



AN UN-RULY ENQUIRY INTO THE VULGARLY RECEIVED NOTION OF POPE'S 'NATURE'

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First follow NATURE
—— Alexander Pope

Like the Elizabethan Chain of Being, Pope's *Nature*, his model of the universe, is marked by the principles of hierarchy and degree as well as coherence and plenitude. Such a view is difficult to account for: not only had contemporary philosophers posited the existence of cosmic voids; more worryingly still, seventeenth-century scientists had supplied experimental proofs of a vacuum. For a 'plenist' like Pope, these discoveries posed a serious threat, implying as they did the breaking of the Chain, the disruption of its cohesiveness and interconnectedness. Was all coherence gone?

This paper tries to show how Pope, in line with contemporary theologians and philosophers, met the challenge. The 'solution' he propounded was paradoxical: one and the same, the vacuum, was 'true' and 'false' at the same time. His Chain is not that of the Elizabethans; the two models may seem identical in structure, content, and principles, yet only ostensibly so. In fact, they are embedded in contexts of intellectual history which could not be wider apart. There was change but what change there was looked like no change.

I

A few years after Pope's *Essay on Man* had been published (1732-34), David Hume posited in the Introduction to his *Treatise of Human Nature* (1739) that all sciences should be subordinated to the "science of Man". Hume's categorical justification was that "Human Nature [was] the only science of Man." We do not know whether Hume was inspired, or guided, in his argumentation by Pope's memorably mnemonic couplet opening the *Essay's* Second Epistle: "KNOW then thyself, presume not God to scan; / The proper study of Mankind is Man." [POPE 1982, III, i]. As Pope's annotators have noted, this maxim seeks "to direct curiosity away from the phenomena of the universe ... towards life and human affairs" [53, ad ll. 1-2], and is thus

indicative of a ‘paradigm change’ in intellectual history – not in the Kuhnian sense of “scientific revolution,” in which a new model of extra-ordinary science replaces one of “normal science” [KUHN 52-65], but in the more simple sense of ‘ethical turn.’ Traditionally, the phrase ‘ethical turn’ has been associated with Socrates, “that Prince of Philosophers,” with whose “Sentiments” Gulliver’s Houyhnhnm master found it impossible not to agree when criticizing the several European “Systems of Natural Philosophy” [*Prose Works*, XI, 268 (IV, viii, 9)]. By the time *Gulliver’s Travels* came to be written, this thought was already commonplace. As Samuel Johnson was to summarise its transmission later in his “Life of Milton,” echoing Xenophon’s *Memorabilia*, Cicero’s *Tusculan Disputations*, and Diogenes Laertius’ *Lives of the Philosophers* as well as Montaigne, Bacon, and Sir William Temple, among others, “it was [Socrates’] labour to turn philosophy from the study of nature to speculations upon life [being] rather of opinion, that what we had to learn was, how to do good, and avoid evil” [JOHNSON 1- 249; 382.41]. In other words, in calling down philosophy from the heavens and reinstating it upon the earth—*quod supra nos nihil ad nos* – Socrates replaced the explorer of the skies by the moral philosopher; the Baconian epigraph *De nobis ipsis silemus* (again) gave way to the mandate *Nosce teipsum*.

II

This development needs to be accounted for. After all, only some 130 years had elapsed since the Lord Chancellor, in the grand vision of ‘the cosmic hide-and-peek’ in the *Advancement of Learning* of 1605, described the creation, *Natura Naturata*,¹ as its Creator’s invitation to Man to play a game with Him, thus pressing for Man’s mandate to unravel the secrets of the Creation [REAL 2004, 27-52] and sparking off, in the wake of this plea, a euphoria for scientific reform which infiltrated the whole of the seventeenth century [WEBSTER; HUNTER 8-21]. While there may have been many causative factors for Pope’s shift in orientation and focus, I would like to suggest that one of them is embedded in the English *Querelle des Anciens et des Modernes* of the latter half of the seventeenth century.

In 1668, Joseph Glanvill (1636-80), Rector of Bath, and self-appointed propagator and defender of the New Science, published *Plus Ultra*

¹ This is Robert Boyle’s seventh sense in his criticism of the “imperfect and confused notions concerning nature ... [due to men’s applying] that name to several things”: “universe or the system of the corporeal works of God” [BOYLE 1996 : 19, 23]. See also the useful essay clarifying the semantic spectrum of a truly polysemous term by LOVEJOY [1960 : 69-77]

[PAUSCHERT 133-157], whose subtitle, “The Progress and Advancement of Knowledge since the Days of *Aristotle*,” testifies, implicitly, to what the *Querelle* was all about, its objective being *syncrisis*, to consider, and assess critically, the *comparative* achievements and merits of Antiquity and Modernity in practically all fields of knowledge and learning.² In this work, Glanvill came to the conclusion, doubtless extraordinary to modern ears, that “the inimitable *Des Cartes* hath vastly out-done both former and later Times, and carried *Algebra* to that height, that some considering men think Humane Wit cannot advance it further” [GLANVILL 1979 : IV, 24].

Some twenty-five years later, the young scholar William Wotton (1666-1707), a former infant prodigy soon to slip into the role of chief actor in the quarrel erupting with Sir William Temple in the early 1690s, happily joined the fray.³ In the final chapter of his encyclopaedic survey entitled *Reflections upon Ancient and Modern Learning* of July 1694, in which he dealt with the “*Mathematical and Physical Sciences*” of the last age, among many other fields, he claimed with modest, if confident assertiveness: “From all [this], such Swarms of Great Men in every Part of Natural and Mathematical Knowledge have within these few Years appeared, that it may, perhaps, without Vanity, be believed, that if this Humour lasts much longer, and learned Men do not divert their Thoughts to Speculations of another Kind, the next Age will not find very much Work of this Kind to do” [348]. It is difficult to imagine the mathematicians and physicists of this world on the dole, with everything said and done.

Of course, by July 1694, Wotton would have been able to invoke the example of Newton, whose three Books of *Philosophiae naturalis principia mathematica* had finally appeared on 5 July 1687 – thanks to the indefatigable efforts of Edmond Halley and after a contentious history of publication involving angry claims of priority and ill-natured charges of plagiarism.⁴ As a rule, historians of ideas wisely refrain from pretending to understand the mathematical and physical complexities of the *Principia* – “[no] work of comparable influence can ever have been read by so few persons,” one of the

² The literature on the *Querelle des Anciens et des Modernes* is endless. For current purposes, see Richard Foster JONES.

³ See SPIECKERMANN 69-87 and SWIFT.

⁴ I have enjoyed the animated if popularising account of DOLNICK [271-306]. A more scholarly essay is provided by FABIAN [1973, 277]. For Newton’s position in contemporary controversies, and the accompanying interest of his early biographers in them, see COHEN [1960 : 490, 492].

cognoscenti has claimed [DOLNICK 295-300]⁵ – but they usually feel competent enough to grasp their philosophical and theological implications, as did this anonymous contemporary reader who, in a *Spectator* essay of December 1714, marvelled in his eulogy on “the Glory” of the British nation: “How doth such a Genius as Sir *Isaac Newton*, from amidst the Darkness that involves human Understanding, break forth, and appear like one of another Species! The vast Machine we inhabit lies open to him, he seems not unacquainted with the general Laws that govern it, and while with the Transport of a Philosopher he beholds and admires the glorious Work, he is capable of paying at once a more devout and more rational Homage to his Maker”.⁶ Here, Humankind is called upon to glorify their Creator, *Natura Naturans*, as a mathematician, or engineer,⁷ whose creation, *Natura Naturata*, is envisaged as the inspired expression of a mathematical design, and, consequently, as governed by law, orderly and regular as well as harmonious and beautiful. “There is nothing in Nature that is great and beautiful, without Rule and Order; and the more Rule and Order, and Harmony, we find in the Objects that strike our Senses, the more Worthy and Noble we esteem them,” John Dennis enthused in *The Advancement and Reformation of Modern Poetry* of 1701. “Nature,” he concluded, “is nothing but that Rule and Order, and Harmony, which we find in the visible Creation” [1-202].

The tone for panegyric melodies of this kind had been set as early as 1687 in Halley’s encomium on Newton, in fifty-two Latin hexameters, “In viri præstantissimi D. Isaaci Newtoni opus hocce mathematico-physicum sæculi gentisque nostræ decus egregium”,⁸ which accompanied not only the *editio princeps* of the *Principia* but also all subsequent editions published during Newton’s lifetime and which was later enthusiastically resumed by a

⁵ See also McGuire, according to whom “the awesome technicalities of the *Principia Mathematica* made it difficult even for the educated *élite* to grasp the implications of the new cosmology” [178]. Amusingly, Nicolas Saunderson, Professor of Mathematics at Cambridge, when asking a correspondent, William Jones, in a letter of February 1714 about his thoughts of David Gregory’s “Notes upon Sir Isaac Newton’s *Principia*,” added this comment: “I shall be glad to know what assistance Dr Gregory has had, because it may be questioned whether Dr. Gregory (though no inconsiderable mathematician) was equal to a work of this kind” [RIGAUD I, 264].

⁶ ADDISON & STEELE IV, 488; V, 171 (nos 554, 635, 5 December 1712 and 20 December 1714, respectively). For the popularising of Newton during the course of the eighteenth century, see also FABIAN 1977 [309-324].

⁷ For the history of the metaphor, see SEIFART 1074-1076.

⁸ For Halley’s own model, Lucretius’ *De rerum natura*, as well as his motives for writing the Ode, see ALBURY 24-43.

veritable orchestra of eighteenth-century poets, rhapsodies by James Thomson and Richard Glover, among them.⁹ “Behold the regions of the heav’ns suvey’d, / And this fair system in the balance weigh’d,” Francis Fawkes rearticulated Halley’s Latin, “Behold the law which (when in ruin hurl’d / God out of Chaos call’d the beauteous world) Th’ almighty fix’d, when all things good he saw! Behold the chaste, inviolable law!”¹⁰ As a result, when “the mighty *Stagyrite*,” Aristotle,” first described the laws of poetic *microcosms*, he did not have to ‘devise’, that is, ‘conceive’ or ‘invent’, them, he only had to discover a *donnée*, something inherent in the *macrocosmic* order from the start: “Those Rules of old *discover’d*, not *devis’d*,” the youthful Pope, in *An Essay on Criticism*, agreed with the man he loved to hate, John Dennis, “are *Nature* still, but *Nature Methodiz’d*.”¹¹ It is against this foil, I suggest, that another of Pope’s most memorable couplets has to be read, his own tribute to the ‘immortal’ genius of Sir Isaac Newton—*Quem Immortalem, Testantur Tempus, Natura, Cælum*—in the epitaph of 1730 intended for Newton in Westminster Abbey: “Nature, and Nature’s Laws lay hid in Night. / God said, *Let Newton be!* And All was *Light*.”¹²

Here, Sir Isaac is hailed not only as the Creator’s personified command to Nature to surrender her secrets; Newton, as “scientific rationality personified” [HAWES 139], is also the instrument, or means, of the Divine Light’s self-revelation to Humankind: *Fiat lux; ecce Newton*, or, perhaps, vice versa, *Ecce Newton; fiat lux*.” And since nature’s laws are God’s handiwork, they must necessarily be flawless—few in number, compact, elegant, and

⁹ See, in addition to Nicolson’s ‘classic’ study *Newton Demands the Muse*, which is focused on *Newton’s “Opticks” and the Eighteenth-Century Poets*, however, William Powell JONES [290-291]. More recently, G. S. Rousseau has justly reminded us that “as the eighteenth century wore on, writers of all types, high and low, serious and in jest, assumed that a vast readership existed in Britain that wanted information about the greatest scientific genius who had lived, and consequently poured forth printed material in unprecedented amounts” [215].

¹⁰ For the text and accompanying interpretation, see FABIAN 1973 : 278, 281. An old-spelling critical edition of the Ode is available in *Isaac Newton’s Principiae Naturalis Principia Mathematica*, 3rd ed. (1726), eds. Alexandre Koyré & I. Bernard Cohen, 2 vols (Cambridge: University Press, 1972) : I, 12-14.

¹¹ POPE 1961, 311, 249, ll. 645, 88-89. I agree with the Twickenham editors that “‘Nature’ is the ultimate authority in the *Essay*,” but in my view Pope’s Nature is ‘Newtonian,’ rather than ‘neoclassical’ in character [219-223].

¹² POPE 1970 : 317-318. See also COHEN 1979 : 381-82. For Albrecht von Haller’s ‘glorification’ of Newton, see TOELLNER 176-178; and, for Newton’s reputation as an English intellectual giant in contemporary Anglo-Latin poetry, see FARA & MONEY.

perfectly meshed with one another."¹³ After Newton, everything had been said, and nothing needed to be added about the structure of the universe, its teleology, and the laws governing it.

Three years later, in the First Epistle of *An Essay on Man* of February 1733 [POPE 1982, 3], Pope elaborated this 'vision' of Newton into a 'Newtonian' vision of the cosmos¹⁴:

See, thro' this air, this ocean, and this earth,
 All matter quick, and bursting into birth.
 Above, how high progressive life may go! 235
 Around, how wide! How deep extend below!
 Vast chain of being, which from God began,
 Natures æthereal, human, angel, man,
 Beast, bird, fish, insect! what no eye can see,
 No glass can reach! from Infinite to thee, 240
 From thee to Nothing!—On superior pow'rs
 Were we to press, inferior might on ours:
 Or in the full creation leave a void,
 Where, one step broken, the great scale's destroy'd:
 From Nature's chain whatever link you strike, 245
 Tenth or ten thousandth, breaks the chain alike.

And if each system in gradation roll,
 Alike essential to th' amazing whole;
 The least confusion but in one, not all
 That system only, but the whole must fall. 250
 Let Earth unbalanc'd from her orbit fly,
 Planets and Suns run lawless thro' the sky,
 Let ruling Angels from their spheres be hurl'd,
 Being on being wreck'd, and world on world,
 Heav'n's whole foundations to their centre nod, 255
 And Nature tremble to the throne of God:
 All this dread Order break—for whom? for thee?
 Vile worm!—oh Madness, Pride, Impiety! [ll. 233-58]

Of course, all this is well-ploughed ground, the seeming vista of a *plenum formarum*, a continuum of realized forms of existence, marked by the principles of plenitude and continuity, hierarchy and degree, coherence and order, and familiar from the majority of chains-of-being rising from the

¹³ DOLNICK 41. See also MACKLEM 38-56, and *passim*.

¹⁴ For Newton as the implicit intellectual authority and inspiration behind this 'vision', see, in addition to BUSH [290], FABIAN [1979 : 535-536]. See also FABIAN [1980 : 416-427] and [1964 : 150-171].

lowest creatures (“Beast, bird, fish, insect!” [l. 239]) to Humankind and the world of the Angels (“Natures æthereal, human, angel, man” [l. 238]) to the highest rung of the ladder, God (l. 237), no matter whether one thinks of Ulysses’ speech on degree in *Troilus and Cressida* [I, iii, 75-137],¹⁵ Raphael’s exchange with Adam in *Paradise Lost* [MILTON 5-451-505 (285-89)], or Sir William Petty’s *Scala Naturae*.¹⁶ While all these principles are correlative, of course, (Platonic) plenitude, according to which “the universe contains all possible forms of existence” since a universe “in which some possible species of existence was not realized would be imperfect (because not full),” still takes precedence over (Aristotelian) continuity and degree [BYNUM 4]. But there is more than meets the eye.

III

Pope admired Lucretius, and in writing *An Essay on Man* adopted, or at least considered for adoption, numerous features from Lucretius’ philosophical poem *De rerum natura*, features such as genre and narrative stance, structural patterns, ‘dramatic’ technique, and a peremptory, sarcastic tone, not to mention addressees, motifs, and metaphors, which were all conducive to making *De rerum natura* “a formative prototype for Pope’s *Essay*”.¹⁷ However, these predominantly *poetic* affinities do not make Pope a follower of the Epicurean philosophy, a complex system of physics and cosmology as well as theology and ethics. Indeed, whatever atomist notions may be traced in *An Essay on Man* at the beginning of the Third Epistle, presenting as they do the *catena aurea Homeri* in a physical reinterpretation as a symbol of Newtonian gravity, or ‘attraction’—“Look round our World; behold the chain of Love / Combining all below and all above. / See plastic Nature working to this end, / The single atoms each to other tend, / Attract, attracted to, the next in place / Form’d and impell’d its neighbour to embrace” [III, 7-12]—are more of a rejection of Lucretian physics than an endorsement of it [FABIAN 1980, 124].

¹⁵ See TILLYARD 23-33, and *passim*. The standard account is of course LOVEJOY [1973 : 99-143, 183-207, and *passim*]. For Pope, more particularly, see also the brilliant essay by PRIESTLEY [214-216], the Introduction to Pope [1982, xlvii-lxiii], reiterated in Mack [1985 : 525-528]. On the role of Man as “the central link in the Chain” connecting “the spiritual world above with the material world below,” see ZOELLNER 157-158.

¹⁶ See *William Petty on the Order of Nature: An Unpublished Manuscript Treatise*, ed. Rhodri LEWIS (Tempe, Arizona: ACMRS, 2012) : 22-28 and *passim*.

¹⁷ See, in addition to the subtle analyses by FABIAN [1979 : 524-537] and [1980 : 416-427], the comprehensive survey by LERANBAUM [63], endorsed by MORRIS [156-161].

At the same time, and perhaps paradoxically so, Epicurean philosophy did expose Pope's model of a Newtonian cosmic order to a serious challenge. The explanation for this is to be sought in the ever-increasing rehabilitation of the Philosophy of the Garden since the mid-sixteenth century, initiated by French classical scholars and philosophers (like Denis Lambin and Pierre Gassendi) [PANCHERI 455-63] and subsequently taken up, and developed, by English philosophers and scientists (like Francis Bacon, Nicholas Hill, and Walter Charleton).¹⁸ By the mid-seventeenth century, after two millennia of denunciation, the once abominated Epicurus, "assertor of impiety" that he was,¹⁹ had "become the *Saint* of many Christians," and Lucretius [was] as much consulted as Moses."²⁰ This shift, in the course of which Aristotle was declared to be "an Ass to Epicurus" (as the anonymous "Ballad of Gresham College" would have it) [TAYLOR 38], was not a mere caprice of intellectual fashion but the outcome of historical logic. Its most momentous significance lies in the fact that Epicurean atomism, the excellent "*Antient Atomical Hypothesis*," which so unjustly lay "buried in neglect and darkness" [GLANVILL 1985, III, 108], superseded the Aristotelian-Ptolemaic model and went on to become the predominant philosophy of the age. "Surely, if it is rightly examined," John Webster, for one, ruled in the *Academiarum Examen* of 1654, "[the Epicurean Philosophy] will prove a more perfect, and sound piece, than any the Schools ever had, or followed" [78]. Why this might be so follows from a brief precis of Epicurean physics:

Epicurean atomism posits two ontological principles, matter and void. Ultimate existence is rooted in an infinite number of infinitely small, indivisible particles, or atoms, 'contained' in an infinite void. The atoms, which are invisible and as indestructible as they are eternal, fall through space not on account of divine intervention but by mechanical causation. Since they digress, or swerve, in their 'downward' path, they collide and coalesce into compound bodies, so that the perceptible world is built up from a fortuitous conflux of atoms. In the infinity of space, there is an infinite number of (inhabited) worlds. There may be room for gods in the infinity of space—peaceful abodes in which the gods live in everlasting

¹⁸ See, among the great number of publications in the field, REAL [1970 : 49-51, 56-59, 75-78, and *passim*], with a full bibliography of earlier criticism [179-192]. For the renaissance of Epicuro-Lucretian 'science', see KARGON [1966, *passim*], for Nicholas Hill, see MCCOLLEY [1939-40 : 390-405]; for Charleton, see KARGON [1964 : 184-192] and FLEITMANN.

¹⁹ The phrase is Sir Richard Blackmore's in his philosophic poem, *Creation* of 1715 [BUSH 299].

²⁰ See SAILOR 3-16. Here, and in what follows, I draw on REAL [1998 : 75-78].

tranquillity and self-sufficient happiness—yet there is none for divine intervention in Man’s affairs. The human soul, which is composed of rarefied material elements, is mortal and after death dissolves into its component parts, together with the body. Nothing is ever created out of nothing by divine power, and nothing is ever destroyed into nothing. The terrors of ‘religion’ and the fear of death, therefore, have no foundation [GRANT 182-190].

For a ‘Plenist’ like Pope,²¹ this system posed a serious threat not so much because its cosmological assumptions – a plurality of worlds existing in the infinity of space – had been confirmed by contemporary ‘scientists’, followers of Copernicus like Thomas Digges, Giordano Bruno, Johannes Kepler, and others,²² but by the much ado about nothing following the experimental as well as experiential proof of a vacuum by Evangelista Torricelli, Galileo’s student and secretary, in 1643, and his fellow-‘Vacuist’ Otto von Guericke in *Nova experimenta (ut vocantur) Magdeburgica de vacuo spatio* shortly after (c.1650). These experiments not only did away with all theological and theoretical reservations against the existence of a vacuum which pervade the Middle Ages and the Renaissance and which had climaxed in the proverbial *Fuga vacui*, “Nature abhors a vacuum”,²³ they were also eagerly repeated, and news of them spread like wildfire throughout Europe.²⁴

The upshot was perhaps predictable; in fact, it had already been predicted several years earlier in what is probably the most moving of all complaints in the history of English literature, John Donne’s in *An Anatomie of the World* of 1612. Lamenting that under the impact of the New Science, with whose discoveries he proved to be familiar,²⁵ the sense of emotional and intellectual

²¹ The terms ‘Plenist’ and ‘Vacuists’ were coined by Robert BOYLE [1965 : I, 37-38].

²² See, in addition to MCCOLLEY [1936 : 385-430], KOYRÉ [1976 : 88-124, and *passim*], DICK [44-105] and CROWE [3-37].

²³ TILLEY N42 (first dating 1551); see also JAMMER [51-92]; SCHMITT [1968 : 340-343]; SCHMITT [1967 : 352-366]; SCHIMANK [27-37]; and particularly GRANT [67-100, 213-21].

²⁴ See, for example, the exasperated response of the Jesuit Gaspar SCHOTT, whom von Guericke had told about his experiments (*Mechanica hydraulico pneumatica ... Accessit experimentum novum Magdeburgicum* [Frankfurt: by Heinrich Pigrin for Johann Gottfried Schönwetter, 1657 : 25-28, 306-309, 441-488]; COHEN [1947, 112-13]. HOBBS continued to reject the notion of the vacuum, however [I, 167 n.1; II,172].

²⁵ See COFFIN [79-85, 131-136]. Donne’s critics and annotators are generally agreed that the later Dean of St Paul’s was intimately familiar with the New Philosophy (the teachings of Copernicus, Galileo, Bruno, and Kepler, among others) but they are disagreed on what to make of this (see the surveys in DONNE [1995 : 403-414] and [2010 : 835-838].

security afforded by the old system had been supplanted by disquietude, distress, and despair, Donne burst out:

And new Philosophy calls all in doubt,
The Element of fire is quite put out;
The Sunne is lost, and th'earth, and no mans wit
Can well direct him, where to looke for it.
And freely men confesse, that this world's spent,
When in the Planets, and the Firmament
They seeke to many new; they see that this
Is crumbled out againe to his Atomis
'Tis all in pieces, all cohærence gone [11-12, ll. 205-13].

Anticipating as he did the collapse of the hierarchical cosmos, Donne spelled out what Pope feared, or came to fear, most of all: the breaking of the Chain, the disruption of its cohesiveness and interconnectedness, and the erosion of the principle of plenitude.²⁶

IV

It did not take long for English theologians to recover from the shock of the Torricellian experiment. Three years later, in 1646, Henry More, who was to become a leading member of the Cambridge Platonists, published a self-contradictory and paradoxical philosophical poem in more than a hundred cumbersome Spenserian stanzas, entitled *Democritus Platonissans: or, An Essay upon the Infinity of Worlds out of Platonick Principles*; self-contradictory inasmuch as More tried to 'wed' two most strange bedfellows, Democritus (c.460-c.370 BC), one of the 'realist' founding fathers of Greek atomism [TEMPLE 1995, 159-60], with Plato, the 'idealist' prince of moral philosophy, and paradoxical inasmuch as More had the presumption to claim that one and the same thing, the vacuum, was 'true' and 'false' at the same time.²⁷

Our philosopher let the cat out of the bag early on. In his "Preface to Reader," he made no secret of what he saw himself up against: "But if any space be left out unstuffed with Atoms, it will hazard the dissipation of the whole frame of Nature into disjointed dust" [sig. A2r]. But having "sworn more faithfull friendship with Truth then with [him]self" [sig. A2v], and though detesting "the sect of *Epicurus* for their manners vile" [stanza 20], More found it impossible, however grudgingly, "[to reject] what is true":

²⁶ See also MACK [1985 : 542-543]

²⁷ It is not for nothing that More has enjoyed "a rather bad reputation among historians of philosophy," belonging as he does "much more to the history of the hermetic, or occultist, tradition than to that of philosophy proper" [KOYRÉ 1976 : 125]

“Truth’s incorruptible, [nor] can the style / Of vitious pen her sacred worth defile” [stanza 20]. Consequently, he admitted, repeatedly, what was no longer deniable, the existence of an infinite universe ‘filled’ with an “infinite of worlds” [stanzas 21, 26, 33] and, *mirabile dictu*, an infinite void co-extensive with the Divine Essence, “this wide and wast Vacuity, / Which endlesse is outstretched thorough all, / And lies even equall with the Deity, / Nor is a thing meerly imaginall” [stanzas 45, 67], “infinite space and infinite worlds” in conclusion necessitating the corollary of “times infinite” for good measure [stanza 64]. At the same time, what was undeniable, the reality of “Vacuity,” or empty space, vacuum, void, and whatever else you may choose to call it, could not be. In what he boldly called a “new argument,” he reminded his readers of the Creator’s omnipotence as well as omnipresence [stanza 48], and this provided him with the legerdemain of perceiving God’s “mighty virtue” *everywhere*, His “precious sweet Ethereall dew” permeating empty space, indeed all kinds of empty space:

For ought we know God each where did distill,
 And thorough all that hollow voidness threw
 And the wide gaping drought therewith did fill,
 His endlesse overflowing goodnesse spill
 In every place; which streight he did contrive
 Int’ infinite severall worlds, as his best skill
 Did him direct and creatures could receive
 For matter infinite needs infinite worlds must give [stanza 50].

In other words, the Creator, *Natura Naturans*, is immanent in the Creation, *Natura Naturata*. His effusion, or, if you prefer, *pneuma, anima mundi*, world soul, or spirit of Nature,²⁸ pervades the whole universe, extending itself into the most remote infinite spaces and “regulating the heavenly bodies, uniform in its operations, rational and purposive”.²⁹ In defining space as the locus of the divine presence and, thus, making the vacuum a plenum, More relegated Chance from the mechanical workings of Nature and reinstated providential order in what amounts to “a Christianized Epicurean atomism” instead [JACOB & JACOB 255]. But more often than not, the history of ideas is replete with ironies. Essentially an amalgam, *Democritus Platonissans* is also a synthesis, however much revised, modified, and recomposed, of *pagan* sources, the cornerstone of which is the belief in a

²⁸ For the semantics of the concept, see GREENE.

²⁹ RAVEN 113-114. See also BAKER 6-13; and CLUCAS, one of the very few perceptive readers of *Democritus Platonissans* [336-338].

continuum that made it possible for its author to realign himself with the most fundamental tenets of his Christian faith [BURTT 133-44].

V

Unlike what many of Pope's readers have assumed, his Chain is not that of the Elizabethans;³⁰ the two models may seem identical in structure, content, and principles, yet only ostensibly so. In fact, they are *not* at all the same, being embedded in contexts of intellectual history which could not be wider apart [PRIESTLEY 223]. There *was* change but what change there was looked like no change, and, as a result, Pope's Chain is not traditional, conservative, or even reactionary.³¹ By the time he published it in the early 1730s, the (popularized) version, or vision, of Newtonian cosmological order on which he relied was hardly forty years old. But like Henry More, dreading the disruption of the Chain and the collapse of its coherence, Pope also stood in need of a 'synthesis'. While Newton had provided the mathematics, not the causality, of the basic law governing the universe, the law of gravity,³² he had also admitted empty space to his mechanical principles and corpuscular, atomist assumptions.³³ Alluding to the demolition of the Cartesian *vortices*, which were explicitly designed to prove the impossibility of a vacuum, in the Preface of the *Principia* [NEWTON 1-19-35], Voltaire had noted in the fourteenth of his *Lettres philosophiques* or *Letters on the English Nation*, "On Descartes and Sir Isaac Newton," of 1734: "A Frenchman who arrives in *London*, will find Philosophy, like every Thing else, very much chang'd there. He had left the World a *plenum*, and he now finds it a *vacuum*. At *Paris* the Universe is seen, compos'd of Vortices of subtile Matter; but nothing like it is seen in *London*" [VOLTAIRE 84]. Four years later, in his *Elémens de la philosophie de Neuton* of 1738, admittedly after *An Essay on Man* had been published, Voltaire even went a provocative step further, arguing that "a belief in the Cartesian plenum necessitated a rejection of God while a belief in the Epicurean vacuum provided for a ready acceptance of a deity" [BOAS HALL 459]. At the same time, diehards like Sir Matthew Hale continued to reject "the Torricellian Experiment" as "trifling and ludicrous"

³⁰ See POPE [1982 : xlvii-lxiii]; MACK [1985 : 525-528].

³¹ See for this view, among others, William Powell JONES 287.

³² See COHEN [1964 : 132]; WAGNER 9; 10-11. See also POPE [1982 : III, 92, ll. 1-2]. As Spence recorded in his *Anecdotes*, Sir Isaac himself did "not look on attraction as a cause, but as an effect"; in other words, he had described the laws of gravitation as they manifested themselves "in the motions of bodies", not what gravitation was [SPENCE I, 388; I, 461].

³³ See, among others, KOYRÉ [1950 : 301-302]; BOAS & HALL 167-178; BOAS HALL 453-459; and, most recently, the carefully discriminating and subtle analysis by DOBBS.

and as not permitted by “the Catholick Laws of the Universe” into the late 1670s, but then, Hale was no physicist.³⁴ In order to be comfortable for his own good, Pope ‘somehow’ had to come to grips with the demonstrable, *and* demonstrated, existence of the void in case he wished to uphold his belief in a *plenum formarum*.

The problem is that he ever only adumbrated his ‘sources’, never making them as explicit as his curious readers would like them to be. What exacerbates the issue is the deplorable fact that only little is known about Pope’s library [MACK 1982, 307-21; 395-460], so there only is the text left to speak for itself—with all the dangers that accompany any annotation in the dark. In *An Essay on Man*, Pope touched on the immanence of God in two places, in the First Epistle, in which he describes God as the soul of the world—“All are but parts of one stupendous whole, / Whose body Nature is, and God the soul; / That, chang’d thro’ all, and yet in all the same ... / Warms in the sun, refreshes in the breeze, / Glows in the stars, and blossoms in the trees / Lives thro’ all life, extends thro’ all extent, / Spreads undivided, operates unspent, / Breathes in our soul, informs our mortal part, / As full, as perfect, in a hair as heart; / ... To him no high, no low, no great, no small; / He fills, he bounds, connects, and equals all” [ll. 267-80]—and at the beginning of the Third Epistle: “Look round our World; behold the chain of Love / Combining all below and all above. / See plastic Nature working to this end, / The single atoms each to other tend, / Attract, attracted to, the next in place / Form’d and impell’d its neighbour to embrace” [ll. 7-12].

Readers who have been so kind as to accept this line of argumentation will perhaps deem Pope’s lines close enough in thought, if not in style, to Henry More, the Cambridge Neoplatonist, even though nothing certain is known whether Pope had read him at any stage in the formative years of *An Essay on Man*. Some scholars certainly seem to think so [WAGNER 14; TOULMIN 6-7, 9; 203-27]; others have invoked the authority of Fathers of the Church like St Augustine and St Thomas Aquinas, not to mention the seventeenth-century defender of papal infallibility, Cardinal Bellarmine [POPE 1982, 47-48, 93], even though nothing certain is known about their status as Pope’s *spiritus rectores*, either. The truth, or rather what I take to be the truth, is closer to home. Just as Pope relied on the model of Newtonian cosmological order for *his* view of the Chain of Being, he adopted Sir Isaac’s “strong belief in the literal omnipresence of God” in the vast spaces of the heavens. Having at first stated these beliefs only privately, Newton was ready to publicize them in 1713, in the General Scholium, which was added to the second edition of

³⁴ Sir Matthew HALE II : 202, 235, 236-249, and *passim*.

the *Principia* published in that year and in which he described the “deity as an infinite mind, soul, or spirit penetrating and pervading all things.”³⁵ To be sure, this position created new (theological) problems crying for an answer as well as novel issues of historical and intellectual genesis, but these no longer had to be Pope’s concern. From his point of view, all that mattered was that Newton, in another case of ‘synthesis’,³⁶ had filled “the Epicurean void with [an] all-pervasive divine substance”,³⁷ thus reinstating the continuity of the Creation. Pope, like Newton, saw Nature, *Natura Naturata*, as a “system of finite matter in infinite space”, through the whole of which “the omnipresent divine Spirit,” *Natura Naturans*, breathes, “source of all life, motion, force, and order”.³⁸ Whether that ‘filler material’ was Platonic, Anglican, or Catholic in nature, character, and origin is, perhaps, a *cura posterior*.

Hastening to a conclusion, I confess to having a problem. This problem is rooted in the collision between the *linearity* of Pope’s Chain of Being (I, ll. 237-41) and its ‘location’ in the Newtonian model of the cosmos, a system of infinite space, as limitless as it is boundless, “vastly immense”, in Pope’s own words (I, l. 23). Physically, I understand, this is impossible: neither is there, neither can there be *linearity in infinity* nor can a scale reach from “Nothing” (wherever that may be in infinity) to its beginning in a “God”, who is *everywhere*, omnipresence having no beginning. At the risk of ostracizing myself, I humbly propose that the great Alexander may not have grasped the implications of the model he submitted in 1733/4. Worse still, he may not have understood himself.³⁹

³⁵ See, for this and what follows, DOBBS 232-238. See also TOULMIN 220-22.

³⁶ For the concept of Newtonian ‘synthesis,’ see KOYRÉ 1950 : 300.

³⁷ Adopted, with a variation, from DOBBS 238.

³⁸ I agree with PRIESTLEY’s conclusion [223], although the attentive reader will have noticed that it was arrived at by way of a different route involving different arguments.

³⁹ I am grateful to Eva Schaten, MA, and Ulrich Elkmann, Ehrenpreis Centre for Swift Studies, for their indefatigable electronic and bibliographical support, and to my most favourite critic, Dr Kirsten Juhas, also Ehrenpreis Centre for Swift Studies, for another eagle-eyed reading of this essay.

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