the layman who is little interested in science per se, *The Romance of Natural History*, and Attenborough’s series of natural history documentaries, I
examine the two men as writers of popular fascination. I seek to illustrate their
cadence of enthusiasm, their appetite for wonder, and their sense of the aesthetics of
the natural world, and its intrigue to those uninterested in its technicalities.

My hope for this project is to begin in inquiry, and end in vivid colour.
Chapter One

A Man With the Meat Off: Son’s Books and the Philip Gosse of *Father and Son*

When a deviation appears not unfrequently, and we see it in the father and child, we cannot tell whether it may not be due to the same original cause acting on both; but when amongst individuals, apparently exposed to the same conditions, any very rare deviation, due to some extraordinary combination of circumstances, appears in the parent—say, once amongst several million individuals—and it reappears in the child, the mere doctrine of chances almost compels us to attribute its reappearance to inheritance.


*I then spoke four words to him, four words that I’d never uttered to him before in my life. “Do as I say,” I told him. “Put on a sweater and your walking shoes.” And they worked, those four words. I am fifty-five, he is almost eighty-seven, and the year is 1988: “Do as I say,” I tell him—and he does. The end of one era, the dawn of another.*


*I will not kill my father, he must die of admiration.*


Philip Roth’s 1991 memoir *Patrimony* begins with a loss of perspective. Roth’s father’s brain tumour—the slow, poignant rhythms of which form the book’s narrative arc—manifests itself from the first, characteristically long, sentence, with the loss of sight in his right eye. With this eye blinded, and the other clouding with a cataract, Herman Roth begins to lose the ability to judge his place in the world. In time, the tumour fills at the back of his skull, worrying away the function of his right-side face, his speech, his
mobility, his capacity to swallow food. For Philip Roth, his father’s aching decline, increased reliance on him as source of palliative care, and final physical ruination, becomes a site of perspective in itself. For Roth, the act of caring for his deteriorating father, and the subsequent process of writing that act into memoir, both draw from a common stock. Indeed, the realisation centres on the notion that both life and life-writing are fundamentally unliterary. The idea becomes focused for Roth in a moving, resonant passage following Herman’s recuperation from an invasive biopsy, after which he has been unable to move his bowels for several days. Roth discovers his father in the bathroom, having, in Herman’s words, ‘beshat’ himself, soiling most of the room. Roth writes:

I felt awful about his heroic, hapless struggle to cleanse himself before I had got up to the bathroom and about the shame of it, the disgrace he felt himself to be [...] You clean up your father’s shit because it has to be cleaned up, but in the aftermath of cleaning it up, everything that’s there to feel is felt as it never was before. [...] I carried the stinking pillowcase downstairs and put it into a black garbage bag which I tied shut, and I carried the bag out to the car and dumped it into the trunk to take to the laundry. And why this was right and as it should be couldn’t have been plainer to me, now that the job was done. So that was the patrimony. And not because it was symbolic of something else but because it wasn’t, because it was nothing less or more than the lived reality that it was. There was my patrimony: not the money, not the tefillin, not the shaving mug, but the shit.¹

For Roth, it is the absence of symbolism, of meaning, in his final interactions with Herman, in the cleansing of this degradation, from which he draws his most lasting conclusions about fathers, sons, and the practice of memoir. His inheritance comes not in the form of financial remuneration, or in ornaments of ethnic lineage (Roth mentions the tefillin: leather boxes containing verses from the Torah, worn by

practising Jews around the arms and head), or in family heirlooms, bursting with filial significance (the shaving mug belonged to Roth’s paternal grandfather, and stood proudly on the shelf of a local barbershop, as the first public augur of the American Roths). Instead, it is the essential meaninglessness and ephemerality of these final days that are to be kept. And similarly with his book: the act of paternal biography is not the act of cleaning up shit; it is not the solving of a puzzle, the illumination of a universal truth, or the restoration of a fallen man. Life, and life-writing, is nothing more or less than the ‘lived reality’, as banal and common to Roth as scrubbing clean a mess, or taking dirty clothes to the laundry. His resistance to ‘plaintive metaphor or poeticised analogy’, evident throughout his fiction, is laid plain in *Patrimony*’s closing pages, as Roth interrogates an all-too-perfect piece of symbolism that comes to him in a dream, just days after his father’s death. Life, for him, is too important to be neatly meaningful.

The ‘Son’s Book of the Father’,¹ as Richard Freadman calls the subgenre to which Roth’s book belongs, and of which it is consummate, is concerned often with precisely the sort of broader perspective, and search for enduring meaning, that *Patrimony* is at pains to avoid. Indeed, Herman Gold’s novel *Fathers: A novel in the form of a memoir* (1967) is epigraphed with words expressing almost the precise inverse of Roth’s sentiment, from Nietzsche’s essay ‘On Truth and Lies in a

¹ Richard Freadman, *Shadow of Doubt*, 15. Freadman lists an extensive selection of prominent Son’s Books in his endnotes, from which I have been grateful to draw. G. Thomas Couser coins the term ‘narratives of filiation’ to describe the child-parent subgenre of life writing in his article ‘Genre Matters: Form, Force and Filiation’ *Life Writing* 2.2 (2005): 139-156. Couser’s term has since been included in Sidonie Smith and Julia Watson’s seminal list ‘Sixty Genres of Life Narrative’ in *Reading Autobiography: A Guide for Interpreting Life Narratives* (Second edition. Minneapolis: University of Minnesota Press, 2010). Couser notes that his term is more expansive that Freadman’s (148); I use Freadman’s in preference in part for this reason, and in part for the implications of its possessive apostrophe.
Nonmoral Sense’ (1873): ‘We possess nothing but the metaphor of things’. The Son’s Book almost inevitably is focused on localised epistemology, with implications of universal application—the founding conditions for metaphor. Starting from the embedded, fundamental questions, Where did I come from? and Why am I the way that I am?, the Son’s Book subgenre subcategorises into broad trends. It branches into such approaches as the fondly thankful study, in which a successful, sophisticated son honours his less-accomplished but well-intentioned father, of whom he has the measure (Raimond Gaita’s Romulus, My Father (1998), for example; Freadman’s own Shadow of Doubt, 2003). Or the attempt at reverse-engineering by a curious son about his mysterious father (J.R. Ackerley, My Father and Myself, 1968; Nam Le, The Boat, 2008); the literary son following the path of the literary father (Martin Amis, Experience, 2001). There is the matter of historical record, told through personal anecdote (Art Spiegelman’s comic book Maus series, 1973-1991, on his father’s experience as a Holocaust survivor); the autobiographical novel, such as Samuel Butler’s at times angry The Way of All Flesh (1903) or Dickens’s discursive David Copperfield (1850); the angry or frustrated son taking on his distant or tyrannical father (J.S. Mill, Autobiography, 1873; George Johnston, My Brother Jack, 1964).

Within this category, the Daughter’s Book is worth mentioning: Germaine Greer’s Daddy, We Hardly Knew You (1989), for example. Sarah Campion’s Father, published in 1948, in particular strikes a curiously aggressive tone. The portrait of her father, the historian G.G. Coulton, achieves its somewhat prickly tenor—a trait of personality Campion describes as ‘bred in’ to the Coulton family, making Kingsley

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Martin’s designation, in his introduction, that the book is ‘very unfilial’, both correct and incorrect—in part by her decision never to invoke the personal pronoun when describing her relation. Coulton is simply ‘Father’, and never ‘my Father’—a conceit that at once reinforces and satirises the imposed family hierarchy. In Martin’s introduction, he ascribes this to Coulton being ‘a Victorian father who had strayed into the third decade of the twentieth century’.

The displaced Victorian father, indeed, is the running thread of the seminal Son’s Book, with which this chapter deals. Edmund Gosse’s career-defining Father and Son: A Study of Two Temperaments (1907) demonstrates, in various measures, elements of each of the described categories. It is, by turns, tender, poignant, fond, even affectionate; it can be witty, biting, humorous, self-aware at one stroke, and malicious, vindictive, unfair, self-obsessed, and fictional at another. It seeks not only to explore the subtleties of the personal, narrow relationship between a singular father and (as Edmund would have it) a yet-more-singular son—to study ‘two temperaments’, as the subtitle puts it—but also to define an epoch, to brutally eulogise a religious movement, and to affix a lasting full-stop to the end of the greater Victorian sentence. It is, as I hope to show, a deeply ambitious book.

In this chapter, I shall examine Edmund’s book as a key text within Philip Henry Gosse’s own oeuvre. Father and Son has necessarily become interpolated into Gosse’s own canon of writings, as it remains the most enduring—one might say persistent—warden of his literary and philosophical reputation. The book has a long shadow: much of what the wider reading public knows about Philip Gosse is drawn from this portrait. Peter Carey dedicates Oscar and Lucinda to Edmund, ‘from whose

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life I borrowed Plymouth Brethren, a Christmas Pudding and a father who was proud of never having read Shakespeare’. Carey constructs a father for Oscar who is a God-fearing Calvinist preacher; an intemperate overman, prone to arbitrary rages, distracted filial distance, and paternal tendernesses that are ‘exaggerated and silly’. With echoes of Jane Eyre, Theophilus Hopkins’s ‘problem was his passion’.

And so I wish to examine the version of Philip Gosse that is authored by Edmund within Father and Son, and seek to reconcile it with the Gosse whose imaginative project I hope to come to establish in this project, through his own written work. I shall examine Edmund’s Gosse as a construction—stopping just short of calumny—which registers an important element of Gosse’s literary self: the Victorian father. In Edmund’s keen and querulous need to position himself as distinct from his father, he constructs parallel narratives, and critiques his father as part of a grand renunciation of Victorian values. Edmund seeks to complicate and make epochal simple, opposing forces, from which he makes grand, symbolic claims: the Apollonian against the Dionysian, the scientific against the aesthetic, the left brain against the right brain, the eye cataracted by ideology against the eye that can see. I shall discuss the notion of Son’s Books more widely, showing the legacy of Edmund’s work on the subgenre, and draw on scholarship pertaining to the very idea of truth and representation in auto/biography, in relation to the two horns that Edmund constructs. I shall seek also to analyse the nature of the relationship between father and son that exists extrinsically to the book, present in the many letters between the two that still are in existence, and suggest that Edmund and Philip’s relationship is not that of ‘two

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6 Peter Carey Oscar and Lucinda (1988; St Lucia: University of Queensland Press, 2001), Acknowledgements.
7 Carey, 7; 26.
temperaments’, as Edmund’s subtitle would have us believe, but rather the unfortunately public collision of two men with very similar temperaments, on opposite sides of the fin-de-siècle, and the fall of the Victorian father.

I. The Son’s Book of the Father: Memoir as Maturity

John D. Barbour regards the evaluation of one’s parents to be an important ‘ethical dimension’ of life writing. From the self-assessment of one’s parents’ values comes the beginning of personal morality, fulfilling a provision of adulthood. As Barbour puts it:

If ‘tout comprendre, c’est tout pardonner’ (to fully understand another person is to forgive), the autobiographer may find that the project of life writing makes it difficult to judge. He may recognize that a parent’s character was formed by causal influence beyond his (sic) control, during childhood or times of great duress [...] Intergenerational autobiography is a matter of both judging and “not-judging”. Moral judgment is not negated but made more complex by causal interpretations of behaviour, by forgiveness, and by scruples about the appearance or reality of self-righteousness.

For Barbour, then, the task of writing a parent’s life is the successful negotiation of the paradox of judging and not-judging—of assessing systems of causality that shape a parent’s moral character, and inserting one’s biographical judgment somewhere into the cycle of infinite regress. It is a creation narrative of sorts, then, analogous directly to that proposed by Gosse as part of his Omphalos theory—the sudden burst of life into the cycle of causality, from which point there is an implied, but not actual (for the purposes of the biography) moral history. (See Chapter Four for a more extensive discussion on Gosse’s theory of cycles). The child’s biographical judgment of the parent sits tenuously on the horns of this dilemma, and must, in many cases, become

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comfortable with the notion of paradox, or binary systems of meaning, to construct its narrative. Roth’s notion that ‘lived realities’—self-sustained moments in time that represent nothing but themselves, life-qua-life—are the only things worth keeping, is complicated by this, then, when the realities under biographical consideration are those lived outside the auto/biographer’s life, or frame of reference.9

Son’s Books often struggle to confront this problem adequately, however, particularly in cases of combative or frustrated auto/biography by sons on the nearer side of a cultural watershed. A dialectical narrative between the moral and cultural philosophies of intergenerational relations slips so readily into simplified binaries when the narrative thrust comes from one direction. Edmund can be seen as particularly culpable in this regard, as I hope to show. But often the process itself, of writing the father’s life, is the raw material for Son’s Books. A prominent theme of Art Spiegelman’s Maus, for example—a searching and ambivalent black-and-white illustrated novel, published in instalments between 1973 and 1991—is the difficulty of the Son in making sense of the Father he has grown up to know. Spiegelman’s book runs parallel narratives of 1930s Poland and present-day Queens, New York, in such a way that the parallel fathers he presents feed back upon each other, informing both. Is modern-day Vladek Spiegelman cantankerous and miserly as a result of his experience as a Polish Jew at Auschwitz, or is his cantankerousness and miserliness the reason he survived it? Spiegelman presents his father’s perceived flaws in this context; what is canny and self-sustaining in the ghettos and concentration camps of the Third Reich is belligerent, mean and petty in contemporary Rego Park. For Spiegelman, his father’s place in history, and the historical nature of his father’s actions, is a device to pin-down

9 Roth, 176.
Spiegelman’s own place in the family—the broad becomes narrow, perhaps thus fulfilling Roth’s condition for the avoidance of symbolism. The task is not easy, and, of course, being a Holocaust narrative, is perhaps something of a special case. As Spiegelman’s own character within the story puts it, ‘I can’t even make any sense out of my relationship with my father, how am I supposed to make any sense out of Auschwitz?’

These concerns are explored consciously if we return to Richard Freadman. Freadman’s own Son’s Book, Shadow of Doubt: My Father and Myself, was published in 2003, and took Edmund’s study as its template. For Freadman, Father and Son was the ‘paradigm case of the sort of book I’m trying to write’. Shadow of Doubt is a warm-hearted, at times frustrated profile of a nervous, proud father, whose sense of underachievement remained palpable in his own life. For Freadman, in common with many such auto/biographies, writing his father’s life was a restorative project. He admits:

I needed to write my father’s story in order to ‘work through’ his legacy. I’d taken on aspects of his incomplete life task, and with it some of his complexities. My next generational emergence from some of the shadows he’d cast seemed to require that I put him and our relationship on the record.

Freadman frets, however, about a problem intrinsic to many acts of auto/biography: what does it mean to sketch for public consumption and scrutiny the life of someone among whose essential traits is a desire to remain private? This is a type of literary Schrödinger’s Cat, then: one cannot write the life of a shy man without him becoming both unshied and more shied, discernable only following the release of the book.

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*Freadman, 177.
Freadman attempts to solve his philosophical, perhaps post-Freudian, doubts about the ethics of writing on the reticent by penning an essay on his struggle to reconcile these ideas, designed as an addendum to his completed manuscript of *Shadow of Doubt*. His completed essay, published without his book, as a standalone piece, seems an instructive manifesto of sorts for Son’s Books as a genre. He approaches several of the most pressing ethical concerns of his project, the most salient of which is whether the living writer owes a loyalty to the deceased subject. His book is, overall, to be a tribute; it wishes to see the father salvaged from indignity, to help him achieve intergenerational renown, and, perhaps more importantly, to make his life seem satisfactory in his own eyes. But it must break some confidences to do this.

Perhaps revealingly, Freadman works through the problem with a retreat to fiction. He renders a Socratic dialogue between his father and himself, and ‘interviews’ his conjured parent, for a paternal fiat on the project. The dialogue is set in an overtly Australian, father-son space: the stands of the Melbourne Cricket Ground, during a limited-overs cricket match between Australia and South Africa. The two men enjoy picnic sandwiches, a flask of coffee and bottle of cola spiked with spirits; Freadman has his favourite player score a century, ‘since I’m in charge of the narrative’—this is indeed wish-fulfilment. A typical sample is worth quoting at some length:

Paul [Father] says, ‘Getting back to this book of yours—what’s in it for you?’
‘Well, I guess a lot of things; a strange mixture. Part of it is to pay a kind of tribute to you. To say that even though you were disappointed in yourself, there was a lot to like about you and what you did with your life and that you gave me a lot as your son.’
‘I know you mean that, and I appreciate it.’
‘I guess, too, that I wanted to spare you the indignity of oblivion. I mean, it seems insane, indecent, an utter scandal, the way we pour ourselves into our lives, the way we strive to flourish, to make a difference, leave a mark—and then it’s all over. For a generation or two we’re a few faded snaps in a family album, the odd reference in a library catalogue. Then we just vanish.’
‘Don’t I know it! It stings like buggery.’
‘You were too good a bloke for that. I wanted more for you—and I guess for me.’¹

The wish-fulfilment element here, of course, is keen. The imaginary father drafted into the narrative is a composite character of cardinal traits, drawn from many stages in Paul Freadman’s life, as his son freely admits—the wisdom of age, minus the onset of Alzheimer’s, and so on. His responses too are idealised: Paul not only understands the depth of his son’s sincerity, and is appreciative, but addresses the sentiment concisely, in sequence. Indeed, the utterance I know you mean that, and I appreciate it surely is the desired father-side corollary to Barbour’s quoted maxim for the biographical process, ‘tout comprendre, c’est tout pardonner’. Freadman’s imagined father understands the process his son is working through, and is forgiving: the perfect resolution of the loyalty problem. For Freadman, at least, the biographical process is necessarily apologetic. If to understand is to forgive, then the mechanism of understanding—the book—requires an act of forgiveness. But, of course, the fiat of a conjured father is merely an internal process—an apostrophe; a clearing of the throat. The problem of loyalty must be confronted in real terms, rather than imaginary and idealised.

Much of this anxiety comes from the complicated status of ‘truth’ in auto/biography. The notion of what is ‘true’ in life writing, of course, is a series of negotiations and compromises. As has been a staple principle of auto/biography criticism for decades, our very construction of the world around us requires from us, every single day, an act of imagination. We conjure narratives from the pattern-

¹ Freadman, ‘Decent and Indecent: Writing My Father’s Life’, 140.
recognition function of the brain, such that recollection, in the first degree, and the rendering into prose, in the second, is a necessarily fictive process. And in order for there to be any meaning at all in the term ‘life writing’, one has to confront the problem with a series of models. The critical notion of ‘intention’ is a useful standard by which to judge claims to unverifiable truth. As Laura Marcus puts it, ‘Very few critics would demand that autobiographical truth should be literally verifiable [...] Thus, it is claimed, the ‘intention’ to tell the truth, as far as possible, is a sufficient guarantee of autobiographical veracity and sincerity’. Similarly, Regenia Gagnier’s model of ‘pragmatics’ in self-representation is a useful one. Gagnier is interested in, as she puts is, ‘self-representation for the writer’s specific ends, rather than conformity to the facts per se [...] Instead of evaluating the truth of a statement, pragmatics serves to locate the purpose an autobiographical statement serves in the life and circumstances of its author and readers’.

What purpose, then, does Father and Son ‘serve’, in Gagnier’s sense of the term? What are Edmund’s intentions regarding veracity? Does he have Freadman’s cringe of implicit apology, Roth’s sense of demur, or Spiegelman’s genuine, insoluble perplexity at his father’s life?

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II. ‘Neither Disrespectful Nor Untender’: Edmund Gosse’s Son’s Book

The answer to such questions, in short, is ‘no’. Edmund does, however, come to address similar problems, if only to swat them away pre-emptively. Perhaps, then, it is the notion of loyalty through which we may first approach Edmund’s Son’s Book. Father and Son was published anonymously in October 1907, although little attempt was made to conceal the identity of the author, either by his publisher, William Heinemann, in the book’s advertising, or by Edmund himself, within its pages. A note to Heinemann’s American distributor states that the book is to be published namelessly, but that Edmund’s name should ‘leak out immediately’.

Edmund notes in his preface that several names of private individuals have been altered, in order to ‘avoid any appearance of offence’—most are incidental actors, changed for propriety, rather than anonymity, and Edmund leaves intact the names of recognisable or central individuals with whom the family has dealings. Philip and Emily Gosse are referred to throughout as ‘my father’ and ‘my mother’, respectively, except where Edmund quotes from his mother’s diary, in which his father’s middle name is used readily. Edmund openly refers to several of his father’s books by title and date—the private component of the spectacularly public failure of Omphalos is offered at some length, representing some of the book’s most revealing and tender insights; Actinologia Britannica: A History of the British Sea-Anemones and Corals (described as Gosse’s ‘most valuable contribution to knowledge’), and The Romance of Natural History are also named.

Although none of these titles was still in print by 1907 (Romance was the last to be

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17 Edmund Gosse, Father and Son, 78.
produced), such designations made *Father and Son*’s authorship an open secret to the type of literary public Edmund was courting for his book, and makes a conceit of the decision to publish anonymously in the first place.

Contemporary reviews of *Father and Son* were almost uniformly positive. The *Academy* called the book ‘one of the most fascinating and interesting pieces of literature that has been issued of recent years’,\(^\text{18}\) and notes that, were it not for the caveat in the book’s introduction, that its contents are ‘scrupulously true’, it would have been mistaken for a skilful piece of fiction. The review registers a certain qualm of comportment, however, common to many such reviews, on the issue of filial loyalty, concluding the piece with a sonorous ruling that, ‘it is a great book, but for our part we scarcely like this close anatomisation by a son of a father’.\(^\text{19}\) The *Athenaeum*, to which Edmund contributed, published a fulsome review in January 1908, praising the book’s artistry, value and timelessness, and was among the first to state the book’s authorship explicitly in print. It argues that Edmund represents ‘the clash not of two creeds only, not even of two temperaments, but two whole universes of thought and feeling, which [...] will make it illuminating long after the echoes of its controversies [...] are as silent and forgotten as are at this moment the scientific apology of the ‘Father’’.\(^\text{20}\) The review disagrees with the *Academy* on the issue of taste, arguing that the book seems ‘neither disrespectful nor untender, but eminently delicate and fair’. The *British Weekly* concurs, insisting, ‘Let no-one suppose that the spirit of this book is unfilial. It could not have been written except by one to whom the filial relation was most dear and

\(^{18}\) ‘Review of *Father and Son: a Study of Two Temperaments*’. *Academy*, 73 (1907): 188.

\(^{19}\) *Academy*, 189.

sacred’. The *Contemporary Review* sidesteps this issue, but likewise designates the work ‘fascinating’, and praises its wit and comic impulse, noting that, ‘Childish religion, especially when very pronounced, has a humorous side, and the author gives some very funny accounts of his early exploits. It is quite unnecessary for him to half apologise for them. Strong religion nourishes humour’. To this end, the *Contemporary Review* comes to regard the book as less an act of memoir, and more an important piece of religious history: it is ‘a picture of an epoch which lingers in the less conspicuous past of society, but represents—with exaggeration—some elements of life and thought which are perennial’.

The intersection of these two orders of critique is a useful point at which to pin down the notion of Edmund’s filiality and loyalty. The *Academy* critique seems to uphold the longstanding, perhaps eminently Victorian idea that the mere practice of close father-son auto/biography—‘anatomisation’—is of itself in poor taste. But if we accept the *Athenaeum* and *Contemporary Review* readings that the book’s quarry is not the man, but the movement he ciphers—the ‘elements of life and thought which are perennial’—then Edmund’s defence on the matter is at least partial. Indeed, Edmund wrote to a friend wishing such a reading:

> The real central point which was in my mind as I wrote it, [is] namely the exposure of the modern sentimentality which thinks it can parade all the prettiness of religion without resigning its will and its thought to faith. You have most excellently said that it is either my Father’s creed ‘or nothing’. To tell you the truth, what I should like to think my book might be—if the idea is not one of too great temerity—is a call to people to face the fact that the old faith is now impossible to sincere and intelligent minds, and that we must consequently face the difficulty of following entirely different ideals in moving towards the higher life.

For Edmund, *Father and Son* was a cultural project—a distinction that simultaneously defends and condemns him of the Academy’s charge. *Father and Son* is a book of parallels, or even nested narratives: sober, distanced, and analytical at one stroke, personal, emotive and cathartic at the other. As Hermione Lee puts it, the book ‘sustains an unusual, and compelling, mixture of involvement and detachment’.\(^2^5\) It is a book filled with meaning; with moments of symbolism—repeated binary tropes of innocence and experience, puritan and pagan, which inevitably situate Philip Gosse at one extreme, and Edmund Gosse at the other. (Philip Dodd sees this construction as the influence on Edmund’s thinking of Matthew Arnold, and his Hebrew and Hellene construction of competing ideologies.\(^2^6\)) Perhaps so, but the notion that the book is, above all else, about the end of an epoch, art against binocular science, free-inquiry against dogmatism, and the struggle of the ‘two cultures’, is insufficient.\(^2^7\) The book’s preface and epilogue (the latter we know was written only after the manuscript’s first draft, at the behest of Edmund’s friend George Moore, who felt the book lacked closure) both privilege the epistemological project, and emphasise the author’s conceit of critical study. The opening paragraph of the preface, for example, is representative:

> At the present hour, when fiction takes forms so ingenious and so specious, it is perhaps necessary to say that the following narrative, in all its parts, and so far as the punctilious attention of the writer has been able to keep it so, is scrupulously true. If it were not true, in this strict sense, to publish it would be to trifle with all those who may be induced to read it. It is offered to them

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\(^{2^7}\) This complicates the Arnoldian influence: if Edmund is on Arnold’s side of the Two Cultures debate, then Philip is allied with T.H. Huxley—an irony at Edmund’s expense?
as a document, as a record of educational and religious conditions which, having passed away, will never return. (3)

The language of disinterested analysis leaps from the page: *punctilious attention, scrupulous truth, strict sense, document, record*. On this same page, he describes his work as a ‘study’ and an ‘examination’, that has been ‘closely and conscientiously noted’. The book is, in other words, a triumph of reason; the epitome of a modern work—not an autobiography but a neutral record of fact, considering the two temperaments under the insouciant light of objectivity. But, in common with the horns-of-a-dilemma nature of Son’s Books, Edmund further describes the book as ‘nothing if it is not a genuine slice of life’—that is, a cross-section of personal narrative history. If we are to assess Edmund’s claim to veracity on Marcus’s modern ‘intention’ model, then he must self-assuredly pass: his intention to tell the truth is proclaimed explicitly, even self-consciously. It is a slice of life, self-audited by a stringent fealty to accuracy; a book of clinically rendered, inspected memories. *Father and Son* is, at the very least, an assured piece of work.

It is in this unsteady, inconsistent tone that the book progresses. It struggles to overcome its fundamental desire to be two things at once, specific and general, factual and fanciful. Beyond its framing philosophical pieces, however, the book sets aside its explicit cultural goals, and focuses quite minutely on individual character traits. If Edmund is attempting a broad-brush theorising of the complex, angry, paradoxical nature of father/son relationships at the end of the nineteenth century, then his social, theological and moral misgivings all are condensed and instilled in the figure of his father. Each man is framed to represent one side of the Apollonian/Dionysian divide. As Edmund puts it:
Of the two human beings here described, one was born to fly backward, the other could not help being carried forward. There came a time when neither spoke the same language as the other, or encompassed the same hopes, or was fortified by the same desires. But, at least, it is some consolation to the survivor, that neither, to the very last hour, ceased to respect the other, or to regard him with a sad indulgence. (5)

The term ‘survivor’ here seems to refer not only to the son who will inevitably outlive his father, but to the survivor of the clash of doctrines; the victor, between Edmund’s supposed Enlightenment values, his aesthetics, humanism, secularity, and his father’s myopic, binocular Calvinism and self-regard. The victory seems assured to Edmund, such that the equivocation of the term ‘survivor’ holds no meaning: one man shall simply, naturally, outlive the other. In this, the reader can scarce avoid the feeling of being pushed to pick a side; to feel that the co-ordinating conjunction of the title is misapplied, and would be resolve better as Father or Son. And, moreover, Edmund ensures that only one side is to be chosen.

Edmund self-selects his audience with specific cultural ornaments. The book’s very title registers a literary tone, and the notion of parallel literary pleasures. Edmund simulates the language and form of moments of literature: Father and Son echoes Dickens’s Dombey and Son, and, as Peter Allen has noted, the subtitle ‘A Study of Two Temperaments’ recalls Eliot’s Middlemarch: A Study of Provincial Life.” The title offers novelistic story telling, the subtitle promises a sober analysis. Dickens’s shadow runs long, in fact: the echo of Thomas Gradgrind is made manifest in Edmund’s education:

A lady—when I was just four—rather injudiciously showed me a large print of a human skeleton, saying “There! you don’t know what that is, do you?” Upon which, immediately and very archly, I replied, ‘Isn’t it a man with the

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meat off?" This was thought wonderful, and, as is it is supposed that I had never had the phenomenon explained to me, it certainly displays some quickness in seizing an analogy. I had often watched my Father, while he soaked the flesh off the bones of fishes and small mammals. If I venture to repeat this trifle, it is only to point out that the system on which I was being educated deprived all things, human life among the rest, of their mystery. The 'bare-grinning skeleton of death' was to me merely a prepared specimen of that featherless plantigrade vertebrate, homo sapiens. (18)

Edmund seems as confident in his status as one of Dickens’s ‘little Gradgrinds’ as he does in his intuitive grasp of analogy. Indeed, this passage seems to be a conscious rewriting of Hard Times:

No little Gradgrind had ever learnt the silly jingle, Twinkle twinkle, little star; how I wonder what you are; it had never known wonder on the subject, having at five years old dissected the Great Bear like Professor Owen, and driven Charles’s Wain like a locomotive engine-driver. No little Gradgrind had ever associated a cow in a field with that famous cow with the crumpled horn who tossed the dog who worried the cat who killed the rat who ate the malt, or with that yet more famous cow who swallowed Tom Thumb; it had never heard of these celebrities, and had only been introduced to a cow as a graminivorous ruminating quadruped with several stomachs."

Edmund would regard himself as Cecilia Jupe, one suspects. Beyond this, several of Edmund’s pseudonymous characters take on distinctly Dickensian overtones, none more acute than the local Baptist family, the Flaws. Peter Allen sees Pip from Great Expectations in Edmund’s violent upbringing and subsequent seriousness. The structural echo bears a further comparison: the child Pip states the events as seen through the child’s eyes, the adult narrator qualifies and modifies as an act of retrospective understanding. In Edmund’s case, however, the retrospective analysis perhaps does not represent understanding so much as confidence. David Grylls seems correct when he argues that ‘[Edmund] Gosse’s gracious little leniences [...] seem like

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* Peter Allen, 490.
attempts to tone down intense emotions and embalm them in the repertoire of an after-dinner raconteur’. Indeed, Edmund’s yawning need to be liked—Thwaite suggests that he would ‘say and do almost anything to bind to him the people he valued’—seems to be at the core of this management of his memoir. As Allen puts it, ‘in effect, Father and Son congratulates us on being ourselves, on being modern rather than old-fashioned, on being cultivated rather than vulgar, on being free spirits of the twentieth century rather than half-mad religious dogmatists of the nineteenth’.

Perhaps, then, the filiality problem is reduced to an issue of parsimony. Indeed, if Gosse’s character failings are held to account as the representative sample of a dying species of father, it seems important to recognise that Edmund too wishes to be martyred for his representative side. Edmund seems keen to uphold the idea that for his beliefs he has suffered. Indeed, from the beginning of his life, he has been engaged in a Darwinian struggle for paternal, even cultural, acceptance. But often, in this positioning, he cannot decide which angle of his father’s inadequacy to hold on to.

Consider this now-famous passage, regarding the first announcement of his birth:

In this strange household the advent of a child was not welcomed, but was borne with resignation. The event was thus recorded in my Father’s diary: ‘El[n]ily delivered of a son. Received green swallow from Jamaica.’ This entry has caused amusement, as showing that he was as much interested in the bird as in the boy. But this does not follow; what the wording exemplifies is my Father’s extreme punctilio. The green swallow arrived later in the day than the son, and the earlier visitor was therefore recorded first. (7)

The contradiction seems manifest. Which is it?—does the diary entry display the ‘extreme punctilio’ of his father’s mental index, or demonstrate parental ‘resignation’ to his birth? Is it an unfeeling adherence to etiquette, or wholesale paternal uninterest?

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* Peter Allen, 499.
The notion that he was unwelcomed by indifferent parents to his own, strange home is evidenced only by this diary entry, the meaning of which is immediately questioned and clarified. But the impression of rigorous self-account is only affected: the possible inference that the entry shows the father was as interested in the bird as the son is apparently challenged and repudiated by Edmund. Nevertheless, the introductory sentence, containing quite the sharper indictment, remains standing and in account. Perhaps it is in these slippages that we may discern Edmund’s unfilial tendencies, and his overeager lack of parsimony. Philip Gosse’s fealty to record-keeping and short-range attention to detail is a matter of record—in part, these qualities are what aided him in the exactitudes of his work. His seemingly amusing record of his son’s birth is a symptom of this—each acquisition receives five words, arranged in order of arrival. It is, indeed, a ‘punctilious attention of the writer’, such as Edmund claims for himself. Edmund’s parsimonious rendering of the detail—that it is concentration not preference—is preceded immediately by a much less charitable reading, which slips past the audit of self-account, and stands alone as a point of fact, for the reader to absorb.

Edmund’s manifest tendency to overcook matters such as these, always to his favour as an ignominious child of Puritan neglect, seems troubling. It is compounded often by his tendency to speak to knowledge he does not, and cannot, possess. Matters of infancy, in particular, often are rendered with unflattering adjectives and critical descriptions. Continuing with his birth, he writes, having just been born:

I was laid, with scant care, on another bed in the room, while all anxiety and attention were concentrated on my Mother. An old woman who happened to be there, and who was unemployed, turned her thoughts to me, and tried to awake in me a spark of vitality. She succeeded, and she was afterwards
complimented by the doctor on her cleverness. My Father could not—when he told me the story—recollect the name of my preserver. (8)

His father’s failings here are complete: he casts his son aside, out of thought, and cannot even trouble to remember the name of the child’s eventual saviour. Edmund’s survival was a matter of the rawest chance—but for the intercession of an anonymous, unemployed old woman, who ‘happened to be there’, he should have perished. But again this rendering does not comply with Edmund’s self-declared paradigm of scrupulous truth. He is, of course, unqualified to determine that the degree of care with which he was placed on the bed was ‘scant'; and the mysterious, anonymous old woman, who came to his aid, is only mysterious, anonymous, or indeed old by his father’s already indicted memory. Edmund seems simply unable to reconcile these sequences of parallel ideas: either his father’s word is to be trusted or it is not; either Gosse’s focus is too minute and overbearing, or too distant and uninterested. These differing narratives of his father are never united, they simply blur with use into an overall readerly impression of bad parenting.

Perhaps, to give Gosse at least an echo of a voice in a discourse so intrinsically related to him, we can borrow the term ‘prochronic’, coined in *Omphalos*, to describe the young Edmund of *Father and Son*. Edmund’s version of himself as a young man appears as a fictitious construct that bears the evidence of an older age. His preternatural wit and wisdom, his sophisticated syntheses of the pre-adolescent theological disputes played-out with his father, and his access to omniscient knowledge

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34 Ruth Hoberman has, however, beaten me to the punch on this point. In her excellent essay, ‘Narrative Duplicity and Women in Edmund Gosse’s *Father and Son*’ (*Biography*, 11.4 (1988): 303-15.) she argues that Edmund operates as a prochronic child. Philip Gosse’s coinage ‘prochronic’ refers to the implied history of billions of years, built into the rocks at the moment of Creation. See Chapter Four for a detailed discussion of Gosse’s model.
all contribute to the impression of a young child, born old. His struggles to understand his difficulties are supplemented by his aged narrator. A prominent theme of Edmund’s writing is the notion that his father’s brand of religious duty trades on the inability of the young to reason their way around liturgy and dogma—‘He fed me with theological meat which it was impossible to digest’, as Edmund puts it (51). The prochronic Edmund is particularly helpful in theological matters, in fact. During his religious instruction, for example, he notes: ‘I was incapable of defining what I felt, but I certainly had a grip in the throat, which was in its essence a purely aesthetic emotion’ (51). Edmund renders the matter in aesthetic terms, while implying that the theological battle lines have been drawn between his father and himself since his pre-adolescence.

David Amigoni has argued that, in this type of instance:

Gosse’s mimesis, his imitation of past actions, is in practice cunningly opaque. Gosse’s text is more nearly an instance of what Herbert Spencer called a ‘symbolic conception’: it retrospectively reconstructed a symbolic fiction of knowledge about the moment ‘when the theory of the mutability of species was preparing to throw a flood of light upon all departments of human speculation and action’.

At times the prochronic Edmund’s symbolic fictions slip into tin-eared conceit, or a slightly cloying description of childish behaviour through adult values. He recounts a travelling Punch and Judy show, for example:

The tragedy of Mr. Punch was another, and still greater delight. I was never allowed to go out into the street to mingle with the little crowd which gathered under the stage, and as I was extremely near-sighted, the impression I received was vague. But when, by happy chance, the show stopped opposite our door, I saw enough of that ancient drama to be thrilled with terror and delight. I was much affected by the internal troubles of the Punch family; I thought that with a little more tact on the part of Mrs. Punch and some restraint held over a temper, naturally violent, by Mr. Punch, a great deal of this sad misunderstanding might have been prevented. (46)

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*Amigoni, *Colonies, Cults and Evolution*, 164-5.*
This is partially a language issue, of course. He mixes his concepts here, however, and finds himself on the wrong side of his own cultural divide—he demonstrates a child’s delight in the theatricality of the production, but admixes it with his father’s cold, Gradgrind-esque logical need to solve problems. The farce element of the production, from which comes much of the appeal of Punch and Judy shows for children, becomes a problem to be solved. The Punches’ marital disputes are a quandary, rather than a delight.

The ‘two temperaments’ are more alike, then, than Edmund would like to admit.* Accordingly, many of Edmund’s biographical considerations of his father speak to the state of his mind, his internal life, and operations of his brain, in order to define his father’s outlook from the reasoned, florid prose in which it is recounted. ‘It will be asked what the attitude of my Father’s mind was to me’, he writes, for example, in the fourth chapter,

and of mine to his, as regards religion [...] It is difficult to reply with exactitude. But so far as the former is concerned, I think that the extreme violence of the spiritual emotions to which my Father had been subjected, had now been followed by a certain reaction. ... He accepted the supposition that I was entirely with him in all respects, so far, that is to say, as a being so rudimentary and feeble as a little child could be. (48)

Edmund cannot reply ‘with exactitude’ on the matter of his own mental connection to Gosse, but proffers an opinion on his father’s to him. While later acknowledging that there exists a certain tenderness between father and son, Edmund renders Gosse’s paternal emotions null: the child is a ‘being’, ‘rudimentary and feeble’; a concept, or model, rather than a boy. Edmund speaks to Philip’s inner life in this manner

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repeatedly throughout the book. We learn that ‘through my Father’s brain ... there rushed two kinds of thought, each absorbing, each convincing, yet totally irreconcilable [...] he allowed the turbid volume of superstition to drown the delicate stream of reason’ (59); he ‘had an extraordinary way of saying anything that came up into his mind’ (90); ‘my spiritual condition occupied my Father’s thoughts very insistently at the time’ (97). There is a strange insistence here, then, that forms yet another insolubly bifurcated thread of Edmund’s analysis: Gosse is at once distant, self-absorbed, inscrutable and doctrinal, yet his every thought, inner gesture or mental process is on plain view for his infant son to see and interpret. Edmund claims to know the mind of his father, just as his father claims to know the mind of God. Indeed, he appears to conjure this internal life in much the same way that Freadman invokes his father’s projected thoughts—fictionalising a factual account, in order for the son to make peace with the role he plays in his own story; as an act of pre-emptive explanation, rather than elucidation. Edmund’s omniscience here marks him as ideologically distinct from his father, but emotionally receptive and proximate; he is the intellectually refined and humanely sensitive son to the unreasoned, unfeeling father. More directly:

I was docile, I was plausible, I was anything but combative; if my Father could have persuaded himself to let me alone, if he could merely have been willing to leave my subterfuges and my explanations unanalysed, all would have been well. But he refused to see any difference in temperament between a lad of twenty and a sage of sixty. He had no vital sympathy for youth, which in itself had no charm for him. He had no compassion for the weakness of immaturity, and his one and only anxiety was to be at the end his spiritual journey, safe with me in the house where there are many mansions. The incidents of human life upon the road to glory were less than nothing to him. (174)

Indeed, so great was this divide between the sensibilities of both men that Edmund makes much of the idea that the only subjects on which the two could find common
ground for leisure-time interactions were those wholly inappropriate for young ears—in particular, grisly murders:

Sometimes, in the course of this winter, my Father and I had long, cosy talks together over the fire. Our favourite subject was murders. I wonder whether little boys of eight, soon to go up-stairs alone at night, often discuss violent crime with a widower-papa? The practice, I cannot help but thinking, is unusual; it was, however, consecutive with us. We tried other secular subjects, but we were sure to come round at last to “what do you suppose they really did with the body?” (64)

Again, the primary objection here—laid out with accumulating sarcasm—is not ideological, but parental. There is something fundamentally out-of-tune about Gosse’s attempts to engage his son; something improper. And yet, the young Edmund openly takes against other, more common forms of paternal interaction. The two tried nature walks, but would end up fighting; Gosse would take Edmund out collecting samples in rock-pools and lakes, an activity in which the classically-inclined son had little interest. Edmund describes himself during these outings as a ‘timorous Andromeda, chained to a safer level of the cliff’ (78). In Greek mythology, of course, Andromeda was chained to a rock on the coast of Jaffa to be sacrificed to a sea-monster, as punishment for her mother’s vain pronouncements on her beauty.” One can scarcely miss the insinuation here: the child as a virginal innocent, punished for the vanity of a reckless, self-regarding parent.

Indeed, even Gosse’s quiet kindesses are disdainfully overlaid with an impression of self-regard. As Edmund is entering his teenage years, for example, Gosse gifts him a volume of poems by Robert Southey, the one-time poet laureate, which Edmund regards with a barely-masked contempt: ‘My father presented me with

* See the fourth book of Ovid’s Metamorphoses.
the entire bulk of Southey’s stony verse, which I found it impossible to penetrate’ (161). Edmund prefers, of course, the more fanciful Romantics, Wordsworth, Keats and Shelley—the gift of verse of a first-generation, establishment Lake Poet affects to demonstrate only how little Gosse understands his son’s elevated sense of aesthetics. Similarly, Gosse’s most richly literary work, *The Romance of Natural History* (1860; see Chapter Five), which seeks explicitly to approach nature from a sense of aesthetics, and which is described warmly even by Edmund as ‘a sort of classic’, is interpolated into a period of Gosse’s life that Edmund regards as a ‘lapse into indulgence’ (125). That is, merely a temporary slip from Gosse’s eschatological outlook, from which he will inevitably stabilise.

The notion that Gosse’s tendernesses were out-of-tune and distant is complicated by many of the surviving letters, written between the two. Evan Charteris, whose important biography/collection *The Life and Letters of Sir Edmund Gosse* collects many of the most essential pieces, considers that the letters between the two, ‘serve to illustrate and indeed to supplement the narrative of *Father and Son*’. More than supplement, however, they serve to confuse, and at times, repudiate some of Edmund’s memories of his youth. Immediately following Emily Gosse’s death, for example, during the period that Edmund renders as his father coming to terms in resignation with being ‘entirely with’ the rudimentary being that was his son, Gosse

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*a* This order of literary repositioning has a rich history in autobiography. Judith Johnston catches Anna Jameson invoking Wordsworth in a similar manner in the autobiographical fragment ‘A Revelation on Childhood’, from *A Commonplace Book of Thoughts, Memories and Fancies* (1854). Johnston writes, ‘In this revelation Wordsworth is invoked to lend credence to the structure, but in fact the poet and his work have no real place in any actual childhood reading of Jameson’s, as she herself admits [...] Jameson understands only too well that the love of place which romantic poetry especially captures and celebrates is already an important element for the Victorians in establishing the credentials of artistic sensibility, necessary to both art itself and to the art of writing’. ‘The Hero as Woman of Letters: Anna Jameson Revises Her Girlhood’, *Biography* 22.4 (1999): 517-532, 528-9.

writes to Edmund: ‘I cannot tell you how much I love you. I seem to love you better than ever, now that I have to be separated from you. And now that beloved Mama has gone to be with Jesus you are all that is left to me’. Rather than distant and tyrannical, then, Gosse seems to crave proximity and intimacy with his son. And if Edmund despised nature walks and specimen collections, the fact is belied by long, lyrical letters written to his ‘extremely precious Papa’ in which he breathlessly recounts details of his day’s collection: ‘I have put away 259 of my shells, 22 of which I wish to question you about as I do not know what they are’. Certainly, however, it would be incorrect to consider these slight discordances of matters of record, between the letters and the *Father and Son* manuscript, as evidence of pernicious revisionism by Edmund. The point is subtler than that. I would argue instead that it represents the visible collision of the child-Edmund with the *prochronic*-Edmund—the disjunct between ‘lived reality’ and the subsequent life’s worth of reflection and judgment of the meaning and tenor of these realities.

This does, however, augment the notion that Edmund cannot decide which of his father’s traits he actually objects to. The fundamental differences between the two temperaments are played out most strenuously as theological disputes, from which Gosse had few lapses, and which raged well into their adult lives. H.L. Mencken famously described Puritanism as ‘the haunting fear that someone, somewhere, may be happy’, and, indeed, Edmund regards his father’s overbearing Calvinism, which

\footnote{Charteris, 5.}

\footnote{Charteris, 6}

\footnote{H. L. Mencken, *A Mencken Chrestomathy* (1948; New York: Vintage, 1982), 624. Mencken’s perhaps Wittiest sourceable play on Puritanism comes from his long essay, ‘The Allied Arts’ in his second series of *Prejudices* (London: Jonathan Cape, 1921): ‘Those Puritans who snort against the current dances are quite right when they argue that the tango and the shimmie are violently aphrodisiacal, but what they overlook is the fact that the abolition of such provocative wriggles would probably revive something worse, to wit, the Viennese waltz’. (204)}
amplified following the death of Edmund’s mother from breast cancer in February 1857, as the single source of the family’s unhappiness. As a father, as a scientist, and as a man of letters, Philip Gosse was constrained, even paralysed, by his version of doctrine. Indeed, if Edmund’s book is trapped in a sequence of insoluble parallels, then so too was the life of the father it profiles. His *Omphalos* theory brings this to bear, as Edmund notes:

> Here was a dilemma! Geology certainly seemed to be true, but the Bible, which was God’s word, was true ... To a mind so acute and at the same time so narrow as that of my Father—a mind which is all logical and positive, without breadth, without suppleness and without imagination—to be subjected to a check of this kind is agony. [...] My Father, although half suffocated by the emotion of being lifted, as it were, on the great biological wave, never dreamed of letting go his clutch of the ancient tradition, strained and buffeted. (67-8)

For Edmund, Gosse’s cleaving to Scripture seems to be his chief failing, and is representative precisely of the workings of his mind: searching for comfort in precise certainties. Following their relocation to Devon in 1859, Gosse’s adherence to strict Calvinism galvanised, and his main speaking engagements changed from lessons to interested amateurs in marine biology, to preaching to the members of the Brethren—‘vague rows of ‘saints’ with gaping countenances’, as Edmund puts it (83). His disappointment is palpable. Theology underpins almost every dispute between father and son, and often retroactively infects Edmund’s impression of entirely secular disputes. Indeed, the first disagreement between Edmund and Gosse, concerning a childhood toy that Edmund wishes for, but will not receive, is played-out as a question of theology. He recalls that he is supposed to pray for the things he should need—‘Whatever you need, tell Him, and He will grant it, if it is His will’—and contrives to pray for a humming-top toy. Presenting this to his father, Edmund is rebuked and told
not to ‘pray for things like that’. Although, as Edmund puts it, ‘I needed a humming-top a great deal more than I did the conversion of the heathen or the restitution of Jerusalem to the Jews’. (28)

These early impressions of theology, and Edmund’s distrust of offering his desires to God, are surely informed by the long-form theology dispute that ran throughout the course of Edmund’s adult life, up to his father’s death in 1888. Perhaps the most important letter in this, and by far the most revealing of the nature of their mutual theological discourses, is written in March 1873, when Edmund is twenty-three. It follows a string of letters back-and-forth—none of which survive—in which Gosse frets over the condition of his son’s soul. This epistle comprises thirty-six handwritten pages—by several orders of magnitude the longest surviving letter between the two men—and shows Edmund at his most careful and considered, setting out his entire theological case, some of which would reappear in Father and Son’s epilogue, in nine parts. It is firm, reasoned, and calm, and demonstrates some of Edmund’s subtle theological thinking, often reduced by his narrative technique in Father and Son. We see again how the two communicate in binaries:

You promise me sympathy, yet you warn me not to render sympathy impossible. You urge and insist on plain dealing, yet you imply that plain dealing will be insupportable to you. I am obliged to say that you are very little acquainted with the condition of the growth of my spirit. You speak of yourself as a surgeon, probing into a wound. Throughout you speak of a great crisis in my life. I must plainly tell you that I perceive no crisis.

“The condition of Edmund’s soul is an almost constant element of their adult correspondence. A letter celebrating Edmund’s 33rd birthday begins thusly: ‘My dearly beloved son, To-morrow you will be thirty-three years old—which was the age of your adorable Lord Jesus, when He suffered for Sin. What a joy it would be to me, if I could associate with this your birth-day the knowledge that you had come back to his feet, with mourning and compassion, & a true change of heart!’ Cambridge University Manuscript Collection, Add. 7018, Letter 36.

Edmund Gosse, ALS to Philip Gosse, March 1873. Cambridge University Manuscript Collection, Add. 7018, Letter 52.
His crisis of theology, then, was not in his own faith, but his consternation at his father’s. But at times even Edmund seems unconvinced of his father’s sincerity, and suspects, at least in part, that his demonstrative devotions are also just for show. As he writes in *Father and Son*:

I cannot help thinking that he liked to hear himself speak to God in the presence of an admiring listener. He prayed with fervour and animation, in pure Johnsonian English, and I hope I am not undutiful if I add my impression that he was not displeased with the sound of his own devotions. (85)

Again, he cannot decide which part of his father’s character his dislikes: he must be comfortable with paradox.

The accumulating, subtle refigurings of elements of the Gosses’ lives have only relatively recently come to critical attention. As mentioned earlier, James Hepburn, in a well-known and at times heated introduction to the 1974 Oxford University Press edition, writes:

It is in fact astonishing how little criticism of any sort has ever been levelled against the book. The revolt against certain Victorian beliefs and practices has been so thorough that from 1907 to the present day the viewpoint of the author has seemed to be merely the truth.45

Since Hepburn wrote his introduction—indeed, perhaps partially because of it—this trend has changed. Edmund’s writing has received much critical analysis, often highlighting his self-promotion instinct and kinetic relationship to the truth. Edmund’s inaccuracies often are trivial—Douglas Wertheimer has compiled a useful list of corrections between editions of *Father and Son*, which sees the majority of changes as serving to fill blanks (‘His surname I have forgotten’ on page 177 of the first edition

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becomes ‘His surname was Jeffries’ in the thin-paper edition of 1909) or tightening grammatical slips (‘Ben Jonson I could make nothing of’/ ‘Of Ben Jonson I could make nothing’). But, occasionally, the reader catches Edmund in an act of outright perniciousness. His version of his school’s discontinuation of reading The Merchant of Venice is telling. Edmund was cast as Bassanio, and the lines were learnt by passing a large volume from boy to boy, each reading aloud:

I was in the seventh heaven of delight, but alas! we had only reached the second act of the play, when the readings stopped. I never knew the cause, but I suspect that it was at my Father’s desire. He prided himself on never having read a page of Shakespeare, and on never having entered a theatre but once. I think I must have spoken at home about the readings, and that he must have given the schoolmaster a hint to return to the ordinary school curriculum. [166]

But, for one thing, Gosse had read Shakespeare—the fifth chapter of Omphalos, a book heavily referenced in Father and Son, has an epigraph from Act Four of Twelfth Night; Gosse speaks admiringly of him in the preface to the The Aquarium. Even setting aside this point of fact—perhaps Gosse had made private overtures to his son on his consumption of Shakespeare, while freely quoting from the plays in his published work (though Edmund’s neglect to correct the record as an adult seems curious)—one can scarcely avoid the many insinuations. The irony may end up being at Edmund’s expense, however, because, as Steve Jones reminds us, Charles Darwin

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*a* In Omphalos, Gosse quotes the exchange between Malvolio and the Clown, in Act IV, Scene II:

Clown: ‘What was the opinion of Pythagoras concerning wildfowl?’

Malvolio: ‘That the soul of our grand-dam might happily inhabit a bird.’

Clown: ‘What thinkest thou of his opinion?’

Malvolio: ‘I think nobly of the soul and in novise receive his opinion.’

In The Aquarium, Gosse writes, ‘But, bearing in mind that records thus obtained of the manners of animals are properly biographical—belonging to the individual more strictly than to the species—it is manifest that these must be the foundation of all our correct generalization. Nor are they in themselves unworthy of careful regard, as those will allow who know the value of human Biography. Shakspeare and Scott, who treat of man as an individual, are not inferior in their walk of science to Reid and Stewart, who describe him as a species.’ (v)
was proud of never having read Shakespeare, having written once to a friend that he found it ‘so intolerably dull that it nauseated me’. Gosse’s distaste for the Bard, real or not, would place him only with the scientists, not the dogmatic ignorati. Edmund takes to poetry gastronomically: he ‘devours’ Jonson and Marlowe (159), is ‘intoxicated’ by Shakespeare, almost as an act of rebellion, regardless of the ubiquity of references to such schools in his father’s own work. The notion that Father and Son trades in these sorts of self-serving approximations is by no means original. As Hepburn puts it, noted previously, ‘Why should he who was inaccurate about Sir Philip Sidney, Donne, Gray, and Swinburne be taken at face value about himself and his father unless it were that he charmed his modern readers with his own prejudices?’

It is important to note, however, that Father and Son is not the sole Son’s Book that Edmund has written on his father. The Life of Philip Henry Gosse, F.R.S. by Edmund Gosse was published in 1890, a mere two years after Gosse’s death. The Life is based largely on Philip’s personal diaries, but presents the public version of the naturalist. It recounts his days as a clerk in Newfoundland, during which time he discovered his passion for collecting insects; his failed attempt at agriculture in Canada; his time teaching in Alabama, trips to Jamaica, and his various literary pursuits in later life. It presents the Rothian ‘lived reality’, without symbolism—it is a book with the meat off, to paraphrase Edmund’s telling term. Father and Son has its genesis in this flat tone. George Moore wrote to Edmund, having just read the Life, noting:

I admire your work [...] for itself and for the book it has revealed to me, but I missed the child, I missed your father’s life and your life as you lived it.

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* Hepburn, xiii.
together—a great psychological work waits to be written—your father’s influence on you and your influence on him."

And it is the absence of Gosse’s role as a father in Life that allows it this tone, and indeed goes some way to prove the notion that Edmund’s true grievance with Gosse is not theological, moral or cultural, but wholly parental. This is Edmund’s tributary Son’s Book, his fond eulogy, akin to Gaita or Freadman’s books—the sophisticated son, looking back at his differently accomplished father. Indeed, Life and Father and Son can be read as a diptych of sorts, each fulfilled through the prism of the other—Life is Edmund’s Victorian biography, Father and Son his fin-de-siècle engagement—two books on the same topic, by the same author, each with an entirely different tone, purpose, and concern. Perhaps it is only in this regard, then, that Edmund achieves his set goal of registering the death of one epoch and the dawn of another—but the change is in himself as a writer, not the death of his father as a symbol.

As a Son’s Book of the Father, then, true to its own system of competing internal binaries, Father and Son is at once exemplary and atypical. Nowhere in Edmund’s work do we see Roth’s disdain for sweeping claims, Spiegelman’s interaction with causality, or Freadman’s sense of necessary apology. At once, Edmund has the entire measure of Philip Henry Gosse, and is utterly, insolubly perplexed by him. Ultimately, Edmund cannot decide whether the subject of his book is a man, a movement, or a personal conscience; a father or an internal rival. He would like us to believe he is studying ‘two temperaments’, and analogising the end of

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* Quoted in Evan Charteris, 306.
* Catherine Raine’s essay, ‘The Secret Debts of Imagination in the Life of Philip Henry Gosse, F.R.S.’ (Literature and Theology, 11.1, (1997): 67-79) is particularly informative on the idea of language constructions in Edmund’s two books—comparing the manner in which the same incident is rendered in each book.
the Victorian era, the beginning of a new English century—new women, new men, tempered religion. But in fact, he seems only to wish that he and his father had more in common. Gosse is idealised in much the same way as is Freadman’s conjured father. He becomes the embodiment of exactly what Edmund needs him to be: a personal foil and a public cipher. Even if this role is somewhat one-eyed.
Chapter Two

North American Conversations: Narrative Strategies in The Canadian Naturalist

*Learning by rote, or even reading repeatedly, definitions of the technical terms of any science, must undoubtedly facilitate its acquirement; but conversation, with the habit of explaining the meaning of words, and the structure of common domestic implements, to children, is the sure and effectual method of preparing the mind for the acquirement of science.*

—Maria Edgeworth and Richard Lovell Edgeworth, *Practical Education* (1798).

*But ask now the beasts, and they shall teach thee; and the fowls of the air, and they shall tell thee: Or speak to the earth, and it shall teach thee: and the fishes of the sea shall declare unto thee.*


‘You must not expect from me anything like a continuous narrative’, warns Philip Gosse in the opening words of the sixth chapter of *Letters from Alabama* (1859), his apostrophic travel diary recounting his experiences teaching and observing in the antebellum South during the late 1830s. ‘My observations are slight and disjointed’, he writes, ‘peeps through Nature’s key-hole at her recondite mysteries; — ‘passages in the life of a spider;’—‘unpublished memoirs of a beetle;’—‘notes of the domestic economy of a fly’—and you must take them for so much as they are worth’.1 The note of self-parody in Gosse’s voice here is appealingly candid—at once apologetic for the structural inadequacies of his narrative attentions, but jovially comfortable in his lowly

authorial role as unlicensed biographer of the invertebrate. Above all, it seems, the reader is to be assured that Gosse’s natural history memoirs are furtive, imperfect, and minute records of obscure things, not grand, structured and authoritative accounts of matters of public interest. They are, in sum, ‘peeps’, not Pepys. Such a throat-clearing is an expressive example of Gosse’s recurrent early concerns with the continuity and tenor of his authorial voice. His insistence that his writings have little station, and are offered such as they are, take them or leave them, is a recurrent tic of the early works on which this chapter focuses, particularly his first published monograph, The Canadian Naturalist (1840). Gosse’s negotiations with voice, address, station, and narrative strategy is a driving feature of these writings, which, with A Naturalist’s Sojourn in Jamaica (1851), form what I have earlier termed his North American trilogy. As I have noted, this canon of work appeared concurrently with a series of explicitly pedagogical text-books, but appears to disavow that series’ attitude to scientific instruction, and instead attempts to forge the beginning of Gosse’s own, peculiar voice as a nature writer.

But that voice is not, initially, strong. The preface to The Canadian Naturalist, a book drafted in situ from 1835 during a tenure in his late twenties as a co-operative farmer in the Canadian village of Compton, on the Coaticook River, and published in 1840 by John Van Voorst, opens with an air of timidity and quiet apology similar to that shown in the sixth Letter, but shed of the secure self-deprecation. He begins, ‘Canada having become, of late, a very prominent and engrossing object of attention, it is hoped that it may not be altogether uninteresting to the public, to consider it in a
new point of view’. The hesitancy of this opening approach—the halting, nervous interpolation, ‘of late’; the insulating gesture that his work sits respectfully within a prominent, popular body of literature, any inferred presumption of its appeal checked by a double negative, ‘not uninteresting’—seems to reflect not only the anxiety of his Canadian experiment at large, but his self-doubt at his suitability to write of it at all. Indeed, it establishes Gosse’s earliest authorial tone as one not merely of modesty, but of manifest reticence. The litote ‘not altogether uninteresting’, from the opening sentence, reveals itself to be a favourite phrase of Gosse’s, or perhaps a consoling rhetorical strategy, as it appears again in the opening paragraph of Letters. Of course, the type of careful, gentlemanly positioning displayed here is so common in nineteenth-century public writings as almost to be unworthy of comment: we find it offered as a rote condition of magnanimity and narrative arrangement by even the most regarded members of the lettered and scientific communities. Critics have argued that the practice of disclaimer in travel writing is gendered: Shirley Foster notes that the ‘disarmingly apologetic confessions of inadequacy’ present in much of women’s travel narratives, ‘may be regarded less as genuine modesty than as a female strategy which permits the travellers to express their own opinions, protected by the avowed declarations of ignorance or incompetence’. This may be so, in the narrow case, but the practice at large is a narrative instrument which knows no gender. Judith Johnston points to the likes of ‘Captain Basil Hall, RN, FRS, with all the weight and

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2 Gosse writes, ‘As a preliminary, however, it may not be altogether uninteresting to give a slight sketch of the voyage from Philadelphia’, 1. A similar construction, ‘may not be uninteresting’, appears on page four of The Aquarium (1854).
authority of those initials behind him’, who nevertheless prefaced *Travels in North America* (1829) with regrets for his being unable to ‘study in the closet many of the subjects discussed in these volumes’. Darwin’s Introduction to *On the Origin of Species* (1859) consists in large measure of apología for its imperfections; Lyell concludes his preface to *Principles of Geology* (1830) with a confession that its contents may already be outdated; even Richard Owen—hardly science’s most humble, self-abnegating practitioner—begins *A History of British Fossil Reptiles* (1849) by acknowledging how much his work owes to his predecessors and contemporaries, and that his four-volume collection can serve only as a placeholder, or mantle to be taken up by succeeding generations.

And yet, there is something distinctive about Gosse’s apology here, worthy of interest. What makes the disclaimer notable, I would argue, is not the disarming apología of the first sentence, but the confident declaration of the second. His...

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1 Judith Johnston, *Anna Jameson: Victorian, Feminist, Woman of Letters* (Aldershot: Scolar Press, 1997), 106-7. The metric of for what to apologise and how supplicatingly is delicately balanced, however; Johnston points to Dickens’s proposed preface to *American Notes* (1842), which listed several of his travelogue’s omissions, evasions and inadequacies. In it, Dickens writes, ‘This book is simply what it claims to be—a record of the impressions I have received from day to day, during my hasty travels in America, and sometimes (but not always) of the conclusions to which they, and after-reflection on them, have led me’. Dickens was dissuaded from including the introduction by his publisher, John Forster, who was concerned that its ‘proper self-assertion should be mistaken for an apprehension of hostile judgments which he was anxious to deprecate or avoid’. Dickens agreed to its removal only after securing Forster’s assurance that the piece would be printed ‘when a more fitting time should come’. It was published posthumously in Forster’s *The Life of Charles Dickens* (1872-4; London: J.M. Dent, 1948), 263-7.

2 Basil Hall, *Travels in North America, in the Years 1827 and 1828* (1829; Edinburgh: Robert Cadell, 1830), vi.

3 Richard Owen, *A History of British Fossil Reptiles*. (London: Cassel, 1849), i-ii. Owen’s preface does, however, pause to point out that he is correcting past errors, particularly those of Cuvier. Steve Jones sees *The Expression of the Emotions in Man and Other Animals* (1872) as Darwin’s most apologetic work, noting that the author seems to excuse the entire topic, rather than just his own modest attempt. Darwin writes of that work, ‘Our present subject is very obscure […] and it always is advisable to perceive clearly our ignorance’. (in *Darwin’s Island*, 79) And, of course, prefaced apologies are not always exercises in modesty. Alfred Russel Wallace, as merely one example, seems to be excuse-making in his short preface to *Travels on the Amazon and Rio Negro* (1853) when he writes: ‘I trust that the great loss of materials which I have suffered, and which every naturalist and traveller will fully appreciate, may be taken into consideration, to explain the inequalities and imperfections of the narrative’. (London; New York: Ward, Lock, 1889), xii.
particular piece of authorial comportment in the opening to *The Canadian Naturalist* fails to register adequately the shared lexicon of factitious intellectual chivalry or modest mutual respect, and is confounded by his supplementary assertion that the Canadian wilderness, ‘is here presented in a light on which there can be no clashing of opinion, no discordancy of sentiment: the smiling face of Nature, the harmony and beauty of the works of God, may be turned to by all men of all parties as a refreshing relief from the stern conflict of political warfare.’(vii) The robust absoluteness of the second statement—*no* clash, *no* discordance, *all* men, *all* parties—sits uncomfortably against the humbled hedging of the first sentence, or the genial self-abrogation of the sixth chapter in *Letters*. Of course, the two sentences attach themselves to different authors: the former submits for consideration to the fickle literary attentions of the lettered class the ‘new point of view’ of a fresh, self-taught amateur, newly-returned from the wilderness of North America; the latter, asks for consensus on the ‘beauty of the works of God’. But the William Paley-derived ‘smiling face of Nature’ brand of natural theology was by no means in ‘no discordancy of sentiment’ by 1840. The Bridgewater Treatises had been published from 1833, in response to growing discordancy between science and theology, the last of which, by William Prout, concurrently with Gosse’s book. Darwin had ‘studded his private notebooks’, to use Frank M. Turner’s phrase, throughout the 1830s with criticisms of the Paley school of thought. Robert Chambers would publish *Vestiges of the Natural History of Creation* only four years after Gosse’s book. Barbara Gates notes in *Kindred Nature*, quoting

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8 Frank M. Turner, *Contesting Cultural Authority: Essays in Victorian Cultural Life* (Cambridge; New York: Cambridge University Press, 1993), 119. Shelley had written his pamphlet ‘The Necessity of Atheism’ as a response to Paley’s brand of teleology as far back as 1811. Darwin would later publish his criticisms in *Expression of the Emotions* (1872), and, particularly, *The Variation of Plants and Animals Under Domestication* (1868), when it was, admittedly, less ‘discordant’ to do so.
Maria Edgeworth, that natural theology had reached its acme in the late eighteenth century, as a primarily female form of nature instruction, as it was ‘the perfect vehicle for conveying to women those “many things which were thought to be above their comprehension, or unsuited to their sex”’. Similarly, the characteristically Romantic notion that one finds solace from modern civic tumult in the gentle, harmonious rhythms of the natural world, feels, if not outdated, at least a clashed opinion.

In combination, then, Gosse’s gambit sentences register of themselves something he identifies explicitly: that ‘[t]he Author is fully aware how very limited is his acquaintance with this boundless science; having lived in the far-off wilds of the west, where systems, books, and museums are almost unknown, he has been compelled to draw water from Nature’s own well, and his knowledge of her is almost confined to her appearance in the forest and the field’ (ix). Gosse was, at this stage of his career, an amateur. His scientific affiliations listed on The Canadian Naturalist’s title page have little of Hall’s ‘weight and authority’, and are openly provincial (‘Cor. Mem. Of the Nat. Hist. Soc. Of Montreal, and of the Lit. and Hist. Soc. Of Quebec’) and the book’s dedicatee is familial, rather than professional: his first-cousin, the

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* Barbara T. Gates. *Kindred Nature: Victorian and Edwardian Women Embrace the Living World* (Chicago; London: University of Chicago Press, 1998), 38. The idea that Gosse’s voice is feminised in his particular narrative framing is interesting to consider. Gates argues that, for women science writers, dialogues ‘certainly do not offer what Showalter calls ‘the penetrating gaze of intellectual and sexual mastery’. Nor do they offer the hard edge of the third-person ‘objective’ scientific paper—of the expert writing for the expert.’ (37-8). This (sans the sexual element, perhaps) seems to encompass Gosse’s very concerns in his opening address. Gates cites Sarah Trimmer’s *Easy Introduction to the Knowledge of Nature* (1780), Charlotte Smith’s *Rural Walks in Dialogues Intended for the Use of Young Persons* (1795) and Priscilla Wakefield’s *Domestic Recreation; or, Dialogues Illustrative of Natural and Scientific Subjects* (1805) as particularly exemplary of the school. Charlotte Smith’s preface to *Rural Walks* is particularly useful to contrast here.

* The Natural History Society of Montreal was formed in 1827, and disbanded in 1928; the Literary and Historical Society of Quebec was founded in 1824—the first such society in Canada—by George Ramsey, the then-Governor General of British North America. Gosse was invited to join these societies as a Corresponding member in 1836, following the publication of several of his papers. His credentials would later become more fulsome and acceptably Anglogenic, being elected a Fellow of the Royal Society in 1856.
zoologist and author of the recent *History of British Quadrupeds* (1837), Thomas Bell. Gosse was an enthusiast; he had no formal scientific training, as such, merely a mind that ran to accumulation, exactness and detail. He was, in essence, an imaginative outsider. His intentions for the book are quite explicit in this regard. He wishes, as he puts it, ‘Not to instruct the learned, at whose feet [the Author] is willing to sit as a learner; but partly to set forth the praise of the great and glorious God, who made all these things, and partly because, having himself tasted the calm delights flowing from an observation of His works, he would fain make known to others the source of the same sweet and soothing pleasures’ (ix-x).

His ability to make such things known to others was initially a source of anxiety for Gosse. Following his return from North America in 1839, Gosse’s ‘fortunes were at their lowest ebb, and the summer of 1839 marks the darkest point of his whole career’, as Edmund puts it. *The Canadian Naturalist* manuscript became talismanic for Gosse—the completed script was ‘now his one and only chance for the future, and London was the sole field into which he could, with hope of a harvest, drop the solitary seed’. Gosse’s funds, modest from the beginning, had been severely depleted following his return from teaching in Alabama, and his ability to secure a publisher for the work was of desperate importance. Bell introduced Gosse to John Van Voorst, who offered a hundred guineas for the book (a sum that represented ‘Peru and half the Indies!’, Edmund suggests). The book was well, if not broadly, received. Both the *Church of England Quarterly* and the *Spectator* compared it favourably to White’s *Natural History of Selborne*. ‘We have seldom seen a work so deeply imbued with the same acuteness and accuracy of observation, and healthful tone of feeling, as the one

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*Edmund Gosse, The Life of Philip Henry Gosse, 155.*
now before us’, admits the *Christian Remembrancer*, ‘It is replete with information, interesting not merely to the naturalist, but often to the agriculturist, and the political economist’. And beyond its broad appeal, the *Spectator* suggests that, ‘The volume has the great merit of reality’.

In this chapter, I shall examine the complicated construction of this ‘reality’. I shall discuss Gosse’s earliest narrative strategies embodied in the first book of his North American canon, considering the complicated system of voices that comprise his particular dialogic system. I shall consider the various functions of the dialogue structure as an instrument of scientific communication, and as a natural language of science generally. I shall discuss the notions of Gosse’s narrative ventriloquism, his strategy of science-by-imagination and science-by-authority. Further, I shall examine the notion of learned and learner as portrayed in the text, and argue that Gosse’s fully-realised, imaginative dialogue strategy represents at once two perhaps antithetical systems of instruction, the dialectical and didactic, the complex cross-pollination of which, within his book, allows him to parlay what was at the time an amateur, secondary endeavour, into an important piece of natural history writing.

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13 His concern over continuity of voice is registered similarly in the third of the trilogy, *A Naturalist’s Sojourn in Jamaica*—he writes in its preface that its structure as a journal, ‘has been maintained to such an extent as to give a slight thread of continuity to the whole. It is not, however, a Diary; chronological sequence having been always made to yield to the superior advantage of unity and completeness in the exhibition of the various subjects’. (London: Longman, 1851), x. As such, one sees his concern that the necessities of narrative completeness supersede even the constraints of the fourth dimension. Nevertheless, I have omitted the book from the main discussion of this chapter, as its concern with teaching is lesser.
I. Didact vs Dialect: Gosse’s Internal and External Audiences in The Canadian Naturalist

The two horns of learned and learner are an important starting point from which to unpack the narrative conceit of the book. To counter his inadequacies as a man of science, both known and unknown, or at least to provide humility’s padding, Gosse sets his authorial voice at a point of multiple removes: the ‘new point of view’ he hopes to present to the public is voiced through two points of view. The book is written in character, as a long-form dialogue between a father and a son, a learned and a learner. It is discursive in its subject matter, episodic in its design, intrinsically and extrinsically didactic in structure, and quite consciously rambling and distractible in its attentions. While Gosse sought the company of the majority in his opening application—appealing to a popular field of study, ‘prominent and engrossing’—he carves a small, scholarly niche for himself in the book’s particular, slightly outmoded, narrative form. Despite his book’s title, in 1840 Gosse was neither a naturalist nor a Canadian; nevertheless, his narrative voice is bifurcated between two characters who incorporate elements of both. The learner is Charles, an eager, though wary, and at times impeccuous English boy recently arrived in Canada; the former is his father, a tempered man of science, and, as is determined by Gosse’s strategic deployment of possessive pronouns, a Canadian, by adoption and attachment if not by birth. Gosse explains—or, rather, asks his reader to excuse—his formal choice with a further appeal:

As the form of dialogue has of late become somewhat ‘out of fashion,’ the Author feels it to be due to the public to explain the reasons which induced him to throw the Work into such a shape. He thought that by taking the reader, as it were, and transporting him into the midst of the very scenes and
objects represented, a life and vigour might be preserved, which would be wanting in a formal narrative. (viii)

Though perhaps transiently out of favour—Gosse never was one to be cowed by the rhythms of fashion—the dialogue form had long been a popular mode for metaphysics, theology, moral instruction, and, in the post-Enlightenment milieu, scientific communication. Dialogue was, of course, the characteristic mode of Hellenic philosophy, and a significant form for Italian Renaissance metaphysics. Perhaps the first use of the dialogue form as a scientific mode was by the Byzantine historiographer Theophylact Simocatta, who structured his Natural Questions, an overview of seventh-century pseudoscientific claims, as a dialogue between master and pupil. More notable is Galileo’s Dialogue Concerning the Two Chief World Systems (1632), a dialectical conversation on Copernican and Ptolemaic systems of order, between the Copernican Salvati, the Ptolemaic Simplicio, and a neutral layman, Sagredo. Gosse’s articulated sense of the transportative effect of the dialogue form, privileging to the reader a sense of place and time, stimulating a ‘life and vigour’ in the narrative, resonates with an important element of Carlo Sigonio’s critique in De dialogo liber (1562), one of the most thorough early treatises on the Hellenic and Renaissance schools of the form. As Virginia Cox has noted, Sigonio retained ‘certain reservations’ with the Platonic model of dialogue—a mode so trenchant as to have become adjectival—because it demonstrates an implausible gap between speaker and spoken.¹⁴ For Sigonio, many of Plato’s dialogues—the likes of the Protagoras, the two Hippías, or the Symposium may be particularly representative of the problem—suffer from an improper fictionalisation, in their casting of statesmen, politicians, and ‘leading citizens’ to talk on ‘recondite’

matters of art and science. Sigonio writes, ‘One should be particularly careful to ensure that neither the time nor the place is unfitted to the dignity of those whom we have introduced in the dialogue’. Such a conceit would, for Sigonio, disrupt an essential element of the dialogue form, which must tend toward authenticity of rhetoric. What is the use of a dialectical conversation on subtle matters of truth and principle if its poles are artificially conceived? Sigonio maintains that authors of dialogue would be better-suited to adhere to Cicero, and the Italian Renaissance form, which is, as Cox puts it, ‘less eccentric’ in its appropriate balance between speaker and spoken.

Despite the dialogue form carrying with it a certain sense of extratextual elevation, through this intellectual pedigree, it remains, as Cox argues, an ‘awkwardly hybrid’ mode of writing. The Platonic mode sees such awkwardness manifested in problems of verisimilitude between speakers and spoken; as a Renaissance genre, it appears as an uneasy fusion between rhetorical poles: say, poetry and argument, or metaphysics and theology. In post-Enlightenment scientific communication, however, dialogue presents the reader with a more direct collision. It presents an epistemological problem; an essential contradiction lies in the fact that, as Bernard Lightman puts it, the dialogue structure, ‘introduced a fiction to teach about facts’. Robert Boyle encountered this directly in Sceptical Chymist (1661), a conversation between gentlemen on the finer points of chemistry. He crosses Sigonio’s rule of authenticity in admitting that his form detracts from his contents’ scientific verisimilitude, noting that ‘the language [is] more smooth and the expressions more

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15 Quoted in Cox, 123.
16 Cox, xi.
civil than is usual in the more scholastic way of writing. In part, this is due to Boyle’s hope that the book should demonstrate how to conduct debate respectfully, and show that one may be, as he puts it, ‘a champion for truth without being an enemy to civility’. An ambitious goal, perhaps, in the physical sciences.

Gosse suggests that the structure of his work was inspired by Humphry Davy’s manual *Salmonia: or, Days of Fly-fishing* (1828). Although Gosse later admitted he had not read the book in its entirety, and knew it only from quotations, it nevertheless remains an instructive comparison. Davy wrote *Salmonia* during a period of extended illness, from which he would not recover, and chose the dialogue form as a matter of pure praxis. As he puts it in his Preface, ‘The conversational manner and discursive style were chosen as best suited to the state of health of the Author, who was incapable of considerable efforts and long-continued attention’. Where Davy chose the form on account of his declining health, Gosse invokes it to preserve ‘life and vigour’; to retain a sense of place and vitality, for teleological and rhetorical ends, rather than medical accommodations. Davy sets his dialogue between four fly-fishers, Halieus, Poietes, Physicus and Ornither, whose fishing expeditions serve as instruction on the minutiae of angling—both to the reader and to the characters within—and as predicate to broader scientific and philosophical discussions. The slightly counterfeit nominal overtones of Greek that he uses serves both to gesture towards the elevated pedigree of the dialogue form, and, further, to invoke the common technique that Kemal Benouis terms ‘symbolisme onomastique’—a specific type of metonymy in which character

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19 Boyle, 7.
nominations speak to their specific status within the dialogue. Symbolisme onomastique serves as a shorthand guide to the reader—we can evaluate the reliability of, and authority for, particular demonstrations of scientific knowledge, and discern in-character partiality, through these names—and as an authorial intrusion, which serves to, ‘underline the absolute control the author exercises over the speakers’, as Cox puts it. Davy’s fishing philosophers each take a Greek or Latin name for his scientific or philosophical interest. The learned figure—or Father, to use Gosse’s terms—is Halieus, from the New Testament Greek for ‘fisherman’. Given this nominated authority, in a book ostensibly about fishing, Halieus acts as the default pedagogue on matters beyond angling, encompassing questions of biology, poetry and history. Physicus, framed as an expert on physical and life sciences—he is the only member of the group to take a Latinate name—nevertheless is ‘uninitiated as an angler’, and therefore is set in the position of the learner, or child, throughout the text. This confounds the notion of scientific expertise; it is Physicus who acts frequently as interlocutor for Halieus, and, as such, the notion of appropriateness of voice is often rehearsed:

PHYS.—But I see flies already on the water, which seem of various colours,—brown and gray, and some very pale,—and the trout appear to rise at them eagerly.
HAL.—The fly you see is called by fishermen the alder fly, and appears generally in large quantities before the May-fly. Imitations of this fly, and of

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21 Mustapha Kemal Benouis, Le dialogue philosophique dans la litterature francaise du seizieme siecle (The Hague: Mouton, 1976), 186. Symbolisme is one among many terms coined for the significance of naming to narrative. I choose it among several, based on its application specifically to the dialogue form. In 1994, New Scientist magazine coined the term ‘nominative determinism’ to describe the theory that one’s name has a positive causal effect on significant life choices, such as careers, hobbies, etc. The discussion was inspired by a paper published in the British Journal of Urology titled ‘The Urethal Syndrome: Experience with the Richardson Urethroplasty’ by A. J. Splatt and D. Weedon. (49.2 (1977):173-6). Although some research has been conducted on the phenomenon, it remains a folk theory. Authorial Symbolisme is not always an advisable practice: Galileo is said to have come under scrutiny from the Inquisition for naming his Ptolemy advocate in World System, ‘Simplicio’—somewhat too close to the Latin for ‘simpleton’ for the Inquisition’s liking.

22 Cox, 11.
23 Davy, 6.
the green and gray drake of different shades, are the only ones you will need this morning, though I doubt if the last can be much used, as the gray drake is not yet on the water in any quantity.

PHYS.—Pray can you give us any account of these curious little animals?
HAL.—We ought to draw upon your stores of science for information on these subjects.

PHYS.—I really know nothing of Entomology, but I am desirous of acquiring knowledge.
HAL.—I have made a few observations on flies as a philosophical naturalist. What I know I will state at another time.²¹

Halicurus can taxonomise the fly only in the vernacular of his profession; his intimacy with it exists only in its simulation, as a fly-bait. The genuflection to Physicus’s scientific expertise is rebuffed—Physicus’s insistence that he is no entomologist introduces an error in category which in fact applies to both men, but attaches only to one. The promise of ‘a few observations on flies as a philosophical naturalist’ is deferred, enigmatically, and is not later reapproached—Halicurus’s subsequent observations on flies pertain only to how best to run them through a hook. As pedagogue, then, Halicurus does not teach science, but vocation; knowledge from experience, rather than axiom. He is a near perfect example of the figure drawn by Gosse of himself in apology—he who is ‘compelled to draw water from Nature’s own well’, whose ‘knowledge of her is almost confined to her appearance in the forest and the field’.²² Halicurus does not deny each of his fellows their area of authority: Ornithur

²¹ Davy, 20-1.
²² This manifests in firmer beliefs, and induces one of the few purely dialectical moments in the text, worth quoting:

POIET.—But I do not understand upon what philosophical principles you deny the existence of the mermaid. We are not necessarily acquainted with all the animals that inhabit the bottom of the sea; and I cannot help thinking there must have been some foundation for the Fable of the Tritons and Nereids.
HAL.—Ay; and of the ocean divinities, Neptune and Amphitrite!
POIET.—Now I think you are prejudiced.
HAL.—I remember the worthy baronet whom I just now mentioned, on some one praising the late Sir Joseph Banks very highly, said, ‘Sir Joseph was an excellent—but he had his prejudices.’ What were they? said my friend, ‘Why, he did not believe in the mermaid.’ Pray still consider me as the baronet as did Sir Joseph—prejudiced on the subject. (245-6)
is called upon to speak to matters pertaining to birds; Poietes acts as agitant for matters of imagination and poetry (often providing a dialectical counterpoint, arguing that, for example, ‘Reason is often a dead weight in life, destroying feeling, and substituting, for principle, calculation and caution’). Nevertheless, Halieus retains opinions on each topic, filtered through his specific vocational experience.

This is, then, the sense of learning which Gosse is attempting to impart, however cautiously. The relationship Gosse has to his speakers, however, and the control he exercises over them, operates differently to that of Davy—or indeed, of Galileo or Boyle. In combination, Davy’s symbolisme, his scenic descriptions, and his dialectical structure between the learned and unlearned experts, remains on a philosophical level—his are vocational, ‘recondite’ and academic discussions on the physical and biological sciences, rather than transportative ‘into the midst of the very scenes’, of interest in themselves, as is intended by Gosse. More crucially, Gosse’s dialogue takes on an internally didactic, rather than dialectical, structure. In his symbolisme, Davy constructs similar roles of learned and learner; each topic of conversation finds a protagonist and an antagonist, a master and a pupil, indexed by nominally-determined areas of expertise, with Halieus framed as polymath. If the

ORN.—But give us some reasons for the impossibility of the existence of this animal.
HAL.—Nay, I did not say impossibility; I am too much of the school of Isaac Walton, to talk of impossibility. It doubtless might please God to make a mermaid; but I do not believe God ever did make one.
ORN.—And why?
HAL.—Because wisdom and order are found in all his works, and the parts of animals are always in harmony with each other, and always to certain ends consistent with analogy of nature; a human head, human hands, and human mammae, are wholly inconsistent with a fish’s tail. The human head is adapted for an erect posture; and in such a posture, an animal with a fish’s tail could not swim; and a creature with lungs must be on the surface several times in a day—and the sea is an inconvenient breathing place: and hands are instruments of manufacture—and the depths of the ocean are little fitted for fabricating that mirror, which our old prints gave to the mermaid. Such an animal, if created, could not long exist; and, with scarcely any locomotive powers, would be the prey of other fishes, formed in a manner more suited to their element’. (Davy, 182-4.) Halieus adopts a proto-evolutionary position here, one notes.

* Davy, 161.
dialogue structure is pedagogical, rather than dialectical, its protagonist does not attempt to convince an antagonist or interlocutor of any position by argument, but rather to inform a dependent on matters of scientific fact. But even this is of a complicated order in *The Canadian Naturalist*: Gosse’s text is a system of conversation pieces between the learned and the unlearned, the master and pupil, the father and son, on matters of observation, rather than analysis; but the text itself is intended for an audience *more learned than Gosse*. He openly admits that he sits at his readers’ feet ‘as a learner’. As such, the narrative takes a structural form that is intrinsically didactic, between its characters of Father and Charles, but *extrinsically* dialectical: attempting to convince its audience to discern the hand of God in the ‘smiling face of Nature’. Greg Myers marks the difference in terms of imagination, suggesting that, ‘Just as the polemical dialogues may imagine an ideal scholarly discussion, pedagogical dialogues may imagine an ideal classroom’. Like Sigonio, Gosse seems interested in the appropriateness of time, place, and speaker in this endeavour—he is conscious of retaining ‘life and vigour’ in his dialogue, and presenting his observations with accuracy, detail and learning—so as to walk a difficult line.

In order to elucidate the distinction apparent in Gosse’s internal narrative didacticism, an instructive comparison is Jeremiah Joyce’s *Scientific Dialogues* (1807). Gosse must surely have been aware of this five-volume synthesis of basic scientific principles for young readers. Joyce’s dialogues were immensely popular, and were, as his subtitle makes clear, *Intended for the Instruction and Entertainment of Young People, in which First Principles of Experimental and Natural Philosophy are Fully Explained*. Joyce’s dialogue structure retains a strict sense of master and pupil, learned

and unlearned, reflecting its purpose as a children’s educational tool. The comparison progresses from a nominal resonance: Joyce’s speakers are, like Gosse’s, named ‘Father’ and ‘Charles’; they converse pedagogically on topics such as astronomy, electricity and optics. The two Charleses of Gosse and Joyce are useful to contrast, as contradistinct figures embodying the ‘unlearned’ horn in their respective dialogues. To start, Joyce’s Charles regards his exchanges with his father as ‘lectures’, whereas Gosse’s Charles considers them to be mutual ‘conversations’ (112, 129). At the opening of his narrative, Gosse’s Charles registers his hope for a ‘companion’ in the dialogue, someone with ‘superior judgment, information, and experience, [who] might remove my doubts, gratify my curiosity, and direct my attention to those subjects which are instructive as well as amusing’. (2) Conversational approaches between each pairing appeal consistently to ‘superior judgment, information and experience’, but, for Gosse, the sense of learned and unlearned is not strict. Joyce’s Charles learns axioms; he frames questions of his father by stating a fact that he has learned, followed by a request for confirmation or expansion: ‘You once showed me that two leaden bullets having a little scraped from the surfaces would bind together with great force; you called that, I believe, the attraction of cohesion?’ Or, similarly, he draws on his limited life experience and asks for it to be confirmed by matters of first principle:

*Charles:* I have seen at Mr. W—’s paper-mills, to which I once went, six or eight men use all their strength in turning a screw, in order to press the water out of the newly-made paper. The power applied in that case must have been very great indeed.

*Father:* It was; but I dare say that you are aware that it cannot be estimated, by multiplying the power of one man by the number of men employed.

*Charles:* That is, because the men standing by the side of one another, the lever is shorter to every man the nearer he stands to the screw, consequently,

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*Joyce, 20.*
though he may exert the same strength, yet it is not so effectual in moving the machine[.]"

Gosse’s Charles employs the self-same approach, noticing or recalling some aspect of prior learning, and appealing for greater insight. He speaks in cold, often-utilitarian inquiries: ‘Will you mention the principal of our resinous evergreens?’ (7); ‘Is the timber of birch applied to any useful purpose?’ (142) He asks questions, and solicits answers, by implication (‘In standing water, I observed many masses of clear jelly-like substance, containing a number of small black globules’ (125)); by observing an ambient detail (‘The evening is warm, and the air balmy and pleasant; the soft maple in flower on the bank of the river gives out a sweeter fragrance than before’ (157)); or announcing a discovery with contagious excitability (‘Look! What a congregation of butterflies on that little muddy spot!’ (223)). Indeed, Charles’s enquiries seem often like set-ups for Father to demonstrate his knowledge, rather than being expressions of genuine interest. Their dialogue snatches come almost exclusively in pairs: Charles notices something; Father explains or expands, Charles progresses linearly to a subsequent topic of inquiry. Rare are the examples in which actual back-and-forth conversation flourishes. As such, Charles seldom is seen to demonstrate progressive learning. The interactions between Father and Charles are not strictly ‘conversational,’ then. The language theorist Jean Aitchison has suggested that, in broad terms, ‘Conversational interaction between friends often supplies a minimum of information, but a maximum of supportive chat. This often takes the form of repetition, both self-repetition and other-repetition’; though the dialogue is littered with self- and other-

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"Joyce, 112.

repetition—Charles’s rambling attentions and method of inquiry are a constant—its interactions consist of a maximum of information and a minimum of ‘supportive chat’. Barbara Gates points out that the dialogue form ‘challenges the authority of specialised language: the inquirers on both sides need again and again to make sure that they and their interlocutors are speaking the same tongue, one accessible to all participants’.32

Take, for example, a longer exchange:

C.—Here are some larvae of the *Ephemera*. They keep the fin-like appendages at their sides constantly in a waving motion, even when they themselves are at rest: what can be the reason?

F.—I believe these fins are connected with the air-pipes, and are, in fact, breathing organs; and as they extract the oxygen from that portion of the water with which they are immediately in contact, I suppose their constant vibration is necessary to produce a current, and so bring fresh particles of water to be inhaled. But I apprehend these likewise perform a double office, and are also organs of locomotion.

C.—There is a serpentine motion of the abdomen when they swim, which perhaps aids them in some degree; but they do not appear to swim with the same facility as most water-insects. (85)

Notice the uncertainties in the learned reply, however: ‘I believe’, ‘I suppose’, ‘I apprehend’; Gosse’s Charles encounters nature dynamically, and in uncertainty. Such irresolute responses to direct inquiries remain unapparent in Joyce, perhaps considered inappropriate for dialogic instruction intended for children. The denomination ‘Father’ satisfies Benouis’s definition of a *symbolisme onomastique* in Joyce’s case only—‘Father’ denotes the speaker as the paternal instructor; perhaps a Reverend rather than a parent; a creator, an author. Gosse’s Father’s expertise is by no means total—just as Gosse’s opening Preface deconstructs his own proficiency, or as Halieus defers responsibility for ultimate authority. At times, the elder man does not merely register uncertainty, but confesses to outright lack of knowledge. He seems

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32 Gates, 38.
stumped on matters of scientific record: when Charles inquires about a ‘yellow hair-like substance’ clinging to a spruce tree, Father replies, ‘A friend of mine gave it the name of ‘Absalom’s Hair.’ It is a Lichen, but I do not know its name’ (8). Later, he admits to knowing ‘very little indeed’ when questioned on native fish in the rivers (170). In such instances, the question bubbles just below the reader’s notice: who is it that does not know these various details: Father or Gosse? Gosse could, of course, have looked up the reference upon his return to London if he was unsure of some arcane piece of Canadian ecology. But would this have disrupted the important balance between speaker and spoken? Unlike Joyce, Gosse’s goal for the book is not to educate his reader—the precise name of an imagined web of lichen is of secondary importance—but to ‘present a new point of view’; to persuade the reader to register the numinous in scenes of beauty, wonder and order. For Boyle, the dialogue style lessened his book’s sense of accuracy; but for Gosse, the lack of accuracy assists in the wider purpose of the dialogue. The father does not know all there is to know; after all, his remit from his son is merely to possess ‘superior judgment, information and experience’, not supreme. And, again, Gosse sits at his readers’ feet ‘as a learner’. Indeed, this is made explicit when Father’s incomplete knowledge is brought to bear, and he refers the particular matter upwards, as it were, to the Supreme:

Why one plant unfolds its leaves so many weeks before another, exposed to the same influences of light and heat, we cannot tell; we observe facts; but when we presume to inquire why these things are so, we are baffled and repulsed: in some cases we can penetrate to second causes, but the primary cause must be referred to the will of the Father of all; who, we may be assured, appoints the seasons, and watches over the welfare of the meanest objects of His creation. […] not a sparrow falls without His supervision, for ‘His kingdom ruleth over ALL!’ […] if we do His holy will, and rely on Him by faith, we are raised above all anxiety. (187-8)
The dodge is, perhaps, simply the natural theologian’s version of Halieus’s deferment: biological certainties are not his remit. Curly questions will be answered at a later date; in Gosse’s case, by if not by the father, by the Father of all. This discursive narrative technique and expressed desire to use his father-son didactic ramble as conduit for natural theology sees Gosse engage in some of his most wide-ranging theological discourse, from which we can reconcile much of these structural difficulties. Indeed, *The Canadian Naturalist* demonstrates Gosse at his most theologically overt, perhaps— he speaks at length toward the teleological argument for the existence of God—but, paradoxically, at his least dogmatic. The bible-thumping literalism that came to characterise his later theological output (although this point is complicated, as shall be discussed in part in Chapter Four) had yet to ossify, and the openly devout Gosse permits his text to flirt with scriptural mutability. Perhaps the most telling example of this comes when Gosse allows the testimony of his Father-naturalist to actively supersede the authority of Scripture.

[The Scriptures are not designed to teach us facts in natural history; it is quite sufficient for their purpose if the illustrations of truths, drawn from nature, are commonly supposed to be correct. Modern naturalists have proved that the ant does not feed on corn, but on saccharine or animal substances; [...] Besides this, in cold climates, ants become torpid in winter, and where the climate is not cold enough to suspend their animation, it is probable they can always find food throughout this season. (64)]

Gosse refers here to Proverbs 6: 6-8 and 30:25, which make a slightly prosaic point on the propensity of ants to store food in summer, to harvest in winter. Gosse’s naturalist actively corrects this point: Scripture is wrong. What is going on here, then? The Gosse known to the popular imagination would never counsel such heresy, surely?

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* Messor aciculatus ants are known to store seeds for the winter months, though most species do not. Aesop’s fable ‘The Grasshopper and the Ant’ bases itself on the idea of the ant as the forward-planning larderer and the grasshopper the carefree roustabout.
The notion that ‘the Scriptures are not designed to teach us facts in natural history’ is not an act of theological liberalism, then, but rather is a succinct expression of Gosse’s rationale for his narrative strategy, as a conduit towards the teleological argument. Scripture does not teach the order of things any more than does the natural world. The ‘smiling face of Nature’ demonstrates the existence of God; it convinces. Scripture too demonstrates the existence of God. It does not teach from authority, it convinces from empirical evidence—whether or not its minutiae are correct is of secondary importance. And so it is with Gosse’s book: it is ‘thrown’ into a form of didactic instruction, in order to attempt to convince dialectically. Father’s negative capability and frequent confessions of ignorance of certain matters operate in the self-same way. The two Fathers are, again, more than a mere pun.

The Canadian Naturalist takes place over a year, with each chapter named after a month—a narrative device well established in natural history writings, and enduringly popular afterwards."The book retains a concordant sense of cyclical and seasonality, with much of the description centred on father and son examining the Canadian landscape for signs of the ascent and decline of the seasons. Accordingly, Christoph Irmscher sees one of Gosse’s main concerns for the book as being:

a challenge to anthropocentric ways of thinking—faced with his son’s obtuseness, Gosse’s naturalist-father reminds his son that it all depends on who is doing the looking. ... Gosse’s Father encourages his son to see with the eyes of a lowly Canadian fish right after Charles has wondered aloud what underwater creatures do when the river is covered with ice. The Father immediately discerns the flaw in his son’s reasoning: it is not that the fish are shut out from our world, it is that we are shut out from theirs."

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14 John Aiken’s Calendar of Nature (1818) is seminal here, as is William Howitt’s The Book of the Seasons (1831).
Father wishes to change the way Charles views the world, then, just as Gosse seeks to have the reader consider it ‘in a new point of view’. But where Father wants Charles to discern the lowly, Gosse wants his reader to discern the mighty. In a sense, then, the learning that Father requests of his son cannot be adequately demonstrated within the text. These are epistemological points. The names, functions, and trivial details of the tri-partite kingdom of nature that the two companions encounter during their year-longramble function like Aitchison’s ‘supportive chat’: they are not the main point. The dry-meal of biological science is the book’s predicate, not its subject.

This is not to say, however, that Gosse’s teleological goal for his dialogue entirely denudes it of educational content for his reader. From the beginning, we may find many interesting vignettes from the physical sciences. Charles inquires on the ostensible whiteness of a blanket of snow, given that water and ice in isolation are clear. Father responds, in a passage typical of Gosse’s manifest enchantment with colour and the work of the eye (as we shall see in later chapters):

The reason of the opacity and whiteness of snow is, that it is composed of very minute films of ice, which in falling rest in every possible angle, and reflect the light in every possible direction: if you take a single crystal of snow, you will see that it is perfectly transparent; and if all the particles rested on each other in the same plane, the whole mass would be transparent as a similar mass of ice. (3-4)

Gosse’s interest in language, too, is registered throughout, and Father offers origins of certain common terms, which remain genuinely interesting:

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* Technically, however, a ‘single crystal of snow’ is not perfectly transparent, but perfectly translucent. Light does not travel in a straight line through frozen water, as with a transparent structure, but changes direction. Father goes on to conjecture (incorrectly) on the reasons for a cross-section of deep snow appearing blue, suggesting that it is related to the “natural colour of purest water”. Rather, this phenomenon is to do with snow absorbing the red end of the spectrum, leaving apparent deep streaks of blue marbled through large structures of snow. Davy’s Salmonia has an almost identical passage to this, in which Poietes asks Halieus why water assumes ‘such a variety of tints?’ Halieus offers a similar discourse on the nature of ‘pure water’. (198-203)
C.—What is the origin of the name, dandelion?
F.—The word was originally Dent-de-lion, that is, lion’s tooth, the leaves being cut into curved teeth pointing backward. (162)

But for each of these examples of genuine learning, we find incidences of instruction and information that have taken on a certain elasticity in relationship with scientific truth. Father relies often on a sense of anecdote to perform his instruction. Indeed, gleefully spurious anecdote often sits uncomfortably next to exacting technical observation or Linnaean classification. Take, for example, a tall tale regarding moose:

Two credible Indians, after a long day’s absence on a hunt, came in and stated that they had chased a moose into a small pond; that they had seen him go to the middle of it and disappear; and then, choosing positions from which they could see every part of the circumference of the pond, smoked and waited until evening; during all which time they could see no motion of the water, or other indication of the position of the moose. At length, being discouraged, they had abandoned all hope of taking him, and returned home. Not long after came a solitary hunter ... Presently, he saw the moose rise slowly in the centre of the pond, which was not very deep, and wade towards the shore where he was sitting. When he came sufficiently near, he shot him in the water. (57)

A passage such as this, with its requisite tall-tale dressings—the ‘credible Indians’ weaving a yarn on the implausibly capacious lungs of a moose, and its imperfect grasp of self-preservation—sits ever-awkwardly with the sense of genuine scientific description and care. On occasion, Gosse’s anecdotal asides are taken from unscientific, unnamed sources, from a Quaker journal, say (164); other accounts begin with the seldom-comforting prefaces such as ‘a friend of mine told me ...’ (324). In most instances, however, Charles can be counted upon to audit the anecdotes for truth. ‘It is a very amusing account’, he affirms of one, ‘and appears to have an air of strict veracity’. (166)
Indeed, Charles’s use here resonates with another of Irmscher’s instructive arguments for the book. Irmscher sees a ‘curious reversal of roles’ inherent in the generational dialogue: that ‘the older man represents the New World, while the younger man, his son, stands for the opinions, conventions, and prejudices of the Old’.

This seems to be a compelling point; Gosse’s symbolisme perhaps does not fail, but rather stands deliberately confounded. Charles does indeed seem often to long for a more Anglocentric version of nature—he is sensitive to temperature, makes frequent comment on his warmth, and often expresses disdain or displeasure with certain aspects of the Canadian wilderness: ‘Notwithstanding the day has been so warm, now that the sun is down, the air is chilly and even cold’ (92); ‘the winter [is] very severe, and very dull’ (111); ‘the evening is warm, and the air balmy and pleasant’ (157). This is not an uncommon reaction to the country by representatives of the Old World, of course; after all, as Northrop Frye once put it, ‘Canada began as an obstacle [...] to be explored only in the hope of finding a passage through it’.

Often Charles will seek to refer to English flora and fauna as a relative index for Canadian nature (I perceive no resemblance between him and our English Robin, except in the single circumstance of his having a red breast’ (96); ‘is this the species that builds its nest under the eaves of barns, as the English martin does under the eaves of dwelling-houses?’ (98)). In Darwin’s Plots, Gillian Beer observes a similar characteristic operating in Darwin’s writing, almost twenty years later:

The language of The Origin emphasises the element of address. Conversation rather than abstraction is the predominant mode, and the emphasis is upon things individually seen, heard, smelt, touched, tasted. The

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37 Irmscher, 65.
39 This remained a common technique in English writings of New World ecology.
voiced presence of the observer in the language is a necessary methodological control, supplementing the work’s imaginative history. The reader is encouraged to scrutinise and assay: the exotic instances are brought home for us by analogies with our own native landscape and wildlife."

With the dialogue form, however, the element of address is a closed system. The reader is not encouraged to scrutinise and assay here: Charles is. He is, in this way, our readerly cipher to Gosse’s fatherly author. Charles, further, brings home the exotic, by repeatedly comparing the Canadian flora and fauna to its British equivalents. Irmscher sees this as a struggle of New and Old Worlds; Beer would take it to be simply an avoidance of the abstract. Father too is co-opted into this system of meaning, but uses his son’s Anglocentric index to reflect positively on the abundance of nature in Canada: ‘The Camberwell beauty [butterfly], a rarity in England, is here extremely common, chiefly in autumn’ (97). Charles does, however, acknowledge a preference for North American architecture—showing the hand of man, rather than God. The village homes which Father describes as ‘never erected by an English emigrant’ (104), Charles designates as ‘handsomer and more tasteful’ (106). As the representative of Irmscher’s New World, we do indeed note that Father identifies as a Canadian: he uses frequently the pronouns ‘us’, ‘our’ and ‘we’ to refer to the Canadian people or their landscape, and ‘you’ and ‘yours’ to refer to Charles’s England. Father’s affiliation is to Canada specifically not merely North America—he marks the difference between Canada and the United States with reference to an American naturalist’s surprise at the abundance of butterflies: ‘Mr. Say speaks of having met with [the Forked butterfly] in his travels ‘several times’, as if it were quite uncommon in the States; and this is not the only instance in which insects common with us are marked by the American

naturalists as great rarities’ (107). Perhaps this is where we can discern a dialectic line within the text, then, if only implicitly. Irmscher’s notion resurrects a Simplicio-vs-Sagredo-style dialectical tension within Gosse’s book, the two actors in the dialogue representing or advocating for two world orders: the Old and the New. The father is the child, and the child the father.

II. Gosse as Father; Gosse as Author

Does Gosse think of himself, then, still in his twenties, as the father or the child? The degree to which ‘Father’ is autobiographical of Gosse is interesting to consider. Mikhail Bakhtin has written of the ‘conflict of voices’ that takes place in dialogic literary structure, and, at times, Gosse’s narrative strategy permits him to break the tone of his own book, and address matters of personal politics. A long exhortation on the tribulations of the migrant Canadian agriculturalist, during the ‘May’ portion of the book, provides a striking example of the creeping success of Gosse’s narrative technique, and the porosity of the boundaries between author, speaker and spoken. To make sense of this, however, we must consider some of the biographical details of Gosse’s time as a co-operative farmer, which feed so directly into the structure and politics of The Canadian Naturalist. Gosse’s time on the Canadian mainland, from

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*Mikhail Bakhtin, Problems of Dostoevsky’s Poetics* (Minneapolis: Minneapolis University Press, 1984), 74-5. Bakhtin’s work of dialogics is seminal, and much can be drawn from his theoretical model pertaining to Gosse. In his late essay ‘The Problem of the Text’ (1986) Bakhtin defines the concept of the superaddressee, as a third station in dialogue, between speaker and listener. The superaddressee is an ideal; a sort of notional Archimedean point, which sits external to the negotiations in address between the two participants in dialogue. It is interesting, therefore, to regard Gosse’s ‘Charles’ not as a listener, but as a superaddressee: an apostrophic, conjured party to the dialogue, who represents an ideal listener, rather than a common listener. Furthermore, Balkin has theorised that the concept of God may fit the station of superaddressee—thus further complicating Gosse’s natural theology model.
1835 to 1838, followed two years working as a shipping clerk in Newfoundland, where his interest in natural history was first aroused. Having ‘pretty well exhausted the entomology of Newfoundland’, as Edmund puts it in *The Life of Philip Henry Gosse*, Gosse took a caretaking position in the Canadian north-east, tending for slightly more than half of a modest 110 acres of land, in the provincial township of Compton, on the Coaticook river.\(^{42}\) Gosse had no previous experience in tending land, but had confidence in his abilities, or, at least, in the storied fertility of Canadian soil, projecting in a letter to a friend on November 4, 1835, that twenty-five of his sixty acres would be tilled and seeded, and his 1836 harvest should include three acres each of wheat, oats and potatoes, two of turnips, one of peas, one of buckwheat, eight of grass, and a remaining four for pasture. Gosse found farm-work far more tedious than he had presumed ‘through the pleasant telescopes of hope and romance’,\(^{43}\) noting a perhaps rather self-evident point that he ‘found ploughing rather different from book-keeping’, but that, nevertheless, it was ‘not near so difficult nor so laborious as I had expected’.\(^{44}\) Gosse contented himself with the thought of the open possibilities of his new natural environment. He writes in his journal, ‘Sometimes at first, I was inclined to discontent; but that soon wore off: the thought of projected improvements and anticipated returns, together with the beauty of the country and freedom from the bustle of the counting house, have dispelled the gloom, and I am now as a merry as a cricket all day long. [...] My agricultural labours are not so severe or so engrossing as to prevent my having some time to devote to the pursuit of my interesting science’.\(^{45}\) His skill for agriculture remained limited (as Edmund puts it, Philip was ‘not one of

\(^{42}\) Edmund Gosse, *Life*, 86.
\(^{44}\) Edmund Gosse, *Life*, 92.
Emerson’s ‘doctors of land’, skilled in turning a swamp or a sandbank into a fruitful field”), and Gosse would sustain himself with entomology." Where in Newfoundland collecting had been a hobby, in Canada it became a lifeline. Gosse kept a daily journal of his findings, and soon he would become inclined to discontent over the state of his land, as both his and his partners’ farms would fail, to Gosse’s lasting, bitter regret.

This context is important to register when examining the ‘May’ section of the book. The chapter begins normally, in fact perhaps self-consciously so, with Charles offering a cheerfully expository rejoinder to the Father’s stated goal for the day, that they ride on horseback from their homestead, to a farming community where Father has ‘business’: ‘A walk or ride with you is always pleasant, for I always find many new things to observe and to inquire about’ (95). As the companions travel through farming land, Charles asks whether there is more profit in mowing or tilling arable land. This is the opportunity for which Gosse has been waiting. Father speaks of the deep, abiding sense of frustration, loss and betrayal felt so fervently by Gosse himself: ‘Travellers generally come here in summer, when the country is clothed in beauty; they see the crops growing, they have no anxieties, no labours, and are usually inclined to be pleased with all they meet with; they pass a few months in going through the pleasantest parts of the country, and then think themselves qualified to give a description of Canada, setting forth in glowing colours all the pleasures, and never noticing the disagreecables, probably because they know nothing about them’ (108). Accounts of successful settlements are from ‘gentlemen with capital’ who suffer ‘none of the inconveniences and privations which assail ordinary settlers’ (109). They are responsible, he continues, for gilding the lily, and pamphleteering for Canada’s

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suitability for emigration of the farming classes. He does not know an instance, save one, of an emigrant who is ‘not dissatisfied with his exchange’ (110). This is an extraordinary passage, unlike any other in the book. The anger and bitterness demonstrated reads baldly like those of a man scorned by several months attempting to tend to sixty acres of lower Canadian land: ‘I do not speak against emigration in general; but I think that the emigrant makes a very unfortunate choice, who fixes on the eastern townships of Lower Canada as his place of residence’ (111). Father finishes his cant with an unpleasant piece of class bias, which somewhat undermines Irmscher’s notion of New and Old world: ‘the naturalist finds gratification in any scene, and at any season, if he can but get abroad among the works of God; and the bursting forth of life and vegetation, as the glorious spring gladdens all creation, is an abundant source of enjoyment to every benevolent mind. But the minds of that class of men to whom I allude, are often incapable of drawing water out of these wells, or at least a taste for such enjoyments has never been awakened’ (112). Again, reinscribing Charles’s role as the auditor for truth and propriety, the son restores a certain sense of order, following this unusually long-winded diatribe, with a reproachful ‘Let us return to our more accustomed and, I may say, more interesting subjects of conversation’, and proceeds to notice the first flower of spring. This overtly autobiographical intrusion is at least partially acknowledged by Gosse, through Charles’s muted, knowing admonition of his father, reminding him, and acknowledging to the reader, that the topic is neither consistent with the established tone of the book hitherto, nor indeed particularly useful to a reader similarly accustomed. As such, Gosse’s stated goal of glorying God can be subverted at any time through these in-character intrusions. The role of the dialogue partners is yet more complex, then. In Father’s
anger and bitterness, leading to reproach, his status as the child in this economy is enforced. His book does not belong, then, to the class of Canadian emigrant natural history literature prominent in a similar period, such as Catharine Parr Traill’s *The Backwoods of Canada* (1836). His is not a colonialist imperative. His is, at times, a *cri-de-coeur* to go home.

The notion that this is an embedded autobiography, working through the frustrations of agriculture, set against the divine symmetries of nature, is at least worthy of consideration. Indeed, where Charles finds comfort in indexing the Canadian flora and fauna to English analogues, Father’s most frequent and detailed comparisons are to the ecology of Newfoundland, occurring more than twenty times throughout, and to Alabama, more than five times—the ecology of each sufficiently distinct to that of Canada as to not bear such frequent comparison. It is in such moments that one sees Gosse’s inexperience as a naturalist, and the limitations of his frames of reference. It does, however, further complicate, or perhaps augment, Gosse’s narrative advantages, and places the burden on the reader to determine the significance of the specific, tightly-wielded sense of place that Gosse is so determined to retain through his dialogue.

**III. Father and Son, Vol. One**

Given the complex set of negotiations between a father and a son that compromises the bulk of *The Canadian Naturalist*, one struggles to avoid at least a glancing comparison to that other Gossean book of filial relations, *Father and Son*. Indeed,
there is a certain poignancy in reading Gosse’s idealised, imaginative version of joyful, numinous encounters with nature between a father and a son, some ten years before Edmund’s birth. The existing correspondence between the two shows that, at least initially, Philip and Edmund enjoyed almost precisely the type of relationship held by the fictive Charles and his father. Compare this letter from Edmund, dated April 2nd, 1858, for example:

The Idotea is dead in the large tank and we think 1 astrina gibbeossa to (sic). My caterpillar has changed its skin, it looks beautiful, it has changed the colour of its toes from black to pink, it is now sitting on the edge of the top of a primula leaf which I find it eats as well as dandelion, and I hope it will soon begin to eat. I am preserving its skin to pin if you think it is worth … I have put away 259 of my shells, 22 of which I wish to question you about, as I do not know what they are—the caterpillar has gone to sleep and the second plant in the Greenhouse Miss Andrews says is open.7

The eight-year-old Edmund’s misspellings and grammatical errors contrast with his free use of Latin nomenclature, which he uses, ‘with complete assurance’, as Evan Charteris puts it.8 Similar also is his exactitude in totting-up 259 sea-shells—resolutely refraining from rounding-up to 260 or down to 250. Like Charles, he follows his thoughts as they come, moving from topic to topic, without so much as a full-stop to separate topics. Edmund’s exactitude and Latinisms are, of course, learned behaviours, and his distracted verbal wanderings a symptom of excitability and fervour, making his similarities with Charles, who has an equal affinity for exactness and wandering, look rather genetic. According to Charteris, Edmund would accompany his short, affectionate letters with watercolour drawings of the various insects and plants for which he needs his father’s help in order to classify, or of which he is

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7 Evan Charteris, *The Life and Letters of Edmund Gosse*, 6. Idotea is a genus of isopod, commonly found in Britain. Asterina gibbosa (which Edmund misspells) is a species of sea star, similarly distributed on the British coast.
8 Charteris, 7.
particularly proud.” Charles does similar—he pauses to draw sketches of objects that catch his attention: ‘It has indeed a very remarkable apperance’, Charles says of an elm, ‘If you will stay a few moments, I should like to take a hasty sketch of it’ (102). Charles’s sketches pause not only the father, but the author—Gosse takes line breaks whenever Charles sketches, resuming the dialogue only with his permission: ‘I am finished, and am ready to proceed’ (102). The line between father and child often is confused further here, as the sketch sequences are accompanied by illustrations by Gosse. Irmscher sees the Edmund of *Father and Son* as an inadvertent parody of Charles. And indeed, in many ways this can be true. However, for *Father and Son*, the reverse of the dialect operating in *The Canadian Naturalist* is true—Edmund saw himself as the acolyte for the new world—of art, culture and beauty, and his father as the warden of the old world, of superstition and ugliness, as our following chapter will discuss. In *The Canadian Naturalist*, it is the father who represents progress, not the son.

*The Canadian Naturalist’s* year-cycle finishes as it starts—with a discussion of snow and trees. Father makes note of the passage of time, and the cyclicality of the seasons, concluding the book with an apt turn of narrative phrase:

> But we have finished a year; the seasons have completed their annual course, since we commenced our wild woodland rambles; many subjects of interest have fallen beneath our observation; many phenomena, more or less obvious, have occurred to our notice, calculated, I trust, to make us wiser and better. ... But we have seen but a small portion of the mysteries of nature; inexhaustible stores yet remain to be unlocked; interesting and unexpected facts, hidden from the unobservant, are continually disclosed to him who walks through the world with an open eye. (359-60)

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* Charteris, 7.
It is, for Gosse, the open eye that discerns the smiling face of Nature, as teacher, parent, and conversation partner, and, as we shall see, it is an eye that has only just begun the business of looking.
Chapter Three

The Shore and the Home: The Rhetoric of the Aquarium

Let him turn over all stones, peer into all fissures, push aside the overhanging fucus, or long-waving oar-weed, and see if the pools beneath do not contain what he seeks. And when I say look, he must not understand thereby a careless casual glance, but a long deliberate scrutiny. He must allow the eye to rest long enough on the spot to lose the perplexity occasioned by a hundred different details, and must let “the demure travel of his regard” pass calmly over it.

—George Henry Lewes, Seas-side Studies (1856).

Man marks the earth with ruin—his control
Stops with the shore.

—Byron, Childe Harold’s Pilgrimage, Canto IV, ll. 1605-6 (1818).

Early in George Henry Lewes’s ‘Sea-side Studies’, the 1856 series for Blackwood’s Edinburgh Magazine, detailing Lewes’s experiences studying marine life on the Devonshire shoreline, the author presents a distinctly Wordsworthian image. A ‘stout gentleman’—a physical portmanteau of Simon Lee and the Leech Gatherer, perhaps, ‘with a pickle bottle in one hand and a walking-stick in the other’—is collecting samples from a rock-pool in Ilfracombe. Lewes views him with derision, as a man swept up by popular fervour, having ‘been reading Mr Gosse, severely deluding himself into the idea that he was ‘collecting,’ because he was gasping among boulders’. The man is overtasked, as Wordsworth would put it, and will not, Lewes considers, return home.
with ‘much worth his trouble’. Such an image of Gosse’s reading public, as an addled parish of misguided rock-pool gaspers, is not an uncommon one in the Victorian press in the mid-to-late 1850s. In an article for Fraser’s Magazine in the same year as Lewes’s series, George Tugwell—whose Manual of the Sea-anemones Commonly Found on the English Coast (1856) had only recently been published—complained that a glut of ‘so-called natural history students’ had been ‘swarming on our coasts like blow flies in summer time—infesting our soirées and conversazioni’.

Tugwell’s succeeding parody of the style of ill-informed conversazioni that he sees as regnant, between a proprietor of a marine curiosity shop and a well-to-do, nascent ‘thalassian monomaniac’, is particularly telling:

‘And pray, Mrs. So-and-so, what have you got in that rather dirty-looking pudding-basin?’
‘Them’s zuphites, ma’am, if you please,’ responds the sibyl, from the depths of her grotto.
‘Zu—what?’
‘Phites, ma’am. Sea nemones, ma’am; what Mr. Gosse writes books about. Comes from the beach, ma’am. Tuppence each—leastways the common ones; crassy-corny, fourpence; dianthys, one shilling and sixpence.’
‘And what’s the use of them, Mrs. So-and-so?’
‘Lor, ma’am, I can’t tell ye—I never could find no use in them myself, but the quality thinks them beautiful—Iss, ly! Keeps ’em in their drairing-rooms, and never minds their turning their little insides out, nor smelling nasty-like, nor nothing!’

Tugwell’s slightly snobbish, almost conspiratorial portrayal of the unlearned shop owner—a ‘sibyl’ in the ‘depths of her grotto’, convincing a leisured woman to interest herself in ‘zuphites’—seems to register his concern that the wider public fascination with the seaside is quite literally a bewitching. And more than this, each marine creature has become an object for exchange, tuppence an anemone, rather than a

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2 George Tugwell, ‘Science by the Sea-side’ Fraser’s Magazine (54 (1856): 253-60), 255.
subject of study. The *nouveau naturalistes* upset the signal-to-noise ratio of Tugwell’s elevated *soirées* and *conversazioni*, with their pallid simulacrum of littoral observation: they speak of ‘zuphites’, not zoophytes—a distinction that exists only on the page—and can ‘find no use’ in the objects for collection, other than their deferred aesthetic and economical value. The idea that observation and collection had become a social economy, rather than a scientific endeavour, is satirised by *Punch*, in a cartoon by John Leech published in its August 21, 1858 issue. Leech’s wood engraving depicts a broad seaside panorama, populated only by dozens of stooped, well-dressed posteriors, and, borrowing the title of J.G. Wood’s recent seaside volume, is captioned, ‘Common Objects at the Sea-side—generally found upon the rocks at low water’ (see Figure 1). The hunched citizenry at the shore form a rock-pool of their own; an ecology of comically bowed, middle-class amateur collectors. As Jonathan Smith observes, the figures ‘even look like sea anemones’. The female collectors, outnumbering males ten to one, display their petticoats and lower calves, while the tails of the gentlemen’s overcoats form clearly delineated buttocks, making the scene both comic and coarse. The collectors are headless, mostly armless, almost formless, their nets empty, as they appear to hunch in formation, following a trend, rather than examining a natural space; they are at once fascinated by their environment, but oblivious to their surroundings.

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3 Jonathan Smith, *Charles Darwin and Victorian Visual Culture* (Cambridge: Cambridge University Press, 2006), 72. Smith adds that a frequent theme in illustrations was the ‘extent to which the beachcombing activities of women actually increased the voyeuristic opportunities for men’—making the space a sexualised mating courtyard. Rebecca Stott picks up similar elements in such scenes and reads them through the grotesque in her essay, ‘Darwin’s Barnacles: Mid-Century Victorian Natural History and the Marine Grotesque’. *(Transactions and Encounters: Science and Culture in the Nineteenth Century*. Roger Luckhurst and Josephine McDonagh, eds. Manchester; New York: Manchester University Press, 2002).*
The implication by Leech, Tugwell, and Lewes in these images is both scientific and sociological, and each tests the limits of the notion of ‘popular science’. The line being drawn, with some sharp edges, is not, however, between the amateur and the professional. Indeed, Tugwell’s recent volume had been addressed ‘not to professed naturalists, but to that section of amateur ramblers about our English coasts who take a pleasure in noticing every form of beauty which they may encounter in their wanderings’—the very people he appears to mock in Fraser’s. What is being insisted upon, it seems, is a clear distinction between pursuits of leisure and pursuits of inquiry.

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Natural history, they assert, is a science, not a form of relaxation; it is not the stuff of coastal gift shops, vulgar stooping or unlettered collection. Merely because one has a fishing-net in one hand and a copy of a popular sea-side volume in the other, one is not a naturalist. Tugwell would make much, one suspects, from the fact that the word ‘aquarium’ appears originally in Latin as a term describing a water-trough for cattle.

But while one can find a certain sympathy for such protectionist standards, David Elliston Allen’s work reminds us that this sort of elevated attitude is rooted in fallacy; that natural history is alone among the sciences in being not only susceptible to fashions, but positively driven by them. Allen writes:

Natural history is not and never has been a purely intellectual pursuit [...] Many people are attracted to it primarily for visual reasons, rather than to study behaviour, work out distributions or formulate concepts. Even in its most primitive manifestation, collecting, these can be a delight in shapes and colours and patterns which co-exists with the mere pleasure of acquisition ... Once this extra-intellectual interest goes beyond a certain point, natural history is liable to take on an additional dimension: to be drawn on for reasons that are purely aesthetic-cum-social, to become the prey of genuine fashion.'

This chapter considers Gosse’s contribution to the tipping point of that ‘extra-intellectual interest’, towards perhaps the most genuine aesthetic-cum-social fashion in Victorian popular science: the seaside craze of the 1850s. Gosse was both the accelerant and the patron: as Lynn Barber points out, during this time ‘it was impossible to visit the seaside without tripping over parties of earnest ladies and gentlemen, armed with a book by Mr. Gosse and a collection of jamjars’. His littoral works from the decade—A Naturalist’s Rambles on the Devonshire Coast (1853), The Aquarium (1854) and Tenby (1856)—are books read with one hand, and represent


perhaps his greatest influence on the popular imagination, which, in turn, precipitated a branch of popular science that effected a genuine social change. His writings in the mid-1850s brought the middle class to the shore, and the shore into the middle-class home. Despite being a manifest influence on writers such as Tugwell and Lewes, Gosse does not police the same boundary. As C.M. Yonge put it, such writers ‘breathe a very different spirit from Gosse’. Indeed, Gosse seeks to collapse the distinction between inquiry and leisure, and consider them both as scientific terms. This chapter shall argue for a particular semantic economy operating in Gosse’s sea-side books, which trades on the idea of the shore as a domestic space in the first instance, in order to fuse the two poles. Popular works on the sea-shore that came after Gosse—by the like of Wood, Kingsley and Gatty—are predicated on this approach and discursive practice: Gosse is the owner of the field. The firm rhetorical strategy in his sea-side books encouraged a familiarity with the shore of a sort which seemed so displeasing to colleagues like Tugwell and acolytes such as Lewes, and so amusing to the wider Victorian press. Further, as part of this lexicon of domestication, I shall examine Gosse’s abiding interest in the minute—which encompasses the rock-pool, the aquarium, and the microscope—and examine these as functions of his wider imaginative project of domestication, which becomes the natural successor to the sea-side trend, bringing the home-naturalist his final permission for leisured inquiry.

I. The Wanders of the Shore: The Rambling Naturalist

Gosse’s ten-year period between 1847 and 1856 was not a leisured one, however. Indeed, it was the busiest of his literary life. Douglas Wertheimer notes that, during this time, Gosse wrote twenty-two books and authored seventy-seven articles; he lectured, preached, taught practical classes, married, and had a son. As Wertheimer puts it, ‘the wonder is that a single person could find the time and energy to do in a decade what most of us fail to accomplish in a lifetime’. Gosse’s vigour throughout this period comes in part from his own increasing sense of self-control. As Wertheimer and R.B. Freeman point out, A Naturalist’s Rambles on the Devonshire Coast, the earliest of the littoral triptych, is ‘the first of Gosse’s books on British natural history which is fully based on his own observations’. Indeed, it is only the second of Gosse’s books to describe the flora and fauna of his country of birth at all; the sense of displacement we encounter in The Canadian Naturalist and Letters From Alabama, spatially and scientifically, is absent here. He is, both literally and professionally, on home soil.

Each of Gosse’s littoral works from the 1850s begins in the city. The naturalist first must ramble to the Devonshire coast before he rambles on it. And, in 1853, he

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1 Douglas Wertheimer, Philip Henry Gosse: Science and Revelation in the Crucible, 111.
2 R.B. Freeman & Douglas Wertheimer, Philip Henry Gosse: A Bibliography, 45. I except from this canon Seaside Pleasures (1853)—a short pamphlet which shares material with Rambles, and a title with Elisabeth Anne Allum’s 1845 volume—and his two 1865 works, Land and Sea and A Year at the Shore. The former is a collection of off-cuts from earlier volumes, and discrete journal essays, and the latter, while an original work, is aptly described by Freeman and Wertheimer: ‘it lacks the same investigative spirit which characterized the Devonshire Coast, Aquarium, and Tenby, and there is less new to science in its pages’. (Freeman and Wertheimer, 78).
3 The first is Popular British Ornithology; published by Reeve in 1849.
still needed a notional framing device or narrative impetus for quitting the city and heading to the coast. *The Aquarium* begins with Gosse bidding farewell to the ‘grimy, smoky’ capital, and heading ‘down, down to Dorsetshire, as swiftly as the panting engine can drag us.’ And *Tenby* opens with a chapter dedicated to the train journey itself, the social advantages of which Gosse is keen to bear in mind, reminding the reader that, ‘to our steady-going forefathers, it was an awful transaction in human life to travel some three hundred miles from home; like love, it seemed ‘res plena timoris;’ yet to our little family-party seated this morning around the breakfast-table at Islington, at the usual hour, it appeared nothing extraordinary to contemplate what we have just been doing’.

Indeed, there remained a certain discomfiture at the notion of the seaside—in the opening address to *Rambles*, Gosse mentions the ‘idle pleasure-seekers’ who crowd the beach every summer—and, as such, its existing associations with relaxation and pleasure had first to be recast towards the restorative, rather than the idle. To this end, *Rambles* begins with a marital interaction and medical intervention:

‘You are seriously ill, Henry,’ said my wife; ‘you have been in the study a great deal too much lately; you must throw it all up, and take a trip into the country.’

‘O no,’ said I, ‘not bad enough for that, I hope; a few days inaction, with God’s blessing, will set me right. I do not want to leave London.’

But it got worse; sitting by the parlour fire, doing nothing, was dreary work; and it was not much mended by traversing the gravel walks of the garden in my great coat: there was nothing particularly refreshing in the sight of frost-bitten creepers and chrysanthemums in January. To walk about the streets in the suburbs, or even in the city, was dreary too, when there was no object in view, nothing to do in fact but to spend the time. (1)

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12 *Tenby: A Seaside Holiday* (London: Van Voorst, 1856), 2. All subsequent references are to this edition.
Gosse’s stoic reluctance to ‘throw it all up’, to leave his studies, and the capital, for the sake of his health, is overwhelmed by sheer aimlessness. His illness becomes a torpor: reading by the fire represents ‘doing nothing’, and his garden perambulations—typically a solace for the home naturalist—are cast as directionless wanderings, and lost time. This becomes an ocular need, so acutely Romantic that his prose slips into rhyming triplet: walking was ‘dreary too/when there was no object in view/nothing to do’. The visual and peripatetic deficit of ‘no object in view’ accrued by the naturalist in London is corrected immediately by the arrival of ‘wife, self, and little naturalist in petticoats’—a three year old Edmund—in Torquay—the sea-side destination of preference, chosen by ‘sound and seasonable’ counsel. The ‘frost-bitten creepers’ of London, so displeasing to the eye, are absent in the sea air of Marychurch: ‘no frosts had as yet sullied the verdure of the hedge banks [...] frost seems here almost unknown’, allowing the myrtle trees a ‘glossy foliage of deepest green’ (3). Gosse’s need for sustenance of the foot and eye—strolling being the ‘gastronomy of the eye’, as Balzac memorably put it in ‘The Physiology of Marriage’—is satisfied in Devon.\footnote{Honore de Balzac, 

cite{LaComedieHumaine}, Vol. 11 (P. G. Castex, ed. Paris: Gallimard Pleiade, 1976), 930.} There are objects worth viewing, in abundance. And his naturalist’s eye immediately sets about feasting:

Strange warm damp lanes, so suited for lovers’ evening walks, (not exactly at this season to be sure) winding and turning about, ever opening into some other lane, that again presently into another, and all leading apparently nowhere,—with the little birds hopping fearlessly about the hedge-tops and the trees overhead, the robin sweetly singing, the tiny gold-crest peeping into the crevices of the ivy, the yellow hammer and the chaffinch in their gay plumage twittering almost within reach of your hand! (4)

We remember, of course, that his walks in London also lead ‘apparently nowhere’, but, by contrast, an aimless traversing of the gravel walks of Marychurch is an
occupation of charm and excitement. The bold proximity of robins and gold-crests affords not just ‘objects in view’, but objects to touch; the frigid barrenness of the city is replaced by the uteral, ‘warm damp lanes’ of new life. These ‘strange lanes’ express Gosse’s Gilpinean preoccupation with the irregular topology of the coast: frequent are his references to ‘winding and turning’ lanes, and ‘zigzag’ roads (7, 8, 59); pathways are covered in ‘tenacious red mud that lay ankle deep’, next to which lie ‘beautiful variegated marble’. Fishermen’s cottages are built of ‘rough fragments of friable limestone’, which ‘stand on the declivity’, toward ‘tremendous precipices’ (3). His adjectives pertain almost exclusively to dimension: ‘high sloping banks’ fringed with ‘long pendant fronds’ next to ‘broad arrowy leaves’, for example (3-4). There is a careful taxonomy to this topological idiom. Gosse seems to reserve augmentatives to describe natural objects and landscapes, and diminutives to refer to man-made, picturesque domestication: ‘narrow lanes’ are framed by ‘trees that met over our heads’; the ‘little garden, trimly kept’ exists a quarter hour’s walk from the ‘boundless sea’ on a coast that ‘stretches away before us’ (4). It is a diction of regularity imposed on an irregular space."

It is telling, then, that this semantic form is confounded by the sea itself. The objects of view in rock-pools and shore banks are described in the same cadence as man-made items: in the diminutive. In Oddicombe, his first encounter with a rock-pool is important to unpack:

Towards Oddicombe on the left, in climbing and crawling around the face of the rough cliff, I found a pretty tide-pool, a delightful little reservoir, nearly circular, a basin about three-feet, and the same deep, full of pure sea-water, quite still, and as clear as crystal. From the rocky margin and sides, the puckered fronds of the Sweet Oar-weed (Laminaria saccharina) sprang out,
and gently drooping, like ferns from a wall, nearly met in the centre; while other more delicate sea-weeds grew beneath their shadow. Several sea-anemones of a kind very different from the common species, more flat and blossom-like, with slender tentacles set round like a fringe, were scattered about the sides: when touched they contracted, more and more forcibly, into whitish grey tubercle. (6)

This is not the ‘boundless ocean’ but a strictly defined miniaturisation. Gosse describes a symmetry to the rock-pool: it is three feet by three feet, ‘nearly circular’; its framing sea-weed stretches towards the centre, like guide lines on a technical drawing. The pool contains pure sea-water, a marine qualification that Gosse does not elucidate, except to describe its clarity and temperament. Flora no longer stands tall, meeting over heads, but droops gently. The descriptive diminutives of ‘pure’, ‘pretty’, and ‘delightful’ speak to the hermetic calmness of the environment, almost its quaintness, made all the more perceptible set against Gosse’s described struggle over the cliff-tops to reach it. One notes also a comparison, perhaps sly, to ferns: the must-have domestic flora of the 1830s and 40s, which formed a trend so consuming that David Elliston Allen has called it ‘the most destructive natural history fashion of all’. (Gosse is, in this impulse, prescient). Later Gosse returns to the Oddicombe pool—his ‘pretty little rock basin’ (54)—and essentially repeats himself, noting its symmetry and strange orderliness: its ‘deep, oval, cup-like cavity’, which seems ‘hewn out, as it were, from the solid limestone, with as clean a surface, as if a stone-mason had been at work there’ (54), its seaweed ‘closely resembling, except in their deep brown hue, the hart’s tongue fern that so profusely adorns the sides of our green lanes’; the ‘smooth surface of the rock in the lower parts is quite clean’ (55).

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Gosse’s rock-pools share in the idiom of the domestic and the artificial because they are precisely that: naturally forming domestinations of the ocean; mimic seas, aqua-vivaria. He writes of them as if they were *already* a domestic space: their contents existing in a safe, ordered and temperate equilibrium—when he writes, ‘there is something exceedingly charming in such a natural vivarium as this’ (55), he is already tipping his hand. The pattern of rhetorical domestication repeats as often as one cares to find it, as much in approach as in language. Gosse describes a larger tide-pool, for example:

Beyond the chasm just described, we scramble into another, and come to a far larger and lower tide-pool, so low as to be separated from the sea only at spring-tides. It is about twenty-five feet long, and eight or ten wide, and is quite overshadowed by the dark rock, in a sort of cavern of which it lies. The great oar-weeds and tangles have here room to attain their full size; and their rich brown fronds wave to and fro, or lie motionless in the clear water, often supporting whole forests of tiny zoophytes [...] All around the edges of the pool, from the water-line downwards, grown in luxuriance the large oval dark red fronds of the dulse and the more brilliant and more elegant *Delesseria sanguinea*, [...] and other minor sea-weeds, mostly of the red class, are found in fine condition, some in and some out of the water. (39)

We recognise again the same strategy: the physical trial involved for the naturalist in reaching the sites; the pool is given an architecture and dimension, both in raw measurements and by reference to the growth of life-forms which it sustains; the motions of the pool are gentle; the water is clear, the adjectives are a combination of the restful and the superlative. The conceit of the secret reservoir of the rock-pool is heightened by various descriptions by Gosse of his passions and trials in reaching them, and the physical relief found in the pools themselves. He repeatedly reminds the reader of the hazardous nature of the terrain surrounding his natural oases. If the sea-side has restorative properties, as it was desired in his arriving in Devon, it comes
nevertheless with its imperilments. Gosse seldom walks along the seaside rocks, he
‘scrambles’. Indeed, the word ‘scramble’, and its derivations, occurs ten times
throughout the book. If one makes the elision on the title, A Naturalist’s Rambles, we
find the embedded pun. His verbs of choice for navigations between rock-pools, over
rocks, emphasise speed, exertion, and danger. For Gosse, rocks, mountains and cliffs
are hazardous, treacherous, and untrustworthy; they do not have the serenity of rock-
pools. Gosse nearly always describes his movements between rock-pools in the
language of danger and exertion. He speaks of the ‘toil of scrambling over [the]
projecting masses’ (6); ‘by running, jumping and sliding I arrived at the bottom’; ‘the
mossy turf of the down was scarcely firm enough to sustain the tread on the slope, but
continually slid away beneath the feet from the ruddy mud, affording a treacherous
footing in the descent, which as the pathways over the cliff frequently pass close to the
edge of tremendous precipices, is not without its danger’ (7); ‘The beach ends
northwards in a wilderness of boulders, enormous masses of red conglomerate
detached from the precipice above, and piled in confusion upon each other’ (9). On
travelling to Brixham—a town which is ‘close, mean and dirty’—he notes that ‘the coast
is rocky and precipitous, (the town itself appears strangely stuck upon precipices,
reaching from top to bottom) and is indented with little coves, the most picturesque
imaginable’ (46). Reminding his reader that nature is red in thumb and fore-finger,
Gosse even spills blood while overturning rocks, looking for specimens on a pebble
beach, finding that the rocks’ ‘edges and under sides were crowded with the shells of
Serpulae, the little projecting points of which over the mouth were as sharp as needles,
and cut and tore my fingers continually’ (11). Although, as we shall see, these passions
do not represent the greatest geological knot of Gosse’s literary career, the sense of
physical trauma evoked in these descriptive sketches seems to be consciously calibrated, as a demarcation.

The trauma of these interstitial journeys marks Gosse’s littoral volumes as distinct from the primarily female tradition of shore-going writing, which preceded and in part informed his work. Leech’s ten-to-one seaside ratio of females to males, evidenced by his cartoon, seems telling: Mary Roberts’s *Seaside Companion* (1835), Elisabeth Anne Allum’s *Seaside Pleasures* (1845, from which Gosse would borrow a title), Mary Matilda Howard’s *Ocean Flowers and their Teachings* (1846), Anne Pratt’s *Chapters on the Common Things of the Sea-side* (1850) all propounded the shoreline as a space ideal for female instruction. For such books, as Barbara Gates and Ann Shteir note, ‘their originality lay not in the substance of what these women were trying to convey but in the distinctive discourse that they evolved as they narrated the story of science’. Gosse too marks such a distinction, but perhaps not sufficiently. Charles Kingsley, Gosse’s great friend and sometime seaside rambling partner, seems particularly concerned with the literary provenance of the shore guide, and with the ‘distinctive discourse’ of the early female littoral volume. In *Glaucus; or, The Wonders of the Shore* (1855), a book of observations which grew out of a review of various sea-side books, including *Rambles*, for *North British Review* in November 1854, Kingsley makes it clear that such study ought to be ill-suited to the female constitution:

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Let no one think that this same natural history is a pursuit fitted only for effeminate or pedantic men. We should say rather, that the qualifications are as many and as lofty as were required, by old chivalrous writers, for the perfect knight-errant of the middle ages; for [...] our perfect naturalist should be strong in body; able to haul a dredge, climb a rock, turn a boulder, walk all day, uncertain where he shall eat or rest; ready to face sun or rain, wind and frost, and to eat or drink thankfully anything, however coarse or meagre [...] and if he go far abroad, be able on occasion to fight for his life.  

Jonathan Smith argues that such a robust statement of purpose—one which emphasises not just physical strength, but a sense of lost English masculinity, to be recovered at the shoreline—fits readily into Kingsley’s model of ‘muscular Christianity’. Smith notes that Kingsley considered sea-side observation ‘an antidote to, rather than a contributor to, the ‘effeminacy’ of middle-class sons’.  

This sense of muscularity seems in part to define the new genre of seaside books in the 1850s. The gentle, feminine rhythms of Anne Pratt’s ‘leisure moments’, or ‘the sheltered bay’ from which William Henry Harvey conducts the littoral studies in his Sea-side Book (1849), have been replaced by ‘geographical pockets of excess’, to borrow George Levine’s term for the pattern of the Victorian novel. Lewes’s ‘Sea-side Studies’ transposes Gosse’s descriptions of  

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7 Charles Kingsley, Glaucus; or, Wonders of the Shore (Cambridge: Macmillan, 1855), 39. James Moore’s work in The Post-Darwinian Controversies on the military metaphor in the language of science is evoked by a point made by Kingsley amplifying the idea of ‘muscular natural history’, delivered in an 1872 address to the Officers of the Royal Artillery at Woolwich. Kingsley updates his ‘knight-errant’ model, to argue that the natural historian and the military officer are corresponding types: ‘You will surely agree with me that the habit of mind required for such a study as this, is the very same as is required for successful military study. In fact, I should say that the same intellect which would develop into a great military man, would develop also into a great naturalist’. The naturalist and the officer share ‘the habit of seeing; the habit of knowing what we see; the habit of classifying accordingly; the habit of searching for hypotheses which shall connect and explain those classified facts; the habit of verifying these hypotheses by applying them to fresh facts; the habit of throwing them away bravely if they will not fit; the habit of general patience, diligence, accuracy, reverence for facts for their own sake, and love of the truth for its own sake’. (‘The Study of Natural History’ in Scientific Lectures and Essays. London: Macmillan, 1880, 185-6).  


9 Anne Pratt, Chapters on the Common Things of the Sea-side (1850; London: Society for Promoting Christian Knowledge, 1853), v.  


physical danger, bodily contortion and blood-loss similarly: ‘hunting among the rocks is not easy nor always safe, nor certain to be successful. You must make up your mind to lacerated hands, even if you escape bruises, to utter soakings, to unusual gymnastics in wriggling yourself into impossible places’. A year later, Lewes’s follow-up in *Blackwoods*, ‘New Sea-side Studies’, extends the idea of the shore as a hazardous place for intrepid muscularity, becoming something which regresses the male naturalist to a primal state. His opening address is worth quoting at length:

Between the lion that has once eaten a man—once tasted of the glory and ambrosial delight of man-beef—and the lion remotely ignorant of the flavour, there lies a chasm. Only in zoological text-books can the two animals be considered as of the same species [...] The lion who has once fed on man, carries with him an unforgettable experience; he has supped with the gods, and Homeric rhythms whisper in his ears. [...] Now, the scent of human blood thrills along every fibre; and when sight reveals the proximity of his noble foe, then flashes the tawny eye with sombre fire, the terrible talons tear up the earth, he dresses his mighty mane, and prepares for the fight in slow, solemn, concentrated wrath, clearly foreseeing that two issues, and only two remain open to him—man-beef, or a tomb. Not less profound, although not quite so terrible to his enemies, is the difference between the man who has once tasted of a noble sea-side passion, once lived with his microscope for a few months on the wealthy shore of some secluded spot, indulging in a new pursuit—and the common man, utterly remote from all such experience, walled out from it by blank negation, incapable of even conceiving the heights of such a passion.

The comparison between the littoral observer and the leonine anthropophagist, each having eaten their twice-muscular ‘man-beef’ and eager for more, is Lewes perhaps tipping into parody, but its resonance as a zenith of a particular type of masculine seaside narrative (1857 representing the decline of the shore-going craze) remains

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worthwhile.” Perhaps this is what Wertheimer means by his contention that Gosse ‘conducted himself at the sea-shore as though he were an explorer in darkest Africa’.  

Indeed, the jeopardy of the body is embedded in the language of Victorian public fashions. Terms such as ‘craze’ and ‘mania’, feeding into idioms like ‘all the rage’, have a clear etymological heritage expressing violent excess, prior even to any cultural work on the historical legacy of madness. The notion that physical sickness—Gosse’s animating impulse in Rambles—is a starting point for seaside enquiries is a recurrent trope. Lynn Merrill presents Lewes’s interest in the shore in this way, suggesting that, ‘When George Henry Lewes caught the fever of natural history, his symptoms could not have been more classic’. Lewes frames his trip to the west coast of England precisely as does Gosse, with an appeal to wellbeing. Lewes borrows from Tennyson in saying that he ‘languished for the sea’, and cites his two determining motives for quitting London as being ‘Ill health and Ignorance’. As may be inferred from the register of animalistic passion displayed in the opening to ‘New Seaside Studies’, if not, exactly, the language, Lewes wishes to be taken seriously as a man of science. While he offers his work as a guide to readers starting ‘from zero’, he nevertheless requires a certain valency of inquiry from them; an intellectual seriousness that he seems to imply may not be present to the readers of Gosse’s work. ‘If the fascinating study of Natural History is to receive its deepest significance and

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a Further to this, Lewes at times invokes a sexual tone, which resonates with Smith’s above notion (fn 3) that the shore operates as a mating courtyard. In arguing that the value of a sample from a rock-pool is in inverse proportion to its ease of collection, for example, Lewes compares the pursuit to a coquettish woman: ‘The coquette knows this by instinct, and she draws adventure seekers after her […]. You are on your knees at once; but no sooner is your hand stretched towards her, than at first touch she disappears in a hole […].’ There is something sad in the fugitive keenness of pleasure.’ (‘Sea-side Studies’, 188).  

b Wertheimer, 181.  

c Lynn Merrill. The Romance of Victorian Natural History, 29.  

d ‘The generational divide is perhaps most noticeable here—where Gosse quotes Southey and Montgomery, Lewes uses Tennyson and Elisabeth Barrett Browning.'
highest enjoyment’, Lewes warns, ‘it must be on a background of severe science’.

Lewes’s severity and self-seriousness is mixed with a vaguely comic sensibility, however; he is not above faux-sentimentality: when a ribbon-fish he has caught in a rock-pool survives a mere two days in captivity, Lewes requests, ‘Reader, may I call on you for a tear?’ Nevertheless, Lewes does not care for the ‘pickle-jar and walking-stick’ brand of amateur collection, such as that displayed in his Simon Lee figure. His instruction is for those who avail themselves of the proper accoutrement of seaside studies, for those serious in intent, if not exactly in expression. A shopping list of items is proffered, such that can be purchased only in a ‘large town’: a geologist’s hammer, a cold chisel, a crowbar; a flat-bottomed basket from the market, a wide-mouthed phial from the chemist (jam-pots are admitted only as a last resort—the suggestion of a wide-mouth phial is lifted directly from Gosse’s The Aquarium). Where Gosse is charmed by the townships of the West Country, Lewes is scornful: ‘Handsome the town of Ilfracombe is not; nor, although picturesquely placed, has it a very picturesque appearance, except under certain lights, and from certain points’. Even in those certainties, Lewes’s compliments are heavily qualified, noting that the town ‘looked resplendent, like a stupid man in the splendour of a noble deed’.

The emphasis on physical labour on which Lewes has picked up, and the axis between it and masculinity—dredging, climbing, scrambling, bleeding—seems to mark an intention to a certain kind of reader. Gosse’s concern is not preserving or rescripting masculinity, however. Rather, he is delineating space. The manifest sense

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b Lewes, ‘Sea-side Studies’, 192.
c Gosse writes, ‘A wide-mouthed phial,—such, for instance, as those in which Sulphate of Quinine is commonly sold by the chymists,—affords a capital opportunity for studying the minute Zoophytes’ (The Aquarium, 22).
d Lewes, ‘Sea-side Studies’, 186.
of risk seems to be key to his construction of the rock-pool itself, which remains the ‘object in view’ for littoral studies, hinting towards its later installation in the middle-class home. For Gosse, the sea-side is a fusion of the Gilpinean picturesque, and the Burkean beautiful; the dangerous rock the former, the refuge of rock-pool the latter. The crystal-clear rock-pool is the home-in-nature, still, clear and passive; to reach it requires the trials of the inverse. The relation between the two is expressed explicitly, ending with a slight wink of self-awareness:

> When I go down on my knees upon the rocky margin, and bring my face nearly close to the water, the whole interior is distinctly visible. The various forms and beautiful tints of the sea-weeds, especially the purple flush of the *Chondrus*, are well worthy of admiration; and I can see the little shrimps and other *Crustacea* busily swimming from weed to weed, or pursuing their instinctive operations among the fronds and branches—an ample forest to them. Tiny fishes of the *Blenny* genus are also hiding under the shadow of the tufts, and occasionally darting out with quivering tail; one or two *Brittlestars* are deliberately crawling about, by means of their five long and flexible arms, in a manner that seems a ludicrous caricature of a man climbing up by his hands and feet. (55-6)

The ‘ludicrous caricature’ of the well-dressed man stooped on all-fours—the very image satirised by Leech five years later—is pre-empted and inured by Gosse, as part of his semantic economy. In a sense, this split system of reference, between the picturesque and the beautiful, the domestic and the imperilling is a semantic strategy to authenticate the home aquarium. The aqua-vivarium is a home-coming, in both senses. If Gosse’s rockpools themselves are symmetrical, crystal-clear viewing stations, the objects within them, once established, are free to return to the irregular forms that so interested him upon arrival in Devon. ‘The tentacles were contractile but not retractile’, he writes, for example, of the *anthea cereus*, a purplish-blue anemone, which he has secured for his early-form aqua-vivarium, ‘and were never regularly
radiating, but mingled irregularly in a tortuous manner in all directions’ (15). Man’s control may stop at the shore, as Byron has it, but some negotiation, if only rhetorical, is possible.**

II. Power and Chastity: The Theological Minute

Critical notices for *Rambles* tend to focus on the broadest interpretation of this aspect of the book: the delicate balance between the minute and the broad. And it is Gosse’s imagining of the former that seems to capture the public imagination. The *Standard* notes that Gosse ‘does not weary even with his minutest details [...] his descriptions of the scenery of Devon are graphic, and have almost the effect of a picture’; The *Brighton Gazette* feels that ‘the power and chastity of his language, especially when describing the rich treasures of some favourite tide-pool, are such that the reader involuntarily pauses to read, and that again and again, the descriptive beauties of the “miniature ocean”’. The *British Quarterly Review*, which waited until 1856 to review four of Gosse’s seaside books, adopts Gosse’s narrative voice in a long notice entitled,

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** Gosse’s fondness for the descriptive power of the Romantics, trenchant as it is, is nevertheless secondary to his unsleeping eye for accuracy. This extends to the point of appearing somewhat obtuse and entirely pedantic. Of Southey’s epic, *Thalaba the Destroyer* (1801), a ten line stanza of which (Book XII, Stanza iii) is quoted on page 11 to describe the common Smooth anemone, Gosse notes, ‘I think [Southey] had this species [*Anthea cerasus*] in view when he speaks of the green anher necks; but the ‘purple stem’ of the sleeping one was most likely the common Smooth Anemone. Perhaps he thought that they were the same species in different conditions.’ Such pedantry puts one in mind of Charles Babbage’s famous letter to Tennyson, seeking to correct the lines ‘Every minute dies a man/Every minute one is born’ from that poet’s ‘The Vision of Sin’, to take into account England’s positive birth-rate: ‘I would therefore take the liberty of suggesting that in the next edition of your excellent poem the erroneous calculation to which I refer should be corrected as follows: “Every moment dies a man/And one and a sixteenth is born.”’ (in James Sutherland, ed. The Oxford Book of Literary Anecdotes. London; New York; Toronto: Oxford University Press, 1975, 228).


** Brighton Gazette, June 30, 1853. (Quoted in Advertisement for] A Naturalist’s Rambles on the Devonshire Coast’.
with a hint of the Punch spirit, ‘Gosse’s Seaside Holiday’: ‘We cannot but hold that persons like himself render a great moral service to society, apart from the additions they make to the stores of human knowledge. We look upon him as a sort of lay preacher who finds sermons in the sands, matter for homilies in the smallest infusories, and good in every worm and weed which the waters contain’.\footnote{\textit{Gosse’s Sea-side Holiday}, \textit{British Quarterly Review} (24 (1856): 32-54), 53. The Review seems to ape Gosse’s style reverentially. Such is not always the case with critical notices for sea-side manuals: \textit{Welcome Guest’s} comic article ‘Glaucus: or, Uncommon Objects by the Sea-shore’ imitates Kingsley’s rhetorical style to describe a family trip to the shore: ‘At precisely ten minutes to three on the afternoon in question, as our correspondent was seated in company with the family group already described, ‘on the damp but sandy acclivities by which the boundless ocean is skirted, on that picturesque, yet not wholly economical portion of the British Isles’ (such is P.’s poetical description of the coast scenery at Shrimpington) they were startled by the sudden appearance of a marine monster rising immediately in front of them, whose aspect, P. impressively informs us, ‘may be more easily imagined than described.’ With reference to the ventriloquism, the author adds, ‘P. is particularly great at postscripts. He volunteers a second, explaining his title ‘Glaucus,’&c. It appears that Mrs. P. is of a literary turn, and reads all the advertisements in the \textit{Athenæum}. She remembers seeing a work on seaweed or lighthouses (she will not be positive which), by the author of \textit{Alton Yeast, Hypatia, Locke on the Understanding}, &c, advertised under a similar title. She has recommended its adoption in the present instance—being satisfied that if somewhat obscure it must be respectable’. \textit{Welcome Guest} 4 (1860): 61-2. I am indebted to Judith Johnston for suggesting this point.} The painterly aspect of the ‘power and chastity’ of Gosse’s sand-sermons seems to trade on this carefully calibrated sense of language. The notion that Gosse performs a moral act by elevating the lot of the rock-pool is worth considering. Indeed, for Gosse, the fascination with the tiny is something of a philosophical point, which begins to approach morality by way of theology. Of his objects for study, he writes:

These objects are, it is true, among the humblest of creatures that are endowed with organic life. They stand at the very confines, so to speak, of the vital world, at the lowest step of the animate ladder that reaches up to Man; aye and beyond him. Creatures linked in the closest alliance with these were long reckoned among the sea-weeds and mosses, even by the most eminent philosophers; and to this day the collectors who make sea-weeds into pretty baskets, arrange the hydroid polypidoms among them without a misgiving of their identity [...] The lamp of vitality, then, is just going out in these forms; or, if you please, here we catch the first kindling of that spark, which glows into so noble a flame in the Aristots, the Newtons, and the Miltons of our heaven-gazing race. What then? shall we despise these glimmering rays? Shall we say they are mean creatures, beneath our regard? Surely no: God does not despise them. [...] Yes, O Lord! The lowly tribes
that tenant these dark pools are, like the heavens themselves, ‘the work of thy fingers,’ and do as truly as those glowing orbs above us ‘declare thy glory’ and ‘show thy handy work’. If then they are worthy to be created and sustained by Thee, they are not unworthy to be examined by us with reverential regard. (19)"

Indeed, Amy M. King believes that Gosse’s fascination with the minute is, of itself, a direct statement of theology. King suggests that, ‘the naturalist looks because in so doing he or she is brought into the presence of God, into a state of wonder not unlike religious awe, and in so doing is confirmed in the belief that the universe is stable and ordered. That is, [...] natural historians committed to the literal truth of Genesis went about their observations, at least in part, to confirm that there is fixity of species’. 36

King equivocates unnecessarily, perhaps—Gosse’s state of wonder and rhapsodies at the Divine hand are a directly religious awe. The notion that the minute has some religious imperative of its own is worth holding, however. Gosse repeats the point explicitly:

Hither, then, basket in hand, I strolled, to discover what the shore might afford me of the minuter works of God, which are so eminently worthy of being studied, so eminently calculated to afford the contemplative mind food for wonder, delight, and meditation, though nine hundred and ninety-nine out of every thousand of mankind never bestow a thought upon them, and even the great bulk of those who seek recreation by the sea side, tread them beneath their feet in the most absolute unconsciousness of their very existence. (176)

Gosse’s system is one not just of devotion, then, but of exclusivity. His ‘objects in view’ in the domesticated rock-pool, ‘food for wonder, delight, and meditation’, becomes an opportunity for elite vision. For Lewes, such privilege comes with accoutrement and

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36 The alliance between sea-weeds and mosses and ‘The lowest step of the animate ladder’ remains evident in that term ‘zoophyte’—literally, ‘animal-plant’—which Gosse uses readily. The term has now long been retired from marine biology.

scientific severity; for Gosse, merely a mind lit with the ‘lamp of vitality’—to seek out the living where it exists—is sufficient. With these two systems established—that the study of minute objects is not merely a scientific imperative, but a devotional and a visual duty, and that the contents of a rock-pool form a domestic space—_Rambles_ settles down to a familiar rhythm. Moving from location to location, rock-pool to rock-pool, Gosse’s biological descriptions are of three broad orders: the strict, the loose and the playful. On strict matters of biological classification, Gosse does not shrink from indulging in esoteric Linnaean disputes with colleagues, on minor biological functions, conducted in language impenetrable to the lay reader:

I doubt very much the specific distinction of _A crassicornis_ and _A. corniacea_. Dr. Johnston describes the former as best distinguished by the readiness with which the rim of the disk is twisted, by the facility with which it becomes tumid, and by the vesicular furrowed lobes, which are frequently protruded from the mouth. All these characters my specimens have with distinctness. (36)

By far the most common of these orders of language, however, and Gosse’s true talent, is the second of these: close observation pitched in mid-level language, with details sketched for his reader by analogy. A typical example bears quoting at length:

In turning over stones at low water on the outside of the harbour, I found an _Annelide_, which appears to be the rare species described by Dr. Johnston by the name of _Polynoe impar_. It is not more than half-an-inch in length, and to the naked eye presents nothing conspicuous or worthy of special notice, but submitted to microscopical examination in proves highly curious. The kidney-shaped shields with which the back is covered, and which are detached with slight violence [...] are studded over with little transparent oval bodies, set on short footstalks; the intermediate antennae, the tentacles, and

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*Dr George Johnston (1764-1855) was one of the first and most eminent authorities on marine biology, authoring dozens of books on natural history from 1829. Gosse is not always correct on Linnaean matters, and was no doubt loath to correct Johnston, for whom he had great respect. So much so, in fact, that he classifies what he believes to be an undescribed zoophyte _Johnstonella_Catharina, in honour of Johnston’s wife. Natural History Review, however—regretting ‘to rob Mrs Johnston of so graceful a compliment’—points out that the species had been described for some decades. ([Review of] _Rambles of a Naturalist on the Devonshire Coast_. Natural History Review 1 (1854): 1).*
the cirri of the feet are similarly fringed with these little appendages, which resemble the glands of certain plants, and have a most singular appearance. If we remove the shields, we discover on each side of the body a row of wart-like feet, from each of which projects two bundles of spines of exquisite structure. The bundles expanding on all sides resembles so many sheaves of wheat, or you may more appropriately fancy you behold the armoury of some belligerent sea-fairy, with stacks of arms enough to accoutre a numerous host. But if you look closely at the weapons themselves, they rather resemble those which we are accustomed to wonder at in Missionary museums, the arms of some ingenious but barbarous people from the South Sea islands, than such as are used in civilised warfare. Here are long lances made like scythe-blades set on a staff, with a hook at the tip to capture the fleeing foe and bring him within reach of the blade. [...] Though you may think I have drawn copiously on my fancy for this description, I am sure if you had under your eye what is on the stage of my microscope at this moment, you would acknowledge that the resemblances are not at all forced or unnatural. (Rambles, 391-2)

Gosse’s repeated insistence on the value of the inconspicuous again is reaffirmed. The exquisiteness of the annelid—a type of worm—is twice-invisible: it requires both a microscope and a human eye inclined to ‘special notice’, to reveal its minute singularities. His language is pitched delicately: the description runs, in sequence, from the creature’s biological dimensions, to its zoological analogues, its corporeal similarities, and, finally, to its outright imaginative properties. Gosse’s descriptive reliance on analogy is patent. The creature is drawn by the resemblances of its parts: ‘Kidney-shaped shields’, ‘wart-like feet’; the word ‘resemble’ is used three times, twice botanically, and once imaginatively. The source of Kingsley’s knights-errant of natural history is located in talk of shields, lances and civilised warfare. Gosse catches himself in this flight of fancy, but appeals democratically to his reader for its descriptive worth. Indeed, throughout, Gosse cannot seem to resist this sort of non-scientific, anthropomorphic whimsy, which manifests in a playful side:

Stand still, you beauty! And don’t shoot round and round the jar in that retrograde fashion, when I want to jot down your elegant lineaments! There,
now he is quiet! But watchful! maintaining a sort of armed neutrality, with extended eyes, antennae stretching perpendicularly upwards, claws held out divergently with open pincers ready to seize, as if those slender things could do me any harm, and feet and expanded tail prepared in a twinkling to dart backward at the least alarm. (40)

III. The Aquarium: Nature Comes Home

If traversing the natural environment is so perilous, why not bring it home? The power and chastity of the miniature ocean was filtrated into the domestic environment, in a similarly tri-partite mode of language, in The Aquarium: An Unveiling of the Wonders of the Deep, published in 1854. The Victorians, of course, loved ‘encasing everything’, as Allen puts it, ‘particularly natural objects, artificially preserved’. But for Gosse, the aquarium was not an artificial environment: as his semantic economy in Rambles demonstrates, it is merely a domestication; a home coming.

Graeme Gooday applies a somewhat more sinister motive to the return of the shore to the home. Resembling something of Tugwell’s earlier concern for ‘bewitching’ of the populace, Gooday argues that Gosse, Kingsley, and John George Wood (whose Common Objects of the Sea-Shore: Including Hints for an Aquarium (1858) came slightly too late for the high-point of the craze) promoted the instruments of domestic observation—the aquarium and the microscope—to further a class-based didacticism; an ideological imperative of ‘educational leisure’, to counteract, say, the so-called Ten Hours Act of 1847, and its concomitant liberating effect on the constitution and behaviour of the lower-middle class, by ‘constantly directing the lower

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classes back to a readily disciplined home environment, and inculcating them into a moral and orderly appreciation of ‘Nature’.

Gooday isolates two rhetorical elements employed in the discourse of aquarium and microscope popularisation to further this idea: ‘i) the egalitarian emphasis on the microscope and aquarium as instruments through which all participants could have access to ‘Nature’ and thereby become potential discoverers’, and ‘ii) the subservient relationship that was prescribed between outdoor activities of specimen collection in the field and the proper scrutiny of these specimens with the microscope in the controlled domestic context’. The first of these is readily confirmed. Indeed, the language of the aquarium and the microscope is one not just of egalitarianism, but of liberation: one can readily see how a discourse of unlocking the inaccessible would appeal to the aspirations of the disadvantaged. ‘Even to those who aspire to no scientific eminence’, writes Wood in *Common Objects of the Microscope*, ‘the microscope is more than an amusing companion, revealing many of the hidden secrets of Nature, and unveiling endless beauties which were heretofore enveloped in the impenetrable obscurity of their own minuteness’.

But, of course, the impenetrable obscurity of such books was not intended for the lower classes. One to whom the Ten Hours Act applied could not conceivably afford a microscope or aquarium, much less holiday on the coast. Gosse’s moral instruction, if it exists, is devotional, not paternalistic. As Judith Johnston has suggested, Edmund Gosse commits this fallacy similarly; his class indicators in *Father and Son* of ‘the rough paw of well-meaning, idle-minded curiosity’ at the seashore are, as Johnston puts it,

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40 Graeme Gooday “‘Nature’ in the Laboratory: Domestication and Discipline with the Microscope in Victorian Life”. *The British Journal for the History of Science*. 24.3 (1991): 307-41, 319-20. The Factories Act of 1847, known as the Ten Hours Act, was a key bill in the factory reforms of the mid-nineteenth century. It limited the maximum number of hours women and children in the textiles industry could work to 63, and then 58, per week.

‘unjustified and unjustifiable’. Collecting and domesticating being so clearly a middle-class pursuit—rough paws and moral discipline are not within the frame of the littoral observer. Rather, the phenomenon is perhaps better termed in the visual codes of Punch, as the ample posterior of the leisured.

With a home aquarium, Gosse could ‘mark with leisure and precision the manner of the creatures living at home yet constantly under my eye’. His first public promotion of the ‘mimic sea’ was published in Annals of Natural History in October 1852, following his experiments starting in January of that year, and it is in Rambles that he both explicitly and implicitly approaches the idea of a domestic environment for the sea. W. J. Broderip, writing in Fraser’s Magazine in October 1853, happily gives Gosse the credit for their popular adoption: ‘There is no doubt that long ago sea-anemones and other marine creatures of a similar organization were removed from their native rocks, and kept alive in glass vessels or in vases [...] but there can be as little that we owe to Mr. Gosse the successful introduction of marine vivaria on a great scale, and resting on sound chemical and physiological principles’. The recognition for its invention wholesale is contested with a strange fervency. Gosse assigns the credit of the first home aquarium to George Johnston, who, in History of British Spores and Lithophytes (1842), details the contrivance of a miniature seascape in a jam-jar. Johnston placed various marine life—coral, seaweed, molluscs and annelids—in his jar and left it undisturbed—‘occasionally looked at’—for eight weeks, finding the marine

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b The Aquarium, 4.
d The second edition of The Aquarium adds a long footnote correcting this, crediting invention to Dr. S.H. Ward, in 1841.
life contained within to be flourishing. Robert Warington, a close friend to Gosse, conducted several experiments on fresh- and sea-water aquaria in a similar period. David Allen sees the aquarium’s moral inventor to be Nathaniel Bagshaw Ward, who conceived the glass case to store ferns. Allen pronounces, with a note of triumph, ‘It is surely poetic justice, in view of Warington’s unpleasing attempt to rob Ward of all priority for his invention, that his name should thus have passed down into history perpetually misspelt’. Instrumental authority aside, Gosse’s The Aquarium owes more to the mode of language built up in Rambles, and, at least initially, he spends a great amount of time reinscribing it. He writes of the journey to the west country, and the establishment of one’s own sense of place, acknowledging his own self-reliance: ‘The first thing I always do when I get into a new locality, is to walk round to reconnoitre; to take a general view of the hunting ground. This examination I almost always find necessary to make for myself; it is astonishing how little information one can get from persons of the greatest intelligence and general knowledge’ (14). Again, he privileges sea-side imperilment: ‘climbing over the green and slippery boulders, at some risk of chafed shins [...] I wended my way up over the rugged but turf-covered steep, through thickets of furze and bramble. Thence walking back along the margin of the cliff’ (18). In this impulse, the rhetorical strategy of The Aquarium never quite finds an equilibrium point, or the narrative completeness of Rambles. In thirds, it is part history of the mimic sea, part Gosse-centred adventure yarn, and part instruction


Allen, The Victorian Fern Craze, 47.
manual for construction at home. This affords the book a certain skittishness.

Nevertheless, the order of things is important to Gosse:

The first point to be attended to, is the procuring of living sea-weeds, the vegetable element in the combination which is displayed in an Aquarium. And this must naturally be the first thing, whether we are stocking a permanent tank, or merely collecting specimens for temporary examination, as we cannot preserve the animals in health for a single day, except by the help of plants to re-oxygenate the exhausted water. By their means, however, nothing is easier than to have an Aquarium on almost as small a scale as we please (21).

The manifest difference between a vivarium and a water-filled tumbler is preparation and chemistry. Indeed, as Broderip notes in his review for Rambles, people have been placing marine creatures in glass vases for years; but an aquarian naturalist oxygenates the vases first. But this is not necessarily a professional endeavour: The Aquarium is filled yet more with Gosse’s characteristic fond anthropomorphisms, in that the ecology of the container is populated with characters, rather than chemicals:

Among these we see, less numerous, but sufficiently common, the more bulky and still more familiar form of the Periwinkle (L. littorea), marching soberly along beneath his massive mansion, stopping to munch the tender shoot of some Alga, or leisurely circumambulating the pretty tide-pool which he has chosen for his present residence. You may tell that all his movements are marked by gravity and deliberation; for if he does not let the grass grow under his feet, (I beg his pardon, he has but one foot; though, as that is somewhat of the amplest, he is not deficient in understanding,) he lets it grow over his head. [...] ‘But why does he talk to us about such common trash as periwinkles?’ Be not captious, gentle reader! The Periwinkle is an humble member of society certainly, but there are one or two points about him that render him not wholly unworthy of your notice (23).

A reader familiar with Gosse would not be caught in captiousness, however, and would be aware of his strong sense of the value of the minute. The periwinkle is a perfect example. The point that renders ‘him’ worthy of a reader’s notice is his utility. The periwinkle is to be Gosse’s research assistant: cleaning the tank as a ‘mower
cutting down swathes as he marches along’, (26) as the algae common to home aquaria must be kept in check, ‘or we might as well have a vessel with opaque sides’ (25). Indeed, Gosse’s attention to his periwinkle, and similar univalve mollusca retained for domestic duties, speaks to his unity of purpose for the aquarium project at large, and distinguishes his writing on the topic from that of his contemporaries. The periwinkle is both an object of study for Gosse, and a utility to assist in his studies. The manner in which the mollusc keeps the tank clean is as interesting to Gosse as the biology of the specimens the tank is designed to hold, and for which it is kept clean. The multifarious functions of the mollusc’s tongue and its digestive patterns are afforded several pages. It is the endeavour in its totality which is the focus here—the system rather than its subjects—what Greg Myers would call a ‘narrative of science’, rather than nature. "His is not an instruction manual on how to construct a home sea, as such—one must first examine the marine life that helps one maintain it, even the ‘most humble member of society’. Gosse watches the mollusc’s ‘modus operandi with a pocket-lens’ (26)—the manner in which it sweeps the tank for fine particles of algae, cleaning the glass to a ‘silky lustre’, is minutely detailed; it has a ‘glass-like tongue’, making it purpose-built for the activity. (28) As Gosse puts it, a piece of biology is ‘never more great than when minutely great—but the action and the instrument, the perfect way in which it works, and the effectiveness with which the vegetation is cleared away before it, all strike the mind as both wonderful and beautiful’ (28-29).

In sum, then, Gosse’s predilection to offer assistance and narrative attention to ‘the most humble member of society’, be it a busy periwinkle or one of Lewes’s busy, ‘stout gentlemen’ is in some measure the success of his sea-side volumes. This mode

"Greg Myers, Writing Biology (Madison; London: University of Wisconsin Press), 142."
of address finds the resonant frequency of his voice as a naturalist. His careful rhetorical system precedes the invention of the aquarium; his domestication of nature is in the first writerly, not scientific. But, moreover, it is important to register that his littoral writing did not merely inspire the humble and the amateur. What George Henry Lewes and Charles Kingsley manifest, as post-Gosse naturalists, is the effect of his writing on professional writers. Lewes’s sneer at the man who had ‘been reading Mr Gosse, severely deluding himself into the idea that he was ‘collecting,’ because he was gasping among boulders’, neglects to register his own status as a man who had been reading Gosse, and encouraged to start collecting. When Lewes and Marian Evans (George Eliot) travelled to Ilfracombe in 1856, they did so because Philip Gosse’s writings inspired them to do so. Indeed, they simulated his experience almost directly. Evans writes in her journal that they set about choosing their accommodation by way of Gosse—‘Mrs Williams of Northfield, whom Gosse recommends in his ‘Devonshire Coast’.

As my next chapter endeavours to show, Gosse’s reputation may be about to be marked by ruin, but his control started at the shore.

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* In The Journals of George Eliot, Margaret Harris and Judith Johnston, eds. (Cambridge: Cambridge University Press, 1998), 263.
Chapter Four

Navel Warfare: The *Omphalos* Model and Gosse’s Radical Centrism

*Once scientists move outside their experience, they become like a layperson. I'm not a religious person, but if I want to talk religion with someone, it won't be a scientist; it will be with someone who understands theology (who might be either an atheist or a believer). I believe people like [Richard] Dawkins give atheism a bad name because their arguments are so crude and unsubtle. They step outside their narrow competences when they produce these arguments.*


*Some drill and bore*
*The solid earth, and from the strata there*
*Extract a register, by which we learn*
*That He who made it and reveal'd its date*
*To Moses was mistaken in its age.*
*Some more acute and more industrious still*
*Contrive creation; travel nature up*
*To the sharp peak of her sublimest height,*
*And tell us whence the stars*


According to a recent magazine advertisement for a popular line of facial moisturisers, the human face betrays its age in seven subtle but negotiable ways. These signs are, in order: ‘fine lines and wrinkles; rough skin texture; uneven skin tone; skin dullness; visible pores; blotches and age spots, and skin dryness’.\(^1\) Such manifold, perhaps slightly casuistic signifiers of ordinary human maturation can be resisted, the

advertisement tells us; balmed away with a series of creams and tinctures, clinically proven to stay the bawdy hand of the dial, and, as the idiom has it, ‘take years off you’. Your apparent, observable age need not disclose, nor indeed bear any relationship to, your actual age.

And it is a more arch version of this formulation—that age is not age; objects which appear young may in fact be old, and vice versa—which is the rhetorical equation that drives the thesis of the book on which this chapter shall focus. *Omphalos: An Attempt to Untie the Geological Knot*, published by Van Voorst in November 1857, remains Philip Gosse’s most famous and infamous work. The retention and observation of signs of age, far more than a mere seven, is of deep, penetrating importance to Gosse’s thesis. The fact that each living organism on earth carries with it distinct, specific, and ineluctable gestures of age is the locus around which the book turns: older faces must have ‘fine lines and wrinkles’ as an intrinsic property of skin elasticity; similarly, mature bamboo shoots necessarily have complex arrow clusters, as a botanical process. Adult hippopotamuses must have bevelled teeth, as a condition of their eating habits. These perceptible signifiers imply a life lived: they are marks of wear, scars of battle, and vestiges of procreation, cultivation, and civilisation. But this, Gosse argues, is not the end of it.

The *Omphalos* of the title refers to the Greek for ‘navel’, and invokes a debate pressed since Thomas Browne’s short chapter in *Pseudodoxia Epidemica* (1646) questioning the depiction of Adam and Eve with belly buttons. Browne argues that depictions in stained glass and Renaissance art of ‘our First Parents’ with navels is not only historically incorrect but blasphemous. Such representations, he claims, ‘cannot
be allowed, except we impute that unto the first cause, which we impose not on the second; [...] that is, that in the first and most accomplished piece, the Creator affected superfluities, or ordained parts without use or office’.

The pre-placenta navel does, however, have office for Gosse. Indeed, in *Father and Son*, Edmund Gosse describes *Omphalos* as his father’s ‘panacea’. The book sought to reconcile revealed truth with empirical data, not by theological principle or geological analysis, but by analogy, containing a simple proposition: that Age is not Age. By challenging and confounding an implicit temporal first principle present in biology, geology and palaeontology, and drawing out an explicit contradiction, Gosse felt he could demonstrate the need for a recalibration of scientific assumptions. The *Omphalos* model holds that, beyond the emerging units of geochronology—which we know today as ‘periods’, ‘epochs’, ‘eons’, and so on—there exists two fundamental stages of time: the *prochronic* and the *diachronic*—the before time and the of time—which can be used to reconcile geological time with Mosaic principle. According to the book, the earth has a history which is not of time: an implied super-eon, we might call it, to which belong fossils, geological strata, and all other observable vestiges of prehistory that can be dated prior to the act of Creation.

The planet was created young, to look old; it has an implied past, rather than a true history. And, if we are to apply the model to Genesis specifically—which Gosse does not explicitly require us to do—it is at the moment at which God created the heaven

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1 Thomas Browne, *Pseudodoxia Epidemica* (London: Nathanial Ekins, 1658), 201.
2 Edmund Gosse, *Father and Son*, 62.
3 In the modern geological timescale, there is one super-eon, the Precambrian, to which belongs the first eighty percent of the earth’s history, and which is subdivided into eons, eras, and periods. The ‘prochronic super-eon’, as I am terming it, would include the eons under the Precambrian, as well as every succeeding eon, era, period and epoch that is defined in the geological scale, until roughly halfway into the current epoch, the Holocene (˜8,000BC—Present). Of course, these concepts had not been developed by 1857.
and the earth, ‘In the beginning’, that He also created the \textit{diachronic} super-eon. There are temporal paradoxes created by this: fossils exist twice-in-time, as it were; the femur of a bipedal dinosaur, for example, can rest in a layer of strata which dates it to sixty-five million years of age, say; equally, however, the bone is six thousand years old, in real time. Both are correct, according to the theory: the femur has a \textit{diachronic} age of thousands of years and a \textit{prochronic} age of tens of millions of years. Age is not Age.

In his essay ‘Of Miracles’ (1748), David Hume argues that the evidence for the truth of Christianity is ‘less than the evidence for the truth of our senses’, because the tenets of Christianity are based on testimony from the sensory experience of the Disciples, committed to Scripture at a many-hands remove. Further, Hume refers to the Roman Catholic doctrine of ‘presence’: the appearance of God in the miracle of transubstantiation, during which the sacramental bread and wine are held by doctrine to transform \textit{actually} into the body and blood of Christ, imperceptibly to the senses. According to the doctrine, there is a real-world, rather than figurative, change to the wafer and wine, which occurs outside the cognisance of our senses, and the remit of scientific observation. It happens, but it does not happen. To Hume, this makes the concept moot. It is at a similar intersection between the perception of the senses and the evidence for articles of faith that Gosse, no kind of Roman Catholic, situates his rhetorical strategy for \textit{Omphalos}. His model shares some salient features with ‘presence’, in the disjunct between perceptibility and provability. Gosse wants geological vestiges to have a type of structural \textit{presence}, as it were—not a doctrinal discernment of God in the rocks, as such, rather an implied but \textit{actual} prime movement; one that is imperceptible, untestable—even moot—but entirely real.
The common criticisms and syntheses of *Omphalos*, both in the nineteenth century and today, hold it to be a radical, wildly silly piece of centrism, with absurdities, crudities, and a strange dogmatic bullishness. It remains one of Gosse’s most prominent works, but seldom is it referenced without some mention of its manifest absurdity. Martin Gardner, the American mathematician and science writer, calls it ‘one of the strangest books ever written’; Stephen Jay Gould refers to it as ‘inspired nonsense’, and Jorge Luis Borges speaks of its ‘monstrous elegance’. Even the 1890 *Dictionary of National Biography*, in an entry written by Edmund, designates it an ‘unfortunate volume’.

Granting these points, however, I should like to consider *Omphalos* firstly as a scientific work. It would be disingenuous, of course, to ignore entirely its theistic designs, but, at least initially, I shall stay within Gosse’s ‘narrow competence’, as Harry Collins would call it. For all its silliness—Gosse’s broad incompetence, as it were—his

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4 Jorge Luis Borges, ‘Creation and P.H. Gosse’. *Other Inquisitions* (Austin: University of Texas Press, 1964), 24. In his story ‘Tlon, Uqbar, Orbis Tertius’, collected in *Labyrinths* (1962; London: Penguin, 1970), Borges footnotes: ‘Russell supposes that the planet has been created a few minutes ago, furnished with a humanity that remembers an illusory past’ (p34). In *Analysis of Mind* (1921), Bertrand Russell transports the idea of *prochronism* to the mind, in his discussion of memory-beliefs. He writes: ‘In investigating memory-beliefs, there are certain points which must be borne in mind. In the first place, everything constituting a memory-belief is happening now, not in that past time to which the belief is said to refer. It is not logically necessary to the existence of a memory belief that the event remembered should have occurred, or even that the past should have existed at all. There is no logical impossibility in the hypothesis that the world sprang into being five minutes ago, exactly as it then was, with a population that ‘remembered’ a wholly unreal past.’ (*Analysis of Mind*. 1921; Hoboken: Routledge, 1989, 135).
5 Edmund Gosse, ‘Gosse, Philip Henry (1810–1888).’ *Dictionary of National Biography*. Ed. Leslie Stephen and Sidney Lee, Vol. 22 (New York: Macmillan, 1890), 260. The entry by L.R. Croft in the 2004 edition of *DNB* is slightly more sympathetic to the controversy. Croft notes that it is ‘probably true’ that Gosse’s argument in *Oumphalos* was widely misunderstood, and praises his stoicism and good humour in the face of a damaged reputation and great financial loss. (L. R Croft, ‘Gosse, Philip Henry
descriptions of minute aspects of biology are as meticulous and thorough as those met with almost unanimous acclaim in his earlier works, *A Naturalist's Rambles on the Devonshire Coast* (1853), or *The Aquarium* (1854). As a work of biological catalogue and description, it is the broadest Gosse would ever attempt. Its theological imperative must be met, of course, but I should like to reaffirm Gosse’s broad ecumenicism here. Until its final sentence, *Omphalos* is not a Calvinist manifesto; it requires no theological position beyond deism, and stands not as an intemperate statement, but as a Cartesian question, however disingenuous, to the pre-*Origin of Species* scientific class. His great error is one not of overt dogmatism or scientific dishonesty, but of address. He seeks to engage the professional with this volume, outside of his narrow field of expertise.

I. The Germ of the Argument

Gosse’s rhetorical strategy for *Omphalos* is a hyper-detailed bait-and-switch *reductio ad absurdum*: a long-form exercise in language that sets aside his lack of knowledge on the specifics of geology, and concentrates on his ability to speak of biology, which he perceives to be a direct analogue. In this, he wishes to do three things at once: expose a tiny flaw in the logic of geology’s claims to the age of the earth; worry that flaw into a yawning hole which undermines the branch of enquiry altogether, then offer a theory by which the flaw does not matter in the first place. Perhaps sensible of a common idiom in which much of the debate between science and religion had recently been

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conducted, Gosse makes explicit the legal overtones of the discourse, by setting out his argument in the form of a trial. One has only to look to works such as Hugh Miller’s *Testimony of the Rocks* (1856), to see this shared lexicon at work. Gosse’s chapters are arranged as, ‘Witness for the Macrochronology’, ‘The Cross-examination’, ‘Laws’, ‘Parallels and Precedents’; his thirty-page literature review at the beginning is titled ‘The Cause’, and the arguments he sets out of his antecedents and contemporaries are positioned as witness statements. Gosse makes manifest the fundamentally adversarial form that discussions of these matters often take. He seasons his discourse with modest conditionals and terms of legal inquiry:

My first business is to examine, and, if I can, to disprove this testimony. If I can show the witness to be liable to error; if I can adduce a principle which invalidates all his proofs; if I can make it undeniably manifest that, in a case precisely parallel, similar conclusions, deduced from exactly analogous phenomena, would be notoriously false; if I can do this, I think I have a right to demand that the witness be bowed out of court.\(^{10}\)

Gosse appears to set himself a heavy burden of proof—he must present a theory that invalidates all prior arguments, in a manner which is ‘undeniably manifest’, through precise and exact analogy. From this, however, he adds some careful caveats. Gosse embraces the adversarial form, and does not look for consensus among the participants of his trial, but he does, however, insist on a certain kind of common ground. Specifically, he does not wish to speak to evolutionists:

I demand also, in opposition to the development hypothesis, the perpetuity of specific characters, from the moment when the respective creatures were called into being, till they cease to be. [...] If any choose to maintain, as they do, that species were gradually brought to their present maturity from

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\(^{10}\) Philip Henry Gosse, *Omphalos: An Attempt to Untie the Geological Knot*, (London: Van Voorst, 1857), 103. All subsequent references are to this edition.
humbler forms [...] he is welcome to his hypothesis, but I will have nothing to do with it. These pages will not touch him. (111)"

In this regard, then, Edmund is wrong: Omphalos is no panacea, and does not attempt to be. Gosse speaks to those who believe in the immutability of species, as this is an irreducible tenet of his model. Gosse is not introducing a concept so much as adumbrating a process by which the concept operates. His argument cannot hope to convince those who do not accept its first principle.

The implied-history model is not original to Omphalos. The interested amateur Granville Penn first set out the ‘germ of the argument’, as Gosse acknowledges in his Preface, in A Comparative Estimate of the Mineral and Mosaical Geologies (1822). Penn’s study is self-admittedly a layman’s account of the insuperability of Moses and minerals. Indeed, so conscious is Penn of his lack of experience in the field, that he begins the book with an apology for its very existence. He notes, ‘I am sensible that the first use which I ought to make of this preface is to apologize for troubling the world again, so soon after submitting to its judgement my Observations of the Primary Argument of the Iliad.’ (This is the type of sentiment that is at once modest and self-aggrandising—apt for a book interested in paradoxes). But Penn’s opening timidity as a layman belies the strength of his conviction. As the title suggests, Comparative Estimate seeks to establish, and then compare, the horns of the emergent dilemma. The nature of the supposed fundamental insolubility between

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11 Gosse allows John Pye Smith—whose On the Relation Between the Holy Scriptures and Some Parts of Geological Science (1849, often cited as Scripture and Geology) was an important influence on Gosse’s work—to be his bulldog on this point, footnoting: ‘Dr Pye Smith calls the hypothesis of progressive development ‘the crude impertinence of a few foreign sophists’, 111-2.

the two means of knowing is adumbrated forcefully in the opening pages, worth quoting at length:

Unfortunately it happens, that TWO guides present themselves to us, at the outset of this pursuit, to importune and claim our confidence, which two guides are directly contradictory to each other; so contradictory, indeed, that whichever of them be true, the other must of necessity be absolutely and fundamentally false; these are, the Mineral and the Mosaical Geologies. The latter of these, is of very great antiquity; and rests its credit, for the truth of the historical facts which it relates, upon a record pretending to divine revelation, and acknowledged as such; by the uninterrupted assent of some of the best and wisest of mankind, for upwards of three thousand years. The former, is of very recent origin; and can hardly be said to have existed, in a state approaching to maturity, for much more than half a century. This guide does not, indeed, pretend to oppose any record to that of the other; but it aspires to establish a series of historical facts, by induction from chemical principles newly discovered, which it affirms disclose evidence of truth superior to any that is presented in the professedly historical document, and which must, therefore, qualify the credit which that document is entitled to receive.11

Penn seeks to submit each of the ‘two guides’ to a test of validity. Each, he argues, responds effectively to testing, and the final comparison for truth is simply a matter of ‘applying, successively, to the same standard, the root or fundamental principle of the two geologies’.13 The standard by which they shall be tested is ‘the reformed philosophy of Newton and Bacon’, whose work was important to eighteenth-century geology, but, by 1822, had waned in relevance to the debate. Nevertheless, Penn fetishises Newton’s work, as the standard of analysis and logic to which mineral geology—represented by wholesale chunks of primary material from French geologists Jean François D’Aubuisson and Jean André Deluc (again, whose work was becoming outdated by 1822)—must comply. Penn concludes that this order of work fails under

13 Penn, 3. His emphases, throughout.
14 Penn, 10.
its own test, as its concept of first formations leads to what would be regarded as ‘chaos’ under Newton’s model. The mineral geology of D’Aubuisson and Deluc holds that rock was once fluid—or, as Penn puts it, ‘primitive chaotic fluid, or confused mixture of elements’—and, Penn argues, such a state of impermanence is imperfect, and therefore cannot have been created divinely. As such, mineral geology must be in error. According to Penn, the tri-partite kingdoms of matter—animal, vegetable, and mineral—must all conform to the same theory of existence. And, because animals and vegetables exist in states of permanence and perfection—any examples of ‘chaos’ within them can be ascribed to secondary causes (troubles in ancestry, and so on)—so too must minerals. But because rocks can have no secondary causes to explain any imperfection, they must, by necessity, be enduring and perfect. The mineral theory presented by Deluc and D’Aubuisson does not conform to this theory of matter, and must, therefore, be incorrect. The rub for Penn, then, is how to account for the observable signs of ‘primitive chaos’ evident in the rocks. He toys briefly with the idea that a secondary event, rather than secondary cause, could have written imperfection into minerals—a great fire, for example, interfering in their appearance. This concept is set aside quickly, however, as Penn decides that it would be impolite to ‘exclude the Creator from the details of His own creation’.

To assume arbitrarily, a priori, that God created the matter of this globe in the most imperfect state to which the gross imagination of man can contrive to reduce it, which it effectually does, by reducing the creative Fiat to the mere production of a spheroid of elementary mud, and then to pretend, that His intelligence and wisdom are to be collected from certain laws, by which He enabled the mud to work itself into perfection, after innumerable ages; would tend to lessen our sense, either of the divine wisdom or power, did not the supposition recoil with tremendous reaction upon the supposers, and convict them of the grossest irrationality. The supposition is [...] viciously.

Penn, 88.
Penn, 99.
arbitrary; because it is totally unnecessary, and therefore betrays a vice of choice."

Mineral geology requires a passage of ages in order for primordial rock to crystallise—but why, asks Penn, should this be so? Why should the Creator create a world that requires a delay in order to become perfect? ‘If time is nothing to God [...] it is evident, that He has no need of it; and it is much more philosophical in that case to suppose that He did not employ it in FIRST FORMATIONS, than to suppose, that He employed it profusely and prodigally, when He did not need it.’ As such, however the rocks came into being, it is necessary that they did not change from the first formation. And if, then, there is evidence that they have changed, it necessarily follows that the evidence was there from the first. This is the germ of Omphalos: that the rocks were created in perfect imperfection; prime imperfection, in order to conform to the rest of creation. They were created with an implied past.

*Comparative Estimate* is an eccentric and anachronistic book, even in its time. It is, varyingly, dogmatic, loud, and strident; blatant in its errors, frequent in its misapprehensions, and uncharitable in its parsimony. In this way, it betrays the stamp of its layman origin. But its ‘germ’ was important for Gosse. According to Edmund, Gosse was impelled to take up the theory as a matter of moral principle, as the preserve of conscience, rather than inquiry:

In 1857 evolutionism was crude and vague; a positive naturalist might well have been permitted to ignore it. But, unhappily, my father’s conscience tortured him into protest, and he must needs break a lance with the windmills of the geologists.”

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*Penn, 104.*
*Penn, 108. His emphases.*
If it is a quixotic endeavour, it remains that the topic seems to require Gosse to work outside his field. He is as much a layman on geology as is Penn. As quoted above, however, Gosse has written his way around this point. Embedded in his argument is the assertion that biology is ‘precisely parallel’ and ‘exactly analogous’ to geology; that he may argue against the latter by speaking of the former. This, I would argue, is the misapprehension that ultimately condemns his book. On the matter of necessary authority and expertise for geological theories, a point over which Penn sweats equally, William Buckland, one of the first to approach the question of the discontinuity between scripture and geology, makes a pertinent point regarding the changing current of science in the early nineteenth century. In his 1819 lecture *Vindiciae Geologicae*, in which he argues for geology’s admission to the sciences, by charting its proximity to, and overlap with, existing branches of science, Buckland notes:

> But it is now admitted on all hands, that no man can be qualified to enter any of the highest walks of science, who is acquainted only with one branch of natural knowledge; and the mutual dependence of them all is now so positively demonstrated, that the philosopher of our days can no longer be allowed to remain satisfied with those inquiries which belong exclusively to any single branch, but must extend his investigations over the whole range of sciences, and illuminate his path by the varied combinations of them all."

The point is, perhaps, debatable. The ubiquitous polymaths of the mid-eighteenth century—those of the Lunar Circle in Birmingham, for example—were gradually giving way to more specialised expertise, but the point remains, and seems to be as pertinent a problem for Gosse. By what authority does he write his book?

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II. Rethinking Expertise

In their recent study, *Rethinking Expertise* (2007), Harry Collins and Robert Evans draw a useful model for auditing the types of, and legitimacy for, claims to expertise. Their ‘Periodic Table of Expertise’ divides types of competence into broad categories, which are subdivided cumulatively, as they become more specialised. On top of the table is ‘ubiquitous expertise’: those elements of knowledge that ‘every member of a society must possess in order to live in it’, such as native-tongue language, and broader acquired pieces of tacit knowledge, like the meaning of traffic light colours, or the capacity and inclination to form moral or political judgements. ‘Specialist expertises’ form the third row of the table, and are the most useful for analysing claims for authority. Specialist expertises is subdivided into ‘Ubiquitous tacit knowledge’ and ‘Specialist tacit knowledge’. Each of these is further subcategorised into ‘Beer mat knowledge’, ‘Popular understanding’, ‘Primary source knowledge’ under the ‘Ubiquitous tacit’ division; and ‘Interactional expertise’ and ‘Contributory expertise’, under ‘Specialist tacit’. The subcategories of the first division regard a second-hand engagement with any field: so-called ‘Beer-mat knowledge’ is that increment of understanding that one gleans from reading a factoid from the underside of a cardboard coaster. This order operates axiomatically, as there can be no deeper understanding than that which is printed on the card. ‘Popular understanding’ is a

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*Harry Collins and Robert Evans. *Rethinking Expertise. (Chicago; London: University of Chicago Press, 2007), 13. Briefly, Collins and Evans’s use of ‘ubiquitous’ needs unpacking. The ubiquitous expertises are those we absorb simply as a function of living capably in a society—they are acquired unknowingly and tacitly. As they point out, even so-called ‘unskilled’ labourers have a huge depth of ubiquitous expertise. To clarify a semantic point, car-driving is a skill that is common and widespread, but it is not ubiquitous, because it is not absorbed as part of the process of learning to live in a society. This is drawn from the concept of ‘tacit knowledge’ coined by Michael Polanyi in *The Tacit Dimension* (1966). What follows is a paraphrase of their model.
broad familiarity with a topic, derived from the media or popular, generalist books. ‘Primary source knowledge’ is a direct engagement with technical material or published journal work on a particular study, but without a necessary understanding of the rudiments or significance of the claims being made. It is under the rubric of these categories that we could place Penn’s work, I would argue—he reads Newton’s scientific theories closely, but seems to miss something significant about their application: his tendency for anachronism would appear to be one symptom of this. Indeed, most of the work on the cultural meaning of the emergence of geology, in the early part of the nineteenth century, remains under the ‘Ubiquitous tacit’ framework, as being carried out by interested amateurs, or men of the cloth, with no real experience in geological studies, beyond ‘primary source knowledge’.

To mark the difference, it is helpful to look at another similar, more recent foray by a noted scientist into the discourse of theology, in the form of Richard Dawkins’s best-selling *The God Delusion* (2006). In his review for the *London Review of Books*, Terry Eagleton writes:

> What, one wonders, are Dawkins’s views on the epistemological differences between Aquinas and Duns Scotus? Has he read Eriugena on subjectivity, Rahner on grace or Moltmann on hope? Has he even heard of them? Or does he imagine like a humpious young barrister that you can defeat the opposition while being complacently ignorant of its toughest case? Dawkins, it appears, has sometimes been told by theologians that he sets up straw men only to bowl them over, a charge he rebuts in this book; but if *The God Delusion* is anything to go by, they are absolutely right.\(^\text{23}\)

Eagleton would say that Dawkins barely has ‘popular understanding’ knowledge of matters of theology, and the subtleties and vagaries of theological principle are not

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within his field of view; he is outside his field of expertise, and does not know what he does not know. And yet his book is written from the aegis of authority and dynamic expertise.

The higher orders of specialisation, according to Collins and Evans, reintegrate the idea of cultural immersion as a means of acquiring knowledge: but at the higher levels, it is a specialist immersion. Malcolm Gladwell’s recent popular philosophy book *Outliers* (2008) takes as its organising thesis the work of the neurologist Daniel Levitin, suggesting that, in order to become a world authority on any subject, one must acquire ten thousand hours of practice in the field. This puts a numerical value on what Collins and Evans call ‘enculturation’, which is, ‘the only way to master an expertise which is deeply laden with tacit knowledge because it is only through common practice with others that the rules that cannot be written down can come to be understood’. It is an order of knowing with a social component; a dynamic applicability. Perhaps it is at this point, then, labelled ‘Interactional expertise’—the fourth in the cumulative divisions of specialisation, coined by Collins and Evans themselves—where we might situate Gosse, and his capacity to speak on matters of geology and theology. Interactional is ‘expertise in the language of a specialism in the absence of expertise in its practise’ (sic); that is, the mid-point between the formal and informal views of knowledge; a liminal space. This brand of knowledge is achieved

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[25] The final category in the subdivision, ‘Contributory expertise’, shows the highest level of understanding, in which one can contribute meaningfully to the study of a subject. In that geology was still ‘the young science’ in the mid-nineteenth century, the deeper elements of which were not yet understood, the concept of what does and what does not ‘contribute’ to understanding is difficult to evaluate.
[26] ‘The formal can be expressed in rules, formulae and facts, and can be encapsulated in computer programs, books, and the like. The informal or tacit, insofar as it is also rule-like, comes in the form of rules that cannot be explicated and are known only through their expression in action’. Collins and Evans, 28.
when the layman, or out-of-field scientist is immersed deeply enough in a science, through engagement with experts, and full and dynamic familiarity with the literature, such that he or she can engage in debate, and work with concepts theoretically, without having direct experience obtaining or analysing data. The ability to render concepts into language—one of Gosse’s greatest attributes as a man of science—often makes the interactional expert able to adumbrate concepts more fully and subtly than those directly involved in the field.

In order to offset any charge of ignorance with the topic, and to demonstrate his cumulative expertises, Gosse sets out an extensive cross-section of the existing theological and philosophical positions on the question of scripture and geology, suggesting that his conscientious objections are not isolated. To preface his synopsis, he adds the caveat that, ‘My reader will kindly bear in mind that I am not examining these opinions; I adduce them as examples of the diversity of judgment that still prevails on a question which some affect to consider as settled beyond the approach of doubt’ (14-15). To this end, Gosse begins with the opinions of ‘those who stand by the literal acceptation of the Divine Word’, (8) and offers a specific, if sympathetic, rejection of that order of literalism, which is so often thought to be his own theological stand: ‘Perhaps the simple, superficial sense of the Word is not the correct one; but it is at least that which its readers, learned and unlearned, had been content with before; and which would, I suppose, scarcely have been questioned, but for what appeared the exigencies of geological facts’. (5) Those who cite the Noachic Flood as the cause of stratifications—the position once held by William Buckland, until Lyell’s Principles of Geology convinced him otherwise—are represented. The notion of ‘elongationism’ is
canvassed: the idea that the scriptural ‘days’ do not refer to a literal 24-hour day, but to an indefinite period of time, reaching into the thousands or millions of years. Hugh Miller’s *Testimony of the Rocks* sets out this theory in its most extensive form, and it enjoyed support from other prominent geologists, including Adam Sedgwick and Thomas Chalmers. Even on this point there is schism: those who think the word ‘day’ itself can be taken to mean many years, and those who believe that the period of many years occurs *in-between* the different verses of Genesis I. Edward Hitchcock, for example, in his at times ill-tempered *The Religion of Geology and its Connected Sciences* series of lectures, published in 1852, asked:

> Who will hesitate to say that it ought to settle the interpretation of the first verse of Genesis, in favour of that meaning which allows an intervening period between the creation of matter and the creation of light? This interpretation of Genesis is entirely sufficient to remove all apparent collision between Geology and revelation.°

With this Gosse cannot concur, for he believes he has the answer to the question, without having to give up an inch, let alone an ‘intervening period’. Gosse finds comfort in the series of lectures by John Pye Smith, published in 1849 as *On the Relation Between the Holy Scriptures and Some Parts of Geological Science* (often referred to simply as *Scripture and Geology*). Pye Smith bases his series on the titular

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° Interestingly, perhaps, this caveat comes after the explication of biblical literalism, seemingly as an afterthought, but before the discussion of elongationism.

°° The palaeontologist Richard Fortey, President of the Geological Society of London from 2006-2008, has recently advocated this position, writing on his experience as a guest on an American call-in radio show: ‘[A] caller from Kentucky duly declared that the world had been created in seven days, and what did I have to say to that? I invited the caller to ask himself whether, when his grandfather used the words ‘in my day’, he meant one particular day, or rather a season or a phase of life. I went on to say that the biblical ‘days’ could be better understood as whole eras, domesticated by a familiar terminology in order to make them comprehensible’. (‘Hammers for Pipes’. *London Review of Books*, 28.3, 9 (2006), 32-33).

premise that the study of, and conclusions drawn from, geology is not at odds with Scripture. He states in his opening lecture:

Above all, it is incumbent upon us to be aware, that a vague idea has obtained circulation, that certain geological doctrines are at variance with the Holy Scriptures. This notion works with pernicious effect. The *semblance* of discrepancy is indeed undeniable; but I profess my conviction that it is nothing but a semblance, and that [...] it vanishes before careful and sincere examination."

Pye Smith, though forthright in his own faith, is suspicious of the misapprehension of ‘semblances’ by adherents to both horns of the dilemma. He mistrusts ‘intelligent men’ who seek to use the appearance of discrepancy between revealed and empirical truth to discredit God and insult the practice of faith; and he dismays equally of a certain order of Christian, who refuses to become ‘acquainted with the question’ of the geological sciences, on a false assurance in the ephemerality of scientific theories. This position is, he states, ‘injurious to the case of Christianity’." Indeed, it is a ‘fearful thing to array science and religion against each other’. Pye Smith’s work is curious, also, for it becomes the sole occasion in Gosse’s entire literature review that he steps outside of his assurance that he is ‘not examining these opinions’ but adducing them, to correct what he sees as a point of fact. He quotes Pye Smith describing Adam as ‘nine hundred and thirty years old’: an assertion against which Gosse feels compelled to intervene, with a certain casuistry:

I am not *replying* to any of these conflicting opinions; else, with respect to this one, I might consider it sufficient to adduce the *ipsissima verba* of the inspired text. Not a word is said of Adam’s being ‘nine hundred and thirty years old;’ the plain statement is as follows:—‘And all the days that Adam lived were nine hundred and thirty years’. (23, fn)

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It is a revealing point of fact on which to intrude, and exemplary of the degree of minuteness to which Gosse is content to parse language. What is the meaning of the correction? Are we to read the syntax more carefully: Adam lived to nine-hundred days, *plus* thirty years? That is, thirty-two years and a little over five months? Or are we working with a slippery concept of the length of a ‘day’? Gosse does not clarify: this is an axiom for him and a piece of ‘Beer-mat knowledge’ for the reader.

The remainder of the literature review addresses Babbage, whose belief in the insuperability of the Hebrew language leads him to take an agnostic position on the question, because one cannot derive intended meaning from the translation; and Baden Powell, who takes the view that the Bible is myth and poetry. Finally, the proto-evolutionary position found in *Vestiges of the Natural History of Creation*—the anonymous early attempt at an evolutionary theory by Scottish journalist Robert Chambers—is singled out for an uncharacteristic blast of sarcasm; again, Gosse dispels his promise not to judge the positions of those he seeks merely to register:

> Coolly bowing aside His authority this writer has hatched a scheme, by which the immediate ancestor of Adam was a Chimpanzee, and his remote ancestor a Maggot! (27)

This is the first, and a rare, occasion where Gosse’s conceit of ecumenicism and open inquiry drops, and his personal theology is loudly apparent. *Vestiges* aside, however, the divergent, contrasting, often contradictory statements by men of science and theology are presented by Gosse as good-faith attempts to find God in the details of the earth, and are sources of interest and admiration. But these cases must also be truth-claims, and cannot each or all be correct. He has the solution:

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*Pye Smith, 10.*

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The true key has not as yet been applied to the wards. Until it be, you may force the lock, but you cannot open it. Whether the key offered in the following pages will open the lock remains to be seen. (29)

III. Allowing for the Wind: The Interactional Omphalos Model in Practice

With his throat thus cleared, Gosse sets about forging his key, perhaps best illustrated by this image:

The course of nature is a circle. For at what point of its history can you put your finger and say, ‘Here is the commencement of this organism, before which there is a blank; here it began to exist?’ There is no such point; no stage which does not look back to a previous stage, on which this stage is inevitably and absolutely dependent. (116)

If we accept the immutability of species, a promise solicited and secured by Gosse of his reader earlier, every organism in nature would indeed exist as a degree in an enduring circle. Each stage of life implies a previous, necessary cause. We are familiar with this concept almost intuitively, as in the philosophical parlour game, ‘Which came first, the chicken or the egg?’ The regression implied is insoluble for Gosse, ‘as endless as the course of a blind horse in a mill’ (122), unless there is an arbitrary, preternatural break in the cycle by an act of Creation.
Figure 1: Gosse's cycle of Creation

The first cause is an act of violent rapidity: it is a ‘sudden bursting into a circle’, a ‘sovereign act of power, an irruption’ (123, 125), to stop the infinite loop. But the autonomous intrusion creates another problem, to which the *Omphalos* model is the solution. As we see in Figure 1, above, taken from Gosse’s sixth chapter, there is necessarily an informing state at any point in the circle: the cow needs a calf, which needs a foetus, which needs an embryo, which needs a vesicle, which needs an ovum. The break in the circle, an act of Creation, is the formation of an organism at any particular point in this cycle, its antecedents existing in implication. As Gosse puts it:

The past conditions or stages of existence in question, can indeed be as triumphantly inferred by legitimate deduction from the present, as can those of our cow or butterfly; they rest on the very same evidences; they are identically the same in every respect, except in this one, that they were *unreal*. (124)

The past conditions exist *prochronically*, outside of time, but part of it. Gosse is trading on subtle shades here, quite consciously. Speaking on the important distinction between observing fossils and observing living creatures, he writes:
You will say, “It is the same thing; we have seen the skeleton of the one, and the crushed trunk of the other, and therefore we are sure of their past existence as if we had been there at the time.” No, it is not the same thing; it is not quite the same thing; NOT QUITE. Strong as is the evidence, it is not quite so strong as if you had actually seen the living things, and had been conscious of the passing of time while you saw them live. It is only by a process of reasoning that you infer they lived at all. (104; emphases Gosse)

The support for his argument takes the form of a thought experiment, to explore and augment the idea of circular intrusions, prochronic histories, and the value of empirical observation. The following example is typical of the approach. Imagine, he argues, that you come across a tree-frog during a daily walk:

Do you notice the frequent gulpings of the throat? Those are periodic inspirations of air, by which the creature breathes; for, having no ribs, by means of which to depress, and so to expand, the thoracic cavity, the Frog swallows the air by a voluntary action. (246)

The reader is encouraged to examine his or her conjured frog in subtle detail. Picture its colouring: the frog’s ‘emerald hue’, its ‘glittering eye’, and ‘line of yellow edged with purple that passes down the side’ (this registers Gosse’s fixation with light and colour which Lynn Merrill has noticed; he was a skilled artist, and retains a painter’s eye in all of his descriptive work). Imagine its physiognomy: the positioning of its legs, the gulps of its throat, the exactitudes of its eyes, and so on, all rendered by Gosse, guiding our imaginative process, with technical terms and specific biological principles. He goes on:

These air-gulps afford us another example of the sort of evidence we are searching for; they are so many proofs of a past history. For the tree-frog has not always swallowed air; there was a period in its life when it had no lungs; when it was an aquatic animal, as exclusively a water-breather as any fish ... Any physiologist, looking at our little green Tree-frog, would pronounce without hesitation on the stages through which it must have passed. (246-7)
Our examination of the creature leads necessarily to our observation of the signs of its maturity and growth. In this instance, the frog manifestly is a grown frog, and must, therefore, have matured through its nascent stages as a tadpole. Although these observable, empirical signs necessarily imply its age, Gosse drafts in a ‘physiologist’ to confirm the finding to the lay audience. The technical order of the stages of maturation in frogs is catalogued and registered by the specialist: ‘the gradual absorption of the branchiae, the development of the lungs, the shrinking up and final disappearance of the tail, the budding forth of tiny rudimentary limbs [...]—these are facts.’ And thus, on final analysis, Gosse affirms, with a hint of triumph, ‘the Frog is a frog’. But here is the rub:

Ah! but the physiologist is not aware of a fact, which invalidates all his conclusions based upon experience,—that the little Tree-frog has been created but this very instant. (247)

And the trial is complete: the reader has been baited, the trap has been set, deployed and we are captured in an error. It is indeed true that the implicit conclusion drawn by the expert and the layman alike has been invalidated by the model. The thought experiment runs as a refutation of first principles: IF the frog had just been created, by an unspecified prime mover, our empirical assumptions on age would be proven false. He tries again with a hippopotamus:

Away to a broader river. Here wallows and riots the huge hippopotamus. What can we make of his dentition? A strange array of teeth, indeed, is here; as uncouth and hideous a set as you may hope to see ... Look at the lower jaw first. Here are two large projecting incisors in the middle, with their tips worn away obliquely on the outer side, by the action of their opponents in the upper jaw, which are also worn inwardly. [...] [T]he polished surfaces of the teeth, worn away by mutual action, afford striking evidence of the lapse of time. [...] The degree of attrition is merely a question of time. There is no period that can be named, supposing the existence of the perfected teeth at

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*It is important to stress that this element of Gosse’s model does not presuppose or imply the God of Genesis. The first cause of this spontaneous creation is irrelevant to the thought experiment.*
all, in which the evidence of this action would not be visible. How distinct an
evidence of past action, and yet, in the case of the created individual, how
illusory! (264-5)

One can see clearly how the model is entrapping: the bevels on the teeth can exist only
in an aged creature, but it’s only just been created! We are wrong, and are induced to
admit so. About what else, goes Gosse’s implication, might we be wrong?

On these points Gosse is, of course, correct: the syllogism is logically without
fault. If the conditional is enacted as stated, it comes to a cogent, sound conclusion. It
is just an awfully big ‘if’. As Martin Gardner puts it, ‘Gosse’s argument is, in fact, quite
flawless. Not a single truth of geology need be abandoned, yet the harmony with
Genesis is complete’.

It would fail Karl Popper’s test for falsifiability, of course, an
important condition for any scientific theory, but on logic alone, the test stands.

Versions of the thought experiment, expressed one after the other, almost without
interruption, are the sole focus of five chapters (Chapters VII to XI, the ‘Parallels and
Precedents’), and comprise more than half of the book’s three hundred and seventy-
two pages. Gosse constructs examples for plants, invertebrates, vertebrates, humans,
and germs. In this focus, he exhibits an almost childlike capacity for repetition; the
self-same contention is repeated time and again, with only subtle variation. The
relentlessness of the gotcha-style model contributes to the impression of the book as a
tone-deaf exercise in self-deception, and, further, has the unintended effect of
undermining the internal strength of its argument. The ostensible insistence that the

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a Gardner, 11.

A popular strain of evolution criticism centres on its purported unfalsifiability. Critics hold that
assumptions in evolutionary theory are untestable, and therefore inapplicable. An issue of
dedicated to this topic, and is exemplary of the robustness of the debate. Richard Dawkins is fond of
quoting J.B.S. Haldane’s famous five-word proof of evolution’s falsifiability: ‘Fossil rabbit in the
147).
point requires repeating some twenty times per chapter, for five chapters, in order to hold, shifts the focus of the argument from its form to its content; from an *a priori* proof, to an *a posteriori* contingency. The reader fixes onto the colour of the argument, rather than the shape. Gosse addresses this point directly in his conclusion:

> It may be thought that I have multiplied my illustrations needlessly: ten times as many might have been given. I wished to show that the proof is of a cumulative character: a single good example would, indeed, have established the principle; but I wished to show how widely applicable it is; that it is, indeed, of universal application in the organic kingdoms. (350)

That the sheer number of examples present in the argument contributes to an idea of cumulative truth is possible to grant, but the successful demonstration of the *applicability* of the model is less certain. If this rhetorical recurrence shifts focus to the cumulative truth of his examples, rather than the universal truth of his conclusion, the problem of its unfalsifiability becomes augmented. The truth of his premises is not so much untested as *untestable*, and, as such, it becomes difficult to pin down its application. In 1984, Frank J. Tipler attempted to solve Gosse’s falsifiability problem with a model of his own, turning around similar ideas, with testable adjuncts. Tipler could not construct his theory without prefacing it with the always-dispiriting caveat: ‘I should mention at the outset that I do not really believe the theory which I shall present in this paper’. Again, *if* each creature had just been created, we would indeed be labouring in error to remark on its agedness. But, equally, the model would self-refute if one could prove that the creature had *not* recently come into being. Neither premise is testable, and, as such, cannot have application. Moreover, Gosse all but actively promotes this fact, a point that Gould cites as the book’s chief failing:
Gosse’s deep error lay in his failure to appreciate this essential character of scientific reasoning. He hammered his own coffin nails by continually emphasizing that *Omphalos* made no practical difference—that the world would look exactly the same with a prochronic or diachronic past.

As such, the book self-promotes and self-refutes at the same time. However, the aspect of the book that makes *Omphalos* so striking and singular within Gosse’s œuvre, I would argue, requires us to revisit Collins and Evans’s definition of interactional expertise—an understanding of scientific concepts that manifests in the skilful and dynamic use of language. James A. Secord’s full and wide-ranging study *Victorian Sensation* examines the investigation for the author of *Vestiges of Natural History of Creation* through the lens of a readerly quest; a public detection, fixing on the act of reading as the cardinal trait of the book. This idea of the burden of readerliness to works such as these expresses an important point as to why *Omphalos* was received as it was, and why it continues to be a cautionary tale of the dangers of fusing science and dogma. But rather, it is the book’s attendant dullness that makes it so unusual, if not so controversial. It offers no readerly pleasure, nor any particular scientific or theological edification.

Contemporaries of Gosse seemed to notice this. Advertisements for *Omphalos*, placed by his publisher Van Voorst, carry some of the few positive reviews. *Natural History Review*, edited by fellow marine zoologist, and collaborator of T.H. Huxley, Edward Perceval Wright, glows in its praise, and has ‘no hesitation in pronouncing this book to be the most important and best-written that has yet appeared on the very interesting question with which it deals. We believe the logic of the book is

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unanswerable, its postulates true, its laws fairly deduced, and the whole, considered as
a play of metaphysical subtlety, absolutely complete’. Nevertheless, the Review
remained unconvinced by Gosse’s ultimate goal for the book, deciding that ‘a mode of
reconciling all difficulties connected with the relation of the Bible to Science, does
exist, and may be readily found, which would not detract one tittle from the authority
of the former, nor require us to abandon the use of our reason in the investigation of
the latter—a mode which is not, however, represented in Omphalos. The evangelical
British Messenger remained somewhat more euphemistic, describing the book as
being ‘written in a very lively style; his illustrations are beautiful, and many of them
unusual; his reasonings are very ingenious; and his thoughts highly suggestive, and
frequently profound; his information is multiform and minute; and he makes it bear
upon the elucidation of his main argument with remarkable effect’. Other positive
reviews stress words such as ‘striking,’ ‘bold,’ ‘ingenious’—adjectives referring to the
ambition and creativity of the concept, rather than its capacity to convince. But these
were the minority. Edmund summarises the broader reaction to Omphalos in Father
and Son, with that certain register of relish:

This ‘Omphalos’ of his, he thought, was to bring all the turmoil of scientific
speculation to a close, fling geology into the arms of Scripture, and make lion
eat grass with the lamb. It was not surprising, he admitted, that there had
been experienced an ever-increasing discord between the facts which geology
brings to light and the direct statements in the early chapters of Genesis.
Nobody was to blame for that. My father, and my father alone, possessed the
secret of the enigma; he alone held the key which could smoothly open th
lock of geological mystery. He offered it, with a glowing gesture, to atheists
and Christians alike. This was to be the universal panacea; this the system
of intellectual therapeutics which could not but heal all the maladies of the age.

8 Gould, 111.
9 Natural History Review, 5 (1858): 55.
10 Advertisement for Omphalos (1858). Quoted in Ann Thwaite, Glimpses of the Wonderful, 221.
But, alas! Atheists and Christians alike looked at it, and laughed, and threw it away."

It can be difficult to read this passage without discerning a certain crow of vindictiveness from Edmund, but on the wider point he is correct. One of the most piercing public condemnations, representative of the book’s wider criticism, came in the letters page of the *Natural History Review*, from the geologist Joseph Beetes Jukes. Ostensibly objecting to the *Review’s* praise for the book, Jukes writes:

I make no pretensions to skill in the art of logic, but the mere reasoning of Mr. Gosse’s book seems to me of the most flimsy character, based on what I think logicians would call a “petitio principii,” and involving, I am sure, a “non-sequitur” of a most prodigious and palpable description. What is the meaning, in the first place, of his two so-called laws—

1. “All organic nature moves in a circle.”
2. “Creation is a violent eruption into a circle.”

And how does he *demonstrate* them? It appears to me, the demonstration consists in simply drawing a circle, and arranging different stages of the life of an individual upon it. Looked at as a mere diagrammatic form of expression, it is defective, since it suggests the idea of individuals reproducing, not their like, but themselves. To call the succession of generations, and the consequent multiplication of individuals, *a circle*, is a mere vicious metaphor, unless, indeed, we could suppose that a man might begat his own father or grandfather, and that the present generation were alike the descendents and progenitors of the past."

Jukes’s exasperation here is two-fold: that Gosse’s argument is quite literally circular, and that such circularity should be regarded by a journal such as the *Review* as ‘unanswerable logic’. Jukes represents the orthodox Lamarckian position here, and one cannot help but sympathise with his vexation, but he forgets that Gosse has already anticipated and vaccinated this criticism, having secured from the reader a base-level agreement on the immutability of species. The ‘vicious metaphor’ cannot enact, because Gosse has already conceded that his work ‘will not touch’ those who do

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"Edmund Gosse, *Father and Son*, 61-2."
not ‘suppose [...] that the present generation were alike the descendents and progenitors of the past’. Nevertheless, the criticism must have stung Gosse, as he replies directly, in the following edition of the Review. He demonstrates a certain bravery here, in not shrinking from a thesis which had, already, received widespread condemnation. He seeks not to defend himself from Jukes’s charges, but to offer ‘a few thoughts supplementary to my treatise’. These thoughts are almost exclusively doctrinal, progressing from Biblical certainties—‘We may with reverence predicate what God would do or would not do under certain circumstances, from what He, the Immutable has done—in a manner entirely inconsistent with the tone of the book itself’. In cloistering himself in Calvinist certainties, he confounds the implicit agnosticism of the book he seeks to defend.

Perhaps most stinging to Gosse, however, was a long letter dated May 4, 1858, from his friend and ally Charles Kingsley. Kingsley had been asked to review the book for a London journal, but wrote to Gosse to say that he would not, outlining his discomfort with what he saw as the insinuation that it turned God into Deus quidam deceptor:

I do not mean merely in the case of fossils which pretend to be the bones of dead animals; but in the one single case of your newly created scars on the pandanus trunk, and your newly created Adam’s navel, you make God tell a lie. It is not my reason, but my conscience which revolts here. [...] To this painful dilemma you have brought me, and will, I fear, bring hundreds. It will not make me throw away my Bible. I trust and hope. I know in whom I have believed, and can trust Him to bring my faith safe through this puzzle, as He has through others; but for the young I do fear. I would not for a thousand pounds put your book into my children’s hands.”

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41 Philip Henry Gosse, ‘To the Editors of the Natural History Review’, 126.
The idea that the book plays on the conscience of its readers, and the particular implication that it could be dangerous to young minds, makes poignant the earlier notion that it was written in the first instance as a point of conscience. Indeed, separating out the conscientious objectors from those appalled by sophistry is an important task in assessing the criticism of the book. But perhaps most trying for Gosse, here, is that Kingsley is incorrect in his summary. It is explicitly not part of the model that the irruption of creation, and backfill in prochronic vestiges, is an act of deception. As Edmund puts it, the trend for this particular distortion or misinterpretation, was not uncommon: ‘the theory, coarsely enough, and to my Father’s great indignation, was defined by a hasty press as being this—that God hid the fossils in the rocks in order to tempt geologists into infidelity’. Indeed, the reduction of the book’s thesis to a concept of a ‘lying God’ is one that endures and is common in scholarship today. Elliot Sober, for example, cites Gosse as the exemplar of what he terms the ‘trickster God’ hypothesis. Bertrand Russell, who borrowed the Omphalos model for his writings on memory (see Footnote 8, above) writes in An Outline of Philosophy (1927) that ‘Opponents of Darwin, such as Edmund Gosse’s father, urged a similar argument against evolution. The world, they said, was created in 4004 BC, complete with fossils, which were inserted to try our faith’. ‘They’, of course, said no such thing. Similarly, in Darwin’s Plots, Gillian Beer summarises Gosse’s position as considering ‘the implanted fossils as God’s test of our faith’. Regarding the book’s

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1 Edmond Gosse, *Father and Son*, 61.
3 Bertrand Russell, *An Outline of Philosophy* (1927; London; New York: Routledge, 2009), 7. Russell is multiply incorrect, in fact: as I have shown earlier, Gosse was never an opponent of Darwin; just not an advocate.
title, Gerard Loughlin has argued that Adam’s navel is a scriptural fact, and not something Gosse should be concerned with: ‘Had Gosse been less of a zoologist and more of a theologian, he might have argued that Adam had a navel because, being made in the image (tselem) and likeness (demuth), he was made in the image of the image of God—the deity embodied as Christ—who [...] had a navel’. This is a worthwhile theological point, perhaps, but at best supplementary, as Gosse makes reference to his titular conceit of Adam’s navel only in his footnotes, and seeks to invoke Browne, not Moses.

Gosse cannot be ‘less of a zoologist’: the element of the book that makes _Omphalos_ so striking and singular within Gosse’s oeuvre, I suggest, is a readerly one, to which Gosse’s biological surveys are central. The chief failing of the book is one of genre. As becomes increasingly apparent as Gosse’s biological examples accumulate, numbering into the dozens, he has written a book on biology, to argue a point against geology. This, quite simply, is the problem. It is as insuperable a divide as that which he was attempting to bridge in the first place. The contorted logical framework he constructs is his attempt to jam a square stag’s horn into a circular pre-Cambrian hole. And so, as an argument, it is the book’s attendant dullness that makes it so unusual, if not so controversial. His argument is sound, but it is not applicable, and his insistence that we watch his trap deploy dozens of times becomes tedious; the constant reinscription of our readerly errors becomes a little insulting. But as a book of popular biology its true value is apparent. The multitude of minute descriptions of physical properties in animals and vegetables become the stuff for which Gosse made his name, when released of their dialectical burden. Indeed, read in this way, it would be

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exemplary of his work as the Victorian Attenborough: a gifted writer and observer, rendering a summary of the categories of life into meticulous, poetic prose; detailed, rich and colourful. Speaking in the voice of ‘The Botanist’, for example, Gosse spends almost six pages describing the growth patterns of the Alsophila aculeata tree fern:

Let us take it in order. The most recent development is the growing point in the centre of the arching crown of leaves. Around this you would see, if your eyes were above the plane, close ring-like bodies, or, perhaps, more like snail-shells, protruding from the growing bud; then young leaves, partially opened in various degrees, but coiled up scroll-wise at their tips, and around these the elegant fretted fronds, which expand broadly outwards in a radiating manner, and arch downwards. [...] The outermost fronds that compose this exquisite cupola, you see, are nearly naked; indeed, the extreme outermost are quite naked, being stripped of their verdant honours, their pinnae and pinnules, and left mere dry and sapless sticks. (129-30)

Gosse catalogues each sign of age ‘in order’, guiding the planes of the mind’s eye around the biological systems of the imagined fern. The plant is animate; it has dimension and direction, given actual and figurative properties. As he draws from the centre outwards, detailing every inch of his subject, with an expert’s confidence, his turns of phrase remain grandiose: the young leaves ‘coiled up scroll-wise’, the fronds’ lost ‘verdant honours’. The Botanist continues for hundreds of words, working his way out in temporal sequence, listing biological certainties of its genus—the ‘periodic ratio of development of new fronds’ (six per year)—and describing imagined scars on its midribs, peculiar to itself. Each description follows the pattern, more or less; esoteric, technical details follow poetical flourishes, and form genuine achievements in descriptive biology. Until, of course, the final sentence of each run, beginning almost inevitably with, ‘and yet...’ as Gosse’s cosmological imperative takes over once more.

On the points of theology, however, Omphalos needs revisiting, and representation. As noted, the book is not an explicit defence of Genesis, nor is it an
iteration of Gosse’s supposedly literalist faith. Indeed, Gosse seems little concerned with orders of faith as part of his argument, outside of the broadest possible ontological question, of whether or not life was started by a benign creator. He begins his thought experiments explicitly with this concession:

> Do not be alarmed! I am not about to assume that the moment in question was six thousand years ago, and no more; I will not rule the actual date at all; you, my geological friend, shall settle the chronology just as you please, or, if you like it better, we will leave this chronological date out of the inquiry, as an element not relevant to it. (127-8)

The model, then, seeks not to defend Genesis explicitly, merely to suggest a model of biology that conforms to the observable, which includes a non-observable cause. What that cause may be is, as Gosse puts it, entirely irrelevant. The canard of Gosse as the insecure, fearfully reactionary Biblical literalist of *Father and Son* is complicated and, perhaps, explicitly contradicted by *Omphalos*. Take, for example, this concession from the book’s opening chapter:

> I am not assuming here that the Inspired Word has been rightly read; I merely say that the plain straightforward meaning, the meaning that lies manifestly on the face of the passages in question, is in opposition with the conclusions which geologists have formed, as to the antiquity and the genesis of the globe on which we live. Perhaps the simple, superficial sense of the Word is not the correct one; but it is at least that which its readers, learned and unlearned, had been generally content with before ... but for what appeared the exigencies of geological facts. (4-5)

That the Scriptures can be read with grades of meaning (the ‘simple, superficial sense’ of the Word being only the first) is a point of theology often denied to the Gosse model of belief. That he believed in the Word of God there can be no doubt; that he wrestled with the how to regard Scripture, *Omphalos* forces us to consider. Indeed, *Omphalos* is helpful for correcting several such Gosse misconceptions. Edmund
writes in *Father and Son*—a point prominently reiterated by Peter Carey in *Oscar and Lucinda*—that Gosse was ‘proud of never having read Shakespeare’; Chapter Five of *Omphalos* begins with an epigraph from *Twelfth Night*.

Indeed, then, one can make a case for regarding the book as operating as an agnostic text, rather than a text of belief. Excepting the broad, deistic intrusion of a Creator as a first cause, there is very little in the book that requires a God who intervenes in earthly affairs. And the logical structure of the argument means that Gosse is presenting a case that is quite literally insoluble, thus responding to Huxley’s original definition of agnosticism. Gosse does not seek an answer to his own question—he is not interested in the nature of a specific theological truth in this work; he seeks to pose a question that has no answer. His premises are built around the idea that specifics are irrelevant, and that the model can be applied to any system of religious belief. The theory refutes itself ultimately because it is not interested in its own answer.

We may grant, then, the premises of the *Omphalos* model, and accept its argument, but it still will ardently refuse application. Again, what are we to do with it, even if it is true? For his reader, it is a circle of frustration, rather than creation. One has to break into the circle somewhere: the science in the book becomes the thrill of the chase for Gosse; he composes short-range descriptions of exactness and detail, and

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*It is important to be clear here, however. Philip Gosse is no kind of agnostic. If ever there were a man publicly sure of his faith, it would be he. Rather, it is his argument in *Omphalos* that remains agnostic—it is simply wishing to expose the limits of the human mind. Bernard Lightman’s *The Origins of Agnosticism* (Baltimore; London: Johns Hopkins University Press, 1987) provides a detailed and compelling discussion of the foundation of Huxley’s term, and the theological milieu into which it intervened. The common usage of the term today, as a half-way house between belief and unbelief; the theological position of those yet to be convinced—is not quite correct. As Lightman shows, Huxley ‘conceived of agnosticism as a theory that restricted knowledge to the phenomenal realm and that was based on Kant’s notion that the human mind is subject to inherent limitations’ (13). In this sense,
superadds them to a putative argument, which undermines the exactness and the
detail. To paraphrase Gould: which came first, the foolhardy argument, or the
scientifically rigorous examples to prove the argument? Either, with a prochronic
history of the other. To understand *Omphalos* one must embrace these paradoxes,
even if they do add more than a few fine lines and wrinkles to one’s brow.

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agnosticism is not the woolly, indeterminate position of the theological swing-voter. It is, perhaps, a
stronger position than atheism.
Chapter Five

Everything Through a Lens: Gosse, Attenborough, and the Romance of Popular Natural History

One of the duties of scientific men—not necessarily all of them, but certainly of some of them taken as a group—is to make available to the lay public the facts and theories of their science, and especially to try to re-create something of the mental background that is engendered by those facts. [...] Whenever the lag in communication between science and general thought grows considerable, whenever science, through laziness, pride, or pedantry, fails to make herself understood, and whenever the public, through laziness, stupidity, or prejudice, fails to understand, then we shall proceed to a lamentable divorce. It will not be merely the result of science which will not be assimilated, but science herself and the spirit of science will not be understood; and scientists will become an isolate caste in a half-hostile environment.


I actually think the best way of taking the message to the people is by showing them the pleasure. Not necessarily by saying every time, 'You've got to do something about it,' but by saying, 'Look, isn't this lovely?' and the other bit follows.


The copy of Gosse’s *The Canadian Naturalist* that sits on my desk as I write this belongs to the collection of the National Library of Australia. It was printed in 1840 by Samuel Bentley of Soe Lane, London, and looks, for all intents and purposes, entirely indistinct from any book of its age. Its pages are browned with foxing; its green cover-
board is weathered and fraying at the edges, and its scored floral frame is gently
receding. But this particular copy has a quality somewhat unusual for a book of almost
170 years of age: it has never been read. Throughout, there are seven-page lock-outs,
where the pages have yet to be cut from each other; thick clumps of paper never
separated. In the language of bibliography, the book is ‘unopened’: it is an object
which has existed in various degrees of public circulation for more than a century and
a half, without ever having a human eye laid on it. And so, there is something
simultaneously stirring and saddening about taking a letter-opener to the pages, scoring
the edges of the paper, and, as Elizabeth Barrett Browning put it, ‘shaking dangerous
questions from the crease’.

But what of it? Of course, it would be fair, and, perhaps, sufficient to suggest
that this particular copy is merely a bibliographic oddity: a book that has slipped
through the cracks, figuratively or literally, and found itself never in the possession of
someone so inclined to read it. Indeed, how many books do we each have on our
shelves that likely will never be read? And of course, The Canadian Naturalist was not
unread, only this copy of it. Nevertheless, contingencies of cataloguing aside, the
jarring, manifest curiosity evoked by this one object, the debut work of one of
Victorian science’s great popularisers, remaining for centuries quite so literally liminal,
prompts a certain reflection on the very notion of what it is to be ‘popular’ in the
sciences.

Recent works by Bernard Lightman and James Secord both have carefully
qualified the use of the words ‘popular’ and ‘populariser’ as modifying terms, in
recognition of the ideological encumbrances attached to such ideas. In Victorian

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1 Elizabeth Barrett Browning, *Aurora Leigh*, Book One, l. 303.
Popularizers of Science (2007), Lightman notes that, while he has chosen to adopt the word and its cognates, ‘The modern meaning of the terms ‘popularizer of science’ or ‘popular science’ contain such negative connotations that any use of them to discuss nineteenth-century figures introduces an ahistorical distortion that seems to justify their dismissal as unimportant’. The distortion is one that must be negotiated, however, and the slippage between ‘popular’ and ‘inaccurate’ must be carefully gauged. Greg Myers has suggested that the idea of misrepresentation travels both ways, noting that:

Articles for the general public and articles for scientific specialists are strikingly different, but there is a tendency to take either articles for popularizations or specialist articles as primary and dismiss the other form as a distortion. Either the popular article is seen as watering down the difficult truths of the professional version, giving the false impression of an easy comprehension, or the professional version is seen as complicating the simple truths of the popular version unnecessarily.

Secord’s Victorian Sensation (2000), examining the interpolation of the contemporary reader into the authorship of Robert Chambers’s Vestiges of the Natural History of Creation, shuns the notion of the ‘popular’, because it seems to deny an essential link between text and active reader. The word is, as he puts it, ‘designed to render readers as invisible members of a mass audience’. Secord’s solution, which works suitably for the details of his discussion, is ‘commercial science’. Lightman argues, however, that term is both too broad and too narrow to apply to the wider Victorian phenomenon of the household-name man of science. ‘Popular’ nevertheless seems to be a term without which we cannot do. Synonyms offer little help: ‘fashionable’ implies a false ephemerality; ‘common’ carries yet deeper ideological baggage; ‘prominent’ conflates the noticed with the advancing. Julian Huxley’s words epigraphed above seem to share

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2 Greg Myers. Writing Biology, 141.
3 James Secord, Victorian Sensation, 525.
something essential with Secord’s model, in that the notion of the ‘popular’ feeds in
both directions between ‘science’ and ‘general thought’ (accepting those, for now, as
the two horns of the quandary). For Huxley, the ‘duty’ of the man of science is to
make available to the public, in common language, the ‘facts’ and the ‘mental
background’ of advancing science. It is not a commercial responsibility, or a religious
obligation, but a task necessary for the very survival of science itself. Science must not
remove itself from culture. The role of populariser is not to simplify to the point of
distortion for an ignorant, distracted and dismissive public; rather, it is to maintain the
cultural valency, authority, and vitality of the pursuit itself, by feeding back on its own
cultural moment.

Scholars, both aspirational and established, know intrinsically something of
what it is to render into accessible language a difficult, sometimes arcane topic. During
my several years researching and writing this project, I frequently have been asked by
friends, family and unfamiliars alike that enduring question: What is your thesis
about? It remains a notoriously difficult enquiry, which presents both a crisis and an
opportunity. First, of course, one learns to gauge one’s audience, to modify one’s tone.
The answer I give to the Scholarships Office will be manifestly different to the one I
offer my aunt, or a genial stranger at the pub. Indeed, it has taken me some time to
build up a store of rote answers: ‘Have you read Oscar and Lucinda?’ was an early
approach, but subject to a surprisingly slim rate of return. The recent ‘Darwin Year’ of
2009, celebrating the dual milestones of the bicentenary of Darwin’s birth, and the
sesquicentenary of the publication of Origin of Species, offered a renewed cultural
currency to the study of Victorian science. But even in combination with the recent
Richard Dawkins-led ‘New Atheist’ movement, which styles itself a scientific alliance,
taking Darwin as its patron (perhaps incorrectly), the eyes of a certain category of interlocutor glaze immediately upon hearing the words ‘nineteenth century’ or ‘natural history’. After some time, a solution to the quandary became readily apparent. In every abstract, every annual report, and every social situation in which I was required to describe in detail or in summary the focus of my research, I soon found that I reached to Stephen Jay Gould’s wonderfully descriptive comparison, which I have earlier mentioned: ‘Philip Henry Gosse was the David Attenborough of his day, Britain’s finest popular narrator of nature’s fascination’. And while Gould’s statement could today be questioned, nevertheless Gosse has a literary reputation that other popularisers no longer enjoy. As is the case with much of Gould’s writing, what at first seems a throwaway comparison bears a deeper investigation. There seems to be something worthy of reflection about my own cultural moment in reaching to such a comparison when rendering into lay language, the focus of my research.

I proceed from my own, possibly mistaken, fascination here—why do I offer the Gosse/Attenborough comparison so readily when asked to perform a piece of popularising of my own? And why did the locked Canadian Naturalist feel so manifestly curious? Secord, Lightman and Julian Huxley force us to consider the idea that natural history is not merely a branch of science, or catalogue of thought, but is a genre to be read; something essentially writerly, rather than scientific; a literary product to be consumed. And so, I shall examine the literature of Gosse and Attenborough’s popular narrations of nature’s fascination—the resonances in style, structure and intent

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2 Dawkins, Gould’s great foil, notes that many of Gould’s essays for *Natural History* share this ‘throwaway’ quality: ‘When you have to turn these pieces out once a month you must pick up some habits of the professional working to a deadline [...] Gould’s writing has something of the predictability that we enjoy in Mozart, or in a good meal’. (‘The Art of the Developable’, *A Devil’s Chaplain: Selected Essays* (2003; London: Phoenix, 2004), 231.)
of their work, represented in Gosse’s 1860 work *The Romance of Natural History*, and the body of Attenborough’s *Life* series of natural history films.7

The ornaments of popular natural science in the late-twentieth and early twenty-first centuries remain as viable and vital as those of the nineteenth, but commonly are rehearsed in the medium of film. Attenborough’s nature documentaries, beginning in 1954 with the *Zoo Quest* series for BBC television, represent a catalogue of terrestrial natural history so full and encompassing that his films have recently been re-sequenced and released on disc as a complete, ordered evolutionary course, from insects to mammals.8 I shall explore the social aspect of scientific populism, and the writerly attentions of both men: the narrative anthropomorphisms which drive the important notion of storytelling in their work, their appeals to the sensory and the sensational, the construction of authority and authorship, and the notion of the solitary male guide as central device of natural history education and entertainment. What are the qualities of natural history that so captivate a wider public? And how are they rendered between the nineteenth and twenty-first centuries?

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8 Attenborough traces this idea to his own sense of age: ‘When [the then-upcoming series *Life in Cold Blood*] is done, there will be a complete sequence which follows the evolutionary line, so that the first programme will be [Life in the] *Undergrowth*, the second programme will be [The Private Life of Plants, then there will be amphibians, then there will be reptiles, then there will be birds, and then there will be mammals. And that will form a forty hour sequence. The whole lot will then be put on discs which will be numbered sequentially, and we are compiling a cumulative index. So it will be a forty-hour survey of life on land. It’s the sort of idea that occurs to an 80 year-old! Coming to the end, and you think, ‘Yeah, it does all link’. David Attenborough, Interview with the author, October 12, 2007. See Appendix A.'
I. The Hermit Sits Alone: The Solitary Male in Natural History

Greg Myers is helpful in separating the two forms of scientific expression, the specialist and the popular, by discerning their specific impulses in terms of narrative. He uses the term ‘narrative of science’ to describe specialist writings which tend to ‘follow the argument of the scientist, arrange time into a parallel series of simultaneous events all supporting their claim, and emphasize in their syntax and vocabulary the conceptual structure of the discipline’. The popular writings, by contrast, follow what he calls a ‘narrative of nature’, in which ‘the plant or animal, not the scientific activity, is the subject, the narrative is chronological, and the syntax and vocabulary emphasize the externality of nature to scientific practices’. Gosse, as we have seen, conducts his work in both registers, both in and over his various volumes. Nevertheless, the wrinkle in his field of study remains that the scientific imperative of natural history continues forward external to its expression, leaving as residual the poetics of its author. And it is at this intersection of science and literature that we may approach the vexed concept of populism and specialism in the sciences, and, in particular, Gosse’s legacy as a ‘populariser’. The Romance of Natural History, I would argue, is Gosse’s attempt, perhaps unconscious, to bridge the divide. Described by Edmund Gosse as ‘the nearest approach to an English classic of any of Philip Gosse’s writings’, Romance is Gosse’s most vividly sketched, narratively complete, and, in some ways, most ambitious work. He sought to render into words the poetry of natural studies, the sensory pleasure of the natural world; its immediacy, its democracy, its elemental

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1 Myers, 142.
2 Edmund Gosse, The Life of Philip Henry Gosse, 291.
popularity. *Romance* was Gosse’s best-selling work: in its first year, it went through four editions; by 1870, eight editions had been published. In total, the book had 18 printings in Britain, and 10 in the United States.\(^{11}\) Its sequel, ‘the second series’, appeared in 1861, and, though less successful than its predecessor, enjoyed nine British printings.

In Lynn Merrill’s terms, Gosse’s branch of study is ‘Not nature in the abstract, but nature in the hand’\(^{12}\). This is true for the greater part of his work, but *Romance* seeks to establish a link between the hand and the poetic heart; something numinous as well as tactile. In the twentieth century, the physicist Paul Dirac is said to have pronounced that, ‘The aim of science is to make difficult things understandable in a simpler way; the aim of poetry is to state simple things in an incomprehensible way. The two are incompatible’.\(^{13}\) But, for Gosse, such a sentiment would not be correct; they are closely allied. ‘There are more ways than one of studying Natural History,’ he asserts in the opening words of his Preface to the first series of *Romance*:

There is Dr. Dryasdust’s way,—which consists of mere accuracy of definition and differentiation; statistics as harsh and dry as the skins and bones in the museum where it is studied. There is the field observer’s way: the careful and conscientious accumulation and record of facts bearing on the life history of the creatures; statistics as fresh and bright as the forest or meadow where they are gathered in the dewy morning. And there is the poet’s way, who looks at nature through a glass peculiarly his own; the aesthetic aspect, which deals, not with statistics, but with the emotions of the human mind,—surprise, wonder, terror, revulsion, admiration, love, desire, and so forth,—which are made energetic by the contemplation of the creatures around him.\(^{14}\)

\(^{11}\) R.B. Freeman and Douglas Wertheimer, *Philip Henry Gosse: A Bibliography*. (Folkestone: Dawson, 1980), 70. Freeman and Wertheimer, however, ‘doubt if the list is complete’ (70).

\(^{12}\) Lynn Merrill, 8.


\(^{14}\) Philip Henry Gosse, *The Romance of Natural History*. London: James Nisbet, 1860), v. All subsequent references are to this edition. Rev. Dr. Jonas Dryasdust is the fictitious dedicatee of Walter Scott’s *Ivanhoe* (1820), whom the author credited with providing that novel’s dry historical detail.
It seems clear that in all categories—the accurate definition, the conscientious accumulation, and the poetic lens—Gosse has some stake. His technical illustrations and portraiture of insect life, developed particularly during his time in Alabama in 1838, and recorded in his quarto *Entomologia Alabamensis*, drew on his mind’s innate bent toward the first category.¹⁵ Edmund calls his father’s figures, ‘accurate reproductions, in size, colour, and form, to the minutest band and speck, of what he saw before him [...] he had no rival in the exactitude of his illustrations’.¹⁶ David Elliston Allen describes Gosse’s fealty to the second category ‘single-mindedness’, referring to the famous presumptive equivocation by Gosse, mentioned earlier, in his diary entry recording Edmund’s birth: ‘E delivered of a son. Received green swallow from Jamaica’.¹⁸ But it is consideration of the third frame, the imaginative lens, for which Gosse wrote *Romance*. Initially titled *The Poetry of Natural History*, *Romance* is vividly filmic in its descriptive sketches. Indeed, in this it seems to represent a radical change to Gosse’s aesthetic. It is, I would argue, the last of Gosse’s truly original contributions to natural history, and for it to begin with a statement of purpose such as the above—essentially repudiating his approach for the preceding two decades—seems gently radical. His goal was, as Edmund puts it, ‘to paint a series of pictures, the reflection of scenes and aspects in nature, selecting those which had peculiarly the power of awakening imagination, terror, curiosity, and pleasure in his own breast’.¹⁹

¹⁵ *Entomologia Alabamensis* contains ‘two hundred and thirty-three figures of insects, exquisitely drawn and coloured’. *Life*, 130. The University of Alabama Press will publish illustrations from this volume, along with figures from *Letters from Alabama* in September 2010, as *Philip Henry Gosse: Science and Art in Letters From Alabama and Entomologia Alabamensis*. The issue of Gosse and visual culture is complicated, and worthy of development. It is however beyond the scope of the current project.


¹⁸ Edmund Gosse, *Father and Son*, 7.

we have seen, in his seaside and entomological work, Gosse’s passion for the miniature is consuming—the idea that he saw ‘everything through a lens, nothing in the immensity of nature’—but Romance sees him equally enthralled by nature’s grandeur and dimension. Chapters are named by aspect: ‘The Vast’, ‘The Wild’, ‘The Terrible’, ‘The Minute’. Moreover, Romance sees Gosse at his most democratic and collaborative: he corrals together the work of colleagues and fellow naturalists, and draws out their essential poetry. He quotes frequently and at length passages from works such as Charles Latrobe’s *Alpenstock* (1829), David Livingstone’s *Missionary Travels and Researches in South Africa* (1857), and several of Charles Darwin’s travelogues, to illustrate scenes in nature which privilege the numinous majesty of the natural world, above the technical or the scientific. He punctuates his long sections of prose with lines of verse from Wordsworth, James Thompson, William Cullen Bryant, and, at one point, more than a hundred lines of Jane Crewdson’s verse for children, ‘The Tame Gemze’ (1851). Where no adequate example in the literature is available for reconstitution, Gosse retreats to fiction, imagining detailed, extensive scenarios and second-person narrations to convey some aspect of the natural world which piques his sense of the numinous and the poetical. In the chapter ‘Harmonies’, for example, he constructs several pages of imaginative reverie, projecting what it would be like to visit the Syrian desert, or African savannah. He holds that there is something essentially false about merely observing the displaced markers of such places—lions, jaguars, bananas—at the Zoological Gardens, or at Kew. Take this very full passage, which is worth quoting at length:

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*Edmund Gosse, *Father and Son*, 76.*
How vastly more interesting would it be to behold each in its own home—surrounded by all the accessories of surface form, of atmospheric phenomena, of vegetation, of animal life, which properly belong to it, and without which it is merely an isolated object! Let us select a few examples.

To see the ariel gazelle, accompany a troupe of Bedouin Arabs across the great Syrian desert. Grand and awe-inspiring in its boundless immensity, unearthly and ocean-like, the eye shrinks from contemplating the empty, cheerless solitude, and vainly wanders round for some object which may relieve the sense of utter loneliness and desolation. Across the plain, far away towards the west, where the fiery glow of the setting sun brings out their forms in dark relief, a long interrupted line of columns is seen stretching away below the horizon; while, as the troop approaches, prostrate heaps of ruins appear, groups of broken shafts and bases of columns, huge platforms of stone and fallen capitals, while here and there a solitary monumental pillar rears itself above the rest in solemn majesty. [...] Naked, solitary, unlimited space extends around, where man never enjoys the refreshment of a shadow, or rests his limbs under cover of a dwelling. Suddenly a herd of gazelles is seen playfully bounding over the sandy mounds, and displaying their elegant forms, and striking though simple colours, and the inimitable grace of all their actions. The Bedouins seize their lances, the travellers draw their pistols, and, distributing themselves into a wide circle, endeavour to encompass the herd. They seem heedless and unconscious for a time, and then, as the intruders approach, they hold up their beautiful heads, toss their curved and taper horns, and trot up into a closer group. Then, seeing their enemies spurring their steeds from behind the sandy hillocks all round them, they suddenly shoot away with the rapidity of the wind, easily dash through the loosely formed circle, and, though lances are cast, and pistols resound, unharmed they quickly distance the fleetest of their pursuers; turn and gaze, as if in mingled curiosity and contempt, and then away again, bounding over the tawny sand with an agility that seems rather of flight than of running. (36-7)

This is Gosse as a frustrated fiction writer. Here, he is not merely acting as the conduit between action and description, but is actively constructing it, as a mode of nature writing that seems almost like yearning. It is an act of Coleridgean conjuring, in fact, even down to the vestigial ‘prostrate ruins’ of a former society, long-since reclaimed by nature. The three paragraphs quoted above are notable for each possessing a distinct narrative purpose. The first paragraph is Gosse’s preparation for his flight of fancy: how staid are these zoos we all visit, how false, how unatmospheric, how isolating. Indeed, it would seem at first glance to be a particularly curious mode of logic for the life-long champion of the home aquarium, the very simulacrum that endorses this
isolation, to invoke. But this is not, in fact, a disavowal of his delight for mimicked nature—rather, it is to be read as a form of permission-seeking. And unlike his descriptive sketches in *Rambles*, for example, Gosse does not catch himself. He is asking his reader to allow him his poetic chance. Given the chance, he begins his second paragraph with an abundance of fulsome superlatives—‘awe-inspiring’, ‘grand’, ‘boundless’, ‘ocean-like’, set against the corollaries of the sublime, the ‘fiery’ and the desolating. His turns of phrase are pleasing: ‘forms in dark relief’ rings Miltonic; ‘a solitary monumental pillar rears itself above the rest in solemn majesty’ evokes Wordsworth’s description of the silent rhythms surrounding the ruined Tintern Abbey. Notice also Gosse’s pre-occupation with aloneness—resonating poignantly with Edmund’s description of his father as having ‘a peculiarly isolated mind’—which endures despite the reverie taking place within the company of a troupe of men. The sense of isolation is, in part, essential to guide-led natural history as a genre, with its tendency to privilege the work of the eye of the subject. Alexander Wilson explains this phenomenon, with reference to nature documentary film:

> [I]t is not so much the predominance of the visual that is important [...] as it is the separation of the visual from the rest of the senses. The camera, with its insistence on perspective and the narrow field, exaggerates the eye’s tendency to fragment, objectify, and estrange.  

The desolate loneliness and sense of estrangement from the landscape is mediated in Gosse’s passage only by the appearance of the arial gazelles, in the third quoted paragraph. His surrogate actor journeys with the Bedouin not as a member of the tribe, but as a manifest outsider. He is set outside both by his status as a named

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transient—a ‘traveller’—and by his weapon: a pistol, instead of the more primitive lance carried by the troupe. The gazelles are imbued with virtue: they have ‘elegance’, ‘grace’ and ‘beauty’, and enjoy a certain preternatural awareness not only of their surroundings, but of the actions of those surrounding them. Gosse slips over his pronouns between sentences: ‘they’ refers at once to the gazelles and the Bedouin, without a mediating noun. This can be read either as an equivalence between gazelle and Bedouin, as natural occupiers of the land, or, and perhaps more tellingly, as a slip based on Gosse’s incautious enrapture with his imagined creatures—he is transfixed by the thought of them, such that they are always the subject of his attention, if not always, technically, of his sentences.

While Darwin’s two chapters in *On the Origin of Species* regarding the relevance of geography to the distribution of species sought to disavow any causal link between climatic or physical conditions and the emergence of particular animal species,23 ‘Harmonies’ seeks to construct a firm sense of place within the natural world; a deep consonance between landscape and the fauna that live on it. This is an aesthetic consonance, rather than a scientific proposition, and Gosse does, in fact, implicitly acknowledge Darwin’s biological principle, by noting that plants and animals are ‘replaced in similar regions by species more or less closely allied yet distinct’ (35).24 At

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23 Briefly, Darwin argues that geography is of itself not sufficient to account for the presence of particular species. Along lines of latitude, there can exist similar climatic and geographic conditions, but vastly different species of animal. Species are derived from single sources, having migrated from one location, and adapted to their current location, rather than evolving independently. See Chapters 11 and 12 of *On the Origin of Species*.

24 Gosse’s attitude to Darwin’s writings was vexed. He invests several full pages of his book in quoting lengthy, verbatim passages from Darwin’s travel writings. His most direct, though heavily qualified, acknowledgement to their differences comes in a footnote to a short Darwin passage, later in the book: ‘I am very far, indeed, from accepting Mr. Darwin’s theory to the extent to which he pushes it, completely trampling on Revelation as it does; but I think there is a measure of truth in it’ (His emphasis, *Romance*, 73). This is a fascinating allowance—what can be that measure? He does not elsewhere elaborate.
times, Gosse's zeal to render the emotional and aesthetic harmony into landscape leads him to overstate himself, and offer some shop-worn, hyperemotive constructs. His description of a hyena as a man-eating denizen of a thunderous hell-on-earth reads like a work of Gothic fiction, rather than that of a solemn, studied naturalist:

But amid the deep roar rises from the gaunt heaps of stone an unearthly sound, like the laugh of a demon. Again, cackling mirth echoes along the ruined halls, as if exulting in the wild war of the elements, and in the desolation around. Lo! From out of yon low arch in the Place of Tombs, gleam two fiery eyes, and forth stalks into the lightning the fell hyena. With bristling mane and grinning teeth, the obscene monster glares at you, and warns you to secure a timely retreat. Another appears, bearing in its jaws a loathsome human skull, which it has found in the caravan track. You shudder as you hear the bones crack and grind between the powerful teeth, and gladly shrink away from the repulsive vicinity.

(39)

Again, as with the gazelles, Gosse’s imagining takes place on the ruins of human occupation—he places his hyenas at ‘The City of the Wilderness’ in Mesopotamia: a ‘Place of Tombs’ built of ‘grim marble’.

Again, he speaks to a desolate solitude, rendered meaningful by animals. Indeed, this trope of the ‘solitary male’ is a recurrent figure in natural history generally, as a narrative trope, a zoological phenomenon, and a structural strategy. Gosse amplifies these imaginative transpositions by re-rendering passages from the travel writings and Nature diaries of his contemporaries, to provide a firmer sense of narrative for his reader. Indeed, he makes truth into fiction as he constructs breathless, second-person narrations. He positions himself at one remove, and his reader at two, as a projected actor in what ostensibly become adventure tales.

Thomas Witlam Atkinson’s travelogue Oriental and Western Siberia (1858), for example, is rendered in this wise:

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25 ‘City of the Wilderness’ was referred to by William Atkinson in ‘Notes of an Excursion to Ka'ah Sherkát, the Ur of the Persians, and to the Ruins of Al Hadhr, the Hutra of the Chaldees, and Hatra of the Romans’ (Journal of the Royal Geographical Society of London, 11 (1841): 1-20) as the remains of the fortified city of Hatra, famous for repelling Septimus Severus in A.D. 200, in modern-day Iraq.
You pursue the little mountain stream, through the thick mass of tangled cedars and fallen rocks, slippery and treacherous to the unwary foot ... With difficulty you climb through a ravine to the top of the waterfall, and follow the stream for a few hundred yards higher, till you find its origin in a little mountain tarn [...]

How beautiful is the little quiet lake, clear as crystal, but of great depth, and hence of a deep-green hue, receiving and absorbing the sun’s rays in its profundity, like a floor of polished beryl! And there on the opposite precipice, gazing down into the distant water, stand in antlered majesty three noble stags.

(41)

Again, the landscape remains estranged—‘slippery and treacherous’—until mediated by the gaze of a creature native to it—recalling his narrative strategy for rock-pools. The poetical consonance between land and its life extends only to the naturalist when he frames himself within this construct. Gosse footnotes a caveat, applying for the consideration of the piece’s basis in fact, rather than imagination, that, ‘Every feature in this picture is in Atkinson’s Siberia; in the grouping only have I taken any liberty’ (41).

II. Space, Author and Authority

Indeed, the occupation of space, and the taking of spatial liberties by our naturalist intermediaries is a controversial discourse, and it is here that we may first locate David Attenborough. The place of human actors within the natural landscape in nature documentary film trades on similar values to those expressed by Gosse. In 2006, Germaine Greer traduced Australian film-maker and conservationist Steve Irwin, in the weeks following his death, with the words:

There was no habitat, no matter how fragile or finely balanced, that Irwin hesitated to barge into, trumpeting his wonder and amazement to the skies. There was not an animal he was not prepared to manhandle. Every creature he brandished at the camera was in distress. Every snake badgered by Irwin was at a
huge disadvantage, with only a single possible reaction to its terrifying situation, which was to strike.¹⁶

This is perhaps true, but by no means is it uncommon. In fact, it fulfils a certain authorial imperative central to guided nature study. Irwin’s brand of excitable narration would fit quite comfortably into Gosse’s categories of poetical consonance, owing precisely to this trumpeted sense of ‘wonder and amazement’, invoked by Greer as a pejorative. But where Gosse and Irwin mediate landscape through reference to the fauna that are inherent to it, David Attenborough mediates the visual estrangement inherent to the genre, in Wilson’s terms, by his own presence—the presence, or, perhaps, intrusion, of our solitary male guide in the natural environment he is describing. Throughout his films, Attenborough appears on camera to give a sense of perspective, or explanation, as an in situ alpha male. As he notes in his memoir, Life on Air (2002), the technique is employed by producers:

> to get their human presenter as close as possible to the animal he is describing, particularly if he can be talking at the same time. They call it a ‘two-shot’. The presenter, they think, will reveal, by his reactions and the way he speaks, something of the character of the animal beside him. Is it nervous, or deaf, or maybe even dangerous? The shot also gives some idea of the size of an animal if it is seen alongside a human being. At the very least, the two-shot should demonstrate to viewers that the presenter was actually there when the animal was being filmed, and giving his commentary from first hand experience. That way, a viewer can imagine to some degree what it would be like to be in the presenter’s place.²⁷

Even in modern adumbrations of natural history, then, we find again Gosse’s urge for his reader/viewer to practise imagining: to put yourself in ‘my’ place, as an exercise in exchange, scale and projection. Attenborough interacts with his subjects, rather than

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¹⁶ Germaine Greer. ‘That sort of self-delusion is what it takes to be a real Aussie larrikin’, The Guardian, September 5, 2006. [http://www.guardian.co.uk/australia/story/0,1865124,00.html](http://www.guardian.co.uk/australia/story/0,1865124,00.html) [accessed July 1 2010].

observing them dispassionately, often to induce a particular type of behaviour. In The Trials of Life, for example, he goads a skunk into using its spray, with an admission of transgression to the viewer that he is, ‘going to press [his] luck a bit’.” Similarly, he upsets the sand-bank nest of a mallee-fowl, observing that, ‘If I flick the sand off, he [the bird] flicks it back’. In this sense, then, Attenborough is constructing his landscape as readily as Gosse, and to much the same end. The solitary male guide is the author of his own natural world.

This sense of authorship and authority is important both in and of Gosse’s work. Romance enjoyed an impressive sale based, in part, on the book’s curious final chapter, ‘The Great Unknown’.” The chapter deals, on its face, with arguments for the existence of an apocryphal giant sea-snake, tales of which had enraptured the Victorian public for some time. In 1848, Edward Newman, editor of the Zoologist journal, published The Great Sea Serpent, an expansive anecdotal history of the existence of the creature, based on recent contributions to his journal. The discourse on the great snake is important not for its particular interest in biological enquiry, but for its function as a frame for the discussion on the ethics of authority in the sciences, and the delicate suppositions on which a reading public builds and places trust. A forceful, anonymous review of Newman’s book appeared in the Westminster Review, in January 1849, making just this point:

There is, perhaps, no phase of the human mind more curious or inexplicable than that state of servile submission to authority in matters of belief which characterizes the majority of mortals. It is, indeed, a humiliating spectacle to behold full-grown men depending implicitly for opinions on the dictates of their fellow-men; prostrating their intellect, distrusting the evidence of their senses,

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* ‘Episode Six: Homemaking’. The Trials of Life.
* The difference in sales figures between the first and second series of Romance (see p174, above) seems to offer partial evidence for this claim.
and absolutely turning a deaf ear to conclusions, however obvious, if not reaching them through the channel of acknowledged authority? [...] We do not hesitate to say, that progress of science in this country is arrested by the strong hand of self-elected authority, and the promulgation of scientific truth retarded by those who arrogate themselves an exclusive monopoly of philosophic lore."

The fervency with which the giant sea-serpent was being courted by naturalists and the public alike, the review argues, marks a departure in study and classification from specimen-based science—no bones of such a creature have ever been found—to a kind of faith-based fealty to anecdote, checked by the architecture of its authority. And through the serpent, Newman was beginning to turn natural history, as a discipline, into something precariously circular. Authority for claims of having seen a great snake must be ceaselessly examined:

The first witness whom we shall call on the part of the sea-serpent is the Rev. Mr. Egede [...] Mr Egede’s statements are equally trustworthy with his drawings; there is no attempt at exaggeration, and he appears to be actuated by no other motive than that of modestly disseminating Natural History [...] Not a single doubt has ever been entertained, as far as we can discover, of his veracity, piety, and single-mindedness [...] The single blot on this reverend gentleman’s character appears to be his having seen a sea-serpent. [...] The high character of the narrator, and his otherwise unquestioned veracity, are sufficient guarantees for his having seen something; his extraordinary knowledge of the Cetacea and seals, extending to the most minute distinctions of species, proves that his monster could not have been one of these tribes. [...] That it was a sea-serpent, or a serpent of any kind, certainly does not appear."

In a sense, the review calls for a biology of authority; a system of classification of authority-claims to ensure that there remains a good-faith progress in the sciences, based on ‘estimating the value of evidence based on the trustworthiness of the witness’

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* "'[Review of]. The Great Sea-serpent', 493-4. Author’s emphasis.
until such time as specimen-based evidence can prove or disprove its claims.” That is, a Linnaean order of authors. It is into this discourse that Gosse’s chapter intervenes.

Prima facie, ‘The Great Unknown’ seems an anomalous, out-of-tune coda to Romance—for a book so concerned with the numinous and the imaginative to conclude with such a sober and rigorous discussion on authorship appears curious. Indeed, its tone is markedly different from the preceding chapters. But, in fact, the chapter performs an important function, as a form of retroactive self-audit. Like Newman, Gosse uses the sea-serpent merely as a conduit for a wider point. Being so reliant on second- and sometimes third-hand accounts of nature and landscape, Romance requires an interrogation of the legitimacy of its source material, even if only for appearance’s sake. And ‘The Great Unknown’ provides it, if, perhaps, a little late.

‘The Great Unknown’ shares the Westminster Review’s sentiment on the importance of the author to Natural History, and frames Gosse as the dispassionate auditor of each of the more prominent claims for the serpent. As with Omphalos, Gosse is intervening to settle a debate (without, it must be admitted, having been asked). To establish his own authority for the task, he writes:

There are several questions in natural science which are questions vexæ, because a certain amount of evidence of facts is on one side and a certain amount of presumption of impossibility on the other. If eye-witnesses (or those who present themselves as such) could decide the points, they would have been decided long ago; but those who are believed to be best acquainted with natural laws, claim that theoretical impossibilities should overpower even ocular demonstrations. There is far more justice in this claim than appears at first sight. The power of drawing correct inferences from what we see, and even of knowing what we do really see, and what we only imagine, is vastly augmented by the rigorous training of the faculties which long habits of observing certain classes of phenomena induce. (275-6)

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His own rigorous training and long habits of observation thus established from the preceding chapters, Gosse dedicates the first 40 pages of what is the book’s longest chapter to extensive passages of eyewitness testimony, sourced from newspapers, journals and published works (indeed, much comes from Newman’s book, though, unusually, Gosse does not directly acknowledge the debt). Accounts range from those of captains and petty officers onboard Norwegian, American and British vessels, English naturalists and scientists, and a particularly long discussion from Richard Owen. Each anecdote is presented without initial comment from Gosse, but collected wholesale, before an extensive, point-by-point analysis and rebuttal in the second half of the chapter. Gosse begins his analysis by disavowing any account that is not by an Englishman—a method that A.C. Oudemans describes as ‘ridiculous in the eyes of all reasonable persons’.34 This is indeed unreasonably Anglocentric on Gosse’s part, but it is also an attempt at consistency of samples. His ‘Summary of British Testimony’ collects nine characteristics of the supposed serpent, to be cross-referenced over twenty pages with Gosse’s store of zoological experience. Gosse is quite conscious—almost ostentatiously—of performing natural history here. ‘I have been accustomed for nearly forty years to draw animals from the life;’ he writes, ‘and the public are able to judge of my power of representing what I see’ (323). Here, he is switching from the Myersian ‘narrative of nature’ to the ‘narrative of science’: announcing his privilege as a scientist, and reframing the narrative focus from the creature, to the scientific endeavour for its classification. He ends by expressing his ‘confident persuasion’ that, having examined the evidence scrupulously, ‘there exists some oceanic animal of

immense proportions, which has not yet been received into the category of scientific zoology’ (340).

And again, this notion of authority echoes in Attenborough’s work. The concept of an ‘authored’ piece of television, in which intellectual claims are value-added by the cultural authority of the speaker, emerged with two major BBC documentary series: Kenneth Clark’s history of the arts, *Civilisation* (1969), and Jacob Bronowski’s chart of the sciences, *The Ascent of Man* (1973). Both series were commissioned by Attenborough during his tenure as Controller of BBC Two from 1965-69, and were conceived as an attempt to translate the study of broad histories into a visual medium. As Attenborough writes in his memoir,

> Joanna Spicer at one of our routine meetings murmured in her tactful way that she had set aside some of the network’s programme allowance just in case I had it in mind to celebrate the arrival of the colour service with a special spectacular series of some kind. I brooded on this. I recalled a part-work issued when I was a boy called *An Outline of History* written, or at least edited, by H.G Wells. I remembered how excited I had been that a great writer had decided to tackle a major slab of human knowledge about which I knew little and was going to give me an outline of it [...] Why not commission a television equivalent? [...] So the *Civilisation* series was born. 

The sense of scale and outline is key here. It should be noted, however, that the vast majority of natural history documentary is not authored. Indeed, different voices often are used for different markets; updated, modern narrations can be imposed over sometimes decades-old footage. This narrative flux accounts for at least some of the enduring longevity of nature films; there is no new natural history, only new narrators. In one such example, the flagship BBC/Discovery co-production, *Planet Earth* (2006),

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*Attenborough, *Life on Air*, 212-3. The H.G. Wells book to which Attenborough refers, *An Outline of History: Being a Plain History of Life and Mankind*, was first published in parts between 1918-19, and in book form in 1920. Rather than being edited by Wells, it was written by him in collaboration with several ‘specialists’, whose names were removed from the title page from the 1926 edition onwards.
first transmitted in September 2006, produced by Alistair Fothergill, was narrated by Attenborough for its British broadcast, and by the actress Sigourney Weaver for its American release. The choice of Weaver acts as an interesting retreat to fictional authority—her role as the American conservationist and naturalist Dian Fossey in the 1988 film *Gorillas in the Mist* seems to be at least a latent influence on her selection.36

The head of the BBC’s Natural History Unit, Neil Nightingale, is more pragmatic about these matters of authorship. He notes:

> People often ask ‘Where’s the next David Attenborough?’ and one could say [in response], you know, ‘Well, where was the next Bronowski?’ The ‘giant’ in terms of broadcasting and authorship—it’s rather foolish to say ‘Where’s the next one?’, because they come because of who they are. [...] We’re doing many [productions] in the future that are authored by the producers, rather than an individual, and they’re equally as successful as authored pieces. I think it’s always good to have a mixture.”

Nightingale seems correct to the extent that these figures cast long but thin shadows, in terms of gross output. But the next Bronowski was, surely, Attenborough, and as such the question remains problematic. Furthermore, these *in situ* authority figures seem to represent something more important to the discipline of public natural history than to be so easily reduced. A poll conducted by *Readers’ Digest*, for example, of the ‘Most Trusted Brands’ in 2006, found Attenborough to be Britain’s ‘Most Trusted’ public figure.38 The idea that public science is taken on trust is interesting to consider. On

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36 According to Attenborough, the decision to change narration was made solely by former controller of BBC 2, Jane Root, who is, perhaps notably, British. (Interview with the author, October 2007. Appendix A). Nightingale, however, suggests that re-narration by an American actress is ‘just standard practice’ (Appendix B).

37 Interview with the author, September 2007. See Appendix B.

38 The degree to which such a poll can itself be trusted, though, is complicated by other results, such as Vladimir Putin being designated Russia’s Most Trusted, and French readers nominating then UMP leader, Nicolas Sarkozy, ‘Trusted Brands 2006’ *Readers Digest* [http://www.rdeuropehealth.com/trusted-brands/results/person.shtml](http://www.rdeuropehealth.com/trusted-brands/results/person.shtml) [accessed July 1 2010]. Nightingale registers the idea of viewer ‘trust’ similarly, suggesting: ‘I think also the great thing of having David’s authorship is that it adds a degree of
what basis is such trust established? In Attenborough’s early television work, he forged an important relationship with Julian Huxley, who played Gosse’s ‘Great Unknown’ role as auditor of televised scientific claims, in his capacity as ‘one of the most distinguished biologists of the time, celebrated for his lucid explanations’. Public distinguish, it would seem, is a reward for lucidity and authority: a strong case for narrative stability, rather than flux.

III. Colour: The Luminous and the Numinous

It seems apt, then, that the authored nature documentary, which grew out of the work of Clark and Bronowski, is, in its simplest form, an extension of a celebration of colour. A sense of the vibrant and the vital has always been central to the literature of natural history, and Gosse’s Romance, in particular, abounds with references to the work of the eye. In his ‘Sea-side Studies’, Lewes contends that the microscope constitutes not merely an improved way of seeing, but a new sense entirely. But in Romance, no instruments of seeing are invoked. Light and colour are simulated by Gosse in much the same way as it is celebrated by the work of the ‘wandering rays’, or the camera. Count the references to the interplay between light and vision, for example, in a description such as that of a moth, which Gosse recounts pursuing with a net:

And now comes a dazzling thing, the ‘burnished brass’, its wings gleaming with metallic refulgence in the lamplight; but (O unfortunate puer!) a nimble bat is

veracity, of trust. I think that’s almost as important as the interaction with the animal, [...] You get that authorship, and the thought that you trust in that individual and their perspective. (Appendix B)

* Attenborough, 15.
beforehand with you, and snaps up the glittering prize before your eyes, dropping the brilliant wings on the ground, for your especial tantalisation. (23-4)

‘But never mind!’ he continues, finishing in a lovely, unintentional couplet, ‘The bat is an entomologist too, and he is out mothing as well as you, therefore allow him his chance’. Gosse’s description of boyhood entomologising, recalling his days in Newfoundland as a late-teen, where he first discovered the passion for the minute, is particularly instructive. There is something essentially child-like about his fixation with the pleasure of the eye:

He pauses in the high-hedged lane, for the bats are evidently playing a successful game here, and the tiny grey moths are fluttering in and out of the hedge by scores. Watchfully now he holds the net; there is one whose hue betokens a prize. Dash!—yes! it is in the muslin bag; and, on holding it up against the western sky, he sees he has got one of the most beautiful of the small moths,—the ‘butterfly emerald’. (22-3)

Moths and butterflies are particularly relevant to Gosse’s concept of colour—he constructs a moral economy, based on brilliance of hue. He refers to ‘mean-looking, grey affairs’ (23), for example. What his descriptions lack in specificity of detail, they make up for in intensity. The Morpho butterfly is coloured in such a way, however, as to overwhelm the visual faculty, ‘the lower surface of the wings adorned with a pearly iridescence, and concentric rings, while their upper face is of an uniform azure, so intensely lustrous that the eye cannot gaze upon it in the sun without pain’ (55). Even sound is chromatic for Gosse, the bell-note call of the campareno bird of the Amazon, is ‘silvery’. Indeed, colour is so central a preoccupation to Gosse that it becomes a particular mode of spatial arrangement. Landscapes are often fully coloured:

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Azure seems to be a particularly problematic shade for Gosse. Elsewhere he notes ‘Great butterflies, with wings of refulgent azure, almost too dazzling to look upon, flap lazily athwart the glade, or alight on the glorious flowers. Little bright-eyed lizards, clad in panoply that glitters in the sun, creep about the parasites of the great trees, rustle the herbage, and start at the sounds themselves have made’ (20).
Rocks of all hues, bright red, purple, yellow, green; of all combinations of colours, white with purple spots, white with blue veins, brown with pale-green streams, pale-crimson with veins of black and yellow, are scattered about in unheeded confusion; while, above all, the rich and splendid jasper rises in enormous masses, as if it were the vilest rock, yet glittering in gorgeous beauty,—mountains of gems. Here is one of deep violet; and here a ribbon-stripe, marked irregularly with alternate bands of red, brown, and green; and yonder is a huge heap of shattered blocks of the richest plum-purple, transmitting the light in sparkling lustre. (40-1)

And even death becomes an exercise in the stages of colour. From his private journals, re-rendered by Edmund, he recounts the death of a dolphin in coloured terms:

Next morning the captain speared a dolphin (Coryphaena psittacus), and Gosse eagerly watched for those changes of colour which are popularly supposed to attend the death of these creatures. He was not disappointed. When the expiring animal was first brought on board, it was silvery white, with pearly reflections; the back suddenly became of a brilliant green, while the belly turned to gold, with blue spots. This was the only change, except that all these hues became dusty after death. They cooked the fish, and found it firm and palatable."

For Attenborough, colour is as much a technical issue as it is an aesthetic one. Indeed, there has always been a certain tendency to conflate the technical and the aesthetical in these matters." He speaks passionately in his memoirs about advancement in the technology of camera lenses allowing him to publicly celebrate the small among us. ‘The trouble with lenses is focus’, he writes, ‘The depth of field—the horizontal distance in front of the lens within which everything is in focus—is very shallow. These

* Of the many examples in which quality film stock has been conflated with the numinous, the differing account between journalist and film-maker Malcolm Muggeridge, and his cameraman, Ken Macmillan, during the filming of the biographical documentary on Mother Teresa, *Something Beautiful for God*, is perhaps the most satisfying. Macmillan notes, “[T]here was an episode where we were taken to a building that Mother Teresa called the House of the Dying. Peter Chafer, the director, said, ‘Ah well, it’s very dark in here. Do you think we can get something?’ And we had just taken delivery at the BBC of some new film made by Kodak ... So we shot it ... And it was surprising. You could see every detail ... And I was going on to say, you know, three cheers for Kodak. I didn’t get a chance to say that though, because Malcolm, sitting in the front row, spun around and said, ‘It’s divine light! It’s Mother Teresa. You’ll find that it’s Divine Light, old boy.’ (Christopher Hitchens, *The Missionary Position: Mother Teresa In Theory and Practice*, London; New York: Verso, 1995, 26-27.)
wonderful new lenses allowed us to film up close the tiniest of creatures.” Gosse too was excited at the possibilities of technology for his study, and wrote an almost identical sentiment of his microscope in 1859:

Great and gorgeous as is the display of Divine power and wisdom in the things that are seen of all, it may safely be affirmed that a far more extensive prospect of these glories lay unheeded and unknown till the optician’s art revealed it. Like the work of some mighty genie of Oriental fable, the brazen tube is the key that unlocks a world of wonder and beauty before invisible, which one who has once gazed upon it can never forget, and never cease to admire.”

IV. The Narrative Work of Anthropomorphism

We note again in these sketches Gosse’s tendency to anthropomorphise. Neil Evernden argues that narrative anthropomorphism takes three forms: ‘the attribution of human form, the attribution of human characteristics, and the attribution of cultural abstractions’.” In terms of diction, Attenborough, like Gosse, fills his words with the weights of Victorian literature and cultural abstraction. One scarcely can miss the insinuation when he refers to parasitic insects as ‘bodysnatchers,” for example, or that a wasp who kills damsel flies is committing ‘murder’. ‘Thieves’ and ‘trespassers’ abound in Attenborough’s descriptions: a seagull attacking puffin-nests breaks two of the Ten Commandments simultaneously, being a ‘murdering robber,’ taking the number of Biblical wrongdoings by the prelapsarian animal kingdom to slightly uncomfortable heights. Indeed, there seems to be a recurrent proposal of privileging

“David Attenborough, Life on Air, 122.
“Gosse, Evenings at the Microscope; or, Researches Among the Minuter Organs and Forms of Animal Life. (1858; New York: D. Appleton, 1868), iii.
“The Trials of Life, Episode I.
industriousness, as it were. As Carlyle rewarded the captains of industry, so too does Attenborough demonstrate a certain narrative privilege toward the home-builders and young-rearers, as against the supposed parasites and predators who disavow the effort. Of course, rather than being classificatory or descriptive techniques—with which so much of Gosse’s work is busy—they are narrative strategies. The majority of viewers share a certain moral impulse which sides with the antelope, rather than the lion, and we tolerate these words in kind. Indeed, as Bousé argues, wildlife films are continuously negotiating this balance between ‘science and storytelling’. The tension is played out in several different ways. In Attenborough’s early narrations, he was uncommonly fond of hybridity, another recurrent trope of the Victorian Gothic—the silkworm is ‘half caterpillar, half worm’. The fossa, a mongoose-like animal native to Madagascar, is half-cat half-dog. He often retreats to gastronomical certainties. A sea filled with egg spawn is a ‘black turbid soup’; the viscous glandular secretions of insects is ‘honeydew’; the snake who relocates its jaw after ingesting food does so with a ‘yawn’.

Such narrative anthropomorphisms are vexed and have a long critical history. At its root, the use of humanisations in popular narrative science is a problem of description. Indeed, as Gillian Beer has noted, the English language by its very structure encourages the attribution of human qualities to non-human entities: ‘Since English is an ungendered language one need only to add a ‘his’ or ‘hers’ to turn a word into a personification. With personification enters intention’. Herbert Spencer argued that anthropomorphisms are ‘an inevitable result of the laws of thought’, and

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* Gillian Beer, *Darwin’s Plots*, 69.
* Herbert Spencer. ‘The Use of Anthropomorphism’ *The Leader* (5 November 1853), 1076.
remain an important cultural index in measuring a society’s own sense of self-worth. The more ‘savage’ a culture, the more savage the anthropomorphic God they construct to keep them in check. And so too with representations of animals. As Mary Midgley has written, anthropomorphism may be the ‘only example of a notion invented solely for God, and then transferred unchanged to refer to animals’,51 Indeed, to debate anthropomorphism is to necessarily invoke the numinous. For Attenborough, narrative anthropomorphisms are more complicated:

I think that the issue tends to get oversimplified. People simply assume that anthropomorphism is, in all circumstances, anathema. And it is not so. Because, in a philosophical sense, the only way we can understand anything is fundamentally in an anthropomorphic way. If you see an elephant coming at you with its ears flapping, trumpeting, its trunk raised, and running at thirty miles an hour in your direction, it is anthropomorphic to assume it’s angry. But it’s also true. The only time that anthropomorphism becomes unacceptable is when you impose a human reaction on an animal for which there is actually no evidence [...] But to assume that the thing is without feelings of any kind is equally wrongheaded.52

For Attenborough, then, the anthropomorphism is the intrusion of analogy into an infinite regress, implying corresponding human feelings or characteristics, rather than directly analogous ones. As Attenborough’s angry elephant model demonstrates, the strict biologist would run to trouble by denying an analogous mental state. Laurie Taylor calls the supposed ‘exasperation’ of crisp biologists to references to ‘baby’ spiders, rather than ‘young’ spiders, for example, ‘professional jealousy’ on the part of some members of the academy, to the successes in popularising natural science.53

52 Interview with the author. Appendix A.
Stephen Jay Gould led a career-long campaign against the practice, however. He writes:

Socio-biologists are often fooled by misleading external and superficial similarities between behaviours in humans and other animals. They attach human names to what other creatures do and speak of slavery in ants, rape in mallard ducks, and adultery in mountain bluebirds [...] But [these traits] never did exist outside a human context. If mallard males seem to force physically weaker females to copulate, what possible relationship, beyond meaningless superficial appearance, can such an act have with human rape?21

Ever-conscious of his own tone, however, Gould anticipates the obvious response with the caveat:

Is this not pedantic grousing? Aren’t the human terms a cute, graphic and acceptable shorthand for what we all recognise as a more complex reality? Not when a colleague describes other males in the vicinity of its next with these words: ‘The term ‘adultery’ is unblushingly employed [...] without quotation marks, as I believe it reflects a true analogy to the human concept ... It may also be prophesised that continued application of a similar evolutionary approach will shed considerable light on various human foibles as well’.22

Gould’s unnamed colleague is David P. Barash, writing in a letter to the editor in The American Naturalist in 1976.23 Indeed, perhaps Barash ought to have blushed, but not, I would argue, for his appellation ‘adultery’ (and it is notable that he qualifies the term with the adjective ‘Apparent Female Adultery’ in the piece’s title). Indeed, to argue that the approach ‘sheds considerable light’ on human behaviour is an obvious, unwise overstatement.

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22 Gould, 244.
Gosse’s anthropomorphisms, by contrast, show no such sign of conflict. He employs them readily, and without compunction, as we see throughout his oeuvre. His animal actors often are fully anthropomorphised. In a touching, unpublished obituary to his beloved cat, entitled *Fairy: A recollection*, written in 1877, Gosse bridges the gap between the two versions of anthropomorphism: from God to humanity, humanity to animal:

I have somewhere read the remark ‘Man is the God of the dog.’ and certainly, in many particulars, the interrelating of this little creature to me & of me to her, seemed to dimly shadow out those between Almighty God & his creature Man. The vast superiority in the scale of existence, yet the kindly loving care, the watchfulness for her comfort, the provision for her supply, the response to her mute appeals, the tender affection that I felt for her, most which she doubtless had no comprehension of, often presented themselves to me as somewhat, however distantly, like what the Blessed God is, and exercises, towards us.”

If Gosse’s relationship to the anthropomorphised animal is as his relationship to God, the strategy would appear to be an annexure of his natural theology. If one’s intimacy with the Almighty is as one’s intimacy with the natural world, one must be encouraged to render the latter easy to interpret.

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Afterword

The Walk in Science of Philip Gosse

In his recent study of the scientific practices of Joseph Dalton Hooker, *Imperial Nature* (2008), Jim Endersby identifies Hooker’s life and work as emblematic of, and fundamental to, the three meta-narratives that have come to dominate our understanding of Victorian science as a whole. For Endersby, ‘the reception of Darwinism, the consequences of empire, and the emergence of a scientific profession’—being the touchstone concerns of science in the nineteenth century—each are rehearsed and embodied in and of Hooker’s career.¹ Endersby suggests, however, that Hooker’s role in these discourses was not a necessary one: ‘[O]nce we examine the details of Hooker’s career and compare them with those of his contemporaries’, he proposes, ‘it becomes clear that there was nothing inevitable about the changes he participated in’.² Hooker’s role in each was active, then; his support of, and advocacy for, natural selection was interrogative, and stressed praxis; his endorsement of the

² Endersby, 5-6.
increased professionalization of science was a gamble, on which he staked his nascent reputation. In each of the ideological fault-lines that came to define the culture of science in Victorian Britain, Hooker had some jeopardy; his role in the sea of ideas was not that of a boat in a rising tide: he remained one of the waves.

Looked at in Endersby’s terms, the contribution of Philip Gosse to Victorian science as a discourse seems furtive and minor. In the arguments to which Hooker is central, and of which he is consummate, Gosse ultimately has little stake. A letter to Hooker in 1867 appears implicitly to register this, in fact, as Gosse reflects, somewhat plaintively: ‘Though my walk in science has been mainly in invertebrate zoology, so far as I am known in the world, yet gardening is my pet hobby—[...] I would at any time turn away from a sea-anemone to a rare or new flower’. Indeed, such a statement registers of itself several of the elements with which this thesis has concerned itself. Gosse’s admission that he readily would turn from the objects of his expertise, to those of the new or the uncommon, demonstrates in short order his fundamental belief in the study of natural history by the inexpert and the interested, guided by the expert and the specialised. It seems also to register regret: the subordinate clause, ‘so far as I am known in the world’, addresses his professional life, and his role as a teacher and as a public intellectual. It seems to suggest a slippage; that Gosse felt a gap between his self-image as a naturalist—who had written about nature at large throughout his career, who had made important contributions to the study of birds, and New World ecology,

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3 Ann Thwaite, *Glimpses of the Wonderful*, 261. Thwaite points out that Gosse and Hooker had a family connection: the brother of Gosse’s second wife, Eliza, was married to Lady Hooker’s sister; that is, Gosse’s brother-in-law to Hooker’s sister-in-law.
for example—and of his public perception, as man who saw, as Edmund would put it, 'everything through a lens'.

The Hookers and the Gosses make an instructive contrast beyond this. For William Jackson Hooker and Joseph Dalton Hooker, the transition from father to son was successful. The son inherited the work of the father linearly; Joseph was as eminent a botanist as his father. He took up the stewardship of Kew Gardens from William in 1865, and continued his work until retirement in 1885, making Kew one of Britain’s foremost scientific assets. For Edmund and Philip Gosse, the patrimony was more fraught, the transition more retroactively acrimonious, but ultimately it was more writerly. Edmund may not have traced his father’s scientific footsteps, but he did inherit his father’s cardinal trait, in a gift for writing, and a desire to direct the eye, and the interest, of a wider reading public.

Gosse’s ‘walk in science’ was a ramble: it was improvised, distractible, discursive, and renewably interested in the path untaken; it encountered several mis-steps along the way. The imaginative project of his body of work is one that sits unsteadily on a balance between public science and private study; of popular teaching and esoteric classifying. His system of address in each of his books remains demonstrative. Whether writing to the notional child, the actual child, the amateur, the professional or the unscientific, Gosse’s narrative cadence stresses light, colour, society and symmetry because it seeks to teach a new way of looking, and to direct attentions to a new order of interest. It may not have had a lasting effect on the concerns of ‘Victorian science’, as a genre, but it was central to the understanding of science by the Victorians.

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1 Edmund Gosse, *Father and Son*, 76.
Perhaps it would be fair to give the last word on these matters to Gosse. Writing on butterflies in *Letters from Alabama,* Gosse reflects:

Perhaps you will say I am somewhat extravagant in my admiration of these insects, but really I think that any words of description are insufficient to do justice to their surpassing beauty. Take a butterfly into your hand and examine it yourself for a moment superficially; for though the internal organization would be equally instructive, we will not enter into that at present. Look at the richness of the colours. What brilliant hues! Note the burnished metallic gloss and the changeable glow of many of them; the soft velvety downiness of all. Look at the distribution of the colours; into what elegant forms are they thrown—lines, and bands, and spots, and rings, and eyes: think that the whole surface is a mosaic, the most minute, the most elaborate, and the most perfect that can be conceived. [...] The subject is not new, and an allusion to it may seem trite, but I can never look at the shining motes that adhere to my finger after having touched their beautiful wings, or take up two or three upon the point of a needle, without feeling a fresh emotion of wonder and admiration.³

³ *Letters from Alabama,* 79-80.
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Appendices
Appendix A

Interview with Sir David Attenborough

Richmond, Surrey. October 12, 2007

Adam Nicol: I suppose I should start by explaining myself a little—why you might be relevant to a work on Victorian natural history. I was just at a conference in Exeter on ‘Neo-Victorianism’, and my paper was about your work and its links with Gosse, as the most prominent popularisers of natural history in the respective eras. So, by way of starting: you speak very warmly of Alfred Russel Wallace, for example, in Attenborough in Paradise, and I thought I might begin by asking you what it is attracts you to Victorian natural history?

David Attenborough: Well, it was the great era of natural history discovery. And it was at a time when there was still a lot of cataloguing to be done, and there was a need to complete the job that was started Linnaeus. It was proceeding apace, as Victorian
explorers—the Livingstones, and so on—were opening up the tropical world. This was the time when people first gave accounts of the duck-billed platypus, for example—or not far off. At the end of the eighteenth century/early nineteenth they were still wondering what these things are—building up catalogues of what they are. And so, Wallace—he was the first man ever to see a Bird of Paradise display in the wild—so I thought, well, that’s quite an interesting moment. It’s their accounts. It’s a fairly naïve and child-like thing to be keen on, but I’m quite keen on saying ‘I saw this for the first time’, ‘I was able to portray this for the first time’. It’s not a very admirable emotion, but it’s one that you can’t help feeling.

AN: *Attenborough in Paradise* seemed to come explicitly out of your love for Wallace’s work?

DA: Well, to be slightly more accurate I’d say that it came out of my love not so much for Wallace as for Birds of Paradise. And once you start with Birds of Paradise, Wallace comes into it.

AN: I remember that William Jay Long said you can either be a naturalist or you can be a zoologist, you can’t be both—but that seems to be incorrect?

DA: Who said that?

AN: A man called William Jay Long, at the beginning of the twentieth century.
DA: I should forget about him! [Laughs]. No, I mean, naturalist history is the words of the of science, zoology is the act of putting them together, you can’t discuss anything unless you put a name to it, unless you know what it is you’re discussing. Natural history is the naming of terms. The thing that distresses me now is that, whoever Mr. Long was, unfortunately for some, his words are coming true. Inasmuch as, with the development of molecular biology, and one thing and another, I’ve talked to biology students who have never seen the animal they’re talking about in the wild—they don’t know what it is. All it is is a bundle of DNA, as far as they’re concerned.

AN: That’s interesting—is that quite a widespread thing these days?

DA: There are quite a lot of people who don’t have experience with the living animal. And there are quite a lot of people who, in consequence—and this is also alarming—don’t want to have anything to do with the living animal. This is often gets out as a misbegotten moral notion—I’ve had teenagers say to me, ‘I could not sanction a rabbit being killed so I could know the nature of the intestines or the digestive system’, and yet at the same time is perfectly happy to eat a full-scale carnivorous meal. In schools now, anatomy and dissections are simply eliminated—they don’t do it. And they don’t know what the inside of an animal is like—they don’t know what it smells like, they don’t know what it looks like, and they have no correlation between that, and what’s in their own insides. And that’s a huge lack of perspective.

AN: Just on that point, or the sentiment of it, regarding the respect for animals, I remember when Steve Irwin died, there was a lot of talk about the way he treated
animals. People like Germaine Greer would say things like ‘There was no habitat he was scared to barge into’, and so on, as if that’s not showing respect to the living animal...

DA: Steve Irwin was a splendid chap in all sorts of points of view, and his heart was certainly in the right place. He gave a hell of a lot of money to conservation, and so on. On the other hand, his programmes: you couldn’t say that they were an insight into the subtleties of snake behaviour. They were adventure programmes. They were popular because kids looked at this grown-up boy in short trousers pulling out great snakes by the tail and whirling them around his head. You know, ‘Blimey! Look at this!’ And that’s okay, perfectly valid, and that is the beginning, the entry, into the natural world which many of us a got. Who among as, at six or eight, didn’t want to pick up some great thing, or salamander, or whatever. But I know what Germaine is talking about—there isn’t a sensitivity here; you can’t go to him for a sensitive assessment of the delicacy of feeling of a particular animal. But he did a lot of good. But, you see, a lot of the people he was popular with would never look at the sort of programme I make.

AN: Would they graduate into them?

DA: They may graduate, but there are a lot more first-time viewers that Irwin would get that I wouldn’t get.
**AN:** I’m quite interested in the idea of authorship in nature documentaries. So, I suppose, to start, when you sit down to write a series, what’s the process that you go through?

**DA:** Well, I suppose it depends where we start! If you started twenty-five years ago, with *Life on Earth—Life on Earth* was an attempt to take a coherent overall view of the natural world and how it got to be the way that it is—which is an historical process. Historical processes make good programmes, by and large, they have a good narrative drive to them, and a good structure to them. Each programme made a lot of sense, in that you said, ‘Right, here are a lot of fish with backbones, but there were no backbone animals on the land, so some of them started to make the move. Why did they make the move? Because there was stuff to eat there. How did they make the move? Well, they had to change their limbs in order to get about, they had to develop ways of breathing air. And when they got on land, there was a link with water, because they couldn’t bring up their tadpoles without water. And how do you mate without water? In water, you just put the gametes there, but on land, you’ve got this problem. And that’s a great story! And so there’s nothing to worry about, and there’s thirteen of them that make up *Life on Earth.* And that’s one way of doing it. Another way is to look at a family, as we did with *Birds of Paradise.* Another way is to look at an area, as we did on *The Living Planet.* Another way of looking at it is to survey mating strategies, and see what the common link is over the entire animal kingdom. And then I started looking on groups of animals as a whole, that is to say, all birds, or all mammals, or whatever. So that’s the way you set about it, and you tease out the story. The other way, which I did do in to past, in the 50s, was to say ‘Well, here I am, I don’t know
what the hell I'm doing, but I'm going to go to West Africa and see what I can find'. Perhaps that's more the Steve Irwin side of things.

**AN:** The wonderful thing about that sense in the 50s, is that spirit of innovation. In your memoirs you talk about the 'new type of visual grammar' that were establishing—it has that sense of excitement.

**DA:** Well indeed. Oh, it was great fun. I mean, we took ourselves very seriously, very portentous about it all.

**AN:** You mention the importance of the story—in nature documentary there always seems to be a tension between the science and the storytelling?

**DA:** Well, no, I don’t think that. I think that the clash, the antithesis, is not with storytelling and science—the antithesis is between storytelling and wallowing without any particular purpose. And although I describe that in a derogatory way, it’s nonetheless a perfectly good way to make a programme. You can make a programme about a marshland, and you start with the mist dissolving, then you roam around looking at frogs or rival ducks or whatever, it has no particular structure, then you roll the credits! That’s one way of doing it. I don’t think there’s a contradiction between storytelling and science, because, particularly in the biological line, biology is about life, which itself is a progression which has a storyline. And you can either follow that or you can follow the discovery line: how did we find it out? So there’s always a story there. And it just makes life easier. A narrative structure is a very valuable thing to have
as a programme-maker, it’s the one you want, which is why people are watching, saying ‘What’s going to happen next?’ instead of saying ‘Yeah, okay, well now it’s more of the same, is it?’

**AN:** I suppose with someone like Irwin, then, the stories were more about him, the adventure, than the animals.

**DA:** Oh yes, always about him. ‘I’m going out to see if I can find the longest rattlesnake anyone’s ever seen’. And ‘the quest’, I mean, damn it, I did ten years—decades—of ‘the quest’, in which you made up an idea as to what it is you’re looking for, and then either found it or didn’t. So you’re much wiser to explain what it was you were looking for after you’d already completed the journey!

**AN:** With series like *Civilisation* and *The Ascent of Man*, the idea that they were authored was very important—you have ‘Kenneth Clark: A Personal View’ and Bronowski calls his episodes his ‘essays’. Do you have the same sense with your programmes, that they’re your authored pieces?

**DA:** Yes, that was a very deliberate policy. One of the very interesting things—I don’t know whether academics have written about it—is why do we have these characters? And that, of course, is part of history. The reason we have them is that in the early days of television, in the 40s and 50s, it was predominantly live. At least, it was in this country. And we hadn’t got much money, and the cheapest way to do these sort of things was to simply have a guy in the studio talking with an animal! That was easy. Or,
indeed, if there was a little bit of film, even then it was economic to have this guy explain how he had this bit of film, or whatever it is. That didn’t happen very much in the United States, it certainly didn’t happen in the film industry, and maybe that’s why documentaries never developed in the cinema. But anyway, to have somebody there became an accepted convention within television, and when you come to do something like the history of art, which, as you probably gathered, I commissioned, it was absolutely clear to me that, with this vast canvas, whatever you did would be arbitrary. So if you’re going to be arbitrary, it’s better to see who’s being the arbitrator. And if you’re going to have an arbitrator, the person you want is the person who has an international reputation, and national one too, with luck, and someone who knows what the hell they’re talking about! So that was very easy, K. Clark was the obvious man, as was Bronowski afterwards.

AN: And you mention in your memoirs the importance of you actually being with the animals, giving a sense of scale, and whatnot...

DA: What I meant to say was that once you move into film, as against live programming, then why do you have a narrator figure? And as the narrator figure yourself, or as somebody writing the programme, you ought to be very clear—you shouldn’t just chuck him in, he should have a function. If he appears he should appear for a reason, and there are a number of reasons why that may be. It may be that you can assess whether it’s warm or cold, from what he looks like, it may be that you can assess what the mood is like, whether it’s dangerous or not. It may be that you want to use him as a paragrapher, someone who says ‘right, now we’ve seen that bit, now we’re
going to turn away and look at that bit’, which gives you a cement to put it all together. And one of the most valuable reasons for having a narrator is that it allows you to generalise instead of being specific. If you say, ‘Pheasants are dimorphic, you’ve got a difference between the sexes, and the males are very ornate—wattles, long tails and such’—people think you’re just talking about pheasants, but you’re not, you’re actually talking about dimorphic birds in general. And so if you put a picture of a pheasant on the screen, they still think you’re just talking about pheasants. And so it’s useful to have a man or a woman who can come up and say a generalisation which is not specific.

**AN:** It seems to be slipping away a bit, having a presenter on screen.

**DA:** Well, there’s some pressure to do that, of course, economically. It’s much easier to flog to the stuff to people who don’t speak English if you haven’t got an Englishman, or an English-speaking character out the front of it! But I’m very surprised how persistent the tradition is, I would have thought we’d have left it behind a long time ago, particularly with the economic pressure of it. But not so. And the fact is, if you have someone with a reputation, he does bring a percentage of the audience with him. And in our business, it’s a valuable thing, someone who brings a number of viewers with him.

**AN:** It’s interesting, then, with *Planet Earth*, when it was screened in America, it was narrated by Sigourney Weaver. Which seemed to be quite curious, in the sense that—
DA: You know about the figures, do you?

AN: No, well, probably not as well as you!

DA: Well, I haven’t got them on me, so you’d have to check with someone, but the Discovery Channel decided that an English voice was not what they wanted, and not only that, but this particular English voice was putting too much intellectual, operatic oscillations, or whatever, into it. And so therefore, they decided that they would revoice it. They actually wanted to change the music as well, but they didn’t, they were talked out of that. But they thought they wanted a Hollywood star, so they got Sigourney Weaver.

AN: That happened to Life on Earth, didn’t it, or it was going to?

DA: It was going to, but it didn’t. I wouldn’t let them do it! And interestingly, the DVD was then put on the market with my narration. Sigourney Weaver’s was on the market with the American narration, and it sold about twenty-five thousand. And we sold three-quarters of a million!

AN: Excellent!

DA: [Laughs] But you better check those figures—but it’s something like that.
**AN:** It seems on, in one way, because it isn’t just Sigourney Weaver, it’s Sigourney Weaver as a cipher of Dian Fossey.

**DA:** Well, presumably, the sort of bogus logic that somebody had—she’s ‘wildlife’ let’s put her on.

**AN:** A fictionalised version of an authority figure.

**DA:** Yeah. I wouldn’t read too much into it, however, because it was a decision taken, incidentally, by an English person. The head of Discovery was a woman called Jane Root, who had been controller of BBC Two, believe it or not. And it was she, an English person from British television who decided that the Americans wanted an American voice. So it is odd. And she, whatever her nationality, is only one person—there wasn’t a vote on it.

**AN:** *The Blue Planet* stayed with your narration, didn’t it?

**DA:** Mmm, I think so. I mean, I don’t really know what happens to these things once they go off.

**AN:** It seems to me, though, that it’s important for these things *not* be voiced by Sigourney Weaver, if you know what I mean. If you think about, say, Julian Huxley’s role in your early programmes, as the authority figure, someone with gravitas.
DA: But then, you see, who would they get?

AN: You!

DA: Well, yes. But supposing—it’s not uncommon for the Americans to buy a show from outside and they would prefer people to believe that they originated it. ‘Come to Discovery Channel, and we, the Discovery Channel will present you something’. That’s a rather different thing to ‘We happen to have bought rather a good show from Europe. So there is a reason for them to want to revoice it with anybody so long as it isn’t an Englishman, because they want to get the impression that it is an American production as far as their viewers are concerned, because they think that their viewers will prefer it. The evidence is quite the reverse. But it may be their ego that they’re actually talking about.

AN: So who took the decision to restore your narration, then?

DA: Well, it wasn’t restored, it was that the BBC overseas arm, BBC Worldwide, which had the rights to the thing, thought ‘Oh well, we’ll put it on the market’, which they did, and to have it sell over ten times, or fifty times, or whatever it is, was making everybody laugh, including me. Except I didn’t get any royalties! [laughs]

AN: [laughs] Oh well!

DA: Oh well, never mind.
AN: *Life in the Undergrowth* I wanted to ask you about. It’s my favourite series of yours, because it seems to be a realisation of something that you’ve been trying to do for a long time, in the sense of sort of celebrating the tiny; and it was just a case of the technology catching up to the ambition.

DA: Yeah. I think—it could be slightly false—but I think I could actually identify a particular technological advance which was very important in almost every one of those series. *Plants* required time-lapse of a very sophisticated kind, *Life of Mammals* required infrared lights and nighttime cameras, and of course, *Undergrowth* required cold light, above all things—either cold light or electronic cameras, which are obviously tied together—and so for the first time it was the ability to film these small things without frying them. And so it was exciting—you were opening up a fantastic area of stories which everybody knew—any biologist would know perfectly well—but nobody had been able to film them, simply because of technological inadequacy.

AN: It really shows some amazing things. The tiny bugs with the flick-tails—

DA: Oh yes, yeah. Extraordinary, yes.

AN: So, when you write your narrations—One of the aspects of your work that seems to be quite similar to Gosse’s work is your wonderful turn of phrase. My favourite one I think is from *Trials of Life*, where you describe a ‘murderous and a very hard-
working wasp’, for example, that sort of thing. But in wildlife study generally, there’s often a lot of talk of anthropomorphising things. Where do you stand on that?

**DA:** I think that the issue tends to get oversimplified. People simply assume that anthropomorphism is, in all circumstances, anathema. And it is not so. Because, in a philosophical sense, the only way we can understand anything is fundamentally in an anthropomorphic way. If you see an elephant coming at you with its ears flapping, trumpeting, its trunk raised, and running at thirty miles an hour in your direction, it is anthropomorphic to assume it’s angry. But it’s also true. The only time that anthropomorphism becomes unacceptable is when you impose a human reaction on an animal for which there is actually no evidence. I mean, you may say that a male attacking another male is ‘jealous’. Now, you have no evidence that it is jealous, or it’s very difficult to prove it’s jealous. It could simply be that it was irritated by something, it could be territorial, it could be all sorts of things. So you have to be very careful. Or to say that an animal is ‘grieving’—are you quite sure that it is really grieving? And there are a lot of human emotions that are of a complexity that you have no right to assume an animal has. But to assume that the thing is without feelings of any kind, or without feelings for which there are parallel words that you can derive from human reactions, is equally wrongheaded, to go the other way.

**AN:** It reminds me—have you seen *March of the Penguins*?

**DA:** No, but I’ve heard of it.
AN: There’s a sequence which really speaks to that, about how ‘heartbreaking’ it is for penguins to split apart, and so on, and that seemed to me to be very false.

DA: Well, yes, and that is a very interesting thing, because the posture of the birds in itself is very human-like, anthropoid, and so it’s very easy—the sort of plod, is that a hang-dog expression they’ve got? Not at all! It’s just the way you’ve got to walk if you’ve got your feet at the end of your body. And if you’ve got your feet at the end of your body, it enables you to swim comfortably. But the story is so astounding.

AN: And so, going back, when you write your narrations, you don’t have any problem using a term like ‘murderer’ for example?

DA: Well, now, you see, ‘murderer’ is an interesting thing. ‘Murderer’ has a moral overtone. You should say ‘killer’, yes, because it kills. But murdering has moral overtones. And so I don’t think I would use the term murderer.

AN: I think you did in *Trials of Life*.

DA: Did I?

AN: I think so. When the gulls are hunting puffins, I think you used the term ‘muderous’.

DA: Ah, murderous, yes.
**AN:** It’s interesting, though, because it does seem to be accurate, doesn’t it?

**DA:** It does in that instance. I’d be interested to see what the dictionary definition of ‘murderous’ is, if it was someone bent on killing, then that’s okay. But actually there’s a difference in the law between a murderer and a killer, isn’t there?

**AN:** Right, right. Perhaps if I can just circle back for a moment. I was watching the Alan Titchmarsh programme the other night [*The Nature of Britain, 2007*], the new one, and it struck me just how different his role as a presenter is than yours. His seemed to be more about the sense of mucking in, he’s got that Yorkshire accent, and he’s clipping his words, and so on. Do you thing as a presenter you have to have that air of authority about you?

**DA:** No, I think Alan is just as much an author of that programme as I am of mine. It’s just that his style is a different style altogether, and I would think probably that the aim of that programme was rather different to mine. The aim of that programme was to say to British people who are overwhelming urban—I don’t know what the proportion is like, the United Nations says over 50% of the human race is urbanised, but what the proportion in Britain is I don’t know, but most of us are out of touch with the natural world. And what that programme was saying was not just, ‘Well, when a hedgehog hibernates its temperature drops to thirty-right degrees’, or whatever it is, which is the sort of thing that I might say, it’s to say ‘Isn’t the hedgehog really a great little creature? It’s just so wonderful in your garden, and your heart increases and beats
with the light and joy’ and so on, and that’s his game. And it was significant that, at the end, he had this thing saying ‘You can go and do this yourself!’, which is one of the fixations that the BBC has got at the moment, about involving the audience. Very, very participatory is what they’re keen on, which, when overdone, becomes pretty boring as far as I’m concerned. But that was what that programme was doing.

AN: Natural history does seem to be one of the most participatory forms of science, though, doesn’t it? You can’t quite excite lay people about physics in the same way, for example, can you? It goes back to what you were saying earlier about molecular biologists who don’t see ‘animals’ anymore. Is it maybe trying to reclaim that, to get people involved again?

DA: Oh, to some degree yes. But it’s certainly a slightly different aim from mine, which is essentially explanatory, as to why animals do what they do. There is an element of taking-in-breath astonishment to what I do, too, but I don’t need to flog it to death, and I don’t need to spend all my time emoting. But Alan does, because bluebells and hedgehogs and badgers are something that we all know is there, and we all think we understand, probably, but what he’s saying is, ‘Look, value it, appreciate it, I’m thinking it’s lovely’. And this may get up some people’s noses because, in the end you think, ‘Okay, so you think it’s wonderful, but what’s that got to do with me?’ Whereas if you take my line, which is ‘hedgehogs have to hibernate because they’re isn’t enough food’, that’s inalienable, that isn’t a personal thing, it’s a matter of explaining why hedgehogs hibernate.
AN: When I was at the conference in Exeter, during question time somebody asked me whether your primary role was as an educator—and I wonder how you would have answered that.

DA: I think it’s a false distinction. I think that there should be elements of education in anything worthwhile. I mean, why is *Hamlet* a great play? It’s not just because you don’t know whether or not the king’s mother killed his father, it’s because it tells you about humanity, it gives you insight: you know more about human beings, and parental relationships and indecision, and responsibility and power, all kinds of things. And so it’s *educational*, absolutely, but it’s also *riveting*. Now you may say that’s a rather far-out and highty-toighty, snobby kind of thing, but you could say exactly the same thing about *Porridge*. *Porridge* is one of *the* great comedy shows on television anywhere, and why? Because it’s not only just very, very funny, but it tells you more about the relationship between knowledge and naïveté, and so you actually know more about human beings. And if I spent my programmes just showing sunsets and flights of geese and so on, you’d soon get tired of it. But if you couple that with saying, ‘the geese have to come in autumn because the weather in the north is getting too cold and so they fly all night,’ etc, then you’ve got some way of holding the audience, because you’ve got some kind of story, but it’s also educational. So it’s a false antithesis. They’re not mutually exclusive; they have to go together.

AN: So getting back to the story business, then, and the use of words like ‘murderer’, or whatever, do you think that does kick-in a certain natural privilege that we have—you don’t want to see the antelope eaten by the lion, for example—
DA: Oh, you have a responsibility to make sure you show the antelope being eaten by the lion. But this is the sort of Platonic dialogue between the head and the heart. It is very easy to make people deeply upset; it’s very unpleasant to watch a living thing being eaten alive. But at the same time you have a responsibility towards the truth, and you can't deny that lions are carnivores, and indeed if you do, you are producing such a distortion that it’s actually dangerous. One of the problems that programmes like mine have is that we spend a lot of time trying to get the narrator in conjunction with an animal in the background. And sometimes I’ve done it with lions. And you need this, because it gets a bit of a frisson, you know, but the trouble then is that people actually think it’s easy. You get tourists in the Serengeti who get out, see a lion, and the guides say ‘Well, get back in’, and they say ‘No no, we’ve seen people on television do it all the time!’—and the tourists are eaten!

AN: How’s the new series coming along?

DA: It's going okay. I've been writing it since eight o’clock this morning, in fact.

AN: Oh, really?

DA: Yeah!

AN: That’s quite exciting.
DA: Well, I don’t know... It’s on reptiles and amphibians, and I’m writing the first programme. I’m not sure about it really. I’ve never quite done it like this, it’s rather against my instincts. We had heated arguments about it with the team, and they won. I wanted to start with amphibians. The first programme would be about how they get on the land. They said ‘No, we don’t really like that because we think that people are not going to be greatly attracted to frogs, which are clammy and cold, and...we don’t want to know about all that slimy stuff. We want to start with a programme about thermo-regulation: being solar powered, which reptiles predominantly are’. And I say no, that’s very theoretical; it’s a theoretical proposition. And anyway, we debated this around the house, and in the end, the team—which is quite a large one, of people who are not fools, they know what they’re doing—the vote went against me. So the first programme is about how you control your temperature if you’re a reptile. And so it isn’t based phylogenetically or anything, it’s based around a theoretical concept. We go into a great deal about solar heating and the fact that in mammals, ninety percent of what we eat it used to keep our body at 98.4 degrees Fahrenheit. Whereas ten percent of what a reptile eats goes to that purpose; nearly all of it comes from external sources. So the first programme doesn’t have a narrative line like that, it’s based around this theoretical concept, and it could be a mistake. [Laughs]

AN: I’m interested that it’s quite so democratic like that, that you can be voted down.

DA: Well, you’d be very foolish in my position [not to]. Apart from the fact that they’re old friends; I’ve worked in the unit a long, long time. Miles Bartney, the chief
guy, was with me on *Birds*, so we know one another very well. And in the end, I gave in to what they said. It may be a mistake—we’ll see!

**AN:** So why reptiles and amphibians, then?

**DA:** Oh, because it’s the last group of terrestrial animals to be dealt with. And I’m keen to do it for a number of reasons. Partly because I haven’t done it before—although, of course, I’ve covered amphibians in *Life on Earth* and here and there in a piecemeal way. But when it’s done, there will be a complete sequence which follows the evolutionary line. So the first programme will be *Undergrowth*, the second programme will be *Plants*, then there will be amphibians, then there will be reptiles, then there will be birds, and then there will be mammals. And that will form a forty hour sequence, for which I will write connecting to-camera pieces. The whole lot will then be put on discs which will be numbered sequentially. And we are compiling a cumulative index, so that if you say ‘Duck-billed platypus, it will say ‘Disc Three, 19 minutes and 3 seconds’, and you’ll press the thing, and every reference to duck-billed platypus will come up. So it will be a forty-hour survey of life on land, and we will call it *Life on Land*.

**AN:** What a wonderful idea.

**DA:** Well, it’s the sort of idea that occurs to an 80 year-old! [Laughs] Coming to the end, and you think, ‘Yeah, it does all link’. And DVD people are frightfully keen on ‘extras’—you know, ‘buy this, and you get something extra!’ And a big fat index, which
is not difficult to compile, we’re working on it now: we can cross-index with Latin names and common names and we will have indications such as all ‘courtship’, you’ll be able to look up ‘mimicry’, you’ll be able to look up ‘aggression’. So there’s someone at this moment going through, looking with the scripts—she’s a biologist, so she knows what she’s talking about—and putting all these characteristics in, or simply feeding them into a computer. And you get a nice fat index, and you really think you’ve produced something of value.
Interview with Neil Nightingale


Adam Nicol: I’m interested in the idea of authorship in natural history documentaries. Thinking about series like *Civilisation* and *The Ascent of Man*, they really privilege the idea of authorship. *Civilisation* was ‘A Personal View’ with K. Clark, and Bronowski would call each programme one of his ‘essays’, and so on. So, is the idea of an ‘author’ in documentary important structurally to you?

Neil Nightingale: I think if you look at natural history documentary now there are very few people who’ve done authored pieces as opposed to presented pieces. David Attenborough you might say, and there are people like David Suzuki you might say, but there aren’t very many of them. I don’t think there are very many of them generally in television, not of the ‘seriousness’, if you like, of a Bronowski or Clark.
Obviously David Attenborough is one of those, and his authorship is incredibly important to his work.

**AN:** So with Attenborough’s upcoming retirement, is that going to change the flagship BBC programmes?

**NN:** Well, people often ask ‘Where’s the next David Attenborough?’ and one could say [in response], you know, ‘Well, where was the next Bronowski?’ The ‘giant’ in terms of broadcasting and authorship—it’s rather foolish to say ‘Where’s the next one?’, because they come because of who they are. When someone like that comes along, they have a huge amount to contribute. Of course, it’s not entirely dependent—we’ve done recently probably our most successful series ever, at least since *Life on Earth*, in *Planet Earth*, which was entirely authored by the production team. It wasn’t a David Attenborough authored piece at all. And we’re doing many in the future that are authored by the producers, rather than an individual, and they’re equally as successful as authored pieces. So I think it’s always good to have a mixture.

**AN:** So in that sense, is Attenborough’s success just the force of his personality?

**NN:** Obviously his great enthusiasm, his great knowledge, his great ability as a communicator. But also, I think he would acknowledge, it was also the time that he came on the scene—I think there were only five producers at the BBC. He’s grown up with broadcasting, to become almost unique in British broadcasting, I would say. But then you might say that Darwin or any of the great naturalists were unique people who
also were a product of their time. Darwin, for example, was only able to come up with *Origin of Species* because that was the time that science and thinking had teed-up the situation; when the time was right and the depth of knowledge he was building on was absolutely right. David came along when this great new medium, television, was in its ascendency. And he is a man of that medium.

**AN:** He makes a point in his memoirs about the importance of having someone on camera, interacting with the animals; about how it gives a sense of scale and tells you whether the animal is nervous or dangerous or deaf, or what have you. How important is that element of it?

**NN:** I think it can be important in certain types of natural history programme. I think also the great thing of having David’s authorship is that it adds a degree of veracity, of trust. I think that’s almost as important as the interaction with the animal, because again there are many successful television series that don’t have presenters. You get that authorship, and the thought that you trust in that individual and their perspective.

**AN:** So on that matter of trust, when he narrates something like *Planet Earth*, for example, is there the implication that it’s coming with his authorship? Or his ‘seal’?

**NN:** Not necessarily his authorship, because I think that’s a very particular thing to use the word, but with his authority, I suppose you could say.

**AN:** I’m interested in Sigourney Weaver re-narrating *Planet Earth*, then—
**NN:** That's just standard practice, really. We put English narrators on American/Japanese/German films that we take, and obviously where there's a language difference, they have to translate and put a different narrator on ours. Virtually every film of ours that would be taken in America, would take an American narrator and change the narration slightly for cultural sensitivity.

**AN:** It's interesting with Sigourney Weaver, because she's sort of acting as a cipher of Dian Fossey, isn't she? That sense of 'authority', it's one of her most famous roles...

**NN:** Well, actors and actresses narrating wildlife films is absolutely standard practice. Obviously she did play Dian Fossey twenty years ago, but I'm not sure that's hugely significant. It may have played a small part in the decision.

**AN:** After I gave a conference paper in Exeter last week, somebody asked me whether Attenborough and other natural history documentary producers are interested in educating or entertaining. I'm wondering about science and storytelling, and which is the primary impulse in documentary?

**NN:** Well, both are essential. There is no point in having an educational message if no-one is listening! And television is a mass medium, therefore unless you're getting millions of people watching you're not really doing your job. So it has to go hand in hand. As you would see with all the great science writers of the day, the Steven Roses, the Richard Dawkinses—if they're not entertaining with what they do, no-one would
bother to listen to them. And so it’s almost a prerequisite today, that mass communication be presented in a way that is enjoyable, that it digestible, that is understandable by millions of people. In Victorian times, I guess these ideas and messages were going out to a much smaller sector of society. Whereas today you might be aiming with a series like *Planet Earth* for twenty percent of the population. Absolutely massive.

**AN:** It’s rather like Stephen Hawking recently re-releasing *A Brief History of Time* as *A Briefer History of Time*.

**NN:** [Laughs] Yes, exactly. But even so, *A Brief History of Time* is still entertaining compared to his PhD thesis. I think that’s one of the great tragedies of today, that scientists are such poor communicators generally. Let alone entertaining, let’s just get to the level of engaging! That’s obviously a very sweeping statement, and there are some very notable exceptions, but I do think there’s a real issue of science and scientists not engaging on the same level of communication as required by the media in general. If everyone is receiving their information in the mass media—whether that’s books, radio, television, the internet—unless you engage at that level, you’re never going to be engaged with the mass population. It doesn’t mean that you’re being any less educational, it’s just getting to first base, so people are listening to what you’ve got to say.

**AN:** Dawkins has that as a professional role, doesn’t he—what is it, Professor of the Public Understanding of Science?
NN: Yes, exactly. Exactly.

AN: I just wanted to ask you briefly about the practice of ‘staging’ in documentary film. How often does something like that happen?

NN: Well, the vast majority of what we do is in the wild, true behaviour, recorded in an observational style. By far the majority is obtained in that way. There are aspects of nature which is simply impossible to record by doing it that way. So one of the techniques we used is filming in sets. So for small animals—you might keep a colony of ants or a colony of small mammals. Naked mole rats, for example, are very, very difficult to film. They’re unbelievably sensitive to vibration; almost anything you do to a naked mole rat colony in the wild would disturb it—probably abort all the fetuses and so on. Therefore the only way to film the extraordinary behaviour of naked mole rats underground—which is where all their behaviour happens—is to work with a scientist who has a colony in controlled conditions. Or, for example, time lapse. I worked with David on a series called The Private Life of Plants and I think that was probably the most revelatory series I have ever worked on. Of course we did some time lapse outside, but if you’re showing plant grown over many, many weeks, the only way really to do it—given the vagaries of night and day, cameras being stolen, and so on—is to film it in sets. And the revelation you get from that is absolutely extraordinary. So that’s probably the major case. And, in fact, if you have animals in captivity you will only really get natural behaviour if you let them live in natural conditions—the husbandry is incredibly important, and the veracity of what you’re filming.
AN: Is there a certain tension with editing at all?

NN: I don’t think so. I mean, editing has been a part of television since the beginning. What one mustn’t do is distort the truth by editing. Effectively you do, in the sense that you compress things. But in terms of implying that two different animals are in one place at the same time when they weren’t—obviously one needs to avoid things like that. But obviously all wildlife films are more dramatic than real life. They compress into one hour what might have taken months to happen. And again, as long as one doesn’t say, you know, this is happening in an hour. We insert things like change of seasons and change of day in there, sometimes overtly, sometimes just in passing, to give people the idea of passage of time.

AN: So in terms of the NHU more widely, a critic called Simon Cottle suggested you were a ‘protected species’, as it were, in that you’re more resistant to the market forces of television. Do you agree with that?

NN: No, not at all, I think he’s completely wrong. I think unless our programs are popular with audiences, and enjoyed by them, and unless they sell internationally, we wouldn’t survive. You can’t be the most successful in the world unless you’re absolutely finely attuned to audiences are markets. There’s no god-given right for the NHU. We have advantages, in terms of being part of a well-funded public broadcaster. We have advantages over many independent production companies, but to say we’re a protected species I think is bonkers.
AN: I suppose you have that ‘public service value’ aspect, as well as education and entertainment, too.

NN: Yes, indeed. But I would argue that it’s the same as the sort of knowledge-based programmes on commercial channels. But yes, in a public service environment—and there are many public service channels in Europe, and indeed in Australia—there is a greater value than what you can earn for advertising revenue for a particular show, which is what it comes down to in the commercial world. But to think that we don’t have to worry about audience size would be very false.

AN: There’s been a lot of talk recently about the idea of the ‘politicisation’ of climate change, and the BBC’s role and famous neutrality. Do you get a sense of that?

NN: Obviously it’s a very important subject, and one that was largely ignored by the media for twenty years, despite all the science. I made a documentary twenty years ago called Portrait of a Planet and I thought, ‘Let me go back and see what I said about climate change’. And I said twenty years ago that it was the most significant threat facing the planet—that was twenty years ago. And I used the words ‘The science is beginning to firm up now’. And we filmed world leaders, including Margaret Thatcher, saying that this issue needed to be addressed. That was ignored by the media for twenty years. And I think there is now a realisation, not just on the BBC but ITN and Sky News, that this is an absolutely huge issue for the future of the world in which we live. It’s reached that critical mass, and there’s an awful lot of programming about it,
and the BBC will continue to a lot about it. And it’s acknowledged in terms of audience research that these environmental issues are incredibly important. It’s quite difficult to follow scientific progress in the mainstream media, though, because science is about putting up theories and testing them. And, I mean, how many people still say ‘Oh, it’s only really the theory of evolution’—and that book came out 150 years ago. It’s not a theory; even in Darwin’s day it wasn’t a theory. The theory, if you like, is how it happened. But that’s the way that the world is in reporting scientific progress, it’s very, very difficult, until things are almost absolutely certain. In which case it’s probably almost too late. This is a problem that scientists have in general in explaining the scientific method. This has been a debate in the BBC—often you get a detractor who, because they are vociferous, and because there’s a feeling that we must be impartial, is given as much weight on a news programme as the weight of scientific consensus. And in some circles that’s thought to be impartial. I think we’ve moved way beyond that now in terms of climate science. I think where it has become very political in the last year is that it’s moved beyond the ‘reality’ of it into, effectively, how much are we prepared to spend and how much are we prepared to change our lifestyles in order to do something about it. And that, of course, is mainstream politics: taxation, and so on. And that’s were organisations like the BBC have to be, and are being, very careful, because you’re moving away from a science-led story, into a political story, even though the consequences are based on science.