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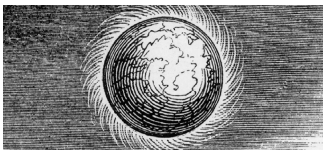

INTENSIFICATION OF THE DEBATE AFTER 1800

PERCY BYSSHE SHELLEY (1792–1822)

Thomas Paine was far from being the only author who saw the doctrine of a plurality of worlds as creating serious difficulties for Christianity. The Gothic novelist Horace Walpole, fourth lord of Orford (1717–1798), stated: "Fontenelle's Dialogues on a Plurality of Worlds, first rendered me an Infidel. Christianity, and a plurality of worlds, are, in my opinion, irreconcilable."[1] Lord Byron (1788–1824), who used pluralist themes in a number of his poems, admitted in an 1813 letter that he had come to question the immortality of the soul: "It was the comparative insignificance of ourselves and *our world*, when placed in competition with the mighty whole, of which it is an atom, that first led me to imagine that our pretensions to eternity might be over-rated."[2] A second leading romantic poet, Samuel Taylor Coleridge (1772–1834), reacted quite differently; although in his student days he had endorsed pluralism in his "Ode to Astronomy," in 1824 he remarked:

1. As quoted in "Walpoliana . . . Number IV," *Monthly Magazine* 6 (1798): 116.

2. *The Works of Lord Byron, Letters and Journals*, ed. R. E. Prothero (London: J. Murray, 1903), 2:221–22.

> I never could feel any force in the arguments for a plurality of worlds, in the common acceptation of that term. A lady once asked me—"What then could be the intention in creating so many great bodies, so apparently useless to us?" I said—I did not know, except perhaps to make dirt cheap. The vulgar inference is *in alio genere*. What in the eye of an intellectual and omnipotent Being is the whole sidereal system to the soul of one man for whom Christ died?[3]

A far more striking instance of the difficulties that some saw in reconciling Christianity with pluralism can be seen in the case of Percy Bysshe Shelley, whose interest in extraterrestrial life themes can be traced to his student days when he heard lectures from Adam Walker, a popular scientific lecturer, who endorsed that doctrine in his *System of Familiar Philosophy*. Shelley also encountered the doctrine through reading Lucretius and various writings of Erasmus Darwin, some of whose astronomical ideas were used in Shelley's *Prometheus Unbound* (1820). In response to the much discussed question of the cause of Shelley's break from Christianity, Ifor Evans has stated that "astronomical knowledge [led Shelley] to a rejection of the Christian faith."[4] At least two of Shelley's writings support this claim. The first consists of a note he added to his *Queen Mab*, privately printed in 1813. At one point in that work, Shelly referred to "Innumerable systems," adding the following note.

> The plurality of worlds,—the indefinite immensity of the universe, is a most awful subject of contemplation. He who rightly feels its mystery and grandeur is in no danger of seduction from the falsehoods of religious systems, or of deifying the principle of the universe. It is impossible to believe that the Spirit that pervades this infinite machine begat a son upon the body of a Jewish woman; or is angered at the consequences of that necessity, which is a synonym of itself. All this miserable tale of the Devil, and Eve, and an Intercessor, with the childish mummeries of the God of the Jews, is irreconcilable with the knowledge of the stars. The works of His fingers have born witness against Him.[5]

The second composition is his "On the Devil, and Devils," a satiric essay written shortly before his death but long held back from publication because of its shocking nature. A selection from that essay follows.

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3. Samuel Taylor Coleridge, *Complete Works*, ed. Professor Shedd (New York: Harper and Brothers, 1853), 6:502–3.

4. Ifor Evans, *Literature and Science* (London: Allen and Urwin, 1954), 69.

5. Percy Bysshe Shelley, *The Complete Poetical Works*, ed. Neville Rogers (Oxford: Clarendon Press, 1972), 1:296.

Percy Shelley, "On the Devil, and Devils," in *The Works of Percy Bysshe Shelley*, ed. Harry Buxton Forman (London: Reeves and Turner, 1880), 6:390–91, 396–98, 400–402, 403, and 404.

After an opening section treating the history of ideas of the devil and especially the image of him created by John Milton, Shelley turns to what might be described as the cosmology of the devil.

> I am afraid there is much laxity among the orthodox of the present day, respecting a belief in the Devil. I recommend to the Bishops to make a serious charge to their diocesans on this dangerous latitude. The Devil is the outwork of the Christian faith; he is the weakest point. You may observe that infidels, in their novitiate, always begin by tremulously doubting the existence of the Devil. Depend upon it, that when a person once begins to think that perhaps there is no Devil, he is in a dangerous way. There may be observed, in polite society, a great deal of coquetting about the Devil, especially among divines, which is singularly ominous. They qualify him as the evil spirit; they consider him as synonymous with the flesh. They seem to wish to divest him of all personality; to reduce him from his abstract to his concrete; to reverse the process by which he was created in the mind, which they will by no means bear with respect to God. It is popular, and well looked upon, if you deny the Devil "a local habitation and a name." Even the vulgar begin to scout him. Hell is popularly considered as metaphorical of the torments of an evil conscience, and by no means capable of being topographically ascertained. No one likes to mention the torments of everlasting fire and the poisonous gnawing of the worm that liveth forever and ever.

In a section omitted at this point, Shelley continues at some length to warn of the dangers of slackness in regard to belief in the devil and in hell, suggesting that it is an ominous sign that even the orthodox are soft-pedaling doctrines regarding the devil and hell. He also discusses various activities and powers of the devil.

The sphere of the operations of the Devil is difficult to determine. The late inventions and improvements in telescopes have considerably enlarged the notions of men respecting the bounds of the Universe. It is discovered that the Earth is a comparatively small globe, in a system consisting of a multitude of others, which roll round the sun; and there is no reason to suppose but that all these are inhabited by organized and intelligent beings. The fixed stars are supposed to be suns, each of them the centre of a system like ours. Those little whitish specks of light that are seen in a clear night, are discovered to consist of a prodigious multitude of suns, each probably the centre of a system of planets. The system of which our earth is a planet has been discovered to belong to one of those larger systems of suns, which, when seen at a distance, look like a whitish speck of light; and that lustrous streak called the milky way is found to be one of the extremities of the immense group of suns in which our system is placed. The heaven is covered with an incalculable number of these white specks, and the better the telescopes the more are discovered, and the more distinctly the confusion of white light is resolved into stars. All this was not known during the gradual invention of the Christian mythology, and was never even suspected by those barbarians on the obscure extremities of the Roman Empire, by whom it was first adopted. If these incalculable millions of suns, planets, satellites, and comets are inhabited, is it to be supposed that God formed their inhabitants better, or less liable to offend him than those primordial Spirits, those angels near his throne, those first and most admirable of his creatures, who rebelled and were damned? Or has he improved like a proficient in statuary or painting, proceeding from rude outlines and imperfect forms, to more perfect idealisms or imitations, so that his latter works are better than his first? Or has some fortunate chance, like that which, when the painter despaired of being able to depict the foam of a horse, directed the spunge so as to represent it accurately, interfered to confer stability and exactness upon one, or how many, among the numerous systems of animated nature? There is little reason to suppose that any

considerable multitude of the planets were tenanted by beings better capable of resisting the temptations of the Devil than ours. But is the Devil, like God, omnipresent? If so, he interpenetrates God, and they both exist co-essentially; as metaphysicians have compared the omnipresence of God, pervading the infinity of space and being, to salt mixed with water. If not, he must send some inferior Angels, either to this or some other planet, first to tempt the Inhabitants to disobey God, and secondly to induce them to reject all terms of salvation; for which latter purpose, it seems equally requisite that he should take up his residence on the spot; nor do I see, how he or God, by whose providence he is permitted, that is to say, compelled to act, could commit a business of such high moment to an inferior Angel. It seems very questionable whether the Devil himself, or only some inferior Devil, tempted and betrayed the people of the Earth; or whether Jupiter, a planet capable of containing a hundred times more inhabitants than the earth,—to mention only the planets of our own system,—or the Sun, which would contain a million times more, were not entitled to the preference.

Any objection that might arise from the multitude of Devils, I think futile. You may suppose a million times as many devils as there are stars. In fact you may suppose anything you like on such a subject. That there are a great number of Devils, and that they go about in legions of six or seven, or more at a time, all mythologists are agreed. Christians, indeed, will not admit the actual substance and presence of the Devils upon Earth in modern times. Or, in proportion as any histories of them approach to the present epoch, or indeed any epoch in which there has been a considerable progress in historical criticism or natural science, they suppose their agency to be obscure and superstitious.

A section in which Shelley discusses the idea that devils may dwell in animals has been deleted at this point.

Some have supposed that the Devils live in the Sun, and that that glorious luminary is the actual Hell; perhaps that every fixed star is a distinct Hell appropriated to the use of its several systems of planets, so great a proportion of the inhabitants of which are probably devoted to everlasting damnation, if the belief of one particular creed is essential to their escape, and the testimony of its truth so very far remote and obscure as in the planet which we inhabit. I do not envy the theologians, who first invented this theory. The Magian worship of the Sun as the creator and Preserver of the world, is considerably more to the credit of the inventors. It is in fact a poetical exposition of the matter of fact, before modern science had so greatly enlarged the boundaries of the sensible world, and was, next to pure deism or a personification of all the powers whose agency we know or can conjecture, the religion of the fewest evil consequences.

If the sun is Hell, the Devil has a magnificent abode, being elevated as it were on the imperial throne of the visible world. If we assign to the Devil the greatest and most glorious habitation within the scope of our senses, where shall we conceive his mightier adversary to reside? Shall we suppose that the Devil occupies the centre and God the circumference of existence, and that one urges inwards with the centripetal, whilst the other is perpetually struggling outwards from the narrow focus with the centrifugal force, and that from their perpetual conflict results that mixture of good and evil, harmony and discord, beauty and deformity, production and decay, which are the general laws of the moral and material world? Alas! the poor theologian never troubled his fancy with nonsense of so philosophical a form. He contented himself with supposing that God was somewhere or other; that the Devil and all his angels together with the perpetually increasing multitude of the damned were burning above to all eternity in that prodigious orb of elemental light, which sustains and animates that multitude of inhabited globes, in whose company this earth revolves. Others have supposed Hell to be distributed among the comets, which constitute, according to this scheme, a number of floating prisons of intense and inextin-

guishable fire; a great modern poet adopts this idea when he calls a comet

"A wandering hell in the eternal space."[6]

A paragraph is omitted at this point in which Shelley suggests that poets find it easier to write about Hell than about Heaven, noting that many readers prefer Dante's *Inferno* to his *Paradiso*.

As to the Devil, and the imps, and the damned living in the Sun, why there is no great probability of it. The Comets are better fitted for this; except that some astronomer has suggested the possibility of their orbits gradually becoming ecliptical, until at last they might arrange themselves in orbits concentric with the planets, lose their heat and their substance, become subject to the same laws of animal and vegetable life as those according to which the substance of the surface of the others is arranged. The Devils and the damned, without some miraculous interposition would then be the inhabitants of a very agreeable world; and as they probably would have become very good friends from a community of misfortune and the experience which time gives those who live long enough of the folly of quarrelling — would probably administer the affairs of their Colony with great harmony and success.

Part of a long paragraph has been removed at this point. In it, Shelley discusses some of William Herschel's theories of the Sun, using these to critique the idea that Hell could be located in the Sun.

The idea of the sun being Hell, is an attempt at an improvement on the old-established idea of its occupying the centre of the earth. The Devils and the damned would be exceedingly crowded in process of ages, if they were confined within so inconsiderable a sphere.

6. [David Lee Clark in *Shelley's Prose* (Albuquerque: University of New Mexico Press, 1954) identifies this line as from Byron's *Manfred*, 1.1.46.]

Table 6. Thomas Dick's population figures for the solar system

	Square Miles	*Population*	*Solid Contents*
Mercury	32,000,000	8,960,000,000	17,157,324,800
Venus	191,131,911	53,500,000,000	248,475,427,200
Mars	55,417,824	15,500,000,000	38,792,000,000
Vesta	229,000	64,000,000	10,035,000
Juno	6,380,000	1,786,000,000	1,515,250,000
Ceres	8,285,580	2,319,962,400	2,242,630,320
Pallas	14,000,000	4,000,000,000	4,900,000,000
Jupiter	24,884,000,000	6,967,520,000,000	368,283,200,000,000
Saturn	19,600,000,000	5,488,000,000,000	261,326,800,000,000
Saturn's outer ring	9,058,803,600	⇩⇩⇩⇩⇩⇩⇩⇩⇩⇩	
Inner ring	19,791,561,636	8,141,963,826,080	1,442,518,261,800
Edges of the rings	228,077,000	⇧⇧⇧⇧⇧⇧⇧⇧⇧⇧	
Uranus	3,848,460,000	1,077,568,800,000	22,437,804,620,000
The Moon	15,000,000	4,200,000,000	5,455,000,000
Jupiter's satellites	95,000,000	26,673,000,000	45,693,970,126
Saturn's satellites	197,920,800	55,417,824,000	98,960,400,000
Uranus's satellites	169,646,400	47,500,992,000	84,823,200,000
Amount	**78,196,916,784**	**21,894,974,404,480**	**654,038,348,119,246**

From the above statement, the real magnitude of all the moving bodies connected with the solar system may at once be perceived. If we wish to ascertain what proportion these magnitudes bear to the amplitude of our own globe, we have only to divide the different amounts stated at the bottom of the table by the area, solidity, or population of the earth. The amount of area, or the superficial contents of all the planets, primary and secondary, is 78,195,916,784; or above *seventy-eight thousand millions* of square miles. If this sum be divided by 197,000,000, the number of square miles on the surface

of our globe, the quotient will be 397; showing that the surfaces of these globes are 397 times more expansive than the whole surface of the terraqueous globe; or, in other words, that they contain an amplitude of space for animated beings equal to nearly *four hundred worlds* such as ours. If we divide the same amount by 49,000,000, the number of square miles in the habitable parts of the earth, the quotient will be 1595; showing that the surface of all the planets contains a space equal to one thousand five hundred and ninety-five times the area of all the continents and islands of our globe. If the amount of population which the planets might contain, namely, 21,894,974,404,480, or nearly *twenty-two billions*, be divided by 800,000,000, the population of the earth, the quotient will be 27,368; which shows that the planetary globes could contain a population more than twenty-seven thousand times the population of our globe; in other words, if peopled in the proportion of England, they are equivalent to twenty-seven thousand worlds such as ours in its present state of population. The amount of the third column expresses the number of solid miles comprised in all the planets, which is 654,038,348,119,246, or more than *six hundred and fifty-four billions*. If this number be divided by 263,000,000,000, the number of cubical miles in the earth, the quotient will be 2483; which shows that the solid bulk of the other planets is two thousand four hundred and eighty-three times the bulk of our globe. Such is the immense magnitude of our planetary system, without taking into account either the sun or the hundreds of comets which have been observed to traverse the planetary regions.

In the remaining portion of this section, Dick discourses on the sizes of the Sun, planets, satellites, and asteroids compared to the Earth. His most striking conclusion is that "the area of the surface of the sun is *thirty-one* times greater than the area of all the primary planets, with their rings and satellites" (136), the implication being that the Sun's population is proportionally immense. He also presents diagrams illustrating how much larger Jupiter, Saturn, and Uranus are than the Earth.

"THE GREAT MOON HOAX"

The 25 August 1835 issue of the *New York Sun* carried the first installment of what may be the most remarkable report ever published. The series of articles purported to be an announcement by the famous astronomer Sir John Herschel that he had telescopically discovered a civilization on the Moon. So sensational was the first installment of the report that over nineteen thousand copies of the 26 August issue of the *Sun* were sold, giving the *Sun* the largest circulation of any newspaper on our planet. Moreover, the installment of 29 August noted that the entire report (including the final installment, which appeared on 31 August) was being made available in pamphlet form. Soon 60,000 copies of this booklet were bought up. Moreover, reprintings have appeared periodically ever since. Lithographs (see figure 9) of the lunarians were also soon made available. Many translations of this remarkable document also appeared. Already by the end of 1836, French translations had been published in Bordeaux, Lausanne, Lyon, Paris, and Strasbourg; Italian editions in Florence, Livorno, Naples, and Ravenna; Spanish translations in Cuba and Mexico; and a German translation published at Hamburg.

The 1 September issue of the *Sun* recounted reactions from other newspapers, stating that the *Mercantile Advertiser* had begun reprinting the series, noting that "It appears to carry intrinsic evidence of being an authentic document."[28] The *Daily Advertiser*, it was reported, expressed its enthusiasm by stating: "No article, we believe, has appeared for years, that will command so general a perusal and publication. Sir John has added a stock of knowledge to the present age that will immortalize his name, and place it high on the page of science."[29] The *Albany Daily Advertiser*, calling it a "Stupendous Discovery," told of having read the story "with unspeakable emotions of pleasure and astonishment."[30] The *New York Times*, according to the *Sun* report, pronounced the discoveries "probable and plausible,"[31] while the *New Yorker* described them as creating "a new era in astronomy and science generally."[32]

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28. As quoted in Richard Adams Locke, *The Moon Hoax, or A Discovery that the Moon Has a Vast Population of Human Beings* (New York: William Gowans, 1859; facsimile ed. pub. Boston: Gregg Press, 1975), 61.
29. As quoted in Locke, *Moon Hoax*, 61.
30. As quoted in Locke, *Moon Hoax*, 61.
31. As quoted in Locke, *Moon Hoax*, 62.
32. As quoted in Locke, *Moon Hoax*, 62.

I wrote it myself."[38] The *Journal of Commerce* then denounced the articles as a hoax and the New York *Herald* specified Locke as its perpetrator.

The author of what has repeatedly been called "The Great Moon Hoax" was, in fact, Richard Adams Locke (1800–1871), who, according to some reports, studied at the University of Cambridge (curiously Cambridge has no evidence that Locke ever enrolled). His chief claim to fame remains the articles he composed for the *Sun*, which show that he was fairly widely read in the scientific literature of the period, especially that regarding extraterrestrial life.

In reading the selection that follows, it may be useful to keep in mind that later in this chapter, the claim will be made that there is solid historical evidence indicating that the "Great Moon Hoax" was not in fact a hoax.

The Moon Hoax, or A Discovery that the Moon Has a Vast Population of Human Beings. By Richard Adams Locke (New York: William Gowans, 1859; facsimile ed. pub. Boston: Gregg Press, 1975), 7–9, 21–39, 42–46, 48–50.

GREAT
ASTRONOMICAL DISCOVERIES
LATELY MADE
BY SIR JOHN HERSCHEL, L.L., D.F.R.S, &C.,
AT THE
CAPE OF GOOD HOPE.

FIRST PUBLISHED IN THE NEW YORK SUN
IN AUGUST AND SEPTEMBER, 1835,
FROM THE SUPPLEMENT TO
THE EDINBURGH JOURNAL OF SCIENCE

In this unusual addition to our Journal, we have the happiness of making known to the British public, and thence to the whole civilized world, recent discoveries in Astronomy which will build an imperishable monument to the age in

38. Frank M. O'Brien, *The Story of the Sun*, new ed. (New York: Appleton, 1928), 34–35.