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BRUNO: MODERN EUROPE'S FIRST FREE THINKER

By Edward Jayne

By most accounts Giordano Bruno (1548-1600) was by far the most controversial Renaissance philosopher. He published at least sixty texts upon a large variety of topics including mnemonics, hermetic religion, Copernican astronomy, and the renewed possibility of materialism as suggested by this major breakthrough in astronomy. For the most part his notoriety resulted from his defense of heliocentric theory, but also from his pursuit of its theoretical implications toward a modern renewal of ancient secular philosophy. Just as Bacon bridged the gap between Aristotelian philosophy and modern science, Bruno no less effectively served the same purpose between ancient and modern secularism as justified by science. Particularly important in his opinion was Lucretius' version of materialism based on the earlier assumptions of Aristotle and Epicurus. Bruno's effort to encourage such a revival was best illustrated by his publications during two relatively brief periods--in 1584-85 while he lived in London and to a lesser extent while in Frankfurt in 1590-91. His reputation at the time was as an overbold iconoclast, but in fact his theoretical innovations derivative of classical secularism eventually set the stage for Spinoza's pantheism in the mid-seventeenth century, followed by Leibniz's philosophy as well as the versions of deism suggested by Toland, Meslier, Voltaire, and d'Holbach throughout the eighteenth century, and still later the materialist perspective of scientists and secularists in general that has come to predominate since the mid-nineteenth century.

In retrospect it seems to have been Bruno alone among modern secularists--i.e., those following the Dark and Middle Ages--who paid the ultimate price for his supposed audacity. Captured in Italy, he underwent

seven years of relentless interrogation by the Roman Inquisition and was finally burned at the stake within sight of the Vatican. An image of Christ was supposedly shown to him preceding his death, but “he angrily rejected it with averted face. Today his heliocentric assumptions are mostly conceded, and orthodox Christian apologists have instead featured his pursuit of hermetic philosophy in an effort to reunite Catholic and Protestant denominations. Toward such a possibility, he seems to have accepted the assignment as an unofficial emissary from King Henry III of France to Queen Elizabeth of England in the effort to obtain a truce between the two nations based on arguments that must have seemed outright heresy at the time. Unfortunately, the records of his interrogation by the Inquisition have been lost or destroyed, so the primary charges against him otherwise remain uncertain. More recently theological apologists seem to find his heliocentric perspective less offensive than his effort to restore secular philosophy as a credible explanation of a material universe devoid of anthropomorphic godhood. Since the fourth century, A.D., Christian metaphysics had featured philosophy as a secular defense of Christian faith in a flat universe, but all of a sudden Bruno’s cosmology presented itself in light of Copernican astronomy first suggested by the concepts of Anaximander and others many centuries earlier. To this extent, at least, Bruno can be said to have restored the feasibility of ancient materialism once again. This could only have posed a major threat to received Biblical veracity, hence the necessity of the unforgettable *auto da fé*—of course within sight of the Vatican.

Bruno’s philosophical writings have been justly criticized with some justification for his authorial carelessness. As late as the mid-nineteenth century Hegel disparaged his seeming inability to carry an idea forward: “. . . in the evolution of his thoughts [Bruno] never . . . advanced very much nor attained to any results.” [FN. vol. 3, 121-22] However, Hegel’s assessment seems unduly harsh in light of Bruno’s many remarkable insights, at least a few of which seem to have been useful to Hegel himself. Not the least, for example, was Bruno’s simple but undeniable theory of dialectics that anticipated Hegel’s more inclusive “unity of opposites.” [FN.

“Concerning the Cause,” pp. 171-73] Bruno’s immediate source was probably Nicholas of Cusa, who had been in turn inspired by pre-Socratic philosophers such as Anaximander and Heraclitus. Just as Nicholas of Cusa offered a scholastic model of dialectics, Bruno offered his own version of a more viable secular explanation, thereby bridging the gap between the ancient notion of causation and Hegel’s later and more advanced paradigm that anticipated the still later theories of Marx, Freud, and others in the nineteenth and twentieth centuries. Hegel accordingly conceded to his credit, “But the leading characteristic of [Bruno’s] various writings is really to some extent the grand enthusiasm of a noble soul . . . and that “there is something bacchantic in his way of apprehending this deep consciousness.” As a result, he declared, Bruno “rose to the one universal substantiality by putting an end to this separation of self-consciousness and nature.” [ibid.] In fact this synthesis praised by Hegel was implicit throughout Bruno’s major works.

As justification for Bruno’s lack of organization, his sustained role as a habitual fugitive in flight from one temporary haven to the next limited the possibility of careful scholarship that most academic authors depend on before submitting their ideas to the judgment of others. He was always on the move from one relatively enlightened town to the next, and this necessity could only have abridged his otherwise thorough scholarship. Offsetting this limitation, he benefitted from his quick intelligence, an exceptional memory, and a ready willingness to debate issues, even it seems during his interrogation by the Inquisition, when he was said to have challenged his inquisitors to recruit anybody they wanted to argue with him the merits of their accusations.

Then again, Bruno was also remarkably eclectic. Early in his career he rejected Aristotle’s dominant influence important to Aquinas in favor of what might have seemed an improbable synthesis between Lucretius’ materialism and Plotinus’s Neoplatonism. Bruno also drew on the ideas of such overlooked medieval figures as the fifteenth century alchemist Raimon Lull and the eleventh century Jewish poet and philosopher,

Avicbron (also identified as Ibn Gabirol). Finally, Bruno also seems to have been on friendly terms with the professor, G.V. de Colle, known for his impious Averroist tendencies, and with Francisco Sanches, his colleague at Toulouse, whose theory of science also anticipated and perhaps helped to inspire Bacon's science.

Unfortunately, Hegel's benevolent condescension has prevailed among modern philosophers, who seldom take Bruno's historical contribution seriously beyond his martyrdom by the church. Both Lange's *History of Materialism*, published in 1865, and Bertrand Russell's influential *History of Philosophy*, published in 1945, made no reference whatsoever to his theoretical contribution. On the other hand, Dame Frances Yates in her book, *Giordano Bruno and the Hermetic Tradition* (1964) as well as her biographical piece in the authoritative *Encyclopedia of Philosophy* (1967), initiated the modern emphasis on what seemed Bruno's effort to obtain a hermetic gnosis of "Egyptianized Christianity" that might help to reconcile Catholicism with Protestantism and thus France with England. In her influential research, however valid, her findings helped to deflect twentieth century scholarship from Bruno's more important contribution as a secular materialist.

Born and raised near Naples, Bruno entered the Dominican Order at the age of 15, and at the age of 24 he began his career in Naples as an ordained priest committed to the teachings of Aquinas. He spent roughly a decade in this position without incident, but his viewpoint gradually altered as the result of his exposure to a wide variety of ancient and modern texts. In 1576 he was charged with heresy for Arian tendencies, his mounting doubts about the Christian version of Aristotelian assumptions, and what seemed an undue interest in Erasmus's Protestant viewpoint. He therefore fled first to Rome, then to Venice, Padua, Milan, and finally Geneva, where he seems to have converted to Calvinism. Soon, however, difficulties with the local church necessitated his flight to Toulouse, where he stayed long enough to obtain a doctorate in theology. Next he traveled to Paris and ingratiated himself with King Henry III largely because of his

ability to teach mnemonic skills additional to his proposed solution to reunite Protestantism and Catholicism. Bruno also wrote a play and taught theology as well as the cultivation of mnemonics at the Palace Academy. Perhaps most important of all, he became acquainted with Pontus de Tyard, author of both *Discours philosophiques* and a flawed translation of Copernicus. Bruno's later commitment to the defense of Copernicus seems have begun with his exposure to this translation.

In 1583 Bruno traveled to England, where he lived in relative security for two years (1583-85). The language barrier turned out to be an asset, since he continued to write his books in Italian, limiting his sympathetic English audience to a small aristocratic circle of admirers, possibly including Queen Elizabeth, to whom he seems to have dedicated his first Dialogue. Meanwhile, English courts could hardly punish him for philosophical issues expressed in a foreign tongue many of them could not understand and that seemed at the time to be more offensive to Catholic than Protestant critics. On the other hand, Italian authorities could not prosecute Bruno as long as he lived beyond their reach in a hostile Protestant nation. The product of Bruno's temporary liberation on this basis from both Catholic and Protestant orthodoxy was a hasty but brilliant assortment of four overlapping theoretical works published as dialogues. Unfortunately, these remarkable books have been all but forgotten in more recent centuries despite their unique success in having provided materialism with a viable metaphysics of its own on an early modern basis. Bruno's martyrdom in defense of Copernican astronomy has been famous since the sixteenth century, but few have bothered to acquaint themselves with his writings well enough to be aware of this seeming paradox offered by Bruno—a defensible philosophy rooted in materialism.

Bruno's stay in England began with what might have seemed a professional catastrophe. In the spring of 1583, his Oxford lecture upon Copernicus degenerated into a rancorous debate with orthodox Christian Aristotelian apologists on the local faculty, and it seems likely that this standoff provoked his four book-length dialogues that followed relevant to

the issue. Bruno's disdain for England's academic failings aggravated by this incident is obvious throughout his first dialogue, which abounds with satire not to be found in his later dialogues. However, the heliocentric information in his first dialogue raised as many questions as it answered in its explanation of Copernican astronomy, necessitating further clarification in at least two of the three additional dialogues that followed in the same year. Fortunately, Bruno retained his friendship with eminent Englishmen such as Sidney, Raleigh, Fulke Greville, and the Earl of Leicester for most of the rest of his stay in England, giving him the freedom and opportunity to persist in his writings.

Bruno's first English Dialogue, *La Cena de le ceneri* (translated by Edward Gosselin and Lawrence Lerner as *The Ash Wednesday Supper*— hereafter cited as *La Cena*), was in fact the second defense of Copernican astronomy to be published in England at the time. In 1576, eight years earlier, Thomas Digges' had provided a sympathetic explanation of Copernicus in an appendix to his partial translation, *A Perfit Description of the Caelestiall Orbes*, etc. Digges also proposed an infinite universe with countless stars first suggested by the Greek philosopher Melissus, and Bruno took up his thesis by proposing many additional considerations of his own relevant to astronomy as well as materialist philosophy. In and of itself, his version of Copernican theory turned out to be remarkably insightful. Even his most extravagant supposition, that planets elsewhere might host comparable biological populations, has become a subject of recent modern astronomical research.

Bruno organized *La Cena* as a sequence of five subordinate dialogues with the final three located at the mansion of Fulke Greville, where Bruno in the guise of Nolan debated against Nundinio and Torquato, who were apparently mocking depictions of his principal attackers at Oxford in their notorious debate just a few months earlier. Bruno's hostile satire cannot be ignored, but his more basic purpose was to spell out the principles that he felt deserved to be heard. As he declared on p. 89 of *La Cena*, his intention in writing the book was not satiric, but--

. . . to “free the human mind [since] it could not free itself from the chimeras of those who coming forth with manifold imposture from the mire and pits of the earth . . . have filled the whole world with infinite folly, nonsense and vice, disguised as so much virtue, divinity and discipline.” [FN]

His inclusion of the word “divinity” linked with folly, nonsense, and vice made his anti-clerical intentions plain to all. Bruno went on to emphasize this “manifold imposture” as the primary obstacle to the recovery of ancient wisdom after a period of collective darkness, and he declared his preference for secular freedom as compared to the constraints of received orthodox belief. His idealized list of ancient virtues as compared to modern vulgarity helped to explain his preference:

Now let us see the difference between the former and the latter [between ancient philosophers and the modern alternative]. The former are moderate in life, expert in medicine, judicious in contemplation, unique in divination, miraculous in magic, wary of superstition, law-abiding, irreproachable in morality, godlike in theology, and their lives, their healthier bodies, their most lofty inventions, etc. . . . I leave to the judgment of anyone of good sense the consideration of the fruits of the latter [i.e., the modern alternative]. [Ibid.]

To help clarify this distinction, Bruno suggested the analogy between history and the diurnal cycle from day to night and back again to illustrate the advance from ancient civilization to Europe’s Dark and Middle Ages followed by the likelihood of recovery to a new period of enlightenment. In his opinion it seemed time for civilization to revive in all its perceived glory a modern renaissance: “. . . Are we, who make a beginning of the renewal of the ancient philosophy, in the morning which makes an end to the night, or are we rather in the evening which ends the day?” [p. 96] By “renewal,” of course, Bruno suggested rebirth, or renaissance, and in fact

he can be seen in retrospect as having expressed this insight at the very cusp of this transition.

Bruno was uncertain whether the Renaissance would sustain its positive momentum or would decline again into what seemed a period of reaction later identified as the Reformation, thereby postponing any full recovery to a later generation. It cannot be forgotten that Bruno made this assessment sixty-seven years *after* Luther nailed his ninety-five theses to the Wittenberg castle church door and sixty-two years *before* the Treaty of Westphalia that terminated the Thirty Years' War and arguably the entire Reformation as well. In effect, medieval oppression had already given way to the Renaissance only to reassert itself in a new and equally threatening after-effect dominated by hostility between the Protestant Reformation and Catholic Counter-Reformation in their respective struggles against heresy. There were still decades to go before the worst ravages of this cooperative effort were eliminated. Witches were still being burned at the stake in great numbers, and with the blessings of the established church in both its versions at the time.

In his third dialogue of *la Cena*, Bruno listed ancient predecessors who had already conceded the possibility of the earth's motion, including Niceta Syracuse, Philolaus, Heraclitus of Pontus, Hecphantus the Pythagorean, Cusanus, and even Plato at least tentatively in *Timaeus*. Bruno also declared that the universe is infinite in full accord with Lucretius as well as Melissus and Epicurus' declaration even earlier that nature is boundless, consisting of "infinite worlds both like and unlike the world of ours." [FN Diogenes Laertius, II, 569-74] A century before Bruno, Nicholas of Cusa apparently took such a possibility into account from a Christian perspective, and Bruno renewed its consideration relevant to Copernicus' heliocentric assumptions if without any idea of the full extent of the universe as determined by modern astronomy — perhaps as many as two hundred billion stars in our particular galaxy identified as the Milky Way, which in turn is included in a more inclusive plenum (described as a "multiverse") with at least two hundred billion other galaxies composing

the presently “known” universe. Bruno was fully aware of enlarged possibilities, if not to this extreme, as opposed to the majority of church apologists, who apparently did not have the slightest idea.

Bruno also borrowed from both Melissus and Lucretius the theory that there is no center to the infinite universe as well as suggesting his own supposition that stars are farther away from each other than the earth is from the sun, and that universal motion occurs including the earth’s rotation and revolution around the sun. Bruno conceded that the earth’s actual path through space is unique unto itself, but argued that the earth has the same composition as other worlds, and that living creatures might accordingly inhabit these other worlds. Of course all these assumptions were sacrilegious at the time, and in fact it was not until 1822 that the simplest principles of heliocentric theory were eliminated from the list of heresies in the Index of the Roman Catholic Church.

In his fourth dialogue Bruno once again declared the existence of an “immense ethereal region.” He also differentiated warm from cold celestial bodies (i.e. stars and planets) and orbital from non-orbital celestial bodies (i.e. planets and comets), and he argued in accord with Copernicus that the earth both rotates on its own axis and revolves around the sun. Finally, in his Fifth Dialogue Bruno stressed the importance of gravity as opposed to levity (i.e. thrust resistant to gravity), as well as insisting that the earth is finally no different from other celestial bodies. He included stars among celestial bodies in motion, and speculated that the sun itself rotates like the earth--as in fact it does over a 28-day period. Bruno seems to have been the first suggestion of such a possibility in the entire history of ancient and modern astronomy. He also maintained the defensible thesis that the sun is the only source of vital force on earth.

Most significant of all, Bruno proposed in his fifth and final dialogue of *La Cena* the heretical possibility that the coexistence of spatial infinitude with a deity in possession of infinite authority might justify a pantheistic equation between God with the universe itself. In other words, the two

might be exactly the same. In effect, both celestial entities are infinite and thus necessarily overlap to this extent, and if each is truly infinite, are they not necessarily identical? Of course this was heresy, and once articulated with sufficient clarity, it could be challenged on this basis. Up to this point in *la Cena*, astronomical considerations were Bruno's principal issue, but here, offered as a parting thought, the most basic metaphysical issues suddenly came to the fore again relevant to the identity and function of an infinite God confronted with an infinite universe. Bruno avoided spelling out such a potential contradiction in plain sentences, but his loose grammar and blatant opacity seem to have been deliberate. In its entirety the passage reads as follows:

Now Heraclitus, Epicurus, Pythagoras, Parmenides and Melissus understood this point concerning bodies in the ethereal region, as the fragments we possess make manifest to us. In [these fragments] one can see that they [the philosophers mentioned above] recognized an infinite space, an infinite region, infinite matter, an infinite capacity for innumerable worlds similar to this one, rounding their circles as the earth rounds its own. . . . These mobile bodies possess the principle of intrinsic motion [through] their own natures, their own souls, their own intelligence." [p. 206]

Bruno's implication was plain that the concept of the universe as "an infinite space, an infinite region, infinite matter, and an infinite capacity for innumerable worlds similar to this one" justifies comparison with the infinitude of God, as in fact the universe provides a "constitution of nature, the living mirror of the Infinite Deity." Effectively the two are the same as later insisted by a variety of sympathetic pantheists. Bruno also featured the similarity and difference between the ancient concept of *ethera*—or pure air featured by ancient Greek philosophers--and an assortment of relatively minor supernatural agents featured as "nuncios" [i.e. messengers] of God with intrinsic powers of their own. He concluded his analogy by mentioning the Pythagorean resemblance between the unique identity of God and the "mobile bodies" of the universe [through] "their own natures,

their own souls, their own intelligence.” [Ibid] Again, pantheism seems at least implied here if not specifically acknowledged. If Spinoza later explored in depth the theory of pantheism in the middle of the seventeenth century and Toland gave it its name at the beginning of the eighteenth century, its implications were at least partly anticipated by Bruno two hundred years earlier.

In concluding the fifth dialogue, Bruno also linked evolution with the eternal aspect of nature that could be identified with God: “And here is nothing to which it is naturally appropriate to be eternal, except for the substance which is matter, to which it is no less appropriate to be in continuous mutation.” [p. 214] Obviously, Bruno was discussing both animate and inanimate evolution, but again he was applying the notion of eternal existence to the universe alone independent of God’s authority, something that many agnostics have not yet been willing to do three hundred years later.

Bruno’s second published Dialogue in 1584, *De l’Infinito, Universo, e Mondi* [*On the Infinite Universe and Worlds*, translated by Dorothea Singer—hereafter cited as *Infinito*] once again declared his acceptance of heliocentric theory, but this time with more confidence in his explanation of the various issues at stake. As before, he organized his argument loosely into five subordinate dialogues more or less in cumulative sequence, but this time he was more explicit in his use of Copernicus to challenge the orthodox Christian assumptions about religion. In elaborating his arguments he more freely quoted Lucretius, and his description of God was paradoxical in having restricted His cosmic identity by enlarging its conception to the impersonal identity of infinitude emphasized by Melissus as well as Lucretius. God was rendered bigger and with greater power, but with a manifestation diminished to relatively harmless abstractions:

As our imagination proceedeth easily to the infinite, and conceiveth dimensional size ever greater, and number beyond number according to a certain succession and “power” as it is called, so also we should

understand that God actually conceiveth infinite dimension and infinite number; and from the conception there followeth the possibility and convenience and opportunity which we posit, namely that as [his] active power is infinite, so also as a necessary result, the subject thereof [i.e. the universe itself] is infinite. [FN *Infinito*, p. 270]

As in *La Cena's* fifth dialogue, Bruno also depicted the underlying stuff as infinite matter comprising the universe as the product of what can be described as divine intelligence:

Moreover, just as there do verily exist finite dimensional bodies, so also *Prime Intellect* [italics added] conceiveth body and dimension; if he conceiveth this, he is no less conceiveth it infinite; and if he conceiveth it infinite and conceiveth the body infinite, then such an infinite body must be intelligible, and being the product of the *divine Intelligence* [italics added] it is most real; real indeed in such a sense that it hath a more necessary being than that which is actually sensible to our eyes. [Ibid]

Significantly, Bruno spelled “he” with reference to God with a small “h” while spelling “Prime Intellect” with capital letters, thus emphasizing the central role of intelligence instead of patriarchal authority as featured in the orthodox conception of God. Later Bruno shifted his description of God to the abstract designation, “Prime Cause,” but in doing so he complicated and somewhat obfuscated his analysis by limiting God’s active power to the abstract tasks of (a) predetermination in light of “infinite successive potentiality” and (b) its combined enactment described as “potentiality indistinguishable from action”:

Certainly the statement that infinity existeth potentially and in certain [conceivable] succession, but not in action, inevitably implieth that active power can posit the infinite in successive action, but not in completed action, because the infinite can never be completed; whence it would follow that the *Prime Cause* [italics added] hath not a

single simple active and absolute power, but hath one active power to which correspondeth infinite successive potentiality, and another to which correspondeth potentiality indistinguishable from action. [p, 271]

Quite aside from Bruno's distinction between potential infinity and its enactment, his successive references to Prime Cause, Infinity, active power, infinite potentiality "indistinguishable from action," and successive versus completed action entail the depiction of an impersonal God.

Still later Bruno took this materialistic stance to an extreme by capitalizing the words "Position," "Space," and "Void," just as he had already capitalized "Prime Intellect" and "Prime Cause," thereby even further abridging God's role--not as the anthropomorphic creator of the universe depicted in the Bible (both angry and vindictive regarding non-believers), but as the physical universe itself in its entirety in accord with pantheistic assumptions:

Now if matter hath an appetite which should not exist in vain, since such appetite is according to nature and proceedeth from the order of primal nature, it followeth that Position, Space, and Void have also such an appetite. [Ibid]

In sum, Bruno would seem to have retained his belief in God, but only by having revised metaphysical speculation well enough to have identified God as both the universe itself and its efficient cause in having produced it. By insisting on God's double identity on this basis he effectively set the stage for the later pantheism of Spinoza and the many nineteenth century successors such as Emerson, Thoreau, and myriad followers who have more or less identified themselves as transcendentalists.

In his third and most purely philosophical publication relevant to Copernicus, *De la causa, Principio, et Uno* [*The Infinite in Giordano Bruno*, translated by Sidney Greenburg—hereafter cited as *la causa*], Bruno put

even more emphasis on the concept of a pantheistic universe. As before, Bruno used five dialogues as chapters, but this time with far less reference to Copernican astronomy. This discrepancy deserves consideration, since Bruno published the two texts, *la cause* and *Infinito*, so close in sequence that either might have come first, and it even seems possible that portions of one might well have been interspersed with the other. Then again, his ideas might have advanced upon themselves without a clear demarcation. The most likely explanation seems that Bruno might have meant *la causa* to be a strictly metaphysical treatise in response to the astronomical emphasis of his earlier *La Cena*, and finally proposed a synthesis in *Infinito* to provide a link between the two earlier books. This is the preferred assumption among scholars. However, it seems more useful here to treat *la causa* as the culminating text in his sequence, since it mostly ignores astronomy and is more thorough in its philosophical argument. Simply enough, the first of the three books was almost entirely astronomical, the second was both astronomical and metaphysical, and the third was almost entirely metaphysical but with a variety of concepts that anticipated scientific advances beyond Copernican astronomy.

In *la causa* Bruno maintained the abstract principle that matter generates form, not the reverse, and that the act (i.e., applied energy) predominates over everything else, thereby anticipating Einstein's famous equation between mass and energy as well as the modern big bang theory regarding the inception of the universe as an enormous eruption of sheer energy that will subsequently degenerate into sheer mass within one or more black holes throughout a cosmic history of countless centuries. In accord with Lucretius, Bruno also proposed that physical degeneration (i.e. entropy) is merely one particular phase of universal mutation, and that substance that might seem variable in its manifestation but is rooted in a substratum (i.e. an electromagnetic field or an even more basic Higgs field) that is identical in all particular things. He also proposed that the motion of heavenly bodies is dictated not by external forces, but by an internal vital force (later described by Newton as inertia, the first law of motion), and that a total conservation of matter occurs despite all changes of form.

He even went so far as to maintain once again that all variations in form and chemistry derive from a single universal substance. Obviously this notion anticipated the concept of an electro-magnetic or Higgs field as explained by contemporary physics since Maxwell's equations, though such a possibility was hardly conceivable in the late sixteenth century. Gilbert, for example, only published his initial findings about electricity the year that Bruno was executed. Thus Bruno may be said to have anticipated many aspects of modern science without having possessed the vocabulary and experimental data to substantiate his relatively broad explanation.

In modern scientific terms Bruno's notion of a physical substratum for the soul suggested how the human mind derives from the physical universe much as we assume today that the brain's intricate flow of electric impulses by neurons somehow derives from a more basic electro-magnetic energy field that suffuses the universe as a whole. Bruno also proposed what later became known as a hylozoistic theory of "monads" whereby all portions of the universe, including one's soul, manifest the underlying structure of the universe as exemplified by the universal role of the molecule and/or biological cell as a combination of molecules. Leibniz later took up the notion without delving into its biological implications, and, with a few appropriate modifications in nomenclature, it remains viable even today relevant to cellular existence intermediate between mind and matter, i.e. among neural processes, body cells, and the underlying physical universe. However remotely, this notion anticipated today's assumption that the persistent electromagnetic activity among the brain's dendrites sustains consciousness—i.e. the human soul—grounded in molecular activity at the root of all material existence. In the simplest possible terms, soul = mind = thought processes = synaptic complexity = intricate electrical field = one particular manifestation of the material universe, perhaps the most exotic of all.

As before, Bruno's first dialogue in *la causa* is strictly introductory, in which he ironically identified himself as Filoteo ("Lover of God"), and his arguments become more focused in the final two dialogues, where Bruno

declared his basic assumptions implicit in earlier arguments. For the purposes of theoretical analysis, it once again seems useful to reverse Bruno's sequence, tracing his arguments backwards from his lucid conclusion in the fifth dialogue to his elaborate but somewhat irrelevant preliminary remarks in the first dialogue.

Central to his entire argument, the fifth and final dialogue repeats with clarity Bruno's insistence upon the basic self-sufficient unity of the total universe as implied in his earlier dialogues. His argument here, attributed to Parmenides, was at least as controversial as Copernican astronomy, since he described the universe as a paradoxical whole of infinite immobility (matter) paradoxically comprising mobility among its numberless component parts (form):

The universe is, then, one, infinite, immobile. One, I say, is the absolute possibility, one the act, one the form or soul, one the matter or body, one the thing, one the being, one the greatest and best—which must be capable of being comprehended and, therefore, is without end and without limit—and in so far infinite and indeterminate—and consequently immobile. [p. 160]

Bruno further emphasized the paradoxical interaction among form, matter, and soul in the composition of the universe:

It [the universe] has not parts and again parts; and having no parts, it is not composed. It is a term in such a way that it is not a term; it is form in such a way that it is not form; it is matter in such a way that it is not matter; it is a soul in such a way that it is not soul—because it is all indifferently and, in short, is one; the universe is one. [Ibid]

Bruno also insisted as earlier suggested by Melissus, that "all things are in the universe, and the universe is in all things." There is no "outside" zone beyond this universe, which might be identified as heaven or hell--though he did not specifically mention this possibility to reject it. On the other

hand he argued what might have seemed a technical point relevant to the possibility of gain or loss through change: “There is no mutation that seeks another being, but another mode of being.” [FN, p. 162] In other words, no transition from one stage of existence to the next involves any addition or subtraction from the universe as a whole as earlier insisted by Lucretius. Instead, all existence consists of behavior in pursuit of new forms, old substance supplanted by its reenactment in a new guise. Darwin explained this biological necessity almost four centuries later relevant to advance from one stage to another that is presumably better able to cope with its circumstances.

Bruno’s unique achievement was in having extended this principle to the entire physical universe as compared to Aristotle’s apparent reluctance to explore such a possibility because he did not recognize being as one.” [FN, p.163] As Bruno explained, “All things are in the universe, and the universe is in all things,” and as a result, “There is accordingly nothing new under the sun.” [Ibid.] On a spiritual basis suggestive of religion, Bruno even went so far as to argue, “Everything that we find in the universe—because it has that in itself which is all throughout all--comprehends in its mode the whole world soul . . .” In effect, the spiritual and physical infinitudes do overlap, thus reducing godhood to the universe itself in its entirety, not that Bruno specifically declared this pantheistic assumption here or anywhere else in his English dialogues.

Bruno once again complicated his argument by proposing his own version of the “unity of opposites” first proposed by Anaximander and Heraclitus, the latter with his simple observation that “the way up and down is one and the same.” Still later came Hegel’s elaborate formulation applicable to all historic process. Crucial to this negative unity was the seemingly modest assumption that all reality—indeed, all experience—is dominated by the inevitable necessity that “one contrary is the principle of the other,” for example the interaction between love and hate, growth and decline, success and failure, civilization and its inevitable decline. Bruno explained this relationship in perhaps the most basic level between the

antithetical principles of generation (now described as anabolism) and eventual corruption (now described as catabolism):

Who does not see that the principle of generation and corruption is one? Is not the end of corruption the principle of generation . . . If we consider well, we see that corruption is not other than a generation, and the generation is not other than a corruption. [FN, pp. 171-72]

More inclusively, he suggested, the inception and growth of one particular phenomenon depends on the corruption and destruction of others. The dead rodent, for example, provides sustenance to flies, maggots, etc., which are themselves later devoured by birds, etc. Bruno actually subordinated this inclusive dialectic to Plato's ideal, "The highest good, the highest object of desire, the highest perfection, the highest beatitude, consists in the unity that embraces all." [FN. p. 173] Crucial to achieved unity are the countless antithetical differences that are necessarily favorable to some things, events, and species at the expense of others. Most important in all instances, however, is their combined interaction that comprises the whole at every stage.

Bruno applied his version of dialectics to the dynamics of the material universe dependent on matter as the source for all existence. He praised both Averroes and Plotinus for recognizing the essential role of matter in every aspect of the universe: ". . . Matter sends the forms out from itself, and does not receive them from without." [FN, p. 153] Relevant to this unique manifestation, he maintained, is the distinction that occurs between superior and inferior things strictly based on their survivable potential. The superior alternative tends to be more resistant to change, he suggested, but its inferior alternative is more vulnerable to modification resulting from diversity, alteration, and movement. Similarly, the superior alternative is mostly relevant to eternity, the inferior alternative to time as a more limited portion of eternity. Bruno also emphasized the dichotomy between form and matter borrowed from Plotinus, "That which is common

has the function of matter, that which is proper and makes for distinction, that of form.” [FN, p.148-49]

Drawing upon pre-Socratic Greek philosophy, he also discussed act or process as the physical performance of matter at every level of manifestation:

. . . But nature makes everything out of its matter by way of separation, birth, and effluxion, as the Pythagoreans understood, Anaxagoras and Democritus comprehended, and the sages of Babylonia confirmed. [FN, p. 155]

Perceptible nature thus derives from matter in its growth and decline, as does form in its structural organization of matter. So it is matter—the physical stuff of the universe, not an anthropomorphic God—that serves as the “divine and excellent progenitor” of the world as we know it. Ethics matters (pun intended) relevant to the perpetuation of this stuff, while immoral transgressions somehow manifest inappropriate and ultimately deviation from what matters, much as Aristotle explained in *Nicomachean Ethics*. And thus the necessity of materialism as the final and most basic concept of the universe:

It is more appropriate to say, then, that matter contains the forms and implies them, than to think that it is empty of them and excludes them. That matter, then, which unfolds what it has enfolded must be called the divine and excellent progenitor, generator and mother of natural things; or, in substance, the entire nature. [p. 156]

Then again, the pivotal importance of process cannot be overlooked as the function of matter. Its basic role becomes plain just a couple sentences later, when Bruno poses a rhetorical question to Aristotle, “Why, O Aristotle, do you not admit, that that which is the foundation and base of actuality, of that, I say, which is in act . . .” [**Ibid.**] It becomes apparent that change, action, *praxis*, or behavior—whatever one describes as an event or

happening—is also of primary importance. Here Bruno anticipated Hegel’s dialectics as well as Marx’s more specific emphasis on praxis relevant to human behavior at all levels of manifestation (e.g. greed through the maximization of surplus value, revolution through the rejection of greed, etc.).

Then again, Bruno insisted, form is almost as important as a temporary product of matter through the agency of process. Relevant to this interaction was his explanation of mutability, age, and corruption as examples of matter in the act of both initiating and rejecting any particular form:

. . . It is evident that the matter preserves the form; whence such form should rather desire the matter in order to perpetuate itself; because when separated from it, it loses its being, and not matter which has all that which it had before the form was found, and which can also have others. Moreover, when the cause of corruption is given, it is not said that the form flees matter, or that it leaves matter, but rather that matter throws off that form, in order to take on another. [p. 158]

An example of this inevitability would be the multitude of cells and molecules that inhabit the body of somebody who grows old and dies. These miniscule biological entities do not entirely disappear but instead play an entirely new role, thereby partaking of immortality shared with the physical universe itself as a whole. Of course their identities also expire in life’s relentless process of adjustment, but only to transmogrify into a new assortment of identities.

In the final analysis, Bruno maintained, matter is not simply a passive medium that is configured for a variety of purposes beyond itself. Instead, it itself makes the choice relevant to every form in its transition from life to death. Bruno actually went so far as to invoke the so-called pathetic fallacy by ascribing human emotions to nature with the suggestion that even matter itself comes to “hate” all individual forms if and when they become

insufficiently functional relevant to its manifestation. In its fickleness, immortal matter “has in itself a loathing” for its temporary host body in its final stages of decline offset by “a desire” for a younger and better alternative. [p. 159] And of course this pursuit of renewal necessitates a new and more viable host body.

In his third dialogue, Bruno definitively granted soul its existence identified with form: “Therefore, the matter, and the substantial form of anything in nature—which is the soul—cannot be dissolved, or annihilated, completely losing their being.” [pp. 132-33] He nevertheless insisted on the primary role of matter as the matrix of form and therefore soul:

. . . Forms have no being without matter in which they are generated and corrupted and out of whose bosom they spring and into whose bosom they are taken back. Therefore, matter, which always remains fecund and the same, must rightfully be given the prerogative of being recognized as the only substantial principle.” [p. 134]

Bruno was able, however, to accept the relatively orthodox concept of a more inclusive soul as a “giver of forms” that is finally inescapable and can be identified with God or not:

There is one intellect that gives being to everything; this is called by the Pythagoreans and Timaeus the giver of forms; that is the one soul and formal principle that becomes and informs everything; this is called by those aforementioned ones the fountain of forms; that there is one matter [i.e. the physical universe] out of which everything is produced and formed; this is called by all the receptacle of forms [i.e. the concepts and feelings relevant to its existence]. [p.135]

Bruno accordingly proposed a conventional two-tier hierarchy linking soul (or consciousness) and matter, but quickly added a third to double the role of soul as both “one intellect that gives being to everything” and as “vivifying soul,” in other words as a source of life.

In his second dialogue, Bruno once again suggested the hylozoistic possibility of a “world soul” whereby mind is imbedded in matter:

If, then, spirit, mind, life is found in all things, and in various degrees fills all matter, it certainly follows that it is the true act and the true form of all things. The world soul, then, is the formal constitutive principle of the universe, and of that which is contained in it. I declare that if life is found in all things, this soul emerges as the form of all things—that which presides over matter, through everything . . . [p. 119]

Not that Bruno entirely rejected the concept of God’s independent existence. In at least one context he treated it as a “universal intellect,” in effect a higher manifestation of the world soul: “The universal intellect is the most intimate, the most real, and the most proper faculty and partial power of the world soul.” [p. 112] Moreover, he even went so far as to identify this power as a preliminary source of authority that could be described as the cause of the universe:

We call God first principle, inasmuch as all things are after him, according to a certain order of before and after, either according to their nature, or according to their duration, or according to their worthiness. We call God first cause inasmuch as all things are distinct from him as the effect from the efficient [cause], the thing produced from the producer. And these two points of view are different, because not everything [e.g. God] which is prior and more worthy is the cause of that which is posterior and less worthy [e.g. matter], and not everything that is cause is prior and more worthy than that which is caused, as is very clear to him who considers carefully. [p. 111]

In this context Bruno therefore explained God on a more conventional basis both as a first (or “efficient”) cause and as the most important aspect of

nature imbedded in the universe itself. However, in doing so he also suggests that God's identity effectively consists of nature in and of itself. A few paragraphs later Bruno condensed his definition:

I say that the universal physical efficient cause [i.e. God] is the universal intellect, which is the first and principal faculty of the world soul, which is the universal form of that [the world]. [ibid]

By proposing this cause-and-effect interaction between God as the efficient cause of the world's soul imbedded in the universal form of the world, Bruno would seem to have finally conceded the relatively simple orthodox concept of God's primary function as the first cause of the universe. However, his paradigm also implied his even simpler assumption in his fifth dialogue that the universe is an infinite whole. Of course his emphasis was on spatial infinity as earlier suggested by Melissus, but without suggesting its temporal counterpart in eternal change, the sustained agency of God in making this happen, thus necessitating God's existence at least relevant to this purpose. Then again, if the universe has always existed, it was never created, and, as confirmed by Ockham's Razor (ignored by Bruno in his four dialogues), there is no need for a God to have made it happen. The God concept effectively becomes redundant at least to this extent.

Altogether, Bruno's analysis throughout *la cause* was defensible in light of ancient metaphysics, but its implications were highly radical at the time—justifiable cause for concern among orthodox theologians. Today the same question presents itself with big bang theory having necessitated a new level of speculation. If an enormous explosion described as the big bang suddenly initiated the universe, as astrophysicists now consider to have been likely, some kind of a deity might have been involved in making this happen. Then again, perhaps the big bang was merely one among countless big bangs in a more inclusive plenum of comparable mega-eruptions that has always existed without any beginning or end.

Specifically dedicated to Sir Philip Sidney, Bruno's fourth dialogue of the year was *Spaccio de la bestia trionfante* [*The Expulsion of the Triumphant Beast*, translated and published by Arthur Imerti]. This remarkable text turns out to have been an extravagant venture in allegory with a seemingly irrational flow of spontaneous allusions at the expense of sober analysis. To begin to grasp the text's purpose, it seems necessary to be familiar with the previous dialogues, but in fact its insights do not seem particularly helpful in clarifying the content of the earlier dialogues.

What seems Bruno's most impressive passage in this Dialogue as an extension of his earlier three books was his vigorous insistence on the overarching necessity of truth on the assumption that it partakes of "the unity that presides over all" through its "goodness that is pre-eminent among all things." He had declared his emphasis on honesty in *La Cena*, at the very inception of his dialogues, and his holistic explanation of its importance was suggestive of his metaphysical assumptions in *la causa*. Nothing is more important than the truth, he argued, and anything that seems more important, however valid its cause, entirely subverts it:

Truth is that entity which is not inferior to anything; for if you wish to imagine something which is before Truth, you must consider that thing to be other than Truth. And if you imagine it to be other than Truth, you will necessarily understand it as not having truth within itself and, being without truth, as not being true; whence, consequently, it is false, it is worthless, it is nothing, it is not entity.
[pp. 139-40]

In simpler terms, any intentional fabrication given precedence over the truth necessarily subverts it as a valid standard of judgment. If somebody belabors twenty truths, for example, in order to contextualize and thereby justify what might seem a harmless lie, his seemingly truthful effort itself becomes a matter of deception. To this extent Pontius Pilate's apparently simplistic question, "What is truth?" might seem relevant, but Bruno did not specifically apply his absolutist insistence to the validity of religious

belief in this context, and he kept his assertion as abstract as possible with no single referent beyond his declaration, “Above all things, then, is Truth,” almost as if his particular god happened to be nothing more nor less than the truth once featured by Sophists. Nevertheless, the linkage, whether justified or not, cannot be ignored between the credibility of religious belief and the lack thereof:

Thus Truth is before all things, is with all things, is after all things, is above all, with all, after all; she contains the reason for the beginning, middle, and end. She is before things, as cause and principle, inasmuch as through her, things have their dependence; she is in things and is herself their substance, inasmuch as through her they have their subsistence. She is after all things inasmuch as through her they are understood without falsity. She is ideal, natural, and notional; she is metaphysics, physics, and logic. Above all things, then, is Truth; and that which is above all things, although it is conceived differently, according to another reason and otherwise named, nevertheless, in substance must be Truth herself. [*Ibid*]

Bruno’s emphasis on “all things” was what might be described as a loaded referent given his emphasis on the physical universe. The notion of truth as a universal obligation would thus seem to have emphasized the need for uncompromising honesty relevant to everything said. Not that Bruno’s suggestion of God’s non-existence can also be accepted as a conceivable “truth,” as has been routinely asserted throughout history relevant to the possible existence of all competitive pagan gods. For such a concession regarding the improbability of the Biblical God’s existence would have been both unspeakable and unthinkable at the time. Just as important, however, was a second question: what if the overwhelming majority of humanity—the “vulgar crowd,” the “rude populace” as Bruno himself suggested in his previous three dialogues—was too dependent on the God concept to be able to abandon it? This would have been a major issue to be taken under consideration, but having chosen not to ask the first question, Bruno seemingly had no need to answer the second.

In any case the issue of the truth remained of absolute importance. Four centuries before Christ, Plato quoted Socrates in the simplest possible terms, “The discovery of the truth is a common good,” but also the mantra, “I do not think that I know what I do not know,” quite aside from his later execution for supposedly having misled the youth of Athens with false truths. In *Laws 13*, written at the very end of his life, Plato advocated the execution of atheists for promulgating untruths, and just a couple decades later Aristotle was able to assert on almost a reverential basis, “Truth is noble and laudable,” though it cannot be forgotten that he finally fled Athens to escape the martyrdom already endured by Socrates [FN Gorgias, 505; Apology, 21d; *Nichomachean Ethics*, 1127a29-30] As many as three centuries later Christ was quoted as having promised, “And ye shall know the truth, and the truth shall make you free.” He also declared, “I am the way of the truth, and the life”; and “To this end was I born, and for this cause came I into the world, that I should bear witness unto the truth.” [John 8:32; 14:6 and 18:37]. Yet Christ refused to answer Pontius Pilate’s simple question, “What is truth?” Confronted with such a broad challenge from a Roman prefect undoubtedly versed in Greek philosophy, Christ chose to remain silent. Within a couple hundred miles from Athens, Rome and Alexandria, he had nothing to say.

As perhaps to be expected, Bruno’s cause was strikingly different from those of his two illustrious predecessors—Christ and Socrates. Unlike Socrates, Bruno was totally confident of his knowledge; and unlike Christ, he insisted on making his arguments heard—even by those who sentenced him to death during Inquisition proceedings. Remarkably, he even defied his judges to bring in their best and most knowledgeable debaters upon the issues relevant to his presumed guilt, and his interrogators refused to do this. And what exactly was his dangerous truth not even to be submitted to discussion at his trial though it was the reason for his trial? After a full millennium of medieval torture and executions enforced by the Inquisition and justified by its most brilliant minds (most notably Aquinas), Bruno displayed high courage verging on foolhardiness for having proposed the

ultimate truth of the material universe as well as a substantial reduction in God's authority tantamount to non-existence except in its pantheistic identity as the universe itself. Unfortunately, Bruno's certitude cost him his life, as it had with both Socrates and Christ, for having perverted the minds of supposedly credulous followers able and willing to take into account his relatively sophisticated arguments.

Bruno's martyrdom was entirely predictable. Because of mounting hostility between England and France regarding Mary, Queen of Scots, Bruno returned to Paris in 1585. However, his public lectures in Paris provoked excessive controversy, so he quickly moved on to Germany to lecture for two years at Wittenberg with an emphasis upon Aristotle. Here again he compromised his situation by expressing his ideas in the public arena. He next obtained a teaching position at Helmstedt, Germany, but was obliged to flee to Frankfurt after his excommunication by the Lutheran church in 1590, just as he had already been excommunicated by both the Catholic and Calvinist churches. His two years spent in Frankfurt seem to have been a productive interlude similar to his experience in England, but the notoriety of his public lectures once again seems to have obliged his abrupt departure.

Bruno risked returning to Italy in 1591, and his controversial career as an author and lecturer finally came to an end with his imprisonment by the Inquisition at the ripe age of forty-three. Giovanni Mocenigo, a young Venetian aristocrat, had invited him to Venice to serve as his mnemonic tutor, but he was shocked by his heresy and took a personal dislike to him. Upon the advice of his priest, Mocenigo enlisted helpers to capture Bruno and turn him over to the local Inquisition. During interrogation for two years in Venice, Bruno effectively defended himself with the somewhat disingenuous argument that he had resorted to his own particular version of the Averroist "double truth" by having exposing readers to theories he himself did not support except in the act of summarizing them.

When he was transferred to the Roman Inquisition during the reign of Pope Clement VIII, Bruno unfortunately switched his strategy by defending the validity of his theories in light of Catholic doctrine. For seven years he endured interrogation by his Vatican Inquisitors based on numerous charges including atheism and Hermetic philosophy before he was sentenced to die at the stake. When his Inquisitors finally sentenced him, he is said to have told them that they seemed to pronounce their sentence “with greater fear than he received it.” If this is what happened, his intended meaning was ambiguous. On one hand he might have suggested that his accusers had more fear of hellfire than he did, since they were imposing the death sentence on him for advocating theories possibly compatible with orthodox Christianity. Then again, he might have implied his confidence that hell simply does not exist, so he himself experienced no dread of its final destination for presumed sinners, whatever their sins might consist of. Also, he had his own theory of eternal life as he himself had already explained, on the assumption that nothing entirely terminates upon death in the material universe, and as much earlier suggested by Livy, if on a slightly different basis, individual death merely involves the return to a non-existence that preceded one’s birth in the first place. An eternity of non-existence preceded life, and in turn death merely initiates such an eternity afterwards.

Pope Clement VIII finally ordered Bruno’s execution on February 19, 1600, roughly when Shakespeare authored *Hamlet* and William Gilbert published his discovery of electricity. Bruno was taken to Campo de’ Fiori a few hundred yards from the Vatican and burned at the stake. His tongue was tied to prevent him from making any final speech before the hostile crowd. At the last moment according to witnesses he was offered a crucifix to hold while he expired, but he turned away and appropriately died empty-handed. Afterwards his ashes were scattered to the winds, thus ironically fulfilling his materialist concept of death. Almost three centuries later, in 1889, an impressive statue of Bruno was erected at the site of his execution. His picture had never been painted during his life, so his statue featured a cowl that obscures his face to suggest death itself as well as his

victimization for his obsessive commitment to the truth. Many centuries later Vatican officials asked Mussolini to demolish the statue, but to his credit he refused. Perhaps in retaliation, the Vatican canonized Bruno's principal Inquisitor Cardinal Bellarmine in 1930, may his soul rest wherever it belongs.

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Also useful relevant to this article's historic perspective:

An Archaeology of Disbelief: The Origin of Secular Philosophy, by Edward Jayne. Hamilton Books, 2018.