ABSTRACT. In a rather obscure moment in James Joyce's Portrait of an Artist as a Young Man, Stephen Dedalus enters into a conversation with an equally obscure character named Ghezzi. The conversation concerns the Nolan, Giordano Bruno. Ghezzi recalls that Bruno was a "terrible heretic," and expresses "some sorrow" that he was burned at the stake.

For the history of philosophy, there may similarly be "some sorrow" that little more is known about Bruno than that which is contained in Joyce's reference. He certainly has not come to be viewed as being as important as Galileo or Copernicus, and all things considered, probably is not. However, the views about an infinite universe which they expounded with no little fear and intimidation, Bruno bullishly popularized.

From time to time, historians of philosophy will touch base with Bruno, recall his ideological martyrdom, and again try to interpret some of his odd speculations. This article attempts to serve two functions in this regard. First, it acts as a basic primer on Bruno for those who may not be especially aware of his contribution to the history of Western philosophy. Then, for those well-versed in philosophy, it acts as a review of Bruno based on some of the latest materials that have been written on his life and thought.

Toward the end of James Joyce's Portrait of an Artist as a Young Man, Stephen Dedalus enters in his diary the report of a discussion which he has had with a "little round-
head rogue's eye" named Ghezzi. They have exchanged a recipe, and Stephen has become concerned with the way that Ghezzi pronounces sort "o" vowel sounds and the manner in which the man might be able to repent.

However, the focal point of their conversation had been Giordano Bruno. The discussion, which concerned the status in which Bruno should be held, had begun in Italian and ended in pidgin English. Ghezzi called Bruno a terrible heretic, and Stephen responded that yes, he was terribly burned. To this, Ghezzi responded with "some sorrow", is somehow reminded of the recipe, and Bruno suddenly is pushed aside in favor of risotto alla bergamasca.

One might wonder if Joyce's obscure reference is representative of the legacy that Giordano Bruno will leave to the western world. In spite of Joyce's own fascination with the mysterious philosophies surrounding Bruno's life, the characters noted here in his novel fairly well contain the knowledge held by most of western history about Bruno—a heretic, burned at the stake. Ghezzi's "little sorrow" may be about the most emotional response that Bruno will demand.

If this is true, it may be somewhat unfortunate, for Bruno was a dynamic personality whose story brings to light many facets of the late sixteenth and early seventeenth centuries that are typically overlooked. By using Bruno as a focal point, the philosophical richness of this period can be more adequately explored.

Born in Nola, near Naples, in 1548, the year after Michelangelo was named architect of St. Peter's, Bruno would parade across Europe and Great Britain with an uncompromising bullishness for his own perspectives on truth, and in doing so captivate many—including the Queen of England, offend others, and ultimately be burned at the stake in one of many Inquisition horrors of the time.

Bruno was a controversial person in his own lifetime, and that controversy has continued. For example, the Renaissance historian, Alexandre Koyre, contends that Bruno was a poor philosopher and scientist, and of little significance. On the other extreme, Karl Jaspers compares him to Socrates, and says that they are the "saints" of philosophy. A great deal is known about the late Renaissance, but a "primer" on Bruno could perhaps fill in a few missing links about this somewhat ignored character of that time.

**MAJOR INFLUENCES**

The four most important influences on the philosophy of Giordano Bruno are: the first century B.C. Epicurean philosopher, Lucretius; the philosopher, theologian, mathematician, Nicholas of Cusa; the astronomer, Nicholas Copernicus;
and Giovanni Pico della Mirandola. The influence of these major figures and that of several, lesser individuals will be discussed in this section.

Bruno and his contemporaries were confronted with the dilemma of having to give meaning to what had heretofore been meaningless: infinite space. They were also met by ecclesiastical authority which had enforced the Christianized, Aristotelian concept. This authority was not only Catholic, but Protestant. Luther called Copernicus "an ass who wanted to pervert astronomy and deny what is said in the book of Joshua (about the sun standing still,)"[1] and Philip Melanchton found:

The ideas of a plurality of worlds as impious, since the Savior could not have died and been resurrected an indefinite number of times.[2]

Blaise Pascal, who was born twenty-three years after Bruno died, more than adequately expressed the reaction of Bruno's time to ideas of an infinite universe. In one section of his Pensees, Pascal said:

engulfed in the infinite immensity of spaces of which I am ignorant and which know me not, I am frightened and am astonished at being here rather than there . . . The eternal silence of these infinite spaces frightens me.[3]

In a later section, he said: "I approve of not examining the opinion of Copernicus."

Lucretius

One of the most important influences on the thought of Bruno was the atomistic thought of the Epicurean philosopher, Lucretius. The primary source of biographical information on Bruno is Guillaume Cotin who was the librarian of the Monastery of Saint-Victor of Paris. Cotin was a close associate of Bruno during his stay in Paris before his return to Italy. Cotin kept a very strict diary, and in it recorded[5] that Bruno had his own copy of Lucretius' De Rerum Natura. Perhaps the work of Lucretius may have come to the attention of Bruno because of the importance that it held in the thought of Nicholas of Cusa.

One of the basic methodological considerations of the Epicureans was that "the actual defines the limits of the possible."[6] However, since human experience did not exhaust the range of the actual, the range of the possible was not as limited as it might seem. For example, simply because human experience was aware of one world (the actual), it did not follow that there were not other worlds (the pos-
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sible). In fact, there was nothing in actual experience which made it impossible for there to be no other worlds.

In the first dialogue of Bruno's *On the Infinite Universe and Worlds*, he begins the demonstration of the infinity of the universe. He states that the dialogue is based on "the urgent question put by the Epicureans."[7] This "urgent question" comes from Lucretius:

Again if for the moment all existing space be held to be bounded, supposing a man runs forward to its outside borders, and stands on the utmost verge and then throws a javelin, do you choose that when hurled with vigorous force it shall advance to the point to which it has been sent and fly to a distance, or do you decide that something can get in its way and stop it? . . . For whether there is something to get in its way and prevent its coming whether it was sent and placing itself in the point intended, or whether it is carried forward, in either case it has not started from the end. In this way I will go on and, wherever you have placed the outside borders, I will ask what then becomes of the javelin. The result will be that an end can nowhere be fixed, and that the room given for flight will still prolong the power of flight.[8]

Another basic tenet of Epicurean philosophy that becomes part of the foundational scheme of Bruno's thought is the above mentioned idea that nothing in experience prohibits the idea of an infinite universe. In the eighth argument of the first dialogue of the *Infinite Universe*, Bruno reasons that:

none of our sense-perceptions is opposed to the acceptance of infinity, since we cannot deny infinity merely because we do not sensibly perceive it . . . For we perceive an endless series of objects, each one contained by another, nor do we ever perceive either with our external or our internal sense, an object which is not contained by another or similar object.[9]

Here, Bruno is directly following Lucretius:

Lastly one thing is seen by the eyes to end another thing; air bounds off hills, and mountains air, earth limits sea and sea again all lands; the universe, however, there is nothing outside to end . . . (bright thunderbolts cannot race through in their course though gliding on through endless tract of time, no nor lessen one jot the journey that remains to go by all their travel:) so huge a room is spread out on all sides for things without
any bounds in all directions round.[10]

A final point at which explicit dependence on Lucretius can be demonstrated is found in Bruno's concept of the "Minimum." The idea of the "Minimum" is tantamount to a reversal of the idea of an infinitely expanded universe; the universe, as far as man's perception is concerned, is infinitely small. The qualification, "as far as man's perception is concerned," is necessary for that which is infinitely small (i.e., the smallest thing) is ultimately finite, and thus to use infinite in regard to its description is a misnomer; it is only relatively infinite, whereas no qualification is placed on the concept of the infinitely expanded universe. Bruno says that "the minimum of nature or reality is amazingly smaller than the smallest perceptible minimum. There is no art to define it."[11] All phenomena are groupings of these "minima." Bruno's concept of the "Minimum" is similar to Lucretius' "atoms," Fracastoro's "semina,"[12] and Leibniz's "monads." Lucretius had said:

Now mark, and learn how thin the nature of an image is. And first of all, since the first-beginnings are so far below the ken of our senses and much smaller than the things which our eyes first begin to be unable to see ... First, living things are in some cases so very little, that their third part cannot be seen at all. Of what size are we to suppose any gut of such creature to be? Or the ball of the heart or the eyes? The limbs? Or any part of the frame? How small they must be [13]

Nicholas of Cusa

Nicholas had a greater, direct influence on Bruno than any other thinker. Whereas Lucretius had posited the philosophical possibility of an infinite universe, it was Nicholas who added to this the vision of an infinite God; Lucretius was a godless atomist. Nicholas' vision was poetic and impassioned with a mystical inclination which Bruno found quite compatible with his own nature. Bruno eulogized Nicholas:

Where is there to be found a man comparable to that native of Cusa, who was the less accessible the greater he was? If his priestly robe had not now and then veiled his genius, I would go so far to say that he was not the equal of, but far greater a figure than, Pythagoras.[14] In the Infinite Universe, he has Philtheo say that "The Cusan is indeed one of the most remarkably talented men who hath lived in our world."[15]
In Nicholas’ Vision of God, he initially describes his view of the infinite universe, and in his most important work, On Instructed (or Learned) Ignorance he gives the developed explanation of the concept. He is fascinated by mathematics, and finds in the infinite expansion of numbers and in the infinite divisibility of numbers a model for his concept of the universe. The universe for Nicholas has no center or circumference, for to posit either a center or a circumference would be to imply limits. The center and circumference are the same; this is Nicholas’ concept of the “coincidence of contraries.” God in this configuration is also infinite, and both the center and circumference of the universe. God is also that which gives unity to all contradictions.

The coincidence of contraries can be illustrated by the mathematical example of the circle. In a circle with a finite diameter, when the diameter is increased, the curvature of the circle will decrease. Then, if the diameter is infinitized, the curvature will be a straight line. Therefore, “an infinite circle is a straight line.”[16]

Nicholas’ thought thus contradicts that of the Aristotelian/Ptolemaic cosmological concepts at two seminal points: the earth can no longer claim precedence over any other place as being the center of the universe; and, God is no longer conceived as an “Unmoved Mover” which exists somewhere outside of a limited, boundaried universe. Bruno concurs:

Thus we on earth say that the earth is the center; and all philosophers ancient and modern of whatever sect will proclaim without prejudice to their own principles that here indeed is the center... so without doubt those who inhabit the moon believe themselves to be at the center... Thus the earth no more than any other world is at the center; and no points constitute definite determined poles of space for our earth, just as she herself is not a definite and determined pole to any other point; and the same is true of any other bodies. From various points of view these may be regarded either as centers, or as points on the circumference, as poles, or zeniths and so forth.[17]

There are important political connotations to Nicholas’ idea that all contraries find unity in an infinite God. He was a progressive leader in church reformation, and at different times negotiated with the Eastern Church in Constantinople for reunion with Rome and with the church in Germany for reform sixty-seven years before the Reformation. Bruno had some of the same ideas in his concept of “harmony in plurality,”[18] in which there can be unity between objects or persons because there is unity in the Divine. Bruno was
outspoken for peace and tolerance between nations and religions, and at his trial he was accused (probably correctly) of positing the establishment of one religion.

Finally, in Nicholas' concept of "learned ignorance," Bruno found ideas influential to and compatible with some of his earliest philosophical conclusions. For Nicholas, a wise man will recognize that he can have truth only to a certain degree, and that absolute, objective certainty is impossible. Therefore, one must let reason take him as far as it will, realize the limitation of that reason, and understand that ultimately knowledge is at best conjecture. Therefore, one has a vision of God and not an absolute, objectively certain picture of God, and it is ultimately only by "learned ignorance" that one can conceive of an infinite God and the "coincidence of contraries." Bruno gives a like argument to introduce the first dialogue of the Infinite Universe when he states that "the inconstancy of sense-perception doth demonstrate that sense is no source of certainty."[19]

Copernicus

Lucretius had provided the philosophical, speculative background for Bruno to conceive of an infinite universe, and Nicholas had brought God into the discussion; now, the astronomical findings of Copernicus, which were more experimental than speculative, acts as a factual "detonator"[20] to Bruno's philosophy. It was not that Copernicus arrived at an empirically verifiable concept of an infinite universe, he did not, but that he did empirically provide for the denial of the geocentric, Ptolemaic universe. This was the impetus par excellence which inspired Bruno's attack on the entire Aristotelian cosmological structure.

Copernicus replaced the earth as the center of the universe with the sun. In his heliocentric universe, the earth along with the five known planets and the moon revolved in fixed concentric spheres around the sun. However, Copernicus' modifications are not as liberal and revolutionary as they might appear at first. He still had concentric spheres which moved around a motionless center, and there was still the outer limits of the sphere of fixed stars. The Copernican world was still a finite world, but he had at least let the true light of the sun shine upon the Ptolemaic darkness; in doing so he sparked Bruno's intuition.

Giovanni Pico Della Mirandola

One of the more outstanding historians of the Italian Renaissance, Paul Oskar Kristeller, considers Pico Della Mirandola to be the seminal thinker of that period. Kristeller explains that the non-hierarchical place of man which
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is revealed in Pico's taking the initial step in "dissolving the great chain of being"[21] achieved its finest expression in Bruno's cosmology.[22] The description of Pico's new role of man and the world-view which accompanies it shows his undoubtable, direct influence on Bruno, and quite probable (more so than the earlier mentioned influences of Bruno) influence on Descartes. Pico's thought should not be underestimated, though he may be to many an obscure thinker, for it may well be that in his thought that one is at the basic foundation of the mechanistic view of the universe which is at the heart of Bruno's cosmology, and is later epitomized by and identified with the thought of Descartes.

Pico is "ridding himself" (like Descartes in the Meditations) of the traditional, Aristotelian metaphysical positioning of man in the "hierarchy"[23] of a closed, finite world. For Pico "Man has no determined nature and no fixed place in the hierarchy of being, but he is somehow placed outside of it."[24] There is a biblical basis for this new placement of man, for Pico was a superb Hebraist, and was very knowledgeable of the Hebraic writings and Old Testament translations that were becoming available in Renaissance Italy. One of his most important works was a commentary on the book of Genesis, Heptaplus. There is a direct relation between this biblical commentary which focuses on Genesis 1:26, and Pico's best known writing, Oration on the Dignity of Man. As an example of this relationship, the Heptaplus is divided into seven books for the seven days of creation. In Pico's arrangement man is placed in the center, created on the fourth day, instead of the sixth as in the Genesis account.

Man is moved from his fixed subjection as a part of the structure of the cosmos, and even from his hierarchical standing which was often described as being "a little lower than the angels," into a new role as the earthly image of God. Man becomes a surrogate god, and Pico recalls[25] the practice of kings who followed the establishment of a great city with the placing of their own image in the middle of it.

Hardly otherwise do we see that God the ruler of all has done, who having constructed the whole machine of the universe, established man last of all in the midst, formed in His image and likeness...[26] Man is thus established by nature so that reason might master...[27]

The underlined words point to key concepts in Bruno which later become important in Descartes. In the sixth part of the Discourse,[28] he speaks of the general notions that man has of physics which provides the capability of rendering "ourselves the masters and possessors of nature."[29] In this mastery, Pico stressed the free will of man which is a germination[30] of God's free will. A like importance of
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will, both for God and man, will concern Descartes, and be seen below as a corollary of Bruno's "heroic love" and Spinoza's "intellectual love of God." In his Traite de l'homme,[31] he speaks of the body of man, and would in like manner speak of the entire cosmos: "I assume their body to be a statue, and earthen machine formed intentionally by God." For Bruno, and then for Descartes, Pico may be decisive:

Pico is essentially undermining the metaphysical order. Man has become the model for the rational beings that animate the celestial bodies, for the angels, and, shall we say it?, for divinity itself.[32]

One might ask what kind of mechanistic environment was available to Pico which could prompt the analogous reasoning which he uses in his description of God and the new worldview. There may be two possibilities in this regard. First of all, one need only recall Leonardo da Vinci to be reminded of the fascination with machines that was present in the Italian Renaissance. There is also a definite validity in speaking of a mechanistic analogy being used in the biblical accounts, particularly in the creation story in Genesis 1, with which, as has been said, Pico had scholarly contact.

The Old Testament uses various analogies in an attempt to speak meaningfully about God. Nature provided numerous analogies as the observation in Exodus that the deliverance from bondage is "upon Eagle's wings." There are analogies, particularly in the writings of the Davidic and monarchy periods, which come from scenes of combat; the Psalms are filled with such descriptions of God as "my defender," "my shield," or "my strong right arm." The "forming" which Pico and, in turn, Descartes pick up from Genesis may reflect the common analogy in the Bible of God as a potter. Such an assumption could be enforced by the passage which recalls the formation of man from the dust of the earth. There is little doubt that the mechanistic image is present in the Genesis 1 account, and any objectors to Pico's, Bruno's, and (later) Descartes' isogetically reading this into the account can be seriously challenged. Again, Pico's formulation may be formative as far as Western philosophy is concerned. Earlier philosophers did not have the advantage of the two influences hypothesized above; the concept of God in Plato's Timaeus is similar, but a close reading will show a cosmic organizer, and not a creative, mechanistic artisan-craftsman.

The implications for man in Pico's scheme are of significant importance, and a description of those implications can serve as a conclusion to these thoughts on Pico's influence. Man is no longer a "man of nature," part of an hierarchical scheme, but a "man of art" whose primary attribute is his being created in the image of this artisan God. This
"man of art" stands outside of the hierarchical structure, and can only attain his true purpose as a man "when he gives it to himself; only when he becomes his own, free maker, (sui ipsius quasi arbitrarius honorariusque plastes et fictor)."[33]

The fuller formulation of this thesis is found in Bruno, and the movement toward Descartes' Ego can be clearly seen.

The only passion which reigns in Bruno is the passion of the self-affirmation of the Ego, heightened to titanic and heroic proportions. Although the Ego recognizes that there is something transcendent, something that lies beyond human powers of conception, it nevertheless does not want to receive this super-sensible something as a simple gift of grace...For man must grasp the divine not as a vessel or as an instrument, but as an artist and as an active cause. Thus, Bruno distinguishes the merely faithful receivers from those who feel in themselves the drive to ascend and the power of upward movements--the impeto razionale--towards the divine.[34]

In conclusion, there is in Bruno a direct relationship between the self-assertive Ego and the concept of the infinite universe. Just as he will say that an omnipotent God requires the self-expression of an infinite universe, so he says that the self-assertive Ego will find expression only in terms of an infinite universe; a closed, Aristotelian universe, a hesitation toward self-assertiveness, and the dowgrading of the Ego's place in the universe are all mutually inclusive. Descartes will also set forth a similar "philosophical trinity" of an omnipotent Creator, the infinity of the universe, and the predominance of the Ego or free will of man. In the Third Meditation he says that he is "already sensible that (his) knowledge increases (and perfects itself) little by little, and he sees nothing which can keep it from increasing more and more into infinitude."[35] However, he does qualify this possibility by saying that man cannot actually attain an infinity such that it would be impossible "to attain to any greater increase";[36] only God has this type of infinity. It may be that Bruno reserves a special designation such as this for God. If he does, then there would be a possible rejoinder to those who see Bruno in purely pantheistic terms. Horowitz says that Bruno has a Plotinus-like (Bruno referred to Plotinus as "the Prince of the philosophers"[37]) pantheism in which "the divine comprises all of its parts, and at the same time is greater than its parts."[38]

Descartes proceeds to give an Anselm-like description of God. God is an infinity which cannot have anything added to it. A god that was merely within man's mind would not be
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infinite, because there could be something added to it. That being objective reality: "I perceive that the objective being of an idea cannot be produced by a being that exists potentially only, which properly speaking is nothing, but only by a being which is formal or actual."[39]

OTHER INFLUENCES: Hermes Trismegistus

The first of the secondary influences which are important for the discussion of Bruno, and which often reveal the pedantic extremes of his philosophical interest, is Hermes Trismegistus. According to ancient legend, the Egyptian God, Thoth, who was one of the five Mercuries that killed Argus and fled to Egypt giving the Egyptians their laws and letters, was called Hermes by the Greeks with the added epithet, "Thrice Great." There developed a large corpus of literature under this pseudonym which included astrology, occult science, the secret virtues of plants, sympathetic magic, sorcery, and the making of talismans for drawing down the power of the stars. It was thought that this literature was Egyptian in origin, but there was little direct Egyptian influence. The main sources were popular Greek philosophy of the period 100-300 A.D., which included Plato and the Stoics, and Jewish and Persian writings. However, the church fathers, including Augustine,[40] said that Hermes was a real man, and in 1460 the pseudonymous writers were translated into Latin while several volumes of Plato waited.

Frances A. Yates in Giordano Bruno and the Hermetic Tradition proposes that the Hermetic writings had an overwhelming influence on Bruno. The thesis is advanced that in the time of the Hermetic writings that the world was seeking new avenues of religious meaning in magic and mysticism, and that in Bruno's time that a similar search for meaning was taking place. Bruno's curious intellect was probably quite aware of the Hermetic writings, being especially conversant about what the Hermetic tradition had to say about memory techniques. That he knew about these works was probably one of the main reasons that several rulers throughout Europe were intrigued by Bruno; they felt that he might be able to teach them some sort of magic that would enhance their power. However, these marginal relationships to the Hermetic traditions do not substantiate Yates's extreme claim that Bruno, especially during his stay in England, was on "a Hermetic religious mission seeking to establish the magical religion of the pseudo-Egyptians."[41]

Yates stresses that:

Bruno's Egyptianism is thus that of a complete Modern Magus... And Bruno openly proclaims his Egyptianism as a religion; it is a good religion which was overwhelmed in darkness when the Christians destroyed it, forbade it by statutes, sub-
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stituted worship of dead things, foolish rites, bad moral behavior and constant wars, for the Egyptian natural religion with its Neoplatonic basis and the Egyptian's good moral laws.[42]

However, Yates' argument does not account for several important issues. If Bruno was seeking to establish a new religion, then there was no reason for his continual attempt to retain a constructive relationship with the Roman Catholic Church; he said at his trial that he never even took communion in another church, though he had countless opportunities. In further regard to his trial, there is no record of his being judged a Magus.[43] The church had outlawed magic, and if it had played the major role claimed by Yates, it should have been a major charge in his trial. Of primary importance, and even Yates notices this,[44] is the fact that the Hermetic writings had no concept of an infinite universe and innumerable worlds.

While the extreme of Yates' position is not acceptable, Bruno did know about the writings, and there are aspects of them which may have been important to him. In the Hermetic tradition, the Divine was in everything, and the more that one knew about nature, the more that would be understood about the Divine. Bruno would appear to move closer to the Hermetic tradition at this point than he was to Nicholas of Cusa who believed that only a limited understanding of the Divine could be had by learning about nature. Bruno speaks of a "ladder of nature"[45] by which God descends into the lowest things, and by which rational beings "rise to the life which presides over them."[46]

Since multiform nature (is) the infinite emanation of a deity who is absolute reason, she (nature) is the teacher of all rational beings . . . The more deeply man penetrates into the laws of nature, by virtue of his intellect, the closer will he come to an understanding of the unity that exists between him and the immanent principle.[47]

As can be seen, a fundamental difference can be seen at this point between Bruno and the Hermetic tradition. Bruno's "ladder of nature" does not refer to a mystical, magical experience as that found in the Eastern religions, but it is a purely intellectual process, and it is rational beings that can experience this unity with the Divine. It should be said, however, that the description of this attained unity might be expressed in terms which would sound quite similar to the description of the unity attained by mysticism.[48]

Francois Sanchez

The first methodological step of Descartes' philosophy,
as seen in the First Meditation, is the process of universal doubt. There are instances, in fact, prior to the Third Meditation where he demonstrates the atheistic possibility of doubting God. Descartes became synonymous with this doubting posture, and it is not unusual to find modern commentators making such statements as "doubt came into its own once more with Descartes."[49] However, while it would be admitted that Descartes provided the most popular and most succinct expression of this position, there is some question as to whether it is original with him. As with many of the relationships suggested in this discussion, while absolutely conclusive proof cannot be offered, the possibility of some degree of prior influence on Descartes can be plausibly demonstrated.

Descartes had read Montaigne who had similar expressions to the Cartesian doubting in his Apologie de Raimond Sebond. Montaigne may have, in turn, been directly influenced by Francois Sanchez. Sanchez and Montaigne were cousins, and had attended the same school. Sanchez was in the midst of the skeptical movement which accompanied the Italian Renaissance, having been greatly influenced by the Pyrrhonistic skepticism of Sextus Empiricus. This skeptical movement found its basic impetus in a critique of Aristotelian thought, but it was not an anti-intellectual movement. The basic premise of Sanchez's most important work, Of the Right Noble Knowledge That Nothing Known was that true, scientific knowledge could not be known, and that in this admitted relativity, any commitments should be consciously tentative.

Bruno was a contemporary of Sanchez, and was also influenced by Sextus' Pyrrhonism.[50] It is of utmost significance that Bruno was in residence in Toulouse when Sanchez was completing the work which led to the publication of his Right Noble Knowledge in 1581. Since they had a common philosophical background, and since the practice of Bruno to search out the scholars of the towns of Europe and England that he visited and engage them in dialogue is well known, it is very likely that the two men had opportunity to discuss their methods of doubt.

Ksenija Atanasijevic convincingly demonstrates in his commentary on Bruno's De Triplici Minimo that universal doubt was the methodological starting point for Bruno's philosophical reasoning. He quotes from Bruno:

He who wants to engage in philosophical studies must doubt everything; he must not draw conclusions before taking into consideration two contrary opinions and before gathering the reasons for and against and examining them well.[51]

William Baulting, in his work on Bruno, arrives at the same conclusion in particular reference to a 1588 work entitled
Everything, however men may deem it assured and evident, proves, when it is brought under discussion, to be no less doubtful than are extravagant and absurd beliefs. [52]

Baulting's response to this aspect of Bruno's work is that "we seem to be listening to Descartes." [53] Perhaps it would have been more appropriate for him to have said that it seems that Descartes had been listening to Bruno.

There are several other thinkers who can be given limited mention as being of possible influence on Bruno. Raymond Lull was the proponent of a memory theory which was based on the discovery and demonstration of knowledge by the combination of simple terms and propositions which were represented by various letters, figures, and symbols. Lull's theories are considered by some thinkers [54] as one of the forerunners of symbolic logic. Bruno's latest biographer, D.W. Singer, describes Bruno's relationship to Lull's thought as "wasted years on an ill-chosen hero," [55] yet it was his knowledge of Lull's mnemonics that provided Bruno with a livelihood for much of his travels.

During his first stay in Paris, Bruno would have undoubtedly come in contact with the views of a French Platonist named Louis le Roy. Le Roy was a constant critic of the state and religion, calling for peace and toleration based on ideas of unity in contradiction much like Bruno's "harmony in plurality." Some of the same humanistic themes, and ideas about man's mastery over his own destiny, were voiced by an Italian poet, Luigi Tansillo, who was often quoted by Bruno. His milieu was marked by thought as that of Machiavelli who proposed what might be called an "immanent politics" in which the "good" was not some kind of transcendant good, but radically "in-the-world"; the good was that which was successful.

As has already been said, Bruno was influenced by Neo-platonism, and his statement in his trial that "the human soul comes from God, and returns to him," [56] reminds one of Augustine's dictum that the soul is not at rest until it is at home with God. As will be seen, he was influenced by the theory of love of Marsilio Ficino. Bruno found the Hebrew wisdom literature, especially Job and Ecclesiastes, to be important in regard to the ideas concerning the way in which the Divine is present in all of the creation as wisdom, and the ideas about man's search for that wisdom.

Finally, Santillana suggests [57] that the subtle paradoxes of the Eleatic philosopher, Zeno, may have been an important consideration to Bruno. Zeno was not only the
primary defender of Parmenides' monism, but helped lay the
mathematical foundations for any understanding of infinity.

If things are many they must be finite in number.
For they must be as many as they are, neither more
nor less; and if they are as many as they are,
that means they are finite in number. On the oth­
er hand, if things are many they must be infinite
in number. For there are always other things be­
tween any that exist, and between these there are
always yet others. Thus things are infinite in
number.[58]

**SIGNIFICANT EVENTS**

Bruno's life (1548-1600) was lived in one of the most
tumultuous times in world history. The religious founda­
tions were being shaken by the catharsis of the Protestant
reformation, and there was the straining for reformation in
the Catholic Church with the power struggles between the
popes and the councils. In addition to all of this, perhaps
the most influential monarch of the age, Queen Elizabeth of
England, had constructed an intellectual arena of dissent
and disdain against the Catholic Church who considered her
illegitimate because of her birth by Anne Boleyn to Henry
VIII.

The reign of Elizabeth is of particular importance to
Bruno, for while he was in England, his circle of friends
included many court favorites. Among these were Sir Walter
Raleigh and Phillip Sidney; Bruno may often have accompanied
Sidney to court, where he found an inspiring ruler who had a
curiosity for new ideas, and even delighted in conversing
with the learned scholars in Latin. In England he produced
his most important work in an atmosphere of intellectual
freedom (he had many detractors who were vehement dispu­
tants, but he was free to hold and voice his opinions) with­
out any fear of political supervision and suppression.

However, Bruno's stay in England came to an end when
his beneficent patron, Michel de Castlenard, Marquis de Mau­
vissiere, who was French ambassador to England, was re­
called. Bruno now had to face again the tension of a Europe
on the brink of the Thirty-Year War, the fear of an in­
creased Moorish threat, and the iron-clad hand of the Inqui­
sition. The popes of Bruno's life rigidly enforced the In­
quision, "even to the Sacred College and many of the
popes' own families."[50] The only significant freedom that
Bruno experienced in Europe came at Wittenberg, but it was
short lived. Soon after his coming there, the school came
under the influence of Calvinists, and before his going to
England he had been forced to leave Calvinist Geneva because
of his Anti-Aristotelianism.
It is very ironic that there appear on the same stage of history the Roman Catholic Inquisition, and the iconoclastic spirits of Bruno and his two fellow Italian contemporaries, Telesio and Campanella, both of whom were like Bruno in their seeking truth in nature as a manifestation of the divine, their conflicts with church authority, and their attempted suppression by the church. It can be postulated that such times as those of Bruno are greatly influential in provoking the prophetic reactions of a man like Bruno, who will stand outside tradition, be influenced by the new discoveries of the time, and suggest a new self-understanding for man. Perhaps, Bruno experienced something like Mircea Eliade's "terror of history"[60] in which the traditional principle of coherency (in Bruno's case, the Aristotelian cosmology as expressed in the Ptolemaic astronomy) is no longer meaningful. It then takes a true prophet to reject the traditional principle, stand under the threat of the established system whose security blanket has been questioned, and introduce some other self-understanding for man.

There are several significant events in Bruno's life which more fully describe his iconoclastic nature, and give a clearer insight into his character. That Bruno exhibits one of the best defined characters in the biographical history of philosophy can be attributed to the fact that his philosophy was wrought out, not behind the closed doors of an ivory palace or ivy clad academy, but in daily confrontation and disputation which was carried on throughout Western Europe and England. Bruno's transient wanderings reflect an almost evangelistic fervor and intensity.

Bruno himself recalls an occasion in his early childhood when his father took him on a trip to Mt. Vesuvius. Bruno, who lived near vine-clad Mt. Cicala, had always seen Vesuvius as bleak and barren. Arriving at Vesuvius, he was amazed that it was covered by vegetation, and now that Cicala looked desolate. The question of the grounds for certainty became a primary consideration, and as can be recalled from his above mentioned ideas on sense perception, he was always cautious of the senses' ability to deceive.

At seventeen he entered the Dominican monastery of San Domenico in Naples; the monastery provided the best opportunity for a poor boy to get an education. While in the monastery he was in constant trouble with its authorities. He removed all of the images of the saints from his room in favor of a single crucifix. He encouraged younger novices to read material besides what was on their list of required reading, and it was discovered that he kept a copy of the heretical writing of Erasmus in the monastery privy. As soon as Bruno ran away from the monastery, he discarded the garb of his order and refused to wear it again.

It has been said that Bruno's sojourn in London was the most prolific and inspiring time in his life. His most im-
portant work, *On the Infinite Universe and Worlds*, was written there. However, to imagine that Bruno lived a life of untroubled ease in London would be a misconception. Though there was a certain amount of intellectual openness at Oxford, its general philosophical stance was pro-Aristotelian, and because of this Bruno was involved in many controversies. At Oxford, Bachelors and Masters of Art were fined five shillings for each disagreement with the premise of Aristotle’s *Organon*, and the following statement was part of the official university statutes:

Let no one be advanced to the degrees of Master or Doctor of Philosophy and Theology, unless he has drunk from the fountain of Aristotle.[62]

It can be assumed that Bruno’s patron, Castlenard, bore some degree of expense in settling the accounts with the Oxford dons who Bruno described as “knowing more about beer than about Greek.”[63] Bruno was also troubled by the uncouth manners of the English people, and spent a good deal of his Ash Wednesday Supper describing the “ordeal” of a simple trip through London. An ancient boatman travels “as slowly as if he had been on his way to the gallows”[64] in a boat “leftover from the Deluge.”[65]

There have been serious questions raised as to whether Bruno contributed significantly to the philosophical atmosphere during his stay in London. Frances P. Johnson in an often quoted work entitled *Astronomical Thought in Renaissance England* says that Bruno was of no influence or importance at all. He explains[66] that Bruno spoke no English, was known to a relatively small number of people, and was not quoted in English writings until well after 1600. Johnson’s hero is Thomas Digges, whose work surpasses that of Bruno because Bruno arrived at his notions “entirely though metaphysical speculation.”[67] However, Johnson does not recall the court fascination with the Italian language; as has been said, even the Queen liked to converse in Latin on scholarly subjects. He may be correct in saying that Bruno was known to a limited number of people, but he does not acknowledge that these were some of the most important political and intellectual figures in England.[68] Finally, it can be said that Bruno does arrive at many of his ideas speculatively, but his speculation surpassed the ecclesiastical placating astronomy of Digges, who “put his stars into a theological heaven, not into an astronomical sky.”[69]

There were two occasions in Bruno’s travels that he found it more expedient to retract some of his basic positions, than to pursue a debate. In Geneva, before going to London, he was arrested for printing a paper which pointed out twenty errors in the lecture of a learned professor, and finally had to make a humiliating apology. After returning to Paris from London, he became embroiled in a debate[70] with a pro-Aristotelian lawyer, Rudolphus Calerius, at the
College de Cambral in Paris. Bruno recognized that his audience was becoming hostile and attempted to leave. He was seized, and had to promise to return the next day to defend his position. He did not return, but sent a friend who did a poor job of representing him. Finally, out of great fear, he sent a letter to the group saying that he had been beaten. Guillaume Cotin, who had recorded the events in his aforementioned diary, must have considered this cowardice on Bruno's part, for he did not mention Bruno's name again in his chronicle. It seems that Bruno was willing to lay his life on the line only where it counted the most, before the Pope at Rome.

A final incident which is important to Bruno's life was his stay at Wittenberg. Here he found a great deal of freedom and security, and may have gotten too brave in some of his assertions. Many of his Wittenberg statements were used against him in his trial, and some who were called upon to bring witness from this period had been impressed that Bruno was an atheist. His description of Jonah and the whale as "a handsome way of transporting man,"[71] and the description of Jesus' walking on the sea as "a pretty trick,"[72] may have had more to do with Bruno's being damned before the Inquisition that his speculations about an infinite universe.

MAJOR ASPECTS OF BRUNO'S THOUGHT

A survey of Bruno's thought should begin with his most important work, On the Infinite Universe and Worlds. Here he presents his speculative understanding of the universe as it was inspired by Copernicus, Lucretius, and Nicholas of Cusa. Bruno's most cogent argument against the traditional Aristotelian cosmology is also at the heart of this work. In addition to the thesis that Bruno is pursuing, he produces a work of poetic and rhetorical beauty that would rival the greatest writings of the Renaissance masters.

On the Infinite Universe and Worlds is divided into five dialogues. Bruno's basic position is posited in the first dialogue, and the remaining four dialogues are primarily concerned with refuting specific Aristotelian positions. Much of the first dialogue has already been mentioned, and will now be brought together in order to show the movement of Bruno's thought. He begins the first dialogue by dealing with the deceptive power of sense-perception. Perhaps, he is recalling the Vesuvius incident of his childhood.

Bruno can certainly not be given the claim of originality in this matter of sense perception. However, it seems that it is a matter that each philosopher must come to some-how deal with, and to deal with for himself without reference to other philosophical and experiential precedents. Plato does this with the broken reed which, when brought
forth from the water, is no longer broken, and Descartes comes to deal with it in his meditations after the cogito ergo sum section.

Bruno continues in this first dialogue to then rely heavily upon Lucretius to ask about the boundary of a finite universe; this is Lucretius' illustration of standing at the boundary line of the universe, and throwing a winged javelin. He continues his reliance on Lucretius to show that there is nothing in reason and sense-perception that would disallow an infinite universe; "before our eyes one thing is (always) seen to bound another."[73]

The infinite number of other worlds are given an equal status with the earth. "Since it is well that this world doth exist, no less good is the existence of each other of the infinity of other worlds"[74]. As each individual has a unique "dignity" of his own, so each world has a unique dignity which is not dependent upon any other world. Therefore, the earth is not only no longer at the center of the universe, but it is also of no special influence and power. This was particularly troubling to the church, for they considered themselves the chosen of God's people, and the earth the chosen place of God's creation. However, one of the greatest problems that Bruno's concept of infinite, equal worlds raised was the implied need of Christ to appear on each of the worlds.

Bruno begins to hint at the character of the power which creates this infinite universe. If there is an infinite universe, then the active power which has established it must also be infinite; the effect is like its cause. If this were not the case, then "there would be derogation from the nature and dignity both of creator and creation."[75]. Any contrary view would deny divine goodness and greatness.

If omnipotence maketh not the world infinite, it is impotent to do so; and if it hath not power to create it infinite, then it must lack vigor to preserve it to eternity.[76] Wherefore he (now omnipotence is Omnipotence) cannot be other than what he is, not can he be that which he is not, not achieve that for which he hath no power, otherwise than as he willeth, and he cannot do other than he doth, since power without action appertaineth only to those things which are mutable.[77]

As Bruno has shown the passive dignity and power of the infinite universe, he proceeds to show that an efficient, infinite cause is necessitated. This infinite efficient cause Bruno identified as God; he uses the designation "Prime Efficient Cause." Philotheo says to Elpino:

I declare God to be completely infinite because he
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can be associated with no boundary and his every attribute is one and infinite. And I say that God is all-comprehensive infinity because the whole of him pervadeth the part thereof comprehensively and to infinity.[78]

Bruno argues that the Aristotelian concept of a divine outside of a primum mobile grants to God only "extensive infinity," whereas he attributes to God "absolute intensive infinity withal."[79] In one of the most exalted visions of God encountered in the history of Western philosophy, Bruno claims that only an infinite number of worlds can adequately glorify God.[80]

Not only does this become a central feature of Bruno's argument, but it also has an apologetic dimension. The established faith might castigate him for not upholding the traditional cosmological beliefs, but if he used his position as a way of demonstrating the grandeur of God his radicalism could perhaps be somewhat tolerated. He could turn the Aristotelian position back upon itself, and characterize it as a view of God that was limited.

A totally unlimited God would become an ideal for this entire period for many important thinkers. Calvin would come to advance his doctrines of predestination and election, but they were derivative ideas. His key concept was the omniscience of God that was totally unlimited, and thus required predestination as a necessary implication. Any other idea would lessen the power of God. In a similar fashion, Bruno was attempting to use the infinite universe scheme to add to the magnitude of God; the Aristotelian world was mediocre by comparison.

In the second dialogue, Elpino, who represents the Aristotelian position, begins to raise objections to the position of Bruno as represented by Philotheo. He draws on the Aristotelian ideas that bodies have delineable size and motion, and since there is observed size and motion, then the universe must have body and motion, neither of which are consistent with the idea of infinity. Philotheo responds that body and motion are ideas applicable to the particular parts of the whole, and not the whole itself. He would probably have even disliked the association of infinity with a description such as "whole itself" which implies a bodily nature. He says that he has never claimed that the infinite universe has body or motion, which is mind boggling to the Aristotelian position; body and motion give the universe spatiality, and to have no body or motion would mean that the universe is no-place. For Bruno, the infinite universe is not a place in relation to something external to it; it is place, and all objects within the infinity have place in relation to one another. There is no longer the need of an external, metaphysical point of reference like that provided in the other cosmological schemes.

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Here, Bruno is treading upon ground that has the most dangerous of implications. The absence of a need for an external, metaphysical point of reference could easily be seen as being tantamount to the absence of a need for God. At the heart of many religious systems, God is confined to little more than some unexplained "gap" or some external reference point.

He then develops the argument of Nicholas of Cusa that any point within the infinite universe is at one and the same time both center and circumference. In the conclusion of the dialogue, Elpino is converted to the position of Bruno. He tells Philotheo: "You have entirely satisfied me, so that it appeareth to me superfluous to marshal those further wild arguments whereby Aristotle seeketh to prove that there is no infinite body beyond the heavens."[80] The dialogue ends with Elpino giving a succinct restatement of Bruno's position.

The last three dialogues are essentially recapitulations of the basic points of the first two dialogues. The recapitulations take the form of various questions which could be raised from the Aristotelian position. It seems that Bruno was anticipating many Aristotelian questions that might be raised. This style becomes somewhat repetitious, and two new figures are introduced to make the dialogues more interesting. In the third dialogue, a man by the name of Burchio offers a comic relief in his clumsy defense of Aristotle. At one point, the converted Elpino says to him: "Burchio, my dear fellow, warmly do I praise the constancy of thy faith. From the very beginning thou hast said that even though true, thou wouldst not believe it."[81] Burchio replies: "It is so. I would prefer ignorance in the great company of the illustrious and the learned rather than knowledge with a few sophists."[82]

In the fifth dialogue, a learned Aristotelian who is openminded to new ideas by the name of Albertino is introduced. He asks twelve traditional, Aristotelian questions which further recapitulate the arguments of the first two dialogues. Albertino, like Elpino before him, is converted to Bruno's views, and ends the final dialogue by pouring out upon Philotheo (Bruno's pseudonym in the dialogue) lavish praise and encouragement.

Thy noble countenance shall not be denied by the voice of the mob, the indignation of the vulgar, the murmuring of fools. . . Do not lose heart nor retire, though the great and solemn senate of foolish ignorance threaten thee. . . Proceed to make known to us what is in truth the heaven. . . how much an infinite effect besemeth the infinite cause. . . Break and hurl to earth with the resounding whirlwind of lively reasoning those fan-
It is unlikely that Bruno confronted many Aristotelians as Elpino and Albertino; the usual reaction to his ideas would be better typified by Burchio. The usual response to Bruno was quite different from the glowing praise of the fifth dialogue. He had written in the Introductory Epistle:

if I had worked a plough, pastured a flock, cultivated a field... no one would look at me... But since I am a delineator of the field of nature, solicitous concerning the pasture of the soul... it is not one person (that threatens me). It is not a few, it is many, it is almost all.[84]

In a second important work, Cause, Principle, and Unity,[85] in which many of the ideas which come to be developed in Infinite Universe and Worlds are conceived, Bruno deals with man's relationship to the infinite universe. The universe is bound together in one, embracing Unity.

Ultimately there is no difference between part and whole, and there is no number in the universe, for the universe is itself unity... God is in everything more intimately than its own form is in it, since he is the essence by which everything has its being.[86]

God is pantheistically (but, recall comments on Plotinus above) in even the most trivial substance, including the "minima." There is never any destruction or loss of any of these substances, only changes in their mode of existence. Bruno has the idea of a "cosmic metabolism" in which substances are transformed. For example, when an individual dies, he "sends forth his substance," and the "wandering substance" is received by something else.

Bruno says that man is able to discover his relationship to the infinite universe, which he is both a part of and constantly in contact with, by contemplation. "He who has discovered this Unity has discovered the indispensable key for the true contemplation of nature."[87] It was the contemplation of unity that gave him the strength to sustain the questioning, torturing, and the ultimate martyrdom of the Inquisition. He felt that his soul would become another mode of existence, and "rise with smoke to paradise."[88] He manifested poetry as the medium of contemplation:

If the red slayer think he slays,
Or if the slain think he be slain,
They know not the subtle ways,
I keep and pass and turn again.[89]
The next important question that must be asked is what it is that Bruno means by saying that contemplation is the way in which man is related to the infinite universe. As has already been explained, it is not contemplation in any mystical or oriental sense. Bruno has an idea of what he calls "heroic love" which becomes a part of his thought because of the influence of the love theory of Marsilio Ficino which has been mentioned. Ficino had the idea that the contemplative life provided a gradual assent to higher degrees of truth, until a vision of God and true knowledge was attained. This assent is interpreted, not in terms of mysticism, but by the will and intellect. For Ficino, will and intellect are forms of love when ascending to God, and when the assent is accomplished, "the unrest of the mind is satisfied."[90]

This sounds like Bruno in several respects. One of his basic arguments in Infinite Universe and Worlds was that "to call the universe boundless... bringeth the mind to rest, while the contrary doth multiply in numerable difficulties."[91] His idea of the "ladder of nature" can also be recalled, with its Divinity descending into every aspect of the infinite, and man rising by means of a rational pursuit that begins in nature. Bruno's "heroic love" has a divine object, and ascends through the sense world intelligibly toward God. Bruno's "heroic love" sounds almost exactly like Spinoza's "intellectual love of God." [92]

In a third important work of Bruno, The Expulsion of the Triumphant Beast,[93] the most explicit description of this assent of the "ladder of nature" is given. The Expulsion is considered to be Bruno's most important ethical work, and in this work many explicit parallels to the work of Spinoza are found.[94]

The "fundamental notion"[95] of Bruno in The Expulsion is that God should be conceived as substance, the coherent system of all that is, and the effects of God as accidents.

There is one thing, as efficient and formative principle from within, from which, through which, and around which the composition is formed; and it is exactly like the helmsman of the ship, the father of the family at home, and an artisan who is not external but fabricates from within... and in it is the power to keep united the contrary elements... to keep and maintain the composition of the animal.[96]

It should also be noticed that Bruno considered the entire universe as alive, and it is the unity of God that gives unity to the infinite universe. This is the exact opposite of Aristotle's conception in which substance was applied to individual objects, and accidents were attributes of these
objects. Any "life" in Aristotle's universe came from an external cause, and not an internal cause which was contingent with its effects. Accidents, therefore, instead of being attributes are manifestations of the single substance. Bruno and Spinoza have the same idea of substance, and what has heretofore been called accidents, Spinoza calls modes, "the affections of substance."[97] Bruno describes his accidents in terms of "form" and "matter," both of which are perishable and change, but do not diminish substance in changing; Spinoza makes the same statement concerning his affections, using the terminology of "thinking" and "extension."

Bruno then explains that this "artisan" so "fabricates from within" (note again the mechanistic imagery) that his "countenance, figure, and face may appear on the outside."[98] Bruno's "ladder of nature" thesis is again encountered. In order to know God, one must know his image, nature; in every thread and fiber, bone and nerve (these are Bruno's terms). God is present. Spinoza also equated God with Nature, and believed that "the more one understands individual objects, the more one understands God."[99] This "ladder" is then traversed by what becomes more than intellect or will; for Bruno, "heroic love," and for Spinoza, "intellectual love." Both are rational processes, and both allow man to live with "peace of mind, unagitated and not driven by external causes" (Spinoza)[100] or as Bruno describes the effect of his own philosophy on man in the second dialogue of The Ash Wednesday Supper:

The Nolan (Bruno's self-designation) has given freedom to the human spirit and made its knowledge free. It was suffocating in the close air of a narrow prison-house, whence, but only through chinks, it gazed at the far-off stars. Its wings were clipped, so that it was unable to cleave the veiling cloud and reach the reality beyond.[101]

The final achievement of Bruno's philosophy, for Bruno himself and for those who will attain to his teaching, is that which Karl Jaspers identifies with the perennial aim of all philosophy:

The rediscovery of one's primal source; the achievement of independence of man as an individual; the establishment of a relation to authentic being. . . (a living in the world with an attachment to transcendence).[102]

In describing this section of Bruno's thought, the attempt has been made to focus on what might be called his philosophical "attitude" toward the reality of God. In one sense he is moving in the context of his Aristotelian background in his attempt to make some kind of a reasoned, analytical statement about God. Here he reasons to God in the
context of the principles of plenitude and sufficient causation. However, one senses that Bruno is moving radically beyond any formulation of God that could be categorized with Pascal's "gods of the philosophers." In his words about "oneness," "contemplation," "heroic love," and "mysticism," one senses that he is not talking about propositional descriptions and definitions of God, but of an experiential awareness that transcends formulations, and for which the inability of formulation does not connote defective existence. In Bruno intellectual contemplation (here reason and love can be synonymous for him) and mystical awareness (recall: this is not mysticism in the traditional sense of the word, but the active intellect and free will approaching or encountering the divine) seem to merge. The only suitable response that Bruno can give is that of allegory, metaphor; that is, poetry. Note carefully the following expressions:

To His Own Spirit

Though deeply rooted you are held by earth,
Mount, lift your summit to the stars in strength.
A kindred force from the height of things is calling,
Mind, making you the bound twixt hell and heaven.
Maintain your rights, lest, sinking in the depths,
Assailed, you drown in Acheron's black waters.
Rather go soaring, probing nature's lairs;
For, at God's touch, you'll be a blaze of fire.

Of Love

Through you O love, I see the high truth plain
You open the doors of diamonds and deep night.

Cause, principle, eternal unity,
On which all being, motion and life depend:
In length, breadth, in depth your powers extend
As far as heaven and earth and hell may be--
With sense, with reason, and with spirit I've seen
That reckoning, measure and act cannot comprehend
The force, the number and mass, which, with no end
Pass all that's low or high or set between.[104]

One sees here, not the failure of reasoned, propositional formulation, but reason going beyond itself to a new realm of expression. A "word event" is taking place in which expression is being given to a relational experience. The reality of this experience to Bruno is the ultimate "proof" of the divine for him. Bruno's experience precludes, but can be elucidated by the ich/Du relationship of
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Martin Buber. Even the formulation of the infinite universe, with all of the implications that it holds for science and the Aristotelian system, becomes of primary importance to Bruno as an analogical representation of the divine.

Bruno had a problem with language, as perhaps all thinkers do who are participants in the burning edge of paradigm change. Bruno inherited the Aristotelian language and its rhetoric which was highly propositional, and based upon an objective correspondence between objects in the world and the senses. Now, Bruno must use the same language, but to express new meanings which transcend the old, Aristotelian usages. One must then be careful of one's reading of Bruno, and attempt to recognize the new expressions that are being made in the context of the limiting language.

CONCLUSION

By the time that the nineteenth century began the specialization that commenced with Descartes and that is a common feature of contemporary society had already begun to become well-ensconced in the contending philosophies of the age. On one hand, the Enlightenment was well under way, while, on the other, the Romantic movement was also well-established. It was almost as if a spectrum had been defined, and its opposite ends—rationality and feeling, science and religion, mathematics and magic—had been concretely formed. It can easily be argued that this distinction has been maintained in the more contemporary distinctions between the "technostructure" of Ellul's technological society and the "counter culture" of Reich's The Greening of America.

However, the ends of a spectrum have a tendency to become close-minded and arbitrary; they often become little more than an occasion for defensiveness and scholastic egoism. Any "truth" that exists does so somewhere in the often vague and painfully inarticulate middle between extreme ends. To refrain from the extremes, and to hold firmly to the exploration of the middle, becomes the most difficult of philosophical callings.

In a sense, this is precisely what Bruno accomplished. He certainly was not an ancient, spiritualized animist, but he was also not a coldly analytical rationalist. He held out for the view of an interrelatedness to existence that was both rational and emotional, understandable and mysterious, calculable and beautiful. On one extreme he went beyond the Hermeticism of Lull and said so, while at one and the same time, he claimed to transcend the pedantic, "mere mathematics" and astronomy of Copernicus.

When he emphasized "magic," and made reference to leading figures of history like Jesus or Aquinas as "magi," he did not have in mind a semi-witch doctor type figure that
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could arise out of caricatures based on the most minimal of experience. He conceived, rather, a syncretistic personality whose personal epistemology coalesced reason, aesthetics, ethics, and emotion—someone who experienced the aliveness of the interrelation of all life concerns and forces, rather than the coldness of some cloistered corner of intellectual exclusivity.

There is no question that Bruno had a bold and even acerbic ego, and there is also no question that he carried the tactic of offensive exaggeration like a sharpened sword. However, it is also clear that he could be accommodating—note the dedication of one of his final writings to Pope Clement VIII, and the fact that at his first trial that he repented himself of any supposed "Egyptianisms"—and that his primary concern may have been an intense commitment to keeping the tension between "spirit" and "mind" alive and well. The worst dilemma that he could imagine was for the church to "sell its soul" to the rigidity of the rational calculations of the new Aristotelianism that reigned in his day, and for which Copernicus was not viewed as an antidote as much as an extension.

In Raphael's fresco, "The School of Athens," which had begun to gain widespread popularity by Bruno's day, this tension which Bruno sought to keep alive is explicit, especially in the face of the ubiquitous figure to the left front center who seems to be pondering most deeply the middle ground between Plato and Aristotle, between idealism and rationalism. Bruno's life seemed to be an attempt, however unfortunate the "guilt by association" with the magicians may have confounded his way, to keep this ponderous middle ground firmly established.

The modern world experiences little of Bruno's tension and somehow is less because it does not. It seems more intent on conceiving new defense mechanisms and new offensive tactics with which it can hold in abeyance the "other side." Somehow the realization must arise that "truth is two-eyed,"[105] and that truly progressive human existence continually fights against the realization that "we are more conscious of the edges than the centers, corresponding to the bounds of an animal's territory which it stakes all to defend."[106] Bruno was a man concerned with centers in a world dependent upon the supposed clarity of edges.

The spirit of inquiry for which Bruno ultimately gave his life is beautifully conveyed by no less of a presumably rational figure than Albert Einstein:

The most beautiful thing we can experience is the mysterious. It is the source of all true art and science. He to whom this emotion is a stranger, who can no longer pause to wonder and stand rapt in awe, is as good as dead; his mind and eyes are
footnotes

1. Santillana, op.cit., p. 159.


3. Blaise Pascal, Pensees (Chicago, 1952), 211.

4. Ibid., 212.


7. Singer, op.cit., 231.


10. lucretius, op.cit., 13. Also, Singer, op.cit., 232-33. Note: The Bruno quotation from Lucretius does not include what is included in parenthesis.


12. Fracastoro was a Renaissance Lucretian.


18. Ibid., 324. Here Bruno states in regard to the universe that "God createth harmony out of sublime contraries." He is being influenced by both Nicholas and Pseudo-Dionysius the Areopagite, who is quot-
ed by both Bruno and Nicholas.

19. Ibid., 230.

20. Giorgio de Santillana, Reflections on Men and Ideas (Cambridge, 1968), 177. Bruno said of Copernicus (La Cena de le Ceneri): "Who can fully evaluate the magnanimity of this German who, impervious to the judgements of the stupid masses and against the current of contrary belief, first helped the true view to conquer—the view that liberated our knowledge from a narrow prism, from which it could only see the stars through tiny openings...that view which traversed the air, penetrated the heavens, and broke down the imaginary walls of the first, the eighth, ninth, and tenth spheres."


22. Ibid., 20.


26. Ibid.

27. Ibid., 517.


31. As pointed out by Hermann in "Descartes' Scheme of a Machine in the Traité de l'homme," MSS, 2. This article can serve as a critique of T.S. Hall's Treatise on Man (translation and commentary) (Cambridge, 1972).

32. Trinkaus, op.cit., 512.


34. Ibid.

35. Haldane and Ross, op.cit., 167.

36. Ibid.
The primary charges that were brought against Bruno by his Venetian betrayer, Giovanni Mocenigo, were that Bruno: made no distinctions in the persons of God; called all monks "asses"; said that there was no transubstantiation in the Eucharist; and, that there would be no punishment for sins (i.e., no hell). Giordano Bruno, The Expulsion of the Triumphant Beast, tr. by Arthur D. Inerti (New Brunswick, 1964), 48.

It can be seen at this point that one of the original presuppositions for this discussion can no longer be substantiated. It was originally thought that the Eastern influence was more preeminent in Bruno. In addition to the extensive discussion of Yates, who found more than sufficient amounts of allegorical, mystical allusions in Bruno to ground a cogent discussion, there was the mysticism inherent in Neoplatonism, and the "mystical knowledge" of the Muslim philosophers, Averroes, Avicenna, and Avicibrun.

In Bruno's childhood in Nolan, he would have had the opportunity to observe, and perhaps participate in, the celebration of the Feast of St. Paulinus of Nolan. This feast had a great deal of symbolism which was of Indian origin, and it was speculated that perhaps some Eastern religious influence had become associated with Nolan.

51. Ksenija Atanasijevic, The Metaphysical and Geometrical Doctrine of Bruno as Given in His Work De Triplici Minimo, tr. by George Vid Tomashevich (St. Louis, 1872), 23.


53. Ibid.


56. This statement is recorded in A. Mercate, Il sommario del processo di Giordano Bruno (Vatican City, 1942), sect. 254, 142, as noted by Kristeller, Eight Philosophers, op.cit., 177.

57. Santillana, Age of Adventure, op.cit., 245.


62. Ibid.


64. From the Ash Wednesday Supper as quoted extensively in Santillana, Age of Adventure, op.cit., 254.

65. Ibid., 255.


67. Ibid.

68. Lovejoy, op.cit., 125 notes a possible influence of Bruno that emerges in the work of Henry More. More's father first introduced his son to Spenser's Faerie Queene and Spenser's Platonism, allegorizing, and moral attitudes persist in More's own writings. Spenser knew Bruno intimately and the introduction to Book II of his Faerie Queen and his Arcadia directly show Bruno's influence.


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72. Ibid., 233. A number of other charges were placed against Bruno of a more personal nature. He was said to be obsessed by sex, reportedly stating that "not all the snows of the Causus could quench his fires," (Will and Ariel Durant, The Story of Civilization: The Age of Reason Begins, New York, 1961, 616) and that "ladies pleased him well, though he had not yet reached Solomon's number." (Ibid., 622) He was also condemned (618) for his blatant lack of modesty. The substance of these charges cannot be substantiated as those who hold such radical posture as Bruno are often open to this type of criticism.

73. Singer, op.cit., 233.

74. Ibid.

75. Ibid.

76. Ibid., 235.

77. Ibid., 261.

78. Ibid., 261. A more syllogistic statement of the infinity of God and of the universe can be made by saying "since the universe is infinity, and there cannot be two infinities, the infinite universe and the infinite God must be one." Durant, op.cit., 620, compares this statement to Spinoza's Deus sive substantia sive natura.

79. Ibid., 265.

80. "Make then your forecast, my Lords Astrologers, with your slavish physicians, by means of those astrolabes with which you seek to discern the fantastic nine moving spheres; in these you finally imprison your own minds, so that you appear to me but as parrots in a cage, while I watch dancing up and down your grand yelping within those circles. We know that the Supreme Ruler cannot have a seat so narrow, so miserable a throne, so trivial, so scanty a court, so small and feeble a simulacrum that phantasm can bring to birth, a dream shatter, a delusion restore, a calamity diminish, a misdeed abolish and a thought renew it again, so that indeed with a puff of air it were brimful and with a single gulp it were emptied. On the contrary we recognize a noble image, a marvelous conception, a supreme figure, an exalted Shadow, an infinite representation of the represented infinity, a spectacle worthy of the excellence and supremacy of Him who transcendeth understanding, comprehension or grasp. Thus is the excellence of God magnified and the greatness of his kingdom made manifest; he is glorified not in one, but in countless suns; not in a single world, but in a thousand thousand, I say in an infinity of worlds." Ibid., 245.

"It is incomparably better that Infinite Excellence should express itself in innumerable individuals than in some finite number of them. . . Because of the countless grades of perfection in which the incorporeal divine excellence must needs manifest itself in a corporeal manner, there must be countless individuals such as are those great living beings of which are divine mother, the Earth, is one." (Ibid., 312 in
Lagarde translation.)

80. Singer, op.cit., 298.

81. Ibid., 325.

82. Ibid.

83. Ibid., 276-377. Only a small part of Albertino's speech is included. The speech is one of the most outstanding sections of the entire work.

84. Ibid., 229.

85. Bruno, Cause, Principle, and Unity, op.cit.

86. Singer, op.cit., 100.

87. Ibid. Bruno says: "It is unity that doth enchant me. By her power I am free through thrall, happy in sorrow, rich in poverty, and quick even in death", 103.

88. Ibid., 179.

89. Taylor, op.cit., 118.


91. Singer, op.cit., 234.

92. Baruch Spinoza, Ethics, tr. by W.H. White (Chicago, 1952), part 5, Prop. 32, 460. Recalling the idea of "rest" in this love mentioned by both Ficino and Bruno, Spinoza says in Prop. 27: "From this third kind of knowledge arises the highest peace of mind.", 459.


94. Scholars have continually raised the question of the relationship of Bruno and Spinoza. F.H. Jacobs in his preface to the second edition of Uber die Lehre des Spinoza in Briefen an Herrn Moses Mendelssohn, Breslav, 1789, wherein he refutes the oft-repeated accusations of obscurity leveled against Bruno, indicates that he believes Bruno's exposition of the pantheistic doctrine to be one of the purest ever developed.

In preparing the short treatise on "God, Man, and his Blessedness," McIntyre (Giordano Bruno, London: MacMillan and Co. Ltd., 1903) says, Spinoza must have had the Causa and Infinito of Bruno almost before his eyes.

Pollock (also referred to in McIntyre's work, 337-338) suggests that it may have been his free-thinking teacher, Br. Van Den Ende, who introduced Spinoza to Bruno's writings; there is no external evidence of the acquaintanceship, but that, it is needless to say, is of slight im-
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importance. Spinoza certainly read Italian, and he practiced in other cases the same neglect of authorities of whose substance he was making use.


100. Ibid., 459, 463 (Prop. 27 and Schol. of Prop. 42).

101. Bruno, Cause, Principle, and Unity, op.cit., 7. It should be noted that here Bruno says about himself almost exactly what he had said about Copernicus in La cena de le ceneri mentioned above.


106. Ibid., 4.