

## Evidence and Testimony: Philip Henry Gosse and the *Omphalos* Theory

by PETER CAWS

Eccentricity has always abounded when and where strength of character has abounded; and the amount of eccentricity in a society has generally been proportional to the amount of genius, mental vigour, and moral courage it contained.

John Stuart Mill, *On Liberty*, ch. III.

### I

Eccentricity took many forms in Victorian England, but in keeping with the atmosphere of the times there were two especially noticeable varieties. There were religious eccentrics, like John Nelson Darby, a passionate nonconformist who solved the ancient problem as to the nature of the sin against the Holy Ghost by identifying it with the taking of Holy Orders; and there were scientific eccentrics, like Andrew Crosse, who in the course of electrical experiments at his country estate created a new species of beetle (*Acarus crossii*) and brought down on himself a torrent of totally undeserved abuse on the grounds that he was trying to be God. From time to time these tendencies were combined in a single individual, with invariably interesting results. Religion and science have never really been comfortable in one another's presence, and the antics to which men are driven who try to make them so have not ceased yet. Contemporary attempts, however, seem anaemic in comparison with the fierce controversies of the nineteenth century. What now is done weakly, even pathetically, was then a matter for "genius, mental vigour, and moral courage"; and while the result might have been to make a man look ridiculous, it never made him look puerile. The subject of this essay seems often comic, sometimes tragic, but always a man of strong character and firm will.

Philip Henry Gosse is best known, if at all, as the overbearing Father in Edmund Gosse's autobiographical sketch *Father and Son*, although the sympathies of the reader of that book are likely to lie, as they were intended to lie, with the son. The story is the familiar one: a sickly child, brought up under the stern and repressive eye of a Victorian father, eventually throws off the burden and sets out to live his own life. He was, of course, quite right to do so, and I do not wish to suggest otherwise. My purpose is to draw attention to what Edmund Gosse himself calls "the unique and noble figure of the father"<sup>1</sup>—a distinguished naturalist, author of one of the most brilliant failures in the history of scientific theories, and in his own right a more colorful figure than the son as whose father he himself suspected he would one day be known. He was born in 1810, the son of an itinerant miniature painter, and died in 1888 a Fellow of the Royal Society and the author of more than thirty books and of innumerable scientific papers. It is perhaps best to begin with an account of his scientific development.

At first glance there is nothing eccentric in the professional life of Philip Gosse. Brought up in a small seaport town where the principal form of recreation was exploring the shore or the surrounding country, and spending a great part of his early life in comparatively remote and wild places—first Newfoundland, then Canada, and finally Alabama—it was not surprising that his innate powers of keen observation should have led him into a career as a naturalist. In Newfoundland, where he was employed as a clerk in a whaling office at Carbonear, he bought Kanmacher's edition of Adams's *Essays on the Microscope*, an act which he regarded, in his characteristically self-critical way, as a formal dedication to a life of science. By the time he left Newfoundland for an abortive attempt at farming in Ontario he had already begun an extensive collection of insects which occupied the foreground of his attention; his last memento of Newfoundland was a rare cockroach, and the sole comment in his diary when he first reached Canada was the following: "July 15.—As I this day arrived in Quebec, I procured some lettuce for my caterpillars, which they ate greedily."<sup>2</sup> This single-mindedness in matters of biology remained with him for the rest of his life; the birth of his only child appears in the diary with the entry: "E. delivered of a son. Received green swallow from Jamaica."<sup>3</sup> Of course such things might be interpreted, not unjustly, as indicating a certain stolidity of character, and there is plenty of other evidence to show that Gosse, as a young man, took things very seriously indeed, himself most seriously of all.

The Canadian venture proving a failure, Gosse traveled to Philadelphia (observing en route the rudeness of the

natives of Vermont) and there met a number of the leading American naturalists of the period, including members of the remarkable Peale family.<sup>4</sup> From Philadelphia he proceeded, mainly by ship, to Mobile, and thence to King's Landing and Dallas, Alabama, where for nine months he was a schoolmaster. The natives of Alabama were also rude, and they were still extremely anti-English (it was barely sixty years since the Revolution); and although Philip Gosse enjoyed many things about his stay in the South, including the "waffles" which were served for breakfast, the frequent violence, especially towards the Negroes, and the almost tangible moral strain of slavery, made him glad to leave and return to England after twelve years in the Americas.<sup>5</sup>

It was not easy to find suitable work in England, and for the first year after his return Gosse lived in something close to penury. He spent some time, however, in working the notes of his Canadian period into a manuscript entitled *The Canadian Naturalist*, a series of imaginary conversations, somewhat stiff in tone, between a father and son, on the flora and fauna of the region in which he had stayed. At first he met with no success in finding a publisher, but finally, when he was at "the extremity of dejection and disgust," he was sent for by Mr. John Van Voorst of Paternoster Row. Edmund Gosse describes the interview:

The publisher began slowly: "I like your book; I shall be pleased to publish it; I will give you one hundred guineas for it." One hundred guineas! It was Peru and half the Indies! The reaction was so violent that the demure and ministerial looking youth, closely buttoned up in his worn broadcloth, broke down utterly into hysterical sob upon sob, while Mr. Van Voorst, murmuring, "My dear young man! My dear young man!" hastened out to fetch wine and minister to wants which it was beyond the power of pride to conceal any longer."<sup>6</sup>

This was the beginning of a long association between author and publisher. *The Canadian Naturalist* showed what he could do in a literary direction, and as time went on he learned to do it brilliantly. He could be erudite and familiar at the same time, interspersing careful zoological and botanical observations with amusing anecdotes, providing his own illustrations in line or watercolor, and turning out, over the next thirty-five years, a dozen or more enormously successful books of popular natural history. He acquired a large and faithful public, which enthusiastically bought his books and took them to the seaside, despoiling in the process (much to his chagrin) the shore which was his favorite collecting-ground. Gosse's relation to his readers is perfectly foreshadowed in the relation between the father and the son in *The Canadian Naturalist*. The father, in the opening chapter of that book, proposes a series of excursions into the neighbouring countryside: "Charles.—Few things would give me greater pleasure. I have often felt the want of a companion in my walks, who, by his superior judgement, information, and experience, might remove my doubts, gratify my curiosity, and direct my attention to those subjects which are instructive as well as amusing; for I anticipate both instruction and amusement from our inquiries, and enter into your proposal with delight."<sup>7</sup> The genteel sections of the Victorian middle classes were equally delighted, and were instructed and amused in the thousands not only by Gosse's books but also by his invention of the aquarium, which brought the seashore into drawing-rooms all over the country.

Scientific work of a more serious nature was not, however, neglected. Gosse crossed the Atlantic once more for a two-year study of the birds of Jamaica, which produced one of the important early works on the ornithology of the West Indies. His inflexible uprightness of character is illustrated by an incident in connection with the publication of a supplement to that work, the *Illustrations of the Birds of Jamaica*, a rare and exceedingly beautiful set of colored plates each bearing the inscription "P.H.G. del. et lith." These were published by subscription, and in the course of printing it became apparent that the cost of production would exceed the total amount subscribed; but rather than change the price of the work once announced, Gosse absorbed the extra cost out of his own pocket, actually publishing the set at a loss. Subsequent studies, especially of small and microscopic forms of marine life, led to his election to the Royal Society in 1856. Darwin corresponded with him, asking for information in connection with his own painstaking work on variation, and he was honored by being taken into the confidence of the biological revolutionaries of the 1850's:

It was the notion of Lyell . . . that before the doctrine of natural selection was given to a world which would be sure to lift up at it a howl of execration, a certain body-guard of sound and experienced naturalists, expert in the description of species, should be privately made aware of its tenour. Among

those who were thus initiated, or approached with a view towards possible illumination, was my Father. He was spoken to by Hooker, and later on by Darwin, after meetings of the Royal Society in the summer of 1857.<sup>8</sup>

Gradually his interest became concentrated in a few highly specialized areas, particularly the Rotifera, and he wrote one classic of nineteenth-century zoology, the *Actinologia Britannica*, which remained the standard reference work for many years. He was an indefatigable observer, and cannot really be said to have retired at all; at the age of seventy-five he was still busily occupied, publishing in 1885 a monograph on *The Prehensile Armature of the Papillonidae*.

Gosse's great merit as a scientist lay in a capacity, rarely encountered, for precision and minuteness in observation, which called for extraordinary resources of patience and eyesight, neither of which seems ever to have failed him in connection with his scientific work. In *The Birds of Jamaica* he enunciates a principle to which he always adhered and which is of supreme importance in the descriptive branches of science:

Perhaps a word of apology may be thought needful for the minuteness with which the author has 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, which the observer either did not notice or thought irrelevant. It is better to err on the side of minuteness than of vagueness.<sup>9</sup>

When, at rare intervals, he allowed himself to wander from this close attention to the facts, the results were, from a scientific point of view, less happy. His speculations, largely on the question of the creation and extinction of species (although he also put forward the theory that some frequently reported sea serpents were really prehistoric monsters) were generally naive, while his taste, left to its own devices, ran in the direction of the Gothic novel. The subtitles of that most romantic work, *The Romance of Natural History*, show the scientist in an entirely different light. Chapter X, entitled "The Terrible" (other chapters are called "The Vast," "The Wild," "The Unknown"), deals with the following surprising collection of incidents: "Horrible Death of Thackwray—Hottentot's Adventure with a Rhinoceros—Similar Adventure of Mr. Osweel—Terrific Peril of Captain Methuen—Nearly Fatal Combat with a Kangaroo—Horrid Voracity of Sharks—Coolness of an Indian Officer—Ugliness of Vipers—Shocking Adventure in Guiana—Another in Venezuela—Fatal Encounter with Bees in India." The last of these episodes has, for this study, a special interest. It concerns two English gentlemen, Messrs. Armstrong and Boddington; the victim, inevitably, was "alas! Mr. Boddington," who "unable any longer to resist the countless hordes of his infuriated winged foes, threw himself into the depths of the water, never to rise again." Gosse is not actually sure that the assailants were bees, and covers his admission of ignorance with this remarkable statement: "Whatever the true nature of the insect, it affords an apt illustration of such passages of Holy Scripture as the following:—'The Lord shall hiss for . . . the bee that is the land of Assyria,' (Isa. vii. 18.) 'The Lord thy God will send the hornet among them, until they that are left, and hide themselves from thee, be destroyed.' (Deut. vii. 20.)"<sup>10</sup>

Overlooking for the moment the claim to aptness (from whom was Mr. Boddington hiding? and why Assyria?), here is a strange insertion into the work of a Fellow of the Royal Society. But by this time, after twenty years, anybody familiar with Gosse's writings would have taken it in his stride. Wherever one looks one finds passing confessions of faith, references to the Bible, exhortations to the young, and while these might at first be taken for customary piety, the weight of the evidence, and the recondite nature of some of the allusions (such as those in the case of Mr. Boddington) soon suggest a different hypothesis. It is impossible to do justice to the life and work of Philip Gosse without paying close attention to this other side of his character.

## II

When Philip Gosse returned to England from America in 1839, urgently in need of employment, he was offered a post in a provincial museum. He was hardly in a position to be particular about conditions of work, and the offer was really an act of charity on the part of an interested friend, but he turned it down.

I should fear [he wrote] that I should be thrown into situations in which I might find it difficult to keep that purity of intention which I value more than life; and likewise, that my opportunities of being useful to my fellowmen, especially to their souls, would be much curtailed. I view this transient state as a dressing-room to a theatre; a brief, almost momentary visit, during which

preparation is to be made for the real business and end of existence. Eternity is our theatre: time our dressing-room. So that I *must* make every arrangement with a view to its bearing on this one point.<sup>11</sup>

Apparently he was entertaining, at this time, the idea of entering the ministry of one of the evangelical sects. But he could hardly be said to have been brought up in a religious atmosphere. For the origin of this pious tendency it is necessary to go back to Newfoundland, and to the time, almost exactly, of his purchase of Adams on the microscope—a time at which he “became, suddenly and consciously, a naturalist and a Christian.”<sup>12</sup> The stimulus for his conversion, if it can be called that, was an illness of his sister Elizabeth, far away in England, to whom he was closely attached. “My prominent thought in this crisis was legal. I wanted the Almighty to be my friend; to go to Him in my need. I know He required me to be holy. He had said, ‘My son, give Me thy heart.’ I closed with Him, not hypocritically, but sincerely; intending henceforth to live a new, a holy life; to please and serve God.”<sup>13</sup> It was as if he had signed a contract with God; and it did not occur to him to doubt, since he knew himself to be strong enough in character to keep his part of the bargain, that God would in turn do what was expected of Him.

This contract of faith he interpreted as requiring the acceptance, word for word, of the literal and symbolic truth of the Bible. The double sense is important. While the plain meaning of the text was to be zealously defended, there was more to be discovered beneath the surface. Gosse applied himself to the investigation of this hidden truth with an energy matched only by that which he devoted to his researches in natural history. At first these studies were carried on in comparative isolation, but after his return to England two circumstances mitigated this spiritual loneliness. He found, in the suburb of London where he was for a short time a schoolmaster, a group of Christians, followers of J. N. Darby, called by the outside world “Plymouth Brethren” but by themselves simply “the Brethren,” or, modestly, “the Saints.” Darby, as was remarked earlier, disapproved of the ministry, so that Gosse was no longer tempted in that direction; but he found among these people a kind of intellectual interest in salvation and prophecy perfectly in sympathy with his own convictions. He was, throughout his life, evangelical, but never in the passionate sense usually attached to the word. His concern for the souls of men sprang less from sympathy than from duty, and the duty was not necessarily pleasant—it was part of the agreement with God, a service demanded in exchange for the right to enter into the mysteries of the interpretation of Scripture. Independently of this connection he met, and later married, Emily Bowes, the daughter of a Bostonian couple, her principal attraction being an equally fervid, equally rigid, and equally eccentric form of Christianity with his own. Together they read the prophets and commentaries on the prophets, treading eagerly, in the words of Edmund Gosse, “the curious path which they had hewn for themselves through this jungle of symbols.”<sup>14</sup> The death of his first wife after only nine years of marriage left him, if anything, more isolated than before (the Saints proving too tame and unimaginative for his fierce symbolic tastes), and drove his already rather stern and humorless character into a melancholia from which he never completely recovered.

It was inevitable that such exclusive and fanatic attention to the details of biblical exegesis should before long produce a distorting effect on Gosse’s attitude to the contemporary world and, eventually, to science itself. The commentators were, if anything, more prophetic than the prophets, and led the inquisitive couple “to recognise in wild Oriental visions direct statements regarding Napoleon III and Pope Pius IX and the King of Piedmont, historic figures which they conceived as foreshadowed, in language which admitted of plain interpretation, under the names of denizens of Babylon and companions of the Wild Beast.”<sup>15</sup> The Church of Rome in particular figured largely in the deciphering of the Book of Revelation, and it was denounced and hated with a special passion. “We welcomed any social disorder in any part of Italy, as likely to be annoying to the Papacy. If there was a customhouse officer stabbed in a *fracas* at Sassari, we gave loud thanks that liberty and light were breaking in upon Sardinia. . . .”<sup>16</sup> The effects of all this were felt in the most unlikely quarters. There was, for instance, a man who used to pass down the street where the Gosses lived selling onions, with a cry of

Here’s your rope  
To hang the Pope  
And a penn’orth of cheese to choke him.

The cheese [writes Edmund Gosse] appeared to be legendary; he sold only onions. My Father did not eat onions, but he encouraged this terrible fellow, with his wild eyes and long strips of hair, because of his “godly attitude towards the Papacy.”<sup>17</sup>

Such peculiarities might have been merely amusing, had they confined themselves to international affairs. But scriptural theory found other applications closer to home, and Philip Gosse developed, out of a naturally strong moral sense and a tendency to introspection, a morbid sensitivity of conscience and a practice of hypercritical self-vigilance which he did not hesitate to extend to his family (principally Edmund) and to the congregation of which, after the death of his wife and his removal to Devonshire, he became informally the pastor. This side of his character is so well known from *Father and Son* that there is no need to dwell on it here. The introduction of religious conviction into daily life produced, however, another effect of more direct interest, namely a relation between the scientist and his field of study perhaps unique in the history of science among workers of comparable distinction.

Nature was the work of God, and as such was to be taken seriously. It must, as the work of God, be perfect. Accordingly, for Gosse, the suggestion that anything in Nature might have been better arranged, or the slightest hint of levity in connection with it, were almost comparable to blasphemy, and he was ready to meet either with indignation on God's behalf. In *The Ocean*, for example, he scornfully rejects a tentative version of the theory of development: "Goldsmith flippantly asserts, that the Shrimp and the Prawn 'seem to be the first attempts which Nature made when she meditated the formation of the Lobster.' Such expressions as these, however, are no less unphilosophical than they are derogatory to God's honour; these animals being in an equal degree perfect in their kind, equally formed by consummate wisdom, incapable of improvement. . . ."<sup>18</sup> But there was a danger in thus zealously guarding God's rights in Nature—the danger that he might, as time went on, come to take a certain proprietary attitude towards it himself; and to this temptation he soon succumbed. He felt fully justified in doing so, and would have been surprised and indignant, as religious people tend to be, if anybody had pointed out to him that to presume on God's favor was a form of spiritual pride. But there is no doubt that Philip Gosse was both proud and presumptuous, and in the *Devonshire Coast* there is a remarkable juxtaposition of passages which form such a clear basis for this indictment that I shall, at the risk of tedium, quote them extensively. He is discussing the aesthetic qualities of natural objects:

But there is another point of view from which a Christian . . . looks at the excellent and the beautiful in Nature. He has a personal interest in it all; *it is a part of his own inheritance*. As a child roams over his father's estate, and is ever finding some quiet nook, or clear pool, or foaming waterfall, some lofty avenue, some bank of sweet flowers, some picturesque or fruitful tree, some noble and widespread prospect,—how is the pleasure heightened by the thought ever recurring,—All this will be *mine* by and by! ... So with the Christian....

And thus I have a right to examine, with as great minuteness as I can bring to the pleasant task, consistently with other claims, what are called the works of nature. I have the very best right possible, the right that flows from the fact of their being all mine,—mine not indeed in possession, but in sure reversion. And if anyone despise the research as mean and little, I reply that I am scanning the plan of my inheritance. And when I find any tiny object rooted to the rock, or swimming in the sea, in which I trace with more than common measure the grace and delicacy of the Master Hand, I may not only give Him praise for his skill and wisdom, but thanks also, for that He hath taken the pains to contrive, to fashion, to adorn this, *for me*.

And then there follows immediately this statement:

#### THE CRYSTALLINE JOHNSTONELLA

I have the pleasure of announcing a new animal of much elegance, which I believe to be of a hitherto unrecognised form. I shall describe it under the appellation of *Johnstonella Catharina*....

The elegant form, the crystal clearness, and the sprightly, graceful movements of this little swimmer in the deep sea, render it a not altogether unfit vehicle for the commemoration of an honoured name in marine zoology. . . . I venture respectfully to appropriate to this marine animal, the surname and Christian name of Mrs. Catharine Johnston, as a personal tribute of gratitude for the great aid which I have derived from her engravings in the study of zoophytology.<sup>19</sup>

Of course it is, in a sense, unfair to put the matter in this way, and to suggest a patronizing flourish in this innocent piece of nomenclature; but there is some justice in it. Ever since that day when, in Newfoundland, he had come to terms with God, Philip Gosse had, consciously or not, felt himself in a position of privilege. Nothing illustrates this attitude more clearly than the nature of his prayers.

Edmund Gosse has vividly described how his father, with clenched fists and cracking fingers, knelt nightly and wrestled with God, his supplications occasionally turning into outright demands. From other sources we can gather what the objects of those demands were. There were three things during his life that Philip Gosse wanted very badly indeed, and to which he expressly devoted a great deal of his spiritual energy in prayer; and in the end, to all appearances, God failed to live up to his commitments, for none of the three requests was granted. The first, and most persistent, was inspired by his reading, as a young man, Habershon's *Dissertation on the Prophetic Scriptures*, in which the Second Coming of Christ was vividly anticipated; in his own words: "I immediately began a practice, which I have pursued uninterruptedly for forty-six years, of constantly praying that I may be one of the favoured saints who shall never taste of death, but be alive and remain until the coming of the Lord, to be 'clothed upon with my house which is from heaven.'"<sup>20</sup> This is not an infrequent prayer among evangelical Christians, who in general, however, seem content to die without a feeling of having been cheated. Not so Philip Gosse. Even in life his confidence was such that he lived in momentary expectation of this apotheosis, and would be chagrined when it did not occur: "He would calculate, by reference to prophecies in the Old and New Testament, the exact date of this event; the date would pass, without the expected Advent, and he would be more than disappointed,—he would be incensed. Then he would understand that he must have made some slight error in calculation, and the pleasures of anticipation would recommence."<sup>21</sup> But at death it was not a question of miscalculation. His second wife, Eliza Gosse (nee Brightwen), wrote in a short memoir that "this hope of being caught up before death continued to the last, and its non-fulfilment was an acute disappointment to him. It undoubtedly was connected with the deep dejection of his latest hours on earth."<sup>22</sup>

The second prayer concerned his son, Edmund, and was of especial importance to him as incorporating the last wish of his first wife. Philip and Emily Gosse had, from the beginning, dedicated their child, like Samuel, to the service of the Lord; and Emily, dying of cancer in 1857, reiterated that dedication in the most solemn and saintly manner possible, so that God himself, it seemed, must be bound to accept it and ensure its consummation. For many years all was well, and when Edmund was publicly baptized and admitted to the communion of the Brethren at the age of twelve Philip Gosse felt the sacred responsibility to be almost discharged. But in truth Edmund had hardly known what he was doing, or that any other life than that among the Brethren was conceivable, and when he went to London as a young man to work in the British Museum he discovered that his tastes and talents lay in other directions. Gradually severing his links with the Evangelical Movement, he entered upon a career as a man of letters. Philip Gosse wrote angrily to his son and prayed angrily to his Maker, but in vain.

There remains one episode out of the three in Philip Gosse's life of prayer. It was of shorter duration, but its implications were of vastly greater scope, and its historical interest is such that it will be dealt with in a section by itself.

### III

Protestant Christianity, as Martineau somewhere remarks, is built upon the authority of the Bible, as Catholicism is built upon that of the Church. The vulnerability of the first position, as compared with the flexibility of the second, is obvious; for the Church can discreetly change its mind, while the Bible, as a historical document, is by definition incapable of adapting to novelty. Catholicism survived the nineteenth century much better, in its own sphere of influence, than Protestantism did, for this very reason; for in that century more than in any other the intellectual sympathies of the world were alienated from the Bible by the exposure of many apparently straightforward statements of fact in it as ignorant legends. The blow was not, of course, mortal. Ignorant people continued to believe the legends, and the intellectuals began to treat them as mythical adumbrations of profound truths. But those few really educated men to whom the Bible had been genuinely and directly authoritative experienced a most disturbing conflict of loyalties. Philip Gosse is a perfect example of the type.

The greatest problem before 1858, when Darwin and Wallace brought out into the open the question of the origin of species, was geological. According to Archbishop Ussher's reading of Genesis there could not, in 1857 (the year in which Gosse published his own work on the subject), be anything in the world more than 5,861 years old; according to rapidly accumulating stratigraphical and paleontological evidence there was scarcely anything of interest in the world whose history was not much longer than that by hundreds of thousands, even millions, of years. The stratigraphy

might be accommodated, at a stretch, by introducing that famous gap of aeons between the first and second verses of Genesis 1, but this did not help the paleontology, especially that of species closely related to living ones, even identical with them. The “days” of creation might be extended to cover geological ages, but there were difficulties there about the order of appearance of fossils in the stratigraphical record, and besides, to the purists, this seemed already to be taking hardly permissible liberties with the manifest declarations of the Holy Spirit. These were grave perplexities for those “to whom,” in Gosse’s own words,

the veracity of God is as dear as life. They cannot bear to see it impugned; they know that it cannot be overthrown; they are assured that He who gave the Word, and He who made the worlds, is One Jehovah, who cannot be inconsistent with Himself. But they cannot shut their eyes to the startling fact, that the records which *seem* legibly written on His created works do flatly contradict the statements which *seem* to be plainly expressed in His word.

Here is a dilemma. A most painful one to the reverent mind! And many reverent minds have laboured long and hard to escape from it.<sup>23</sup>

Most of them gave up the struggle, either closing their eyes to the evidence, or abandoning the literal interpretation of the Bible, or in many cases just learning to live with the dilemma as something too great for the limited intelligence of man. This last was at least a humble, if not a comfortable, position. But none of this would do for Philip Gosse; he would be content with nothing less than a complete solution of the riddle. The incredible thing is that he succeeded in finding one so perfect that it was, and remains, proof against all refutation. And although he called the book in which he presented it to the world “an attempt to untie the geological knot,” his method has all the audacity of Alexander at Gordium.

It was this book, *Omphalos*,<sup>24</sup> whose acceptance by the world of science formed the object of Gosse’s third petition to God. His own attitude towards it is made explicit in the preface:

I would not be considered an opponent of geologists; but rather as a cosearcher with them after that which they value as highly as I do, TRUTH. The path which I have pursued has led me to a conclusion at variance with theirs. I have a right to expect that it be weighed; let it not be imputed to vanity if I hope that it may be accepted.

But what I much more ardently desire is, that the thousands of thinking persons, who are scarcely satisfied with the extant reconciliations of Scriptural statements and Geological deductions,—who are silenced but not convinced,—may find, in the principle set forth in this volume, a stable resting-place. I have written it in the constant prayer that the God of Truth will deign so to use it; and if He do, to Him be all the glory!<sup>25</sup>

That God *would* deign to use it, given the irresistible force of the argument, seemed beyond all doubt.

Never was a book cast upon the waters [writes Edmund Gosse] with greater anticipation of success than was this curious, this obstinate, this fanatical volume. My Father lived in a fever of suspense, waiting for the tremendous issue. . . . My Father, and my Father alone, possessed the secret of the enigma; he alone held the key which could smoothly open the 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. But, alas! atheists and Christians alike looked at it and laughed, and threw it away.<sup>26</sup>

In this the Christians, at least, were ill-advised; but at all events the reception of the book meant that here too Gosse’s prayers had failed to find a response. Had he known at the time, as he did not, of the two other great disappointments that were in store for him, it might well have broken his spirit; as it was, coming soon after the death of his wife, the failure of *Omphalos* had a sufficiently disturbing effect. But it is time to examine the theory itself. Gillispie says that it was “far from original,” and Gosse himself admits that he got the germ of the idea, partly from an anonymous tract, and partly from Granville Penn’s *The Mineral and Mosaic Geologies* of 1822. Nevertheless its working out in *Omphalos* and the detail with which its application is followed through bear Gosse’s individual mark.

The book is an account of an imaginary court inquiry, with witnesses. One curious thing about it is that, except at the very end, there is no appeal to the Bible; and as for Archbishop Ussher, he is not once mentioned. The whole tone of the book, in fact, is modern, and with one or two critical exceptions there is nothing in it which could not have been

accepted by the most hardened atheistic geologist of the time. The case for the geological ages is presented fully, even sympathetically, as the testimony of “The Witness for the Macro-Chronology”; strata, fossils of plants and animals, erosion—all the available evidence is brought out. There are two examples chosen for special attention: the pterodactyl (illustrated by an unintentionally humorous woodcut of a bat with bulging eyes and gaping fangs) and the Jurassic tree *Lepidodendron*. But when all the data have been marshalled, Gosse puts his finger skilfully on the Achilles heel of the whole argument: “. . . there is nothing here but *circumstantial* evidence; there is no *direct* testimony. . . . 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 as 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. . . . It is only by a process of reasoning that you infer they lived at all.”<sup>27</sup> Of course he is quite right; the inference of causes from effects commits a logical fallacy. Sciences which deal with the past, or with the unobservable of any kind, constantly commit it—they have no alternative. This fact is tacitly admitted, and then quite properly forgotten, as far as the daily work of the scientist is concerned. But when somebody like Gosse gleefully draws attention to it there is absolutely nothing that can be brought forward in its defense—the only recourse is a challenge to the critic to produce an alternative, and equally plausible, explanation of the effects as they appear. Such a challenge Gosse was quite prepared to meet.

His own theory invokes two postulates, the creation of matter and the persistence of species. “I assume that at some period or other in past eternity there existed nothing but the Eternal God, and that He called the universe into being out of nothing. 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.”<sup>28</sup> As a matter of fact the second postulate is superfluous—Gosse’s theory, while it certainly removes the necessity for a theory of development (or of variation and natural selection), is not incompatible with such a theory. And as for the first, although he refuses to discuss it, nobody was in a position to maintain that there was any better account available of the origin of the universe, assuming that it had an origin. At least the Christians could accept the point without difficulty. Now creation is generally taken to be a beginning of history, and thereby also of natural history—the first verse of Genesis makes the idea explicit. It certainly is a beginning in some sense, but Gosse’s reflections led him to see that it could not be so in the way in which, for example, birth is. Birth is the beginning of a phase, but it depends on an earlier phase, namely prenatal development, whereas creation must be an absolute beginning *de novo*, depending upon no antecedents whatever except the will of the Creator. Suppose a creator setting about the creation of some natural object, a fern, a butterfly, a cow; at what stage of its existence should he choose to call it into being? We might unthinkingly choose the mature form; but is there any reason why this should be preferred to an immature or embryonic form? Is any stage fundamentally more suitable than any other as a starting-point of natural history? Gosse concluded not—indeed that there is no such thing as a natural beginning of this necessarily ultimate sort, the court of nature being, in fact, circular. “It is evident that there is no one point in the history of any single creature, which is a legitimate beginning of existence. . . . The cow is as inevitable a sequence of the embryo, as the embryo is of the cow.”<sup>29</sup> Such a beginning must, therefore, be supernatural. “Creation, the sovereign fiat of Almighty Power, gives us the commencing point, which we in vain seek in nature. But what is creation? It is *the sudden bursting into a circle*. ”<sup>30</sup> And just as the life-cycle of the individual is closed upon itself, so the cycle of species, of life itself, of the planet and the solar and stellar systems, may in principle be ever repeating, from eternity to eternity, only to be commenced or terminated by an irruption from without.

Gosse’s stroke of genius thus lay in separating the question of creation from the question of history altogether. The older view has its classical expression in Donne: “That then this Beginning *was*, is matter of faith, and so, infallible. *When* it *was*, is matter of *reason*, and therefore various and perplex’t.”<sup>31</sup> Gosse brought it all into the province of faith by suggesting the possibility that natural objects might be created *with a history*, or at least with the appearance of one. And this suggestion, once made, ceased to be a suggestion and became an indispensable necessity: a natural object could not be a natural object without an apparent history. A tree would not be a tree without rings, which indicate its age, and even a newly created tree must have rings. A man would not be a man without a navel, Sir Thomas Browne to the contrary notwithstanding.

The whole organisation of the creature thus newly called into existence, looks back to the course of

an endless circle in the past. Its whole structure displays a series of developments, which as distinctly witness to former conditions as do those which are presented in the cow, the butterfly, and the fern, of the present day. But what former conditions? The conditions thus witnessed unto, as being necessarily implied in the present organisation, were non-existent; the history was a perfect blank till the moment of creation. 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*. They exist only in their results; they are effects which never had causes.

Perhaps it may help to clear my argument if I divide the past developments of organic life, which are necessarily, or at least legitimately, inferrible from present phenomena, into two categories, separated by the violent act of creation. Those unreal developments whose apparent results are seen in the organism at the moment of its creation, I will call *prochronic*, because time was not an element in them; while those which have subsisted since creation, and have had actual existence, I will distinguish as *diachronic*, as occurring during time.

Now, again I repeat, there is no imaginable difference to sense between the prochronic and diachronic development....<sup>32</sup>

Natural history thus appears as an unbroken progression, from some unimaginable beginning in the mind of God to the state of the world at present; somewhere in between an extrinsic act of creation occurred, and as prochronic events ceased, diachronic ones—identical in every essential point—began. When did this take place? Is there any way of deducing it from the evidence? Obviously not: “The commencement, as a fact, I must learn from testimony; I have no means whatever of inferring it from phenomena.”<sup>33</sup> Fortunately the testimony is available. God need not have told us when the Creation occurred, but as a matter of fact he has done so, in Genesis, and it would be ungrateful—not to say foolish or even impious—in men of science to overlook the fact. So far they have “not allowed for the Law of Prochronism in Creation,”<sup>34</sup> but without it all calculation is useless; “the amount of error thus produced we have no means of knowing; much less of eliminating it.”<sup>35</sup> Accordingly every scrap of evidence for the Macro-Chronology contains a fatal flaw; and, as Gosse triumphantly concludes: “The field is left clear and undisputed for the one Witness on the opposite side, whose testimony is as follows:

“ ‘IN SIX DAYS JEHOVAH MADE HEAVEN AND EARTH, THE SEA, AND ALL THAT IN THEM IS.’ ”<sup>36</sup>

But what, after all, did this victory amount to? To begin with, it showed that there had never really been a struggle: “I do not know that a single conclusion, now accepted, would need to be given up, except that of actual chronology. And even in respect of this, it would be rather a modification than a relinquishment of what is at present held; we might still speak of the inconceivably long duration of the processes in question, provided we understand *ideal* instead of actual time;—that the duration was projected in the mind of God, and not really existent.”<sup>37</sup> Reduced to this, the conclusion is merely metaphysical, that is to say empirically empty; to assert that the world was created is rather like asserting that overnight everything in it has doubled in size, including rulers and retinae—nobody can tell the difference. One might as well retort that really everything has halved in size, or that everything has been uncreated, the former existence being real and the present ideal, for all that any experiment can possibly indicate to the contrary. Put in another way, Gosse’s claim comes to the same thing as maintaining that, before creation, Berkeley’s philosophical position was the correct one, while after it Locke’s was. Unfortunately most men persisted in seeing more in it than that, continuing to believe that there was a genuine difference of opinion between the geologists and the Holy Ghost, that it was impossible to agree with both but that it mattered which one agreed with. Gosse was undoubtedly right—it did not matter, at least not in the way that most men supposed, since (apart from the extra-scientific point of faith) one could agree with both; but few could follow his intellectual maneuvers, perfectly rational though they were.

And then any victory, even the most conclusive, becomes hollow when nobody takes the slightest notice of it, or when the few who do misinterpret it completely. Having instructed the printers to prepare an unusually large edition of his book against what he was certain would be a universal demand, Gosse found himself in possession of most of it, while the few copies that went out produced a critical reaction of a totally unexpected sort. The theory of *Omphalos*, after suitable distortion—not only by the malicious—became monstrous, asserting nothing less than that God had

placed fossils in the rocks for the express purpose of deceiving scientists into thinking that the earth was older than it really was. Perhaps the crudest blows were struck by that perpetually well-meaning, infallibly clumsy Victorian, Charles Kingsley.

We have reason to be grateful for Kingsley's blunt insensitivity, which produced, like the irritating specks of sand in oysters, responses of great beauty in diverse quarters—the two most famous cases are, of course, Newman's *Apologia pro Vita sua* and Huxley's celebrated letter on the death of his son. There is no record of a similar reaction on Gosse's part, but the stimulus was certainly no less painful. The theory itself, it is true, was perfectly acceptable to Kingsley: "Your distinction between diachronism and prochronism [he wrote to Gosse], instead of being nonsense, as it is in the eyes of the Locke-beridden Nominalist public, is to me, as a Platonist and realist, an indubitable and venerable truth."<sup>38</sup> But Gosse's use of the theory to justify the geologists in the form, if not the substance, of their conclusions, while at the same time preserving the literal truth of Scripture, was too much for him. "Your book tends to prove this—that if we accept the fact of absolute creation, God becomes a *Deus quidam deceptor*. . . . You make God tell a lie. It is not my reason, but my conscience which revolts here."<sup>39</sup> Such obtuseness was bad enough—for Gosse's whole point had been to show that God had not lied at all, that indeed he had been scrupulously honest (as Gosse himself would have been in similar circumstances), correcting in one mode of communication, namely Biblical revelation, a possible misconception which might arise in the interpretation of a message in another mode, namely geological evidence—but there was worse to come. Kingsley, self-confident as ever, went on:

I cannot give up the painful and slow conclusion of five and twenty years' study of geology, and believe that God has written on the rocks one enormous and superfluous lie for all mankind.

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. . . . Your demand on implicit faith is just as great as that required for transubstantiation, and, believe me, many of your arguments, especially in the opening chapter, are strangely like those of the old Jesuits, and those one used to hear from John Henry Newman fifteen years ago, when he, copying the Jesuits, was trying to undermine the grounds of all rational belief and human science, in order that, having made his victims (among whom were some of my dearest friends) believe nothing, he might get them by a "Nemesis of faith" to believe anything, and rush blindfold into superstition. Poor wretch, he was caught in his own snare...<sup>40</sup>

Bitter words for a supporter of the onion man! and especially bitter the remark about children, for whose mental and moral improvement Gosse, in his popular writings, had been so solicitous. But then Kingsley and Gosse were fundamentally at cross purposes in this matter. Kingsley's aversion for Rome was intellectual, Gosse's emotional; Gosse's interest in religion and science was intellectual, Kingsley's sentimental. The comparison of Gosse and Newman, ghastly and inconceivable as it would have seemed to them both, was not in fact entirely unjust, for Newman, in the *Apologia*, says: "From the age of fifteen, dogma has been the fundamental principle of my religion: I know no other religion; I cannot enter into the idea of any other sort of religion; religion, as a mere sentiment, is to me a dream and a mockery"<sup>41</sup>—in which substituting for "dogma" "the infallibility of the Scriptures" renders Gosse's belief exactly. Both Newman and Gosse had seen that the defense of truth on the highest level leads sometimes to an appearance of deception on a lower, and both had been reprimanded for it by Kingsley, to whom truth was a simple, straightforward, rather typically English sort of thing.

Newman, however, was the better off; for the Church provides an environment friendly to such subtleties, let infidels protest as they may; but what is a lonely Protestant to do, when God refuses to look after his own interests, and allows his shortsighted and enthusiastic servants to spoil the work of those who are more perceptive and austere? Nothing could shake Gosse's faith in the Bible, but its author, engaged as he was in guiding the Kingsleys of the world safely through their puzzles, might perhaps be guilty of negligence. In his reaction to the failure of *Omphalos* Gosse almost suspected as much. "I think there was added to his chagrin with all his fellow mortals a first tincture of that heresy which was to attack him later on. It was now that, I fancy, he began, in his depression, to be angry with God."<sup>42</sup> But this was not the petulant anger of a disappointed scholar. It is exactly here that Gosse's enormous intellectual strength shows to its best advantage—the strength, in fact, not only of his intellect but also of his will. He knew he

was right, even if God did not. And he was not broken; four years later he is at it again, in a second series of *The Romance of Natural History*, incorporating more and more of the contemporary advances of science into his own scheme, never yielding an inch in his fidelity to the inspired word. Kingsley had also accused him of the apostasy of evolution: “I don’t see how yours [i.e., Gosse’s prochronism] differs from the transmutation of species theory, which your argument, if filled out fairly, would, I think, be.”<sup>43</sup> Indeed there was a superficial similarity, but Gosse was careful to make the distinction for those who cared to look for it. Species may, without violating the sanctity of Scripture, *succeed* one another; they may not *evolve* from one another.

We know that the rate of mortality among *individuals* of a species, speaking generally, is equalled by the rate of birth, and we may suppose this balance of life to be paralleled when the unit is a species, and not an individual. If the Word of God contained anything either in statement or principle contrary to such a supposition, I would not entertain it for a moment, but I do not know that it does. I do not know that it is anywhere implied that God created no more after the six days’ work was done. His Sabbath-rest having been broken by the incoming of sin, we know from John v. 17, that He continued to work without interruption; and we may fairly conclude that progressive creation was included as a part of that unceasing work.<sup>44</sup>

Gosse’s devotion and ingenuity in the service of science and religion were unlimited; and in the end even the total indifference of both parties was not enough to stop his heroic rearguard action in defense of their divinely appointed unity.

#### IV

Edmund Gosse’s charge against his father is that of inhumanity. “He regarded man rather as a blot upon the face of nature, than as its highest and most dignified development. . . . Among the five thousand illustrations which he painted, I do not think there is one to be found in which an attempt is made to depict the human form. Man was the animal he studied less than any other, understood most imperfectly, and, on the whole, was least interested in.”<sup>45</sup> There is, in fact, at least one illustration containing human figures, but it only serves to reinforce the charge: the preface to *The Ocean* is accompanied by a woodcut of “The Whale Fishery,” showing two men being tossed out of a boat into the jaws of a gigantic cetacean. As to the other assertions, Edmund may have been right—certainly his own experience led to no other conclusion. And yet it is perhaps too easy a judgment. One of the tragedies of an over-intellectual faith is that it may conceal, effectively and permanently, more natural feelings. Abraham, with his sons in his bosom, is a model of paternal affection, but it is a grim reflection that, had there been no ram in the thicket, nothing would have prevented him from murdering Isaac. Kierkegaard makes of Abraham a hero of faith, and the heroes of faith are generally those for whom, in the end, everything works out right, either in martyrdom or in earthly felicity. For Gosse, in a sense, nothing worked out right, yet his life, although it ended in dejection, did not end in defeat. As in Mr. Van Voorst’s office, years before, his self-possession could be overcome only *in extremis*. He was, to use another favorite term of Kierkegaard’s—a term of the highest approbation—an *individual*; and if his behavior as an individual was eccentric (as it undoubtedly was) that very fact made it, in spite of his frequently expressed wish to give all the credit to God, a tribute to the human strength of his own character.

## NOTES

1. Edmund Gosse, *Father and Son* (New York, 1907), p. 328.
2. Edmund Gosse, *The Life of Philip Henry Gosse, F.R.S., by his Son* (London, 1890), p. 72.
3. Edmund Gosse, *Father and Son*, p. 6.
4. Titian Peale, a painter of animals, is the only brother he mentions; Rubens and Rembrandt, who earlier had made important contributions to American natural history, were by this time considerably older than Gosse. The father of these three (and of eight other children also named after artists) was Charles Willson Peale, the famous portrait painter.
5. Philip Gosse, *Letters from Alabama (U.S.) Chiefly Relating to Natural History* (London, 1859). Letter XII deals with manners in the South, especially with slavery.
6. Edmund Gosse, *The Life of Philip Henry Gosse, F.R.S.*, p. 157.
7. Philip Gosse, *The Canadian Naturalist. A Series of Conversations on the Natural History of Lower Canada* (London, 1840), p. 2.
8. Edmund Gosse, *Father and Son*, p. 113.
9. P. H. Gosse (assisted by Richard Hill, Esq., of Spanish-Town), *The Birds of Jamaica* (London, 1847).
10. Philip Gosse, *The Romance of Natural History* (London, 1860), p. 270.
11. Edmund Gosse, *The Life of Philip Henry Gosse, F.R.S.*, p. 152.
12. *Ibid.*, p. 70.
13. *Ibid.*, p. 72.
14. Edmund Gosse, *Father and Son*, p. 97.
15. *Ibid.*, p. 71.
16. *Ibid.*, p. 99.
17. *Ibid.*, p. 84.
18. P. H. Gosse, *The Ocean* (Philadelphia, 1856), p. 101. (The title-page bears the inscription, "from the last London edition.")
19. Philip Henry Gosse, *A Naturalist's Rambles on the Devonshire Coast* (London, 1853), pp. 354-357. This was not, after all, quite the discovery Gosse thought it. *Johnstonella* was not a new genus, but a subgenus of *Tomopteris*, which had been named in 1825 by Eschscholtz. The species *catharina* is still recognized by some workers, although Gosse's drawing and description are too vague to provide clear identification, and the name *helgolandica* attached to a later and more accurate description by Greeff is more usual. As a result, what Gosse hoped would be called *Johnstonella catharina* is in fact called *Tomopteris helgolandica*—a disappointing sequel to so magnanimous a gesture. (I am indebted for the foregoing information to Mr. Frederick M. Bayer, Acting Curator of the Division of Marine Invertebrates, Smithsonian Institution.)
20. Edmund Gosse, *The Life of Philip Henry Gosse, F.R.S.*, p. 376.
21. Edmund Gosse, *Father and Son*, p. 346.
22. Edmund Gosse, *The Life of Philip Henry Gosse, F.R.S.*, p. 367.
23. Philip Henry Gosse, *Omphalos: An Attempt to Untie the Geological Knot* (London, 1857), p. 5.
24. A Greek word meaning "navel." The epigraph to *Omphalos* is from Aristotle's *Historia Animalium*, book VII.8, and in D'Arcy Wentworth Thompson's translation reads: "All animals, or all such as have a navel, grow by the navel." The idea is, clearly, to make an analogy between Adam as the microcosm, whose navel pointed to a birth which never took place, and the earth as the macrocosm, whose fossils similarly are signs of an unreal past; but this comparison is not taken up seriously in the book, there being only two casual references to the navel at pp. 289 and 334. One might therefore look for a deeper significance in the title, in keeping with various secondary uses of the Greek term, such as its application to the stone at Delphi which was supposed to represent the center of the earth. But Gosse's epigraphs, like his scriptural quotations, are often disappointingly irrelevant, and on the whole it seems unlikely that there is any more to the title than the obvious meaning referred to above.
25. Philip Gosse, *Omphalos*, pp. vii-viii.
26. Edmund Gosse, *Father and Son*, p. 116.
27. Philip Gosse, *Omphalos*, pp. 103-104.
28. *Ibid.*, p. 110.
29. *Ibid.*, p. 122.
30. *Ibid.*, p. 123.
31. John Donne, *Essays in Divinity*, ed. E. M. Simpson (Oxford, 1952), p. 18.
32. Philip Gosse, *Omphalos*, pp. 124-125.
33. *Ibid.*, p. 126.
34. *Ibid.*, p. vi.
35. *Ibid.*, p. 372.
36. *Loc. cit.*
37. *Ibid.*, p. 369.
38. Edmund Gosse, *The Life of Philip Henry Gosse, F.R.S.*, p. 280.
39. *Ibid.*, p. 280-281.
40. *Ibid.*, p. 281.
41. John Henry Cardinal Newman, *Apologia pro Vita Sua* (London, 1864), p. 120.
42. Edmund Gosse, *Father and Son*, p. 118.
43. Edmund Gosse, *The Life of Philip Henry Gosse, F.R.S.*, p. 281.
44. Philip Henry Gosse, *The Romance of Natural History, Second Series* (London, 1861), p. 89.
45. Edmund Gosse, *The Life of Philip Henry Gosse, F.R.S.*, p. 349.