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# *Giordano Bruno: Neoplatonism and the Wheel of Memory in the De Umbris Idearum*

by ALESSANDRO G. FARINELLA

translated by CAROLE PRESTON

*Bruno's attempt to integrate the principles of Ficino's Neoplatonic metaphysics to the Thomistic subalternatio scientiarum led him to incorporate new techniques into his art of memory. His use of the wheel of memory in De umbris idearum produced various philosophical perspectives. Nevertheless, the theoretical basis of Bruno's philosophical system was his effort to address mathematics in a qualitative way. Analysis of Bruno's sources leads to an understanding of how he reconstructed and used them.*

The appearance in Paris in 1582 of *De umbris idearum* containing obscure rules of rhetoric, written for the French king Henri III by an ex-Dominican priest who had fled the Roman Inquisition six years previously, constituted a truly extraordinary event in the panorama of sixteenth-century European culture. In this work there is an attempt to relaunch the use of memory images, despite widespread European acceptance of the Ramist method of memory;<sup>1</sup> and this attempt is broadly based on the Neoplatonic tradition, which in the previous century had culminated in the figure of Marsilio Ficino (1433-99), the greatest of the Platonists at the Medici court. The rebirth of Florentine Platonism brought with it the circulation of numerous works in the Neoplatonic tradition, particularly those of Proclus (411-85), whose *Theologia Platonica* had provided the theoretical basis for Ficino's homonymous masterpiece, completed in 1474 but not published until 1482. Despite the obvious influence of Ficino's writings, Bruno was not in the habit of explicitly acknowledging quotations or references to Ficino, even though his constant reference to the *Theologia Platonica* and the *De Vita Coelitus comparanda*, especially in his early Parisian works, is glaringly obvious.<sup>2</sup> But then again, neither Ficino nor that other author who notably influenced Bruno, Cornelius Agrippa, were forthcoming about their sources.<sup>3</sup>

<sup>1</sup>See Rossi, 1957, 357-65; 1960, 136-41; Oldrini, 1994, 472; Ricci, 158; see also Aquilecchia, 1990. The latter's studies are collected in Aquilecchia, 1993, the one quoted appearing in scheda 20, 293-301. On Ramism in England see Oldrini, 1985, 19-80; 1987, 75-94.

<sup>2</sup>Ingegno, 149-70. Ficino is cited only once as "uno tra i maggiori platonici" in *De Monade Numero et Figura*, Bruno, 1980, 363.

<sup>3</sup>Compare Walker, 91.

The aim of this study is to establish what constitutes Bruno's debt to Ficinian Neoplatonism by examining the themes which appear in the first mnemotechnical works, in particular *De umbris idearum*.

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From Bruno's language it is impossible to infer his rejection or acceptance of any philosophical system, whether it be Platonism, Aristotelianism or Hermeticism, Thomism or Lullism, since none seems to satisfy the universalizing exigency of his thought. Bruno's aim, in fact, was to discern in all teachings that unifying root of thought capable of expressing itself in the dual direction of God and of nature. This is the position his doctrine can be said to take as its starting point and it is expressed very clearly in one of his earliest works, *De umbris idearum*:

whenever the terms used by the Platonists turn out to be useful and their way of proceeding turns out to be useful, we shall accept them without fear of incurring any just accusation of contradiction. We shall also faithfully follow the Peripatetic way of proceeding should this prove advantageous for clear expression of the subject matter. Similarly, we may also turn to other philosophical lines of enquiry.<sup>4</sup>

Nevertheless, as regards Bruno's doctrine of knowledge, the terms and references he employs draw mostly on specifically Neoplatonic language. The world is considered as a whole divided into a series of grades, which the Neoplatonic tradition encapsulated in the image of the *schala naturae*,<sup>5</sup> grades which are present in cognitive processes and functions.<sup>6</sup> Bruno stresses that such functions are spontaneously awakened in the soul when the subject's attention is freed of the weight and corporeality characteristic of sensory knowledge,<sup>7</sup> even though it is precisely in sense perception that

<sup>4</sup>*De umbris idearum*, in Bruno, 1891, 2:1,18: "si commodus est Platonicus terminus et intentio commoda, acceptatur. Si quoque Peripateticae intentiones ad maiorem rei in hac arte faciunt expressionem, fideliter admittuntur. De aliis similiter iudicetur."

<sup>5</sup>*Schala* is Bruno's spelling of *scala*. Compare Kristeller, 66: "L'intero campo dell'essere è costituito da sostanze reali che si trovano insieme in un certo ordine"; and 67: "Il Neoplatonismo ha concepito la struttura dell'essere come una graduazione continua. Questo ordine graduato forma per le cose quasi uno spazio ontologico, che abbraccia ugualmente tutti gli esseri corporei ed incorporei ed in cui tutte le cose hanno un determinato rapporto di vicinanza o distanza fra di loro."

<sup>6</sup>Bruno, 1985, 2:1022: "Come quando il senso monta all'immaginazione, l'immaginazione alla ragione, la ragione all'intelletto, l'intelletto a la mente, allora l'anima tutta si converte in Dio ed abita il mondo intelligibile. Onde per il contrario scende per conversione al mondo sensibile per via de l'intelletto, ragione, immaginazione, senso, vegetazione."

<sup>7</sup>Bruno, 1991, 49: "Quod si pro huius confirmatione, operationes sine corpore eidem possibiles exquiras, ecce certo loco temporique non adstrictis copulatur ideis, quotiescumque

we get the first stimulus for the progression of knowledge in the beauty and variety of orders that nature presents.<sup>8</sup> But sensibility provides no guarantee of cognitive stability; sense perception is too rich and deviant for the limited capacities of human beings. In several places Bruno expresses perplexity regarding knowledge through the senses. The first and perhaps the most obvious is in the *Candelaio* (1582), where he states that the way of the senses leads to the loss of reason.<sup>9</sup> In the following mnemotechnical works, in particular *De umbris idearum*, the two gnoseological modalities, Aristotelian empiricism and Platonic idealism, are put on the same level and Aristotelian doctrines are appealed to only for their usefulness in investigation and not on the basis of authority. However, Aristotelianism is not completely rejected; after all, the training Bruno received at the college of San Domenico Maggiore (Naples, 1567-76) did influence him.<sup>10</sup>

One aspect of Aristotelian gnoseology which Bruno retains is the principle that there can be no knowledge unless a trace of a perception, a sensory image, has been left in our memory (*nihil est in intellectu quin prius non fuerit in sensu*). The sign of the instance of perception is called a *phantasma*.<sup>11</sup> This concept played a particularly important role in the treatise of the *ars reminiscendi*, since it provided a reference sign to which the artist of the memory had to apply in order to recall certain contents. Examples of this use of the products of the imagination the "visible alphabets"<sup>12</sup> of the *Phoe-*

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mente animove solutus homo materiam destituit atque tempus"; see Bruno, 1891, 2:2.171: "A Circaeis demum veluti poculis abstinentes, caveamus ne animus a sensibilibus speciebus illectus, ita sui in ipsis fixationem faciat, ut intelligibilis vitae privetur delitiis, vinoque affectuum corporeum et vulgaris auctoritatis (quae cum pulsaverit aures sine divino vel rationis lumine, non absque aeternae vitae discrimine in nobilissimum consensus nostri triclinium introducit) ebrius, perpetuo in praesumptuoso ignorantiae domicilio titubando pernoctet, ibidemque turbatae phantasiae velut insomniis exagitatus, amissis connatis alis intelligentiae, proruat, et Protei contemplatus vultum, nunquam concinne formatam, in qua conquiescat, speciem inveniatur."

<sup>8</sup>Bruno, 1991, 33: "In variorum ergo connexionem partium pulchritudo manifestatur, et in ipsa varietate totius pulchritudo consistit."

<sup>9</sup>Bruno, 1988, 165: "È buon segno," says Giovan Bernardo — in the play the character representing Bruno himself — "quando le cose vanno per la mente: guardati che la mente non vada essa per le cose, perché potrebbe rimanere attaccata con qualche una di quelle, ed il cervello, la sera indarno l'aspettarebbe a cena; e poi bisognasse far come la madre di fameglia, ch'andava cercando l'intelletto con la lanterna."

<sup>10</sup>Miele, 157: "[Bruno] acquistò quell'ampia e soda preparazione che poi si porterà dietro"; on Bruno's studies, see Ricci, 2000, 61-85; Yates, 76-77, mentions that the Aristotelian-Thomist tradition's influence maintained such as importance through the centuries as to "dominate" the whole *ars memorativa's* history.

<sup>11</sup>Aristotle, *De anima*, 428b18-20; see Spruit, 71; see Bolzoni, 135-41.

<sup>12</sup>See Yates, 110; see also Bolzoni, 61-64.

*nix seu artificiosae memoriae* of Pietro da Ravenna (1491) and the *Congestorius artificiosae memoriae* of Johannes Romberch (1520)<sup>13</sup> which, however, had the defect of being static systems and, as we shall see, were of little use in Bruno's perspective.

Following the teaching of Proclus, Bruno utilizes these products of the imagination, releasing them from their static character. In the mnemonic mechanisms of the Lullian wheel in *De umbris idearum*, the *adiecta*, which in the classical rhetorical tradition ascribed to Cicero were called *imagines agentes*, become the expression of a dynamism which is the soul's own<sup>14</sup> and which manifests itself in reasoning.<sup>15</sup> The soul, in both the Platonic and Aristotelian traditions, was considered mainly as that which brings movement and life.<sup>16</sup> Its products, whether they derive from abstraction in universals or whether they be the fruit of a model actuating itself in form, must have the same properties as the soul itself has. Thanks to this principle, Bruno discovers that the union of the visual force of images with the Neoplatonic principle of the dynamism of the soul would allow him to insert in the Lullian wheels — the memory system used by him — what had so far been omitted: movement and life. In other words, images are recognized as having an internal principle of movement given them by the soul itself. The expedient of giving movement to the wheel compartments in fact permits the *adiecta*<sup>17</sup> to interact and in so doing produce a scenic (imaginative) representation. The characters in the wheel compartments, whom Bruno called "inventors" (illustrious men who have left a tangible mark on history in the form of some discovery) not only have the simple function of sign reference to something else but, as the protagonists of dynamic scenes, actually perform actions. In this way, the symbolic contents of the wheel compartments are no longer objects of thought but become *active subjects* for thought.

<sup>13</sup>See Rossi, 1960, 27.

<sup>14</sup>Beierwaltes, 237; see Siorvanes, 141-44; Moutsopoulos, 184: "Pour lui, l'activité formative de l'imagination est exercée à l'occasion de la présence de l'image dans son champ opératoire. Or, de son côté, l'image possède son propre dynamisme: elle s'impose à l'âme en même temps qu'elle en suscite l'activité propre . . . Si la forme de l'imaginable varie à l'infini, elle demeure néanmoins fidèle à l'informalité du modèle ou à la structuralité naissante de la réalité vitale"; see Trouillard, 47: "l'âme dianoétique les projette dans 'la matière imaginative' (*In Eucl.*, 55. 5), a fin de contempler sa substance dans un miroir où elle se déploie."

<sup>15</sup>See Proclus, 1987, 895. 20-36; see also Siorvanes, 143 and Beierwaltes, 233: "Essa è lo Spirito esplicato in maniera differente" (*In Parmenidem*, 897, 37).

<sup>16</sup>See *Phaedrus*, 245d-e, in Plato, 1981, 177; Aristoteles, *De anima*, 2, 4, 415b.

<sup>17</sup>The *adiectus* is the cells' symbolic content in the *De Umbris idearum* memory's wheel, and indicates what in the Ciceronian mnemotecnica tradition was identified as the 'image'; compare Pseudo-Cicero, *Ad Herennium*, 3.23.33 and 39.

Thanks to them, thought creates a sort of inner dialectic capable of leading it back to the synthesis of reality in species and the relative genus, in the same way that Ficino had expressed the soul's rise towards universals.<sup>18</sup>

The idea of an intrinsic dynamic property in the images present in the human soul derives from the Neoplatonism of Proclus, who stated that the imagination is a formative faculty which provides its objects with a certain figure and form.<sup>19</sup> From Proclus Bruno takes the idea of the possibility of uniting in his mnemonic system the Plotinian handling of the two types of matter, the intelligible and the sensible, and the Aristotelian concept of thought based on images.<sup>20</sup> This was hardly a new idea; it had been fully discussed by Ficino both in his commentaries on Proclus and in his translation of Synesius' *De insomniis*.<sup>21</sup>

However, Bruno improves on the slowness and mechanicity of preceding mnemonic systems: in order to provide "relief for the memory"<sup>22</sup> it was not enough to utilize the ability of the soul to introduce division, order and dimensionality into sensible, transitory reality, and to produce complicated artificial constructions. Following the Neoplatonic principle that "all is in all each in its own way,"<sup>23</sup> Bruno thought that the memory also should enjoy that dynamism which is one of the attributes of the soul in itself, so that its objects would no longer be static images trapped in the abstraction of mathematical constructions but an expression of the exploitation of the temporally productive character of the soul.<sup>24</sup> It is precisely in his attention to the temporal aspect of the process of knowledge that Bruno is most indebted to the Neoplatonism of Proclus. Thanks to this, the cognitive process is seen neither as a straight line nor as a sphere's simple expansion to infinity, but as the progressive irradiation of a light which emanates an or-

<sup>18</sup>Ficino, 1983, 373: "Non mentes illae nostris praestatiores, quae cum non habeant corpora omnibus omnium corporum subiecta procellis, particulares quaslibet passiones formasque quorumlibet corporum non suspiciunt. Sola restat hominis anima quae propter terrenum corpus singulorum corporum singulis quodammodo pulsata tumultibus assumit quidem ipsa per sensum has a mundi materia infectas similitudines idearum, colligit autem eas per phantasiam, purgat excolitque per rationem, ligat deinde cum universalibus mentis ideis"; see Klein, 49.

<sup>19</sup>Moutsopoulos, 183.

<sup>20</sup>Ibid., 185.

<sup>21</sup>See Walker, 39; see also Garin, 352.

<sup>22</sup>Bruno, 1991, 34.

<sup>23</sup>Bruno, 1980, 684-86.

<sup>24</sup>See De Bernart, 82: "I soggetti puramente matematici non possono essere di alcuna utilità, dato che sono astratti e per questo loro carattere di astrattezza non possono eccitare o commuovere la fantasia; dal momento che l'astrazione ha una facoltà superiore alla stessa fantasia."

dered system of diverse species in a circle around it. In time this movement takes on a spiral form, like the movement of the soul, according to the Neoplatonists. It is opportune at this point first to present the fundamental points in the development of this theory and then to turn to Bruno's text.

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Plato was the first to have recourse to the theory, Pythagorean in derivation, in order to explain the Demiurge's ordering of the cosmos. This is the effect of the combined movements of the same and the different (*Timaeus*, 35a), in which sameness among beings derives from the fact that they all come from a first being, and difference derives from its unfolding in time, which creates the multiplicity of both beings and ideas in the mind. To Plato, the soul of the world, and consequently the soul of a human being, has an intelligible, a numerical and geometrical structure. The soul is made by combining the same and the different, the indivisible and the divisible and is a mixture of these four purely intelligible entities.<sup>25</sup> This combination gives the basic order of movement, caused by the simultaneous presence of the four entities; by combining together they give life to intelligible movement which is amenable to mathematical investigation. When the soul of the world moves, it generates a harmonic series, the so-called "heavenly music," which can only be reconstructed in ideal form and which constitutes the abstract structure of perceptible harmony. It was this very harmony that Ficino probably wanted to reproduce in his music, starting from the same premise that the human soul is an imperfect copy of heavenly perfection, as expressed in the music of the spheres, of the "visible and generated gods";<sup>26</sup> a soul which is able to attract desired astral influences with hymns of praise to the various planets, preferably to the Sun<sup>27</sup> as the sensible image of the creator. In this vision of reality, there is running through the corporeal world as through the heavenly an intelligible geometrical substructure, that of the four elements, and this guarantees its intrinsic unity.

Bruno, in conformity with the Ficinian Neoplatonic tradition, often speaks of a "ladder of nature,"<sup>28</sup> dominated at its summit by the ordering ac-

<sup>25</sup> *Timaeus*, 35a-c, in Plato, 1992, 747-48.

<sup>26</sup> *Ibid.*, 40d.

<sup>27</sup> See also Walker, 12-23.

<sup>28</sup> Bruno, 1991, 31: "naturae schalam ante oculos habentes"; see also Spruit, 35: "Di questo concetto si serve per tenere collegati strettamente l'oggetto conosciuto, la qualità della conoscenza e la posizione dell'anima sulla scala e per dimostrare che essi vengono determinati dalla logica dell'*ascensus & descensus*"; see Cambi, 48: "Bruno stesso nel *De umbris* aveva parlato di una scala del sapere, costruita in modo conforme alle connessioni a catena tra gli enti, che dalla terra avrebbe riportato l'uomo fino al cielo."

tion of God conceived as pure action and active power, as purest light, and at its bottom by matter and darkness, pure passive power.<sup>29</sup> Starting from God there is a descent to the inferior, generated world through the ordered degrees of reality and through things, making the same journey backwards as the soul makes in its ascent to God. This ascending hierarchy of reality is retraced, following the degrees of creation, in the process of knowledge.<sup>30</sup> The theme of a ladder of nature which human beings can go up and down in investigating nature was taken up not only by Ficino but also by Giovanni Pico della Mirandola, who extended the theme to those Egyptian mythological suggestions so dear to Bruno:

And when we have reached that with the discursive and reasoning part of the soul, animated by a cherubic spirit philosophising according to the degrees of the ladder, and hence of nature, scrutinising everything from center to center, then shall we descend lacerating with Titanic violence the one in the many, almost as if it were Osiris; then with Apollonian strength collecting, as if they were the limbs of Osiris, the many in the one, which is at the top of the ladder, we shall repose in theological blessedness.<sup>31</sup>

This theme in *De umbris idearum* is found in *Intentio septima*<sup>32</sup> and recalls an important passage in *Asclepius*<sup>33</sup> where the journey and exchange of elements is spoken of as being downwards towards life and upwards towards the nourishment of the world, since "all that descends from above has the

<sup>29</sup>Bruno, 1991, 56: "Unde sub infimo gradu schalae naturae est infinitus numerus, seu materia; in supraemo vero infinita unitas, actusque purus."

<sup>30</sup>See Cambi, 52

<sup>31</sup>Pico della Mirandola, 116: "Quod cum per artem sermocinalem sive rationariam erimus consequuti, iam cherubico spiritu animati, per scalarum, idest naturae gradus philosophantes, a centro ad centrum omnia pervadentes, nunc unum quasi Osirim in multitudinem quasi Osiridis membra in unum vi phoeba colligentes ascendemus, donec in sinu Patris qui super scalas est tandem quiescentes, theologica felicitate consummabimur."

<sup>32</sup>Bruno, 1991, 29-30: "Cum vero in rebus omnibus ordo sit atque connexio, ut inferiora mediis et media superioribus succedant corporibus, composita simplicibus, simplicia simplicioribus uniantur, materialia spiritualibus, spiritualia prorsus immaterialibus adhaerant, ut unum entis corpus, unus ordo, una gubernatio, unum principium, unus finis, unum primum, unum extraeumum"; for the concept of 'ordo' in Bruno, see Spruit, 46: "L'ordine è quindi un ordine di gradi dell'essere: le cose 'sono' per quanto partecipano a ciò che è veramente. Il primo essere e il nulla non sono nient'altro che punti estremi di una serie di gradi d'essere intermedi che vengono definiti dalla loro distanza rispetto ai poli e dal grado di partecipazione a essi."

<sup>33</sup>*Asclepius*, 2.11-16, in *Hermetica*, 68. "De caelo cuncta in terram et in aquam et in aera: ignis solum, quod sursum uersus fertur, uiuificum; quod deorsum, ei deseruiens. At vero quicquid de alto descendit generans est; quod sursum uersus emanat, nutriens," and 3.3: "Mundus unus, anima una, et deus unus."



property of generating while that which aspires to the heights has the property of nourishing.”

The expounding of such principles, which Bruno claims to derive from the doctrines of “the most authoritative Platonists,”<sup>34</sup> retraces the path taken by Ficino in *Theologia Platonica*.<sup>35</sup> It is to this work that Bruno is referring when he states immediately afterwards: “given that there is a continual migration from light to darkness . . . , there is nothing to prevent, at the sound of Apollo’s universal lyre, things placed low down from being recalled little by little to higher things, and nothing to prevent the lower things drawing near, by means of those in the middle, to the nature of superior things: just as sense perception tells us clearly that earth transforms itself by rarefaction into water, water into air, air into fire, and by condensation fire transforms itself into air, air into water, water into earth.”<sup>36</sup> This involves the mutual exchange of forms from one element to the other, as well as the fact that the elements are simple terms of reality able to be represented geometrically.<sup>37</sup> There is an obvious reference to Plato’s *Timaeus*, where the Demiurge arranges the celestial bodies in such a way that the soul of the heavens has a geometrical structure.<sup>38</sup> The soul itself is translatable into numbers, since it imbues the universe with a principle of harmony; it is evident that Plato here is picking up the Pythagorean teaching of the soul-harmony doctrine.<sup>39</sup> In the beauty of its arrangement the world makes manifest the bond uniting mathematics and movement. Hence it is beautiful because it can be treated mathematically.

This theory was one of the central points of the Platonic revival at Ficino’s Florentine Academy. The philosopher from Careggi maintained that music, being attuned to the movement of the heavenly spheres, exerted influences capable of determining the state of our soul. Thanks to music, therefore, human beings could become spiritually more jovial, sunny, amo-

<sup>34</sup>Bruno, 1991, 30: “ut non ignoraverunt Platoniorum principes.”

<sup>35</sup>Ficino, 1964, 1:154: “animarum genus ad mentes extollitur liberis, mentesque tandem ad unam mentem. Et una mens, quia est et unum, ad unum simpliciter est erigenda . . . , quod vocat Pythagoras universalem Apollinem.”

<sup>36</sup>Bruno, 1991, 30: “cumque — . . . — demigratio detur continua a luce ad tenebras — . . . —, nihil impedit quominus ad sonum cytharae universalis Apollinis ad superna gradatim revocentur inferna, et inferiora per media superiorum subeant naturam, quemadmodum et sensu constat terram in aquam, aquam in aerem, aerem in ignem rarefieri, sicut ignis in aerem, aer in aquam, aqua in terram densabatur.”

<sup>37</sup>See *Timaeus*, 53d-57d, in Plato, 1992, 778-87.

<sup>38</sup>See Giarratano, ed., in Plato, 1984, 6:376, n. 50.

<sup>39</sup>See *Timaeus*, in Plato, 1992, 748, n. 3.

rous, etc.<sup>40</sup> Pico too reposed a parallelism between the movement of the heavens and that of people's souls: in *Heptaplus* he affirms that "the rational soul is called heaven. In fact Aristotle also calls heaven a self-moving animal (*De caelo*, 2. 6) and our soul (as the Platonists hold) is a self-moving substance (Plato, *Phaedrus*, 245c). Heaven is a circle and also the soul is a circle; Plotinus even says that heaven is a circle because its soul is a circle (*Enneads*, 4.4. 45)."<sup>41</sup> The ladder of being is threaded by an *aurea catena*, an idea already used by Homer<sup>42</sup> to symbolize the conjunction of gods and men, the world above the skies and that below; on the level of the senses, it enables us to grasp the "beauty of parts,"<sup>43</sup> in the ways being manifests itself, or rather in the connection of parts which differ from one another.<sup>44</sup> That is why we can grasp the true beauty of the supreme being only at the level of manifestation of the determined varieties of the all.

The human soul, in carrying out its functions, reflects the movement and harmony of the celestial spheres; it is no accident that in the metaphysical theorizing of Proclus, as the soul's movement meets the same and the different, it reproduces that movement which is the result of the combined effects of two regular types of movement found in the heavens, i.e., spiral movement. In Proclus as in Bruno the soul regains its function as active integrator of the different stimuli which come both from the senses and from the intellect. It is in the soul that discursive thought finds its material, inasmuch as it constitutes a meeting-point for sensory stimuli which give life to images, in Bruno a *navis phantasiarum*, capable of reawakening, by way of

<sup>40</sup>Walker, 12-23; see also Klein, 58: "Lo spirito aereo è della stessa natura della musica; essa gli parla in modo immediato. D'altra parte ogni armonia è accordata al movimento dei cieli, per cui la musica è portatrice di influssi planetari e determina lo stato della nostra anima."

<sup>41</sup>Pico della Mirandola, 270: "Rationalis animus caelum dicitur; nam et caelum animal a se ipso moto vocat Aristoteles, et animus noster (ut probant Platonici) substantia est se ipsam movens. Caelum circulus, quinimmo, ut scribit Plotinus, ideo caelum circulus, quia animus eius circulus est."

<sup>42</sup>*Iliad*, 8, 18.

<sup>43</sup>See Allen, 1981, 117: 'Quomodo dii quatuor modis multiplicentur': "Interea cogitanti mihi loquendi latinum, qui pulchritudinem sese nominat venustatem et hanc deducit a Venere, succurrit posse etiam pulchritudinem quandoque Venerem appellari, tametsi pulchritudo ad Amorem atque Cupidinem non tam ut maternum quam ut paternum principium esse videtur. Pulchritudinem ibi, quod alibi sepe diximus, ad ipsam idearum seriem penitus explicatam pertinere putamus"; see also Robin, 236: "[Sembra che] Platone, attribuendo all'Amore una natura sintetica, abbia voluto insistere, da un duplice punto di vista, sulla natura dell'Anima come essenza sintetica ed intermediaria. Essa è sintetica in quanto unisce l'uomo sensibile alle Idee; lo è poi in quanto unisce in sé la facoltà conoscitiva e la facoltà motrice."

<sup>44</sup>Bruno, 1991, 33: "In variorum ergo connexionem partium pulchritudo manifestatur, et in ipsa varietate totius pulchritudo consistit."

proportion, the seeds of first principles.<sup>45</sup> When he wants to proceed inductively, Bruno calls these terms “signs, notes, characters and seals.”<sup>46</sup> Each of them allows the three parts of the soul, the intellectual, the rational and the sensory, to recombine in present experience with the species and genera.

Bruno posits the “trace” as universal mediator of the soul’s faculties. It provides the imagination with a “sign” of the presence of either a sensible object or a discourse or argument which, lacking the accidents necessary for the soul to be able to represent it, creates the need for a means to make that possible. The “clue” has what we may call a signing function, leading the interpreter, the subject, to experience another reality, whether this be physical or metaphysical. This terminology is essential for Bruno to describe the operations that the subject has to perform in order to potentiate the soul’s faculties, to make it capable of addressing that divine language which produces “highly appropriate terms, most suited for expressing the meaning of things.”<sup>47</sup> The reader’s mind has to understand the inferior form of that intelligible language given by God in the same form in which it is created. In the sphere of reality peculiar to rational beings, it assumes features adapted to our understanding, as in mathematical and geometrical objects. Light is the divine means for the transmission of ideas but, since in human beings it is mixed with matter, something has to be placed between us and pure intelligible light: “in fact our nature is not great enough to be able to inhabit, according to its own capacity, the same area as truth.”<sup>48</sup> The divine shadow is the middle term of the relationship, coming between the divine intellect, which incessantly lavishes “its gifts,” and the human intellect which is conditioned by the opacity of the body.<sup>49</sup> The body nevertheless may glimpse, through the transparent soul participating in both natures, that medium of knowledge that is the shadow.

The dominating metaphor in *De umbris* is the Platonic myth of the cave,<sup>50</sup> where human beings are able to see only shadows, *vestigia* of light,

<sup>45</sup>See Plotinus, 4.3, 10; Augustine, 147. Ficino, 1995, 187-88. See also Allen, 1995, 401; see Bruno, 1958, 1:232.

<sup>46</sup>Bruno, 1991, 73.

<sup>47</sup>*Ibid.*, 21: “continet enim propriissimos terminos, et rebus significandis maxime accomodatos.”

<sup>48</sup>*Ibid.*, 25: “Non enim est tanta haec nostra natura ut pro sua capacitate ipsum veritatis campum incolat.”

<sup>49</sup>*Ibid.*, 26: “dum ipsius animae diaphanum, corporis ipsius opacitate terminatum, experitur in hominis mente imaginis aliquid quatenus ad eam appulsum habet.”

<sup>50</sup>*Republic*, 6, 510a, in Plato, 1992, 541: “E per immagini intendo innanzi tutto le ombre, in secondo luogo i fantasmi riflessi nelle acque e sulle superfici dei corpi compatti lisci e lucidi e tutte le altre rappresentazioni del genere.”

but not light itself.<sup>51</sup> These shadows, being objects of the appetites and the cognitive faculty, are the result of the division of the first truth and “to the extent that they separate themselves from unity, so also do they distance themselves from truth itself.”<sup>52</sup> There is consequently a loss of ontological value for those rungs on the ladder of being which are closest to matter: “the closer phantasms are to the unity of reason, the more intelligible they are.”<sup>53</sup> Simplicity and intelligibility of knowledge are obtained through a process which is the inverse of the one that produces multiplicity in reality from “unity of reason.” Inversely, it is possible to grasp, by means of the phantasms of the imagination, the symbolic unity of the “rational numbers of our mind, in relation to the real, ineffable numbers of the divine mind.”<sup>54</sup> This is the case for human knowledge, which is forced to follow the flow of multiple transitory images, hardly able any longer to recognize the act of divine production. Although the latter is always true in its infinite self-multiplication, the lower it descends towards matter, the more it loses the possibility of being known in its simplicity, and the more it requires ascent through the degrees of reality.

However, dispersion in matter does not prevent human beings from recognizing, in the vestige of the intelligible principle presented by nature, fragments of single ideas which reflect their own light as in so many small mirrors. These bring us back to that unitary root, the first Sun, cause of the species and genera present in the created world. As Bruno states in *Lo spaccio della bestia trionfante* (1584): “every tiniest minutia, no matter how mean, in the order of the all and universal is of the utmost importance,”<sup>55</sup> because even in this is found the trace of the first vestige of the potency of the universal “architect.” Diametrically opposed was the opinion of Nicholas of Cusa who, following Aristotle, attributed the instability of knowledge to the overabundance of possibility inherent in matter.<sup>56</sup> To Bruno, on the other hand, it is not matter that is overabundant in its possibility to be informed; if anything, it is the divine potency that is infinite and which infinitely inserts new species into nature — matter in involuted, complicated form, to

<sup>51</sup>Ibid., 6, 514a-517; See Nicholas of Cusa, 1:69: “Si igitur hoc ita est ut etiam profundissimus aristoteles in prima philosophia affirmat in natura manifestissimis talem nobis difficultatem accidere ut nocticoraci solem videre attemptanti, profeto cum appetitus in nobis frustra non sit desideramus scire nos ignorare” (*Metaphysics*, 2.1. 993b9-11).

<sup>52</sup>Bruno, 1991, 28: “quae tantum ab unitate recedunt, tantum ab ipsa quoque veritate elongantur.”

<sup>53</sup>See Nicholas of Cusa, 1:180.

<sup>54</sup>Ibid., 1, 9, 251.

<sup>55</sup>Bruno, 1985, 2:643.

<sup>56</sup>See Nicholas of Cusa, 1:39-40.

use a Cusanian term. Matter is to be considered more as a principle than as a cause and in itself is no other than pure formless disgregation, "but it can have all (forms) by the operation of the acting active principle of nature."<sup>57</sup> This author agrees with G. Aquilecchia when he affirms that "in the last analysis 'intellect' and 'soul' are but one formal principle which gives rise to all forms from the bosom of matter."<sup>58</sup>

One cannot help but notice a continuous mutation in nature, and from this multiplicity which is ungraspable by the intellect arises the need for resolution in the quietness that comes with understanding the ideas. Bruno compares knowledge to the "supernatural and supra-sensual virgin"<sup>59</sup> of the *Song of Solomon*, 2. 3, perennially exposed to assaults from the senses, which seduce and encircle us with our first guides, the phantasms,<sup>60</sup> preventing us

<sup>57</sup>Bruno, 1991, 32: "Sicut inquam materia formis omnibus informatur ex omnibus, et passivus — quem vocant — intellectus formis omnibus informari potest ex omnibus, et memoria memorabilibus omnibus ex omnibus, quia omne simile simili fit, omne simile simili cognoscitur, omne simile simili continetur"; see also Bruno, 1985, 1:265 and 272-73: "Questo vuole il Nolano che è uno intelletto che dà l'essere a ogni cosa, chiamato da' pitagorici e il Timeo datore de le forme; una anima e principio formale, che si fa e informa ogni cosa, chiamata da' medesmi fonte de le forme; una materia della quale vien fatta e formata ogni cosa, chiamata da tutti ricetta de le forme."

<sup>58</sup>In Bruno, 1973, xvii.

<sup>59</sup>Bruno, 1991, 29: "Ideo sapiens ille viraginem supranaturalem et suprasensualem quasi notitiam consequatam, sub illius primi veri bonique desiderabilis umbra sedentem inducit."

<sup>60</sup>It seems to me that in this passage Bruno, using Aristotelian terms, is underlining how momentary/transitory is the possibility of holding images/phantasms in the memory. This is precisely because their constitutive property links them to the acting intellect, which in incessantly following the reality of sensible objects is continuously actualizing the *species intelligibiles* in thought. He is also emphasizing how, via the image's special position in the process of consciousness, the *intellectus possibilis* leads to the *actus* of understanding intelligibles, which participate in the *lumen divinum*; see also Kristeller, 253-54: "La mente ha bisogno dei fantasmi prima di aver concepito i concetti universali proprio per essere eccitata da essi alla produzione dei concetti . . . Il processo particolare con cui il concetto viene suscitato dal fantasma, è illustrato una volta nella maniera seguente, partendo il Ficino dalla distinzione aristotelica fra intelletto agente e passivo. Come il raggio solare riflesso da uno specchio d'acqua su una parete opposta produce un circolo luminoso, così il raggio dell'intelletto attivo è riflettuto dal fantasma particolare sull'intelletto passivo e vi fa nascere attualmente il concetto universale. Il pensiero contiene quindi in sé le forme latenti di tutti i concetti e li fa sorgere attualmente sotto l'influsso dei fantasmi, ed è capace così di conoscere l'universale nelle cose esteriori e di definire i singoli oggetti nei loro momento universale e nel loro rapporto con l'universale." See also Couliano, 17, who addresses problems relating to the term *phantasma* in its connection with the magical-astrological culture of the Renaissance, and its link to the *pneuma*, the sidereal spirit uniting all parts of the universe, a concept deriving from Stoicism: "Sotto il nome di *phantasia* o senso interno, lo spirito sidereo trasforma i messaggi dei cinque sensi in fantasmi percepibili dall'anima, perché essa non può cogliere nulla che non sia convertito in una sequenza di fantasmi."

from reaching the vision “of beauty” and “of love.” Both appear only when the spirit moves away from images and is conceived in its own form, “non-fractionable and removed from all visibility.”<sup>61</sup> This type of experience, linguistically traceable to Proclus and the Christian Neoplatonism of Nicholas of Cusa, induces Bruno to reconsider the nature and functions of the phantasms of the imagination. The desire to create a system at once logical, metaphysical and exemplary for use as a mnemonic mechanism drives him to research his predecessors to see how many of them assigned a dynamic function to the soul.

As we have already briefly mentioned, Proclus finds it natural that the images in the soul should turn to the intellect, from which they get the seed of an infinitely enlivening potency. Thus he provides Bruno with the theoretical instruments which will allow him to “bridle” this intrinsic potency of images. From classical mnemotechnics, on the other hand, he gets the “mechanical” instruments to put his memory wheel in motion. In fact, the optical effect of the wheel moving its concentric circles recalls a large complex mechanism in action.

From the point of view of the fanciful, the wheel in *De umbris idearum* produces scenes of remarkable people in the history of humanity in a wide variety of situations. On the linguistic level, all this corresponds to the composition of words. In view of the Neoplatonic metaphysical system present in Bruno, it used to be thought that these words were spells, magic formulae. But, says Bruno, what we have here is something different: it is not a matter of operating on some celestial spirit or demon but of restoring the full functions of that instrument, the soul, which is divine in origin.

Inside the soul the *subiectum* extends both vertically, since produced by the ordering function of the intellect and that intelligible matter which Plotinus adduces,<sup>62</sup> and horizontally. Or rather it develops itself geometrically in space until it forms a circle; hence it has extension, depth and height, since it must contain the action of the adjuncts (*adiecta*). The *subiectum* gets its three-dimensional character from the intellect, source of every division and order, and is expressed by Bruno in the terms *sinus*, *technica extensio*, or, more generically, “atrium.”

The place inside the soul where different kinds of operation take place may also be defined as a “fanciful cell” where the subtle spirit is the instru-

<sup>61</sup>See Cassirer, 216. Bruno of course refers to Plato's metaphysics by way of Plotinus' *Enneads*, 6. 7, 33, as he affirms in *De umbris idearum*, in Bruno, 1991, 55: “Notavit Platonicorum princeps Plotinus: ‘Quamdiu circa figuram oculis duntaxat manifestam quis intuendo versatur, nondum amore corrumpitur; sed ubi primum animus se ab illa revocans, figuram in se ipso concipit non dividuam, ultraque visibilem, protinus amor oritur.’”

<sup>62</sup>Plotinus, 2.4, 16.

ment which time after time joins itself to the various species of bodies and, according to the diversity of “constitutions and limbs, comes to have different degrees and perfections”<sup>63</sup> expressed in the type of operation carried out by the architect of the fancy. Bruno compares the “bosom” inside the soul, produced by the combined action of the intellect and the fantasy, to a stone on which characters, signs, seals can be engraved to bring us back to a knowledge of the various species and genera.<sup>64</sup> The *instrumentum* is the organ used by human beings to effect this division, its function that of creating differentiation<sup>65</sup> among things. The meaning of *subiectum* is close to that of *chora*, the Platonic receptacle from which the Demiurge draws the primordial forms.<sup>66</sup> The presence of the Demiurge is the cause of the introduction of those principles which will lead the all, the cosmos, to take on a well-defined shape and form, regulated by precise mathematical relationships.<sup>67</sup> With the Brunian *subiectum*, the human soul behaves like the Demiurge with the all,<sup>68</sup> distinguishing, determining and ordering classes and beings;<sup>69</sup> this operation is called the *scrutinio* of the reasoning soul.<sup>70</sup>

For every grade of knowledge there exist instruments necessary to bring the soul's present action back to the desired species and genera. Only images endowed with movement and life can bring the soul back to its own content<sup>71</sup> and, like certain sounds — like words — can be repeatedly evoked without sensory accidents. Imagination, reminiscence and conservation are the inner stages marking the path of every mental content. The *instrumentum* which Bruno talks about may also be understood as “that inner power able to bring into the memory those voices which, perceived by the ear, are transferred to the common sense as bare voices,”<sup>72</sup> that is, voices divested of

<sup>63</sup>Bruno, 1985, 2:885.

<sup>64</sup>Bruno, 1991, 94: “Simul igitur intelligantur adiecta cum subiectis, et quasi elementa lapidibus insculpta prodibunt.”

<sup>65</sup>Ibid., 96: “discerniculum.”

<sup>66</sup>*Timaeus*, 53a-b, in Plato, 1992, 777-78.

<sup>67</sup>Ibid., 53b 3, 778: “Fu appunto allora, quando così stavano le cose, che Dio le adornò in primo luogo di forme e di numeri.”

<sup>68</sup>Ibid., 31c e ff, 743.

<sup>69</sup>Bruno, 1991, 98: “In iis ergo hoc est quod agit instrumentum, discernit, disterminat et ordinat vel — si libeat magis iustificare loqui — est quo fit discretio, disterminatio, ordinatio.”

<sup>70</sup>Ibid., 99: “Est igitur scrutinium numerus quidam, quo cogitatio tangit modo suo species conservatas, eas pro sua facultate disterminando, disgregando, colligendo, applicando, immutando, formando, ordinando, inque seligendam unitatem referendo.”

<sup>71</sup>Ibid., 96.

<sup>72</sup>Ibid., 101: “quae nam igitur est illa potentia interior quae ab aure perceptas illas voces ad sensum communem delatas ut voces tantum nudas, potuit intrudere in memoriam?”

the sensible attributes with which they originally presented themselves to our attention, but not for this any the less present to the attention of the cogitating faculty.

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Giordano Bruno's art of memory is a "discursive architecture of things to pursue,"<sup>73</sup> whether these be ideas, Euclidean mathematical principles, arguments or natural physical bodies. This art brings with it its theoretical basis, defined by Bruno as the "principle of life and all things,"<sup>74</sup> cause of the radiation of divine light in the ordered degrees of reality. Inside the reasoning soul there is an attitude which involves the entire "essence of the whole soul" in its progression from the One, and which enables it to make itself explicit in single things. This attitude is the cause of "intending, discoursing, having memory, forming images through the faculty of the imagination, having appetites, and sometimes wonted feeling."<sup>75</sup> It is "that principle by which the soul in general is led to carry out one by one all its functions."<sup>76</sup>

But what does Bruno mean by this mysterious entity which makes us able to "intend, discourse" and find chestnuts say by separating them from other chestnuts;<sup>77</sup> how can one separate one thing from other things which "dwell in the same trunk of the all?"<sup>78</sup> Although references to Thomist doctrine in the Brunian metaphysical system are only sporadic, themes such as the light of the acting intellect, intentionality and the theory of knowledge mediated by phantasms are some of the theoretical nodes linking the two philosophers. Beyond these generic similarities, the Thomist theme of the *subalternatio scientiarum* is central, particularly in *De umbris idearum*, where the pupil is invited to construct for himself the instruments of his art of memory.

Bruno starts from the distinction among the various arts, taking into consideration that each operates by means of different instruments. There is one art which provides all the others with their instruments and this can be defined as the instrumental. Its own instrument is called the "first instrument" and consists in the substratum or essence of the agent; and in order to

<sup>73</sup>Ibid., 65.

<sup>74</sup>Ibid.

<sup>75</sup>Ibid., 66. "Porro per ipsam regulamur et dirigimur ad intelligendum, discurrendum, meomrandum, phantasiandum, appetendum, et quandoque ut volumus sentiendum."

<sup>76</sup>Ibid.: "At vero hoc quo generaliter ad omnes atque singulas functiones anima fertur, quae sit, et quomodo, non satis est apertum."

<sup>77</sup>Ibid., 97.

<sup>78</sup>Ibid., 65.



recuperate its properties and functions one has to look inside oneself. Human beings, children of nature, must search for the secrets inside their soul until they reach the trunk of the tree as the “innermost soul (*animo*).”<sup>79</sup> They must hope to discover inside themselves not the functions and instruments that belong to the soul, but the “root,” or that which makes possible the very existence of these functions, and which provides the proper material for the instruments of each single art, rendering them capable of the greatest undertakings. This root is inside the nature of the all and, consequently, inside the human soul. The principle of movement and life expressed by the human soul in the Brunian art — in the dynamics of word construction by means of his wheel — is of Neoplatonic derivation, but mediated by Ficino, whose doctrine of the *spiritus* expounded in his *De Triplici Vita* (1489) constituted a sort of lexicon from which it was impossible to depart. From the Neoplatonism of Proclus and Ficino Bruno was able to use the Stoic doctrine of the *pneuma* and make it the “first principle” which produces every differentiation, determination and order in all things.

The formal structure for the memorization of names and places is Platonic and the simplicity of the model which inspires the action of the Demiurge is the same as that which, in a circular movement, pursues through time the circle of the diverse. The universal “architect” of the material of the imagination is the same soul as that which, following the multiple happenings of sensible reality, recognizes in it the “source and substance of all the arts.”<sup>80</sup> Human ingenuity reproduces this at an inferior level in the particular single arts (in *De umbris* in the figures of inventors in the memory wheel).

Thus the art of all the arts can be used to inscribe inside the soul the ordered progression of the *schala naturae*. The Platonic Demiurge wrote the structure of the world with that “first instrument” which Plato does not name, but which for Bruno is in the innermost soul and allows that special kind of “inner writing” which he calls *engraphia*. The world becomes a page on which both the first intellect and the human mind inscribe the All. To the graphemes used by the soul to inscribe these signs in that part of the imaginative faculty and in the memory Bruno gives the name “garments,” a term he takes from scholastic learning. These have substrata which define their properties and demand multiplication of the number of terms needed to refer to them. These are:<sup>81</sup> species, forms, simulacra, images, spectres, exemplars, traces, clues, signs, notes, characters, seals.

<sup>79</sup>Ibid., 68.

<sup>80</sup>Ibid., 67.

<sup>81</sup>Ibid., 71; see *Sigillus sigillorum*, in 1879-91, 2:2, 204, with the similarity, the middle ‘garment,’ inserted between simulacrum and image.

Forms, images and exemplars are the sensible “garments” whose task is to reproduce reality through painting and “other figurative arts” and which look to the external sense. Other “garments” look to the internal sense and are produced by the imaginative faculty. A third kind are those which enjoy a proportional similarity with both the internal and the external senses and which offer them an image of a particular genus corresponding to the substance of a species.

A fourth kind of “garment” is completely abstracted from sensible reality; it belongs only to art and is composed of the same intelligible material as that used to represent mathematical and geometrical entities: “these are the signs, the notes, the characters and the seals.” In order to be able to “knock on the door of the senses,” these need the synthesizing function performed by the “clue” which mediates between substance and form; or rather, to use the language of Peirce, between the interpreting subject and the *representamen*, or sign, which does not act by its own “real or physical” property but through “its symbolic-rational capacity.”<sup>82</sup>

The world, a substratum to generation, is like a “sheet of paper”<sup>83</sup> or a wall on which the soul writes constantly.<sup>84</sup> Plato’s Demiurge gives order to all and he does it like a painter painting on a sheet of paper. In distributing the soul in the cosmos, he wraps it round itself, folding it to form an X. The Brunian doctrine of universals is made to cover every level of the *schala naturae*, in the dialectic between *ascensus & descensus*, reawakening the imaginative faculty with which the “figures of the individuals in the species”<sup>85</sup> bring back the present experience to the species and genus.<sup>86</sup> What allows knowledge of reality to proceed and what determines its very basis is the light of the acting intellect.<sup>87</sup> To Bruno, divine light is that which has the function of connecting the first intellect, the intelligibility of reality and hu-

<sup>82</sup>Peirce, 2,228: “A sign, or a representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, in creates in the mind of a person an equivalent sign, or perhaps a more developed sign. The sign which it creates I call the interpretant of the sign. The sign stands for something, its object. It stands for that object, not I have sometimes called the *ground* of representation.”

<sup>83</sup>Bruno, 1991, 75: “scripturam etiam habet subiectum primum chartam tanquam locum.”

<sup>84</sup>Proclus, 1978, 16. 8-15; see Siorvanes, 144.

<sup>85</sup>Bruno, 1991, 86.

<sup>86</sup>Klein, 62, came to the same conclusion in retaining the imagination as the *instrumentum* which applies the universal to the particular.

<sup>87</sup>Aquinas, *Summa Theologiae*, 1, q. 84 a. 6 (6:45): “Requiritur enim lumen intellectus agentis, per quod immutabiliter veritatem in rebus mutabilibus cognoscamus, et discernamus ipsas res a similitudinis rerum”; see Bruno, 1991, 2.1, 21: “lucem quae circa substantiam est, tanquam ultimum eius vestigium a luce quae primus actus dicitur.”

man knowledge; it is only by grace of this divine light that reality, whether sensible or intelligible, can be known and navigated in opportune ways and with opportune terms. Hence gnoseological discourse joins cosmological discourse, and what appears to human beings is the variety of the orders presented by nature.<sup>88</sup> In other dialogues<sup>89</sup> Bruno returns to the concept of the world, understood as the “only great animated being,”<sup>90</sup> in order to insert it in the Platonic-Pythagorean tradition mediated by Plotinian philosophy which is the hallmark of this phase of his thought.

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Division of the sky into signs of the zodiac is an excellent way of depicting the incessant flow of time; but to Bruno these orders, the constellations and their relative depictions, become “the artificial connection”<sup>91</sup> which brings “a great relief to the memory.” In the passage quoted above, Bruno alludes to the theme of *colligantia*, already present in Renaissance mnemotechnical texts, that is, to the connection among certain images that enables us to remember them more easily.

<sup>88</sup>In Bruno investigation of nature and gnoseological research are closely linked because investigation of nature is impossible without taking into account the function of the soul in the bosom of nature. He emphasizes how in the process of consciousness the soul's activity as intermediary between the divine and human spheres is made possible by that ‘innate luminosity’ (Ibid., 43) which derives from higher intellects (see Spruit, 82), which are of necessity closer to the source of all knowledge i.e. God; see also Cambi, 53: “Accanto alla tendenza neoplatonica è presente una ben viva componente ‘pitagorica’, per la quale egli tende a vedere, scoprire e studiare, nella *res* e nelle relazioni tra le sostanze, una ‘essenza’ matematico-geometrica.”

<sup>89</sup>Bruno, 1991, 34: “*unius magni animalis — quae est mundus — faciem universas facit conspirare partes.*”

<sup>90</sup>See Papi, 67: “La nostra ipotesi è che nel *De Umbris* il pensiero di Plotino abbia senz’altro un peso maggiore che nel *Sigillus* o nel *De la causa* in quanto esso ha una duplice funzione: per un verso offre un’architettura filosofica in cui si coordinano i motivi platonici del *Timeo*, pitagorici ed ermetici, che furono all’origine dell’abbandono del materialismo come risposta critica ad Aristotele, e per altro verso esso offriva uno schema metafisico in cui si concretizzava la sua riforma dell’arte della memoria che da tecnica memorativa del discorso diviene una tecnica della conoscenza, per lo meno della conoscenza dei legami costanti che, come una ‘catena’, reggono la trama della natura.”

<sup>91</sup>*De umbris*, in Bruno, 1879-91, 2:1, 28: “Per hanc artificiosam connexionem magnum experiri possumus memoriae relevamen, quae valet etiam nullam ad invicem per se retinentia consequentiam memoriae ordinata presentare”; See also Ingegno, 1959, 159: “ciò che interessa Bruno è la ricerca dei mezzi che permettano la riproduzione, sul piano della conoscenza d’un processo cosmico”; see also Papi, 71-72: “L’impressione che se ne ricava [of Bruno’s debt to Plotinus] è che il tessuto plotinico sia intervenuto ad offrire una sistematicità ed una architettonica a temi filosofici che hanno le loro prime radici in opere come il *Timeo* e l’*Asclepio*.”

Because he wanted to create a system of universal memory, and because the human mind is a mirror of the divine mind and the divine mind manifests itself in its immutable laws in the course and disposition of the stars, Bruno probably deemed it necessary to produce, as the substratum of his art, a geometrical system capable of representing that very same structure. Placing the images of the planets in a series could be the way in which Bruno reduces the entire face of the celestial sphere to supra-sensible principles.<sup>92</sup>

The human mind must contain all the orders of this divine disposition of the cosmos, and the orders of the universe become “the formal structure which, once established” can “be used to remember any series of things or names.”<sup>93</sup> The mind obtains these orders by the “Lullian method,” which allows “an authentic approach to true knowledge which goes beyond appearances and the shadows of ideas.”<sup>94</sup>

The conception of the cosmos as a sensible image of super-celestial reality was already present in the cosmologies of Plato and Aristotle, which contain the idea that “every change which happens on the imperfect Earth” found “its cause in numerically established changes in the perfect higher world.”<sup>95</sup> Reference to this doctrine is evident in Bruno, above all in *Spaccio della bestia trionfante* (1584), in which Mercurio explains to Sofia that the divinity “provides by giving order”<sup>96</sup> to all the species and to all individuals. Also in the second book of Agrippa’s *De occulta philosophia* (1533), to which Bruno frequently alludes, the principles of celestial magic are expounded according to the properties of mathematics, and it is recalled how since ancient times philosophers have linked to mathematics “the greatest mysteries both of natural things and of divine celestial things.”<sup>97</sup> Calling on the authority of Boethius, he affirms that nature has produced everything “under the regime of numbers,”<sup>98</sup> starting from “time’s cycles, the movement of the planets” and “the mutability of the sky.”<sup>99</sup>

<sup>92</sup>See the part concerning the images’ frame in Bruno, 1991, 150-74.

<sup>93</sup>Rossi, 1958, 167.

<sup>94</sup>Cambi, 32: “*L’Ars Magna* di Lullo, nella nuova utilizzazione che Bruno proponeva, era in grado, a suo avviso, di semplificare i ‘messaggi’ nascosti nella natura, di scoprire i segreti reconditi e rendere finalmente partecipe l’uomo dell’universale trama della natura stessa. Questo universo, dunque, secondo l’idea del Bruno, era ‘leggibile’ semmai si fosse stati in possesso di un sistema idoneo a percepire l’insieme dei segni nascosti nella natura.”

<sup>95</sup>Boll, Bezold, and Gundel, 32.

<sup>96</sup>Bruno, 1985, 1:640.

<sup>97</sup>Agrippa, 2.2, 156-57.

<sup>98</sup>*Ibid.*, 156: “Inquit Severinus Boethius: quaecumque à primaeva rerum natura constructa sunt, numerorum videntur ratione formata”; see Boethius, 3.9, 211-13: “Tu numeris elementa ligas. Tu triplicis mediam naturae cuncta moventem conectens animam per consona membra resolvis.”

<sup>99</sup>Boethius, 3.9, 213.

Through numbers human beings “make order” in the universe,<sup>100</sup> in the all, by a process of separation of beings into different species which “the divinity tempers by means of the shadow,”<sup>101</sup> because men’s eyes cannot tolerate “an immediate passage” from darkness to light.<sup>102</sup> The passage from the sensible to the intelligible order is achieved by what Bruno calls “a proportional consideration of ideal shadows,”<sup>103</sup> which clearly recalls that part of Nicholas of Cusa’s doctrine which asserts that “No composition is intelligible without number. From number comes plurality and diversity of parts and also proportion in their assembling.”<sup>104</sup>

As an example of how we should understand this ascent to the “ideal shadows,” Bruno turns to a candle. If we have a candle in front of us and we hold an object between the candle and our eyes, the further away we hold it from our eyes, the smaller and lighter in tone the shadow becomes whereas the further away the object is from the candle, the bigger the shadow becomes and the greater obstacle it is to our vision.<sup>105</sup> Therefore, he says, the definition of the shadow and therefore of the idea to which the shadow refers, depends on the intensity of the light and the density of the body. At this stage of his discourse the shadow-ideas do not signify any qualitative determination (this will not happen until the third part of the work entitled *Ars memoriae*) but only a quantitative one, since inside the shadows it is not possible to find contraries. The simile of the acting intellect as Sun is re-proposed when Bruno invites us to note that the cones of shadows in the Copernican solar system behave like ideas in thought,<sup>106</sup> which are intelligible matter and which are substantial, endowed with a density of their own and casting shadows for other ideas in that varied and composite play of light and shade that is thought.

This image of the relationship between the Sun and the planets allows Bruno to explain, using a geometrical scheme, the relationship of shadows/ideas to each other and of both to the first acting intellect. An idea, represented by a straight line joining the center, the first intellect, and the infinite

<sup>100</sup>See *Sigillus sigillorum*, in Bruno, 1879-91, 2:2, 197: “Mathesis docens abstrahere a materia, a motu et tempore, reddit nos intellectivos et specierum intelligibilium contemplativos . . . Nobis sane a corporum imaginibus et umbris, quae sunt obscura sensibilia, per mathemata, quae Platoni sunt obscura intelligibilia, ad ideas, quae eidem sunt clara intelligibilia, datur accessus, sicut et illarum claritas nostrae rationi per media mathemata sese intrudit.”

<sup>101</sup>Bruno, 1991, 36: “Umbra igitur visum preparat ad lucem. Umbra lucem temperat.”

<sup>102</sup>*Republic*, 7. 515-16 in Plato, 1992, 544-47.

<sup>103</sup>Bruno, 1991, 38: “Non dormies si ab umbris physicis inspectis ad proportionalem umbrarum idealium considerationem promovaris.”

<sup>104</sup>Nicholas of Cusa, 1:123.

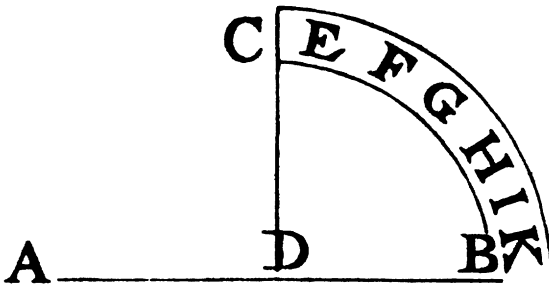
<sup>105</sup>Bruno, 1991, 41.

<sup>106</sup>*Ibid.*, 43.

series of ideas projected onto the starry vault of the sky, gives rise to a continuous succession of angles which represent the conjunction between pure act and pure power. Mastery of this mechanism allows human beings to control at the eidetic level "forces acting on the cosmic level," and it must be achieved so that man can become *omniformis*.<sup>107</sup>

Here is an example of a single idea having to do with an infinite number of possible differences in things, and of a single shadow having infinite differences in its power. The horizontal line AB is intersected by the line CD which is perpendicular to it forming two right angles. If the perpendicular line is inclined towards B, it will form an acute angle on one side and an obtuse angle on the other. If it is inclined towards points F, G, H, I, K and so on, on either side there will be formed ever more acute and obtuse angles. It is clear how those two straight lines have in their power infinite and different acute and obtuse angles. In the first cause, this power does not differ from the act: the act is, and in it there is all that can be, since being and power become one and the same thing in it. And in fact point D contains at the same time one single angle and the infinite differences of angles. In the celestial motor, this active faculty behaves like the hand which can move the straight line towards points E, F, G, and towards an infinity of other points, and which nevertheless does not move. In the heavens this faculty is a mixture of active and passive, as in line CD which can be moved to form this or that angle: consequently, the Peripatetics have many reasons to hold that in the heavens act is mixed with power. In the mobile bodies that ensue and in matter, this faculty is passive in power: it is signified by D, which can receive innumerable differences of acute and obtuse, inasmuch as it is in matter and in the efficient cause, and inasmuch as it clearly participates in both act and power. What we have said about the differences in angles, you must apply to species, which are said to be like numbers.<sup>108</sup>

Fig. 1

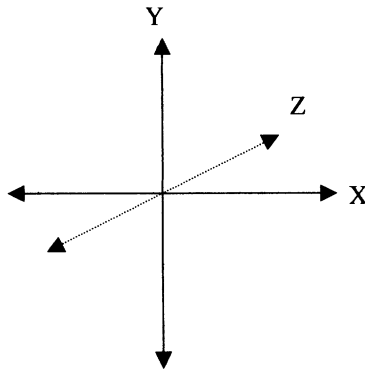


<sup>107</sup>See Ingegno, 162; Bruno here refers to an Aristotelian-Thomist concept in gnoseology, see Aquinas, 1959, 3 *De anima* (c. 8, lect. 13), "anima quodammodo est omnia"; see also *Summa Theologiae*, 1, q. 84, a. 2 (6:22).

<sup>108</sup>*De umbris*, in Bruno, 1879-91, 2:1, 38-39: "Adest paradigma unius ideae actu infinitas rerum differentias habentis, et unius umbrae in facultate infinitarum differentiarum."

The “masculine light” and the “feminine Earth”<sup>109</sup> give rise therefore to the shadow, which participates in both genders, just as the luminosity of the Moon comes from the first light of the Sun, which it reflects around it like a kind of celestial mirror. Once again Bruno is alluding to Nicholas of Cusa, where, in order to represent the process of specification of the act, he states that light is the masculinity of the act and darkness the femininity.<sup>110</sup> From the relationship between a) act, the masculine, and light and b) power, the feminine, and matter, six types of shadows are generated, which can be represented in this way:

Fig. 2



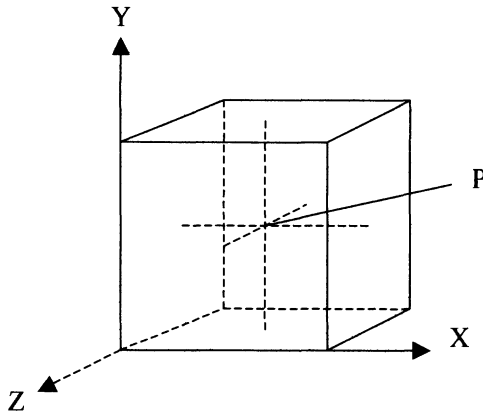
Linea AB iacens lineam CD perpendiculariter cadentem et duos rectos angulos constituentem excipit. Iam si linea cadens inclinatur versus B, reddet angulum acutum ex una parte, ex altera vero obtusum. Magis atque magis inclinata in F, G, H, I, K, et ita deinceps, obtusos, acutosque magis hinc inde dabit angulos. Ita patet quomodo in facultate duarum illarum rectarum linearum sint infinitae acutorum, obtusorum | que angulorum differentiae. In prima causa haec facultas non differt ab actu, quae et in qua quidquid esse potest, est, quandoquidem esse et posse idemificantur in ea. Ideoque in ipso D infinitae simul, et unum sunt angulorum differentiae. In motore caelesti est in potentia activa, sicut in manu quae potest movere in punctum E, F, G, et alios innumeros; non tamen movit. In coelo sicut in mixto ex activo et passivo, sicut in linea CD quae potest moveri ad efficiendum angulum hunc et illum; secundum quippe multas rationes caelum intelligitur a Peripateticis habere actum potentiae admixtum. In mobilibus consequentibus atque materia est in potentia passiva, significata per D, quod <habet?> innumerabiles differentias acuti, et obtusi per modum essendi in materia, et efficiente, et modum participantem de actu, atque potentia, ut patet.”

<sup>109</sup>See *Symposium*, 190b, in Plato, 1981, 108: “il maschile era nato in origine dal sole, il femminile dalla terra e quello che partecipava di entrambi dalla luna, dato che anche la luna partecipava degli altri due.”

<sup>110</sup>See Nicholas of Cusa, 1:161-62: “lux erit masculinitas actualitatis, tenebra eius femininitas”; the imagine of the light of God as the male art of the reality and the female as the matter or shadow was inherent to the platonic metaphysics; see Proclus, 1968-97, 1:122: “car, dans ce dialogue, Platon dénomme père, le réel et mère et nourrice du nouveau-né, la matière (*Timaeus*, 49a 7-8).”

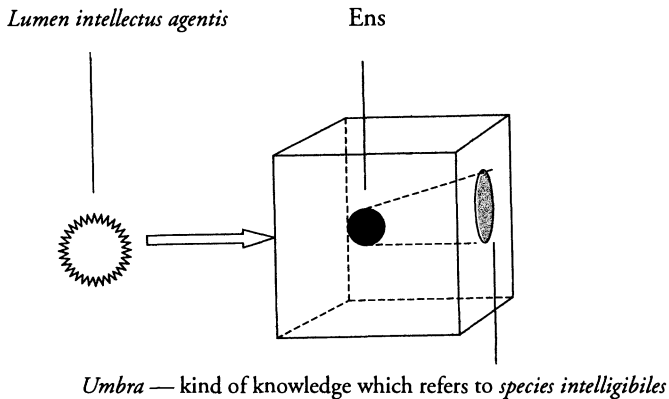
On the other hand, to portray a solid we proceed by indicating height, length, and breadth. To determine a point in space we proceed in the same way, giving the coordinates on the Cartesian axes.

Fig. 3



To Bruno this scheme is valid for a single entity inside the soul in that place which he defines as the “fantastic cell.” But given that knowledge of objects is illuminated by the light of the first intellect, the scheme ought to be corrected thus:<sup>111</sup>

Fig. 4

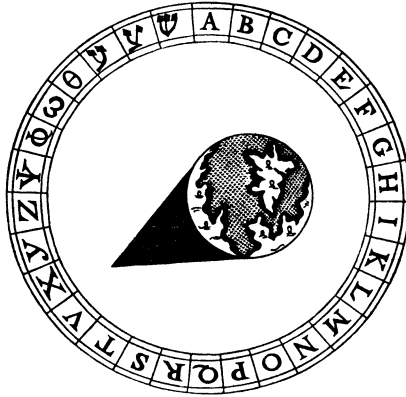


<sup>111</sup>Bruno, 1991, 43: “Ut vero intelligis omnes umbrarum differentias ad sex cardinales tandem referri, non minus scire debes quod omnes tandem ad unam foecundissimam, aliarumque fontem generalissimum reduci debeant.”



In *De umbris* the same relationships are represented in a figure placed at the end of the section dedicated to the *intentiones*.<sup>112</sup>

Fig. 5



The shadows are arranged geometrically as described above, so that when they rise again towards the light, “fount of all unities,”<sup>113</sup> they unite and co-imply one another, going towards the first act.” The human task is to “fix” the species in the soul, conciliating and uniting those received.<sup>114</sup> This relationship of the mind and ideas is the same as that which exists between the acting intellect (single and simple), the forms of things (infinite to sensation but akin to ideas), and the disposition of the stars in the circle of the sky in relation to God.

In his description of the relationship, which is established in the soul on the occasion of an act of knowledge, between the center (the fulcrum of human sense perception) and the infinite sphere to which the human soul can arrive in its understanding of the created world<sup>115</sup> (the circumference of the sensible universe), Bruno has in mind the demonstration already used by Nicholas of Cusa in *De docta ignorantia*, which proved the impossibility of making a distinction between an infinite line and an infinite sphere.<sup>116</sup>

<sup>112</sup>Ibid., 46.

<sup>113</sup>Ibid., 52: “Cum vero refluent, uniuntur usque ad ipsam unitatem quae unitatum omnium fons est.”

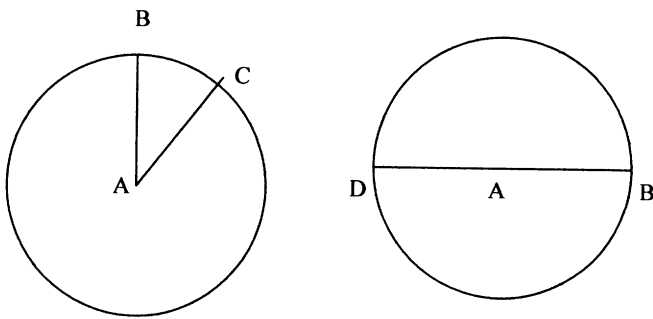
<sup>114</sup>Ibid., 54: “Tenta igitur an possis viribus tuis identificare, concordare, et unire receptas species.”

<sup>115</sup>Nicholas of Cusa, 1:15: “Alii qui unitatem infinitam figurare nisi sunt: deum circum dixerunt infinitum: illi vero qui actualissimam dei existentiam considerarunt deum quasi speram infinitam affirmarunt.”

<sup>116</sup>Ibid., 1:16: “Secundo si linea, a, b, remanente puncto a, immobili circumduceretur quousque b, veniret in c, ortus est triangulus, si perficitur circumductio quousque b, redeat

If line AB is rotated so as to bring point B to point C, point A remaining fixed, a triangle is formed. If a complete rotation is made, bringing B back to the starting-point, a circle is formed. And again, if B is rotated to a point opposite its starting-point, call it point D, and with A remaining fixed, from lines AB and AD we get one continuous line and a semicircle is formed. And if a complete rotation of the semicircle is made, the diameter BD remaining fixed, a sphere is formed. A sphere is the last thing in the line's potentiality, and is endowed with a totally actuated existence (since a sphere is not potentially any other figure).

Fig. 6



With the same demonstrative procedure, both tried to represent geometrically the relationship between *actus* and *potentia*, and also, “grasping infinite differences in things,” how to recognize and refer “to the species which are said to be like numbers.”<sup>117</sup>

According to Bruno, if a particular act of knowledge is understood as a determined angle on the straight line AB (Fig. 1), and it is postulated that this gives rise to the angle formed by points CDE, it follows that this particular act of knowledge projects the mind towards knowledge of the absolute, from the particular to the universal,<sup>118</sup> in the same way that in Cusanus’ demonstration the triangle becomes a line, a circle or any other geometrical figure that finds its identity in the infinite.<sup>119</sup>

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ad initium ubi incepit fit circulus. Si iterum a, remanente immobili b, circumducitur quousque perveniat ad locum oppositum ubi incepit qui sit d, est ex linea a, b, et a, d, effecta una continua linea: et semicirculus descriptus, et si remanente a, d, diametro immobili circumducatur semicirculus ex oritur sphaera, et ipsa sphaera est ultimum de potentia lineae totaliter existens in actu, quoniam sphaera non est in potentia ad aliquam figuram ulteriorem.”

<sup>117</sup>Aristotle, *Metaphysic*, 1.5, 985b 25-26. Also Nicholas of Cusa, 1:13-14.

<sup>118</sup>In the third part of *De umbris*, titled *ars memoriae*, this becomes the *instrumentum*, the *organum*, linking the formal structure of the circle with its content, the *adjectus*. Imagination is “lo strumento con cui è possibile applicare l’universale al particolare.” See Klein, 62.

<sup>119</sup>See Nicholas of Cusa, 1:16

\* \* \* \* \*

In view of the road travelled so far through the metaphysics of *De umbris idearum*, we may credit Bruno's claim that his memory technique has a scientific rather than a magical basis. His particular structuring of the wheel seems to be the end-point for a long tradition of investigating the nature of the cosmos, beginning with Plato's *Timaeus*, continuing with Proclus and the Neoplatonists and culminating in Ficino. All these eminent interpreters of the most complex cosmological questions provided Bruno with a truly authoritative theoretical basis for analyzing the various degrees of reality, the terms of the relationship between sensible and intelligible matter, and how the human soul perceives such relationships by repositioning them in the mechanisms of the wheel. In any case, Bruno's greatest debt to the tradition which we call Neoplatonism, but which for Bruno and Ficino was simply Platonism, consists in having focused attention on the dynamic aspect of the soul, first theorized by Proclus in his *Theologia Platonica*, his *Commentarium in Timaeum* and his *In Euclidem*, and later by Cusanus and Ficino.

In *De umbris* the description of the way the wheel functions seems to be a restatement of the ascension of the soul through five degrees, which is associated with Ficino's five hypostases in the first books of his *Theologia Platonica*. The fact that *De umbris* gives us wheel schemes with five or seven concentric circles in itself may be of no significance and may merely indicate a typographical variation, or an experiment carried out by Bruno himself in Gilles Gourbin's printshop.<sup>120</sup> Or else it might point to the possibility that one can vary the number of hypostases as Ficino had himself done when he adapted his notion of the soul to the different texts he was translating or commenting.<sup>121</sup>

We can therefore definitively affirm that Bruno's structuring of the "circle" of the intellect in the shape of the star-studded sky is central to what he is proposing as the art of memory.<sup>122</sup> But it is also his attempt to travel the road towards philosophical reconciliation, exploiting the metaphysical, phy-

<sup>120</sup>Bruno used to oversee the printing of his texts, given his experience as printer during his stay in Geneva (June and July 1579). Ricci, 129 and Aquilecchia, 1993, 1-40. See also Ricci, 151 and 160; Bruno, 1991, introduction, XII-XIII.

<sup>121</sup>See Kristeller, 435-37; Allen, 1975, 225; and, 1982, 43.

<sup>122</sup>Other sixteenth-century 'artists,' influenced by planetary images drawn from Metrodorus of Scepsis, had experimented with the use of 'constellations as memory places' (Yates, 115), such as Abbot Johannes Trithemius, Cornelius Agrippa, and Giulio Camillo (1480-1544) alias Delminio in his *Idea of the Theater* (1556). But the structure of the art was founded on images of planets corresponding to the *Sephiroth* of the Hebrew Cabbala (Ibid., 138).

sical and mathematical principles of the "Platonicorum principes,"<sup>123</sup> from Plato's immediate successors up to Nicholas of Cusa and Ficino. It led him to the creation of a geometrical system capable of representing the process of knowledge by way of *species*, and thus of adapting itself to every field of knowledge.

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<sup>123</sup>Bruno, 1991, 30: "ut non ignoraverunt Platonicorum principes."

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