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Space, Light, and Soul in Francesco Patrizi's *Nova de universis philosophia* (1591)

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I

"It is five philosophical systems that I submit to you in this book, Gregory, most blessed Father. They are all pious, and they all agree with the Catholic faith: my own, which is of recent invention; the Chaldean philosophy of Zoroaster; the Egyptian philosophy of Hermes; another Egyptian philosophy, which is a mystical one; and another still, which is properly Plato's own. I have taken enormous pains to rescue them from the ruins under which they had been buried for so long, to collect and explain them in one single volume, and to present them in their correct scientific order."[1] These are the opening lines of the dedicatory epistle that Francesco Patrizi addressed to the ailing Pope Gregory XIV[2] and to all his successors to the Holy See when he was about to publish his great systematic treatise, the *Nova de universis philosophia,* in the summer of 1591. The professor of Platonic philosophy at the Studio of Ferrara, who had been a soldier, an aspiring physician, a cotton merchant, and a bookseller before he finally went bankrupt and sought the patronage of Duke Alfonso II and the Este family,[3] was none too modest about his own achievements: "Human reason," so the epistle continues,

> is guided by reason alone; reason follows reason willingly, and even if she does not like it, reason is carried along by reason. It is with the help of reason, therefore, that men should be led to God. Accordingly, I have made every effort to devise this true and divine philosophy by relying on reason alone. With immense and unremitting effort I have, methinks, brought philosophy to completion. . . . You should therefore be the first to decree, most Holy Father, and all the popes following after you should similarly decree . . . that some of the books of the Platonic philosophers be always taught in every college and in every monastic school of your dominion. . . . You should also see to it that the rulers of the Christian world command that the same thing be done in their own colleges.[4]

The benefits of studying Platonic philosophy, and especially of studying Platonic philosophy in the form Patrizi had given it, are obvious: not only would the Italians, Spanish, and French embrace the Roman faith with even greater fervor, but, more important, the parlous and restive Germans would be brought back into the fold. Let the Jesuits take over responsibility for the teaching, and the seeds of Platonic philosophy would do the rest.[5]

Patrizi's high hopes were to be dashed straightaway. Not only did his main philosophical treatise never become a textbook for schools or universities, it also shared the fate of much of the best scholarly literature of the age and in 1596, five years after its publication, was put, *donec corrigatur,* on the *Index of Prohibited Books* (where it remained for more than three centuries).[6] Even to the present day, his work and the "correct scientific order" of its exposition remain little studied and the details of his philosophy barely understood.[7] This is unlikely to change until someone musters the courage and patience needed to produce a critical edition of the *NUP* with a detailed account of all its sources.[8] Until then, the best we can hope to achieve is to throw some interpretive light on narrowly circumscribed areas. It is exactly this that I propose to do by inquiring into how Patrizi's conceptions of space, light, and soul are related. For the sake of clarity of exposition, I should like to start with a short account of Patrizi's scheme of things in general, which, I believe, has never been adequately described. I shall then turn to the three concepts that are the chief concern of this paper, and conclude by giving what I think to be the most likely interpretation of their relationship.

II

Patrizi's philosophy, which he himself describes as "new, true, and complete," and proven "with the help of divine oracles, geometrical necessities, philosophical reasons, and conclusive experiments,"[9] is based on a number of axioms that are never clearly listed, but that may be summarized as follows:

The universe is created.[10]

The cause precedes its effect and is superior to it.[11]

The whole precedes the part.[12]

Unity precedes plurality.[13]

Nature makes no leaps (or, in other words, the progression of being is continuous).[14]

(perhaps the strangest of all) Whenever one of a pair of logical contraries is said to exist, its opposite number must exist as well.[15]

The first principle therefore—which may be called "God" and within which Patrizi, following the *Chaldean Oracles,* sometimes distinguishes between the "Father" and the "Paternal Depth"—is most properly described as *un'omnia.*[16] If we were to render this nonce word, apparently coined by Patrizi himself, in Greek, we would have to say that it is equivalent to πᾶν τὸ ἕν rather than ἓν τὸ πᾶν—"the one [principle] is everything" rather than "everything is one"—for Patrizi's metaphysics leads from unity to plurality rather than vice versa. It is clear, on Patrizi's assumptions, that the first principle must be "one" and "all" at the same time. For imagine it were only one, an unadulterated unity both in act and potency: then it would be unable to generate plurality. Or again, suppose it were only one in act, and many in potency: then it would be able to generate plurality, but not universality. A principle worthy of the name, however, must be a principle of everything; therefore it must be one in act and all in potency. What better label to choose for this than that of "un'omnia"?

According to the axiom that the progression of being is continuous, unity cannot immediately turn into plurality but needs a mean term to be able to do so. Proclus (whose Στοιχείωσις θεολογική Patrizi translated into Latin in 1583) had ascribed this role to the henads;[17] Patrizi follows him in this by assuming the existence of an *unitas primaria* (identical with the idea of the good) just below the first principle, which is in turn followed by all the secondary unities (or ideas) that are derived from it.[18] These, we are told, are superessential, and the concept of superessentiality quite naturally leads Patrizi on to introduce that of essence, which in turn, by a kind of chain reaction, triggers the remaining two members of the Proclean triad ὄν–ζωή–νοῦς: viz., life and mind, or, in the words of Patrizi, *vita* and *mens* (or *intellectus*).[19] The justification offered by Patrizi for their appearance is far from clear and seems to run as follows: essence is directly derived from the most perfect things; therefore, it must itself contain that summit of perfection which is compatible with it in the hierarchy of being. Since it is ultimately derived from God, and since God is alive, it must contain life, for life is superior to death.[20] Life implies movement, and the highest form of movement is spiritual and incorporeal movement: in other words, the cognitive process of the intellect.[21] Patrizi distinguishes three kinds of intellectual movement at this stage: ascending, reflexive, and descending. Although he does not explicitly say so, it would seem that the first corresponds to intuitive knowledge and the last to discursive reasoning, but it is not easy to see what the reflexive movement is supposed to stand for—self-consciousness, perhaps, but that is a mere guess.[22]

The ontological gap between being and becoming and between permanence and transience is bridged here, as everywhere else in the Platonic tradition, by soul, which is at the center of the enneadic scale extending below the first principle. The lower part of soul, which we would call "immanent," stretches into the bodily world and produces as its likeness nature, "whose name is better known than its meaning." Nature's means of shaping shapeless bodily bulk is quality; quality engenders a specific form; and form, finally, is inconceivable without body, which comes at the lower end of the ontological hierarchy.[23] In short, we get the following picture (figure 4.1).

This arrangement of things, which Patrizi names the "degrees" *(gradus)* of reality and likens to Jacob's ladder,[24] is new only insofar as it brings the number of hypostases (including the principle) to ten, that is, the number of the Pythagorean tetractys, to which Patrizi explicitly refers.[25] Yet anyone who has even a passing acquaintance with the writings of Proclus and Ficino will readily admit that so far, Patrizi has had little original to say in substance.

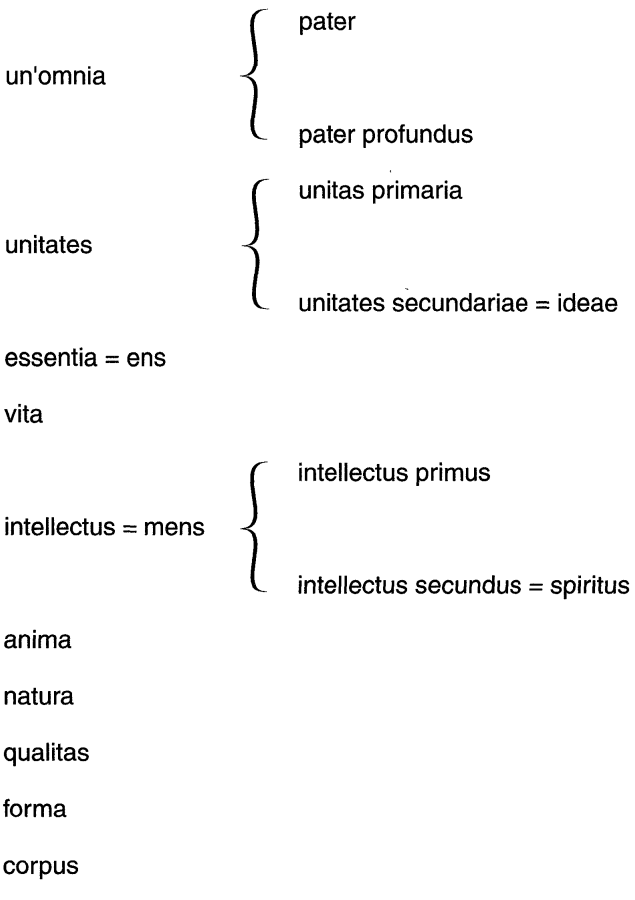

Figure 4.1
The ten primary hypostases, or degrees (*gradus*), of reality.

We must therefore try to complete the picture by briefly adumbrating the remaining elements of his ontology.

The nine degrees of reality that follow upon the One, descending vertically from top to bottom, also have nine lateral or horizontal ramifications called "series" (*series*).[26] The first series, starting from the *unitas primaria,* contains the *unitas essentiarum,* the *unitas vitarum,* the *unitas intellectuum,* and so on, until the *unitas corporum* is reached. The second series, starting from the *essentia primaria,* contains, analogously, the *essentia vitarum,* the *essentia intellectuum,* and so on, until we reach, in descending order, the last, reflexive series, which is the *corpus primarium.* Again, a diagram may help to illustrate this (figure 4.2). It is easy to see that every single constituent part of the universe (except the henads) is directly determined by two other elements. The first element immediately precedes it in the series of higher order and ultimately links it to its henad (or idea), which guarantees the identity of its generic character throughout the universe. The second of these elements immediately precedes it within the same series and determines its specific difference, which depends on the hypostasis as such. At the end of the scale, where Body dwells, we must assume absolute identity between genus and species.[27]

But this is not all. Besides degrees and series, Patrizi's universe also contains "chains" (*catenae*) of light, which extend in depth.[28] His account of these proceeds more by intimation than by explanation, but we may assume that the *unitas primaria* is at the same time the *unitas lucis,* from which proceeds the *lux unitatis*; that the *essentia primaria* is at the same time the *essentia lucis,* from which proceeds the *lux essentiae*; and so on, until once again we reach the *corpus primum,* from which there does not seem to be any light at all gushing forth.[29] We are not told what the relationship between, say, the *lux vitae* and the *anima qualitatis* is; but such questions are likely to reflect only idle curiosity, for what matters is something else. If we put together the three orders of degrees, series, and chains, they create something not formerly contained in them—viz., a third dimension, and, as a result of this, space.[30]

This allows us to draw one further inference. Patrizi's degrees, series, and chains not only beget space, they also beget space of a very definite shape. We have already seen that the interaction of the *gradus* with the *series* can be represented in the form of a triangle. If we were to illustrate the interaction of the *gradus* with the *catenae,* the picture would similarly be that of a triangle; and the same is true of the interaction of the *catenae* with the *series.* Thus, Patrizi's space can be said to be a three-dimensional figure bounded by three adjacent triangles, that is, a tetrahedron (or pyramid) whose fourth surface, by virtue of geometrical necessity, must have a triangular shape as well.

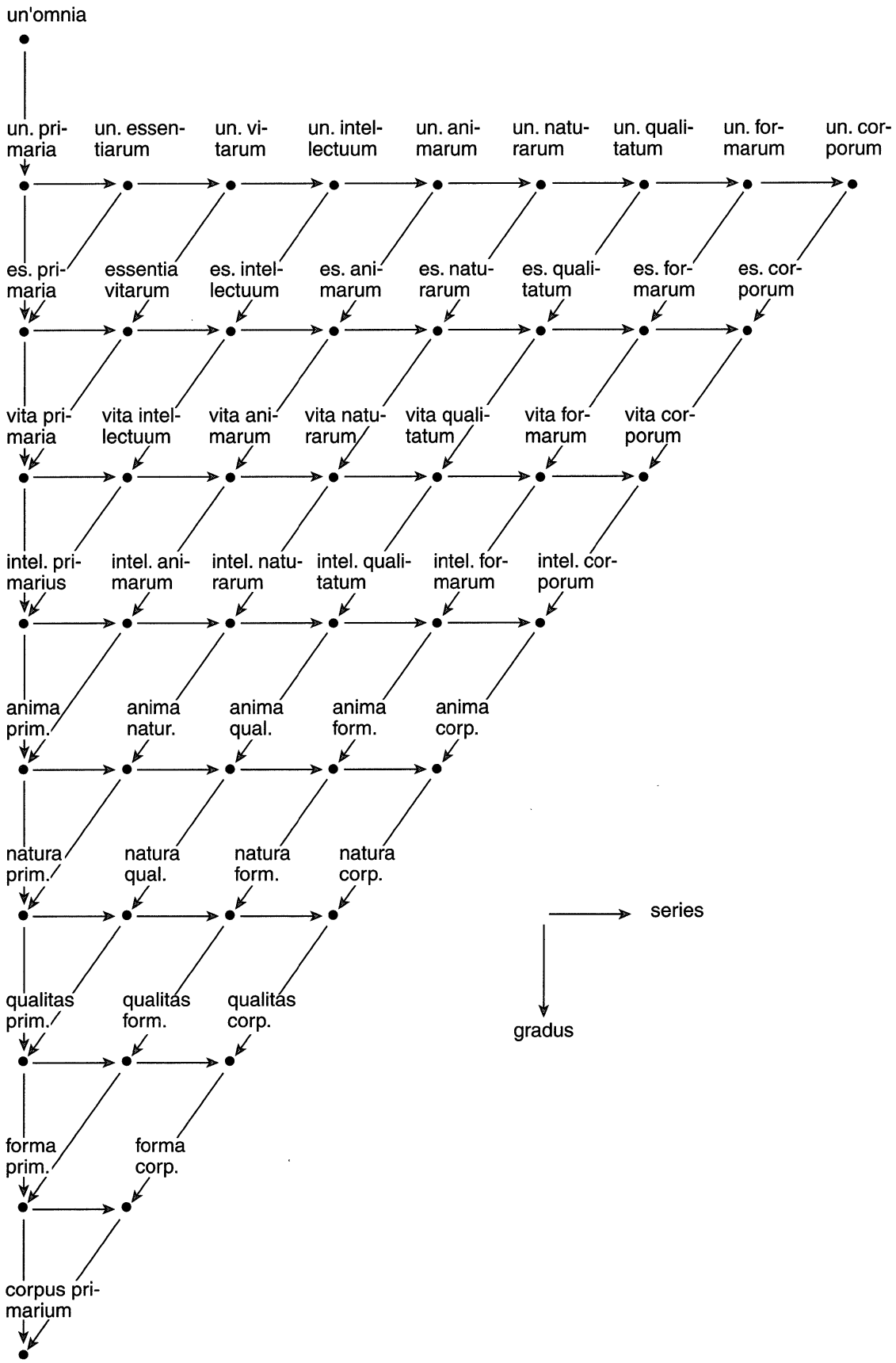

Figure 4.2
The series (*series*) emanating from each of the ten primary hypostases.

The conclusion that Patrizi's universe has the shape of a pyramid is not very meaningful in itself and might remain a mere doxographical curiosity, were it not for the fact that we can go one step further still. Among the infinite number of possible tetrahedral pyramids, only two are remarkable for their regularity: (a) the most regular irregular one, which is contained by three right-angled isosceles triangles, and (b) the only completely regular one, which is contained by four equilateral triangles. In the absence of any clear statement by Patrizi himself, it is impossible to tell which pyramid he had in mind when he devised the structure of his universe, but it is not unlikely that it was one of those just mentioned. Indeed, I would argue that he was thinking of none other than the regular pyramid, and I wish to adduce three reasons in support of this claim.

First, there is the consideration of geometrical beauty that goes with perfect symmetry: it is (for once) safe to argue that psychologically it is far more plausible that a Platonist like Patrizi would prefer symmetry and regularity to chaos and disorder (a similar feeling is expressed in *Timaeus* 30A).

Second, and perhaps more important, in Plato's *Timaeus* the regular tetrahedron is the solid associated with the element of fire.[31] If we bear in mind the fact (to which I shall be returning shortly) that in Patrizi's metaphysics light—which, needless to say, is traditionally associated with fire—plays a role second only to that of space, then it makes perfect sense that he should have depicted his universe in the shape of a regular pyramid.

Third, if we ask ourselves whether Patrizi could have been relying on ancient authorities for his counterintuitive speculations, then we can give a surprisingly unequivocal answer. The idea that the pyramid is the foundation of the noetic as well as of the natural world is explicitly stated in two Greek texts (and in two Greek texts only), the *Contra Iulianum* of Cyril of Alexandria and the *Theologumena arithmeticae* ascribed to Iamblichus.[32] Only one of these, namely the *Theologumena,* further specifies that this pyramid cannot be any other but the regular one.[33] That Patrizi knew the doctrine transmitted by the *Contra Iulianum* is easy to prove, for he included the sentence on the pyramidal shape of the universe in his edition of the Hermetic fragments.[34] He seems also to have been familiar with the more precise statement contained in the *Theologumena arithmeticae,* for among the nine surviving manuscripts of this text, one belonged to Patrizi himself and formed part of the collection that he sold to King Philip II of Spain in 1575.[35] Thus, a material witness comes to corroborate the evidence based on considerations of psychological and philosophical plausibility, and one may therefore safely judge that even if none of the three arguments listed above is conclusive per se their cumulative strength is such that we cannot avoid concluding that Patrizi's

universe does indeed have the shape of a regular tetrahedron standing on one of its corners. I shall try to explain the meaning of this below; for now, another drawing may help to visualize Patrizi's speculations (figure 4.3).[36]

Patrizi rounds off his discussion of the orders of reality by stating that "reasoned argument shows that the universe contains a greater degree of firmness, stability, and solidity than bodies do."[37] These attributes plainly come about as a result of its simple pyramidal structure, and it is to the properties of this spatial structure that I now turn.[38]

III

Just as metaphysics precedes physics both in the *ordo essendi* and in the *ordo cognoscendi* (i.e., the πρῶτον καθ' ἑαυτό is the same as the πρῶτον πρὸς ἡμᾶς), so physics precedes mathematics. The opening chapter of the last and longest section of the *NUP,* the *Pancosmia,* is titled *De spacio physico;* it is followed by a chapter called *De spacio mathematico* and another called *De physici ac mathematici spacii, affectionibus*.[39] The central importance of these chapters for Patrizi's thought is proven (among other things) by their separate publication four years before being incorporated into the great systematic treatise: the chapters on physical and mathematical space under the telling Lucretian title *Philosophiae de rerum natura libri II priores,*[40] the chapter on the "affections" of space under the no less telling *Della nuova geometria libri XV.*[41]

The ontological priority of space is based, sensibly enough, on the assumption that nothing can be without space, whereas space can exist as empty space without anything to fill it;[42] its gnoseological priority is based on an anti-Aristotelian maxim often repeated by Patrizi, according to which understanding of the principles of things is not arrived at analytically at the end of the cognitive process but is the very foundation of that process. Reason and sense perception move along the same way, and one of the distinctive features of Patrizi's "new" natural philosophy is its simultaneous consistency, in his view, both with the laws of thought and with the evidence of the senses.[43]

What, then, can we know about space?[44] It would be foolish to maintain that it does not exist, for it is common knowledge shared by everybody both that space is and that it is *something.* This is proven not only by the mere existence of words like *dimensio* (dimension), *distantia* (distance), *intervallum* (interval), *intercapedo* (interval), *spacium* (space), *diastasis* (extension), or *diastema* (interval), which are concepts used by Greeks and Romans alike—a weighty argument in itself. It is proven also by our perception of distance, for who can fail to see that the heavens are above the earth or that our heads are not resting on our feet? These observations are not figments of our imagina-

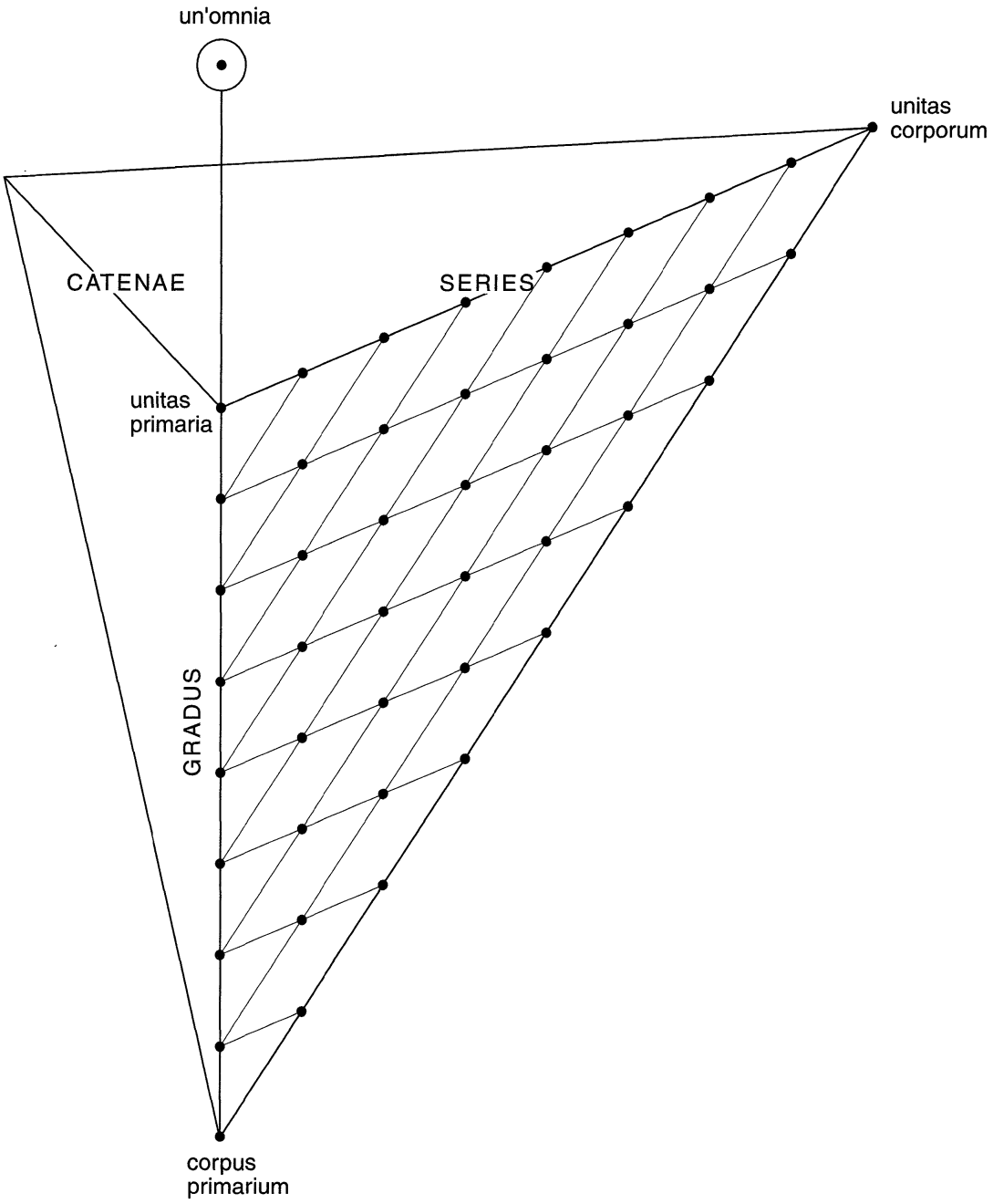

Figure 4.3
The shape of Patrizi's universe: a regular tetrahedron, made of degrees, series, and chains (*catenae*).

tion; so the theoretical possibility of the nonexistence of space can be dismissed straight away. (George Berkeley, more radical in this respect, would later argue that we cannot validly infer the existence of space from our perception of distance.)[45]

We can similarly discard the hypothesis that space *is,* but that it *is nothing.* Patrizi's argument in this case is presented in the form of a reductio ad absurdum based on the various significations of the verb "to be," which he uses indistinctly as an existential predicate and as a copula.[46] The reasoning runs as follows:

(a) Whatever is, is something.
(b) Whatever is not, is nothing.
(c) A thing cannot be something and nothing at the same time.
(d) Space is.
∴ (e_1) Therefore space cannot be nothing.
(e_2) Therefore space must be something.

Having thus established to his own satisfaction, if perhaps not to ours, that space is to be numbered among the *entia,* Patrizi asks what its constituent parts are. He vehemently rejects Aristotle's influential theory that space is two-dimensional and identical with the inner surface surrounding any given object; in fact, he sees clearly that what Aristotle is really talking about is "place" rather than "space."[47] (The Greek word τόπος used by Aristotle can mean both, as is well-known.) Patrizi instead endorses the far more familiar view that space is three-dimensional and is made up of length (*longitudo*), width (*latitudo*), and depth (*profunditas*). This space is not the same thing as body, however; for besides being extended, bodies also have to be solid; that is, besides having a specific size and shape they also have to have a specific bulk or mass in order to offer resistance.[48] Patrizi further specifies that when applied to a natural body, the mathematical concept of length variously denotes the longest distance between its extremities or its height from top to bottom; the concept of width variously denotes the second-longest distance between two other of the body's extremities or its breadth from right to left; and the concept of depth variously denotes the smallest distance between the remaining two extremities of the body or its deepness. Yet, he adds, this is no more than a conventional way of expressing things, for when a body is turned in space its dimensions remain the same, whatever name we give to them. The terms we use are thus only expedient means of description, entirely dependent on the observer's point of view (*respectu nostri; NUP* 4, 1, 61 d)—a formulation that, it seems to me, is the closest we get in the sixteenth century to what would later become known as the isotropy of space.

Not content with rejecting Aristotle, Patrizi also takes issue with the Stoic doctrine that bodies can intermingle and interpenetrate.[49] Consider what happens when a body moves in space, he says. We must assume either that space offers resistance or that it does not. If it does, then it somehow flows through body just as body flows through it; if it does not, then it somehow recedes in front of the advancing body and again closes up behind as soon as that body changes place. Patrizi is adamant that the former hypothesis must be rejected, for the definition of natural body is resistance (of which extension is only an accidental and adventitious quality), whereas the very definition of space is extension (which has nothing to do with resistance). Body and space are thus in two different and mutually exclusive ontological categories, and to assume any kind of intersection between them would be a violation of the fifth axiom listed above, that "nature makes no leaps."[50]

Space thus offers no resistance and is penetrable by body. That part of space which is occupied by a body is what we call "place"; and when a body moves from *a* to *b,* then we say that it changes places, although it remains in the same space. If two (or more) bodies did interpenetrate, then they would have to be in the same place at the same time; that is to say, there would have to be two places where there is room for only one. But this is clearly absurd, for there can only be one body in one place at any one given time: if there were two, they would be indistinguishable (and therefore one).

Though bodies cannot interpenetrate, they can still be condensed;[51] and in order to explain the phenomenon of physical condensation, we must either suppose that some of the body's matter is lost in the process or that there are little empty holes in it that are gradually filled while the body is being compressed and gains ever greater density. Patrizi thinks that it is possible to prove empirically the existence of these vacua (which he calls *spaciola*) and of void in general; but as Charles B. Schmitt showed long ago, the only certain knowledge we can derive from Patrizi's description of his alleged empirical proofs is that he never tried to put them to the test.[52] His recourse to a number of "experiments" must be considered topical rather than factual and is a perfect example of how the so-called *experimentum crucis* was more often than not unable to fulfill the role with which it is sometimes credited by modern epistemologists;[53] it certainly had less importance in practice than in theory.

That, however, is another story. Once the existence of empty space is acknowledged, be it for the right reasons or not, the question naturally arises whether a void or voids can be found only inside the (visible) heavens or also outside it. For Patrizi, this is equivalent to asking whether the universe is finite or infinite, and his answer to this vexed question is remarkably clear and

unequivocal.[54] At the boundary of the visible universe we see the twelve constellations corresponding to the twelve signs of the zodiac and the other fixed stars. Since they are bodies, they occupy a place, and since they occupy a place, there must be one point that is at the farthest remove from the observer's eye. This point is necessarily at the reverse side of the body, and this reverse side cannot be anywhere else but in space. Thus, there must be space "behind" the stars, as it were, which is tantamount to saying that there is space outside the (visible) universe. Patrizi rejects the hypothesis of a crystalline sphere at the border of the heavens and maintains, as the Stoics had, that extracosmic space is both empty and infinite. Indeed, if it were finite, it would have a boundary, which in turn would be in a place, which in turn would be in space, and so on. This argument is again directed against Aristotle, who had maintained that "there is neither place nor void beyond the heaven."[55] Lest one should think that having an infinite empty space is something of an unnecessary luxury, Patrizi adds—taking up an argument already put forward by Cleomedes—that on the day when the visible universe is destroyed by the final conflagration and goes up in smoke, it will fill a place that is at least one hundred thousand times greater than that which it fills now, and probably much larger; and for such eventualities infinite empty space obviously has a lot to recommend it.[56]

How, then, should space be defined? It cannot be pure "potency" (*aptitudo; NUP* 4, 1, 65 a) to receive body, for it is independent of body and can exist without it (whereas the converse is not true). Nor can it be an accident, for accidents, like categories, are predicated of substances, and substances are those things that precede everything else on a logical and an ontological level. Since space precedes everything else, it must be a substance, but a substance of a very peculiar kind: Patrizi calls it a "self-subsisting hypostatical extension that does not inhere in anything else."[57] As it is not a compound of matter and form, or predicated of species or of individuals, it is a substance that is different from the "substance" that heads the list of categories; it is a substance outside the category of substance, which is the basis of everything else and without which nothing can exist.[58] Since it is three-dimensional, it must be said to be corporeal; but since it does not offer resistance to touch or sight, it must equally be said to be incorporeal. Therefore its most complete definition is that of a *corpus incorporeum* or a *noncorpus corporeum:* that is to say, a "substantial extension subsisting by itself" that is homogeneous, unchangeable, and unmovable as a whole and in its parts.[59]

Patrizi's theory of space has a number of interesting implications for his outline of geometry. The most notable reversal of the traditional Euclidean position is his claim that a point is not a principle (as Euclid had held) but a

principiatum, by virtue of its being a minimum of space rather than "that which has no parts."[60] To discuss Patrizi's geometry in detail would, however, lead us too far astray,[61] and so I shall turn instead to the next division of my triptych and briefly consider what he had to say about the second most important component part of the universe: light.

IV

Just like space, light is created; in fact, it is the first entity created after it.[62] Why light? Patrizi gives two reasons, one theological and the other physical. The theological argument runs as follows: "God inhabits an inaccessible light—that is to say, a light that is inaccessible in itself and did not become so only after he had said, 'Let there be light.' He has been dwelling thus inaccessibly from all eternity and still continues to do so."[63] Now it is materially and conceptually impossible for light not to shine forth;[64] therefore the concept of God analytically implies that he should manifest himself. For reasons best known to himself, he decided to do this at the very moment when he said "Fiat lux," thereby filling empty space with his visible presence.

The powers of God Almighty, who transcends all categories,[65] are thus unexpectedly restricted by the analytical dissection of concepts. What matters in the present context, however, is not this theological puzzle but the physical reason advanced by Patrizi to justify the introduction of light immediately after the creation of space. God chose to fill space with light because it is most like space and could "most easily be poured into it."[66] Like space, it is "most simple"; like space, it can have "infinite extension"; like space, it can "penetrate everything" and "fill everything"; it "cannot resist anything and yields to everything," and can therefore be penetrated and permeated by everything; "to put it in a nutshell: it is, like space, a body and bodiless." The argument for the latter claim is the same as the one previously used in connection with space: light is a body insofar as it fills the whole universe by virtue of its having three dimensions, but at the same time it is incorporeal inasmuch as it has no resistance (i.e., it is immaterial).

Patrizi waxes lyrical about the other properties of light, praising its beauty, sweetness, desirability, wisdom, goodness, power, happiness, and so forth,[67] but this is not the place to analyze these attributes in detail. He also distinguishes between different kinds of light (aerial, celestial, ethereal, and empyrean), as well as between different kinds of transparency and opacity; I cannot dwell on these matters either.[68] What is important for my purpose is the fact that Patrizi ultimately gives the same definition of light as of space. This must clearly mean something; but before we can ask what the meaning

of this identity might be, we must have a quick glance at the third part of the *NUP*: the *Pampsychia,* which is devoted to soul—and in particular to the soul of the universe.

V

Besides being a philosopher, Patrizi was also a historian of philosophy; and, as such, he was clearly aware that the question of the existence of a world soul and the debate about its essence were not entirely new and that he was writing within a long tradition. For him, this tradition was that of the *prisca theologia* handed down through successive generations of thinkers, culminating in the works of Plato, and revived by Ficino.[69] Thus he informs us that Zoroaster, Hermes, Orpheus, Pythagoras, and Plato had all been of the opinion that the world was animated, as were Thales, Heraclitus, Anaxagoras, Archelaus, Parmenides, Zeno, Empedocles, all the Stoics, and—"if Plutarch is to be believed"—even Democritus.[70] Only Leucippus and Epicurus, two ridiculous philosophers, had maintained the contrary, whereas others, like Aristotle, had held the strange view that the universe was a sort of monster, partly animated and partly inanimate. Among Christian theologians and philosophers, some were to side with Aristotle (Patrizi names Origen, Jerome, Augustine, Petrus Aureoli, Duns Scotus, Thomas Aquinas, and Gaetano da Thiene); others would not accept that the heavens, and consequently the universe, are animated (these include Lactantius, Basil, Ambrose, Cyril of Alexandria, and John of Damascus); whereas a third group (here Jerome and Augustine are invoked again) would maintain at an early stage in their lives that the world is ensouled and retract their opinions later on.[71]

What is surprising, therefore, is not so much that Patrizi should have devoted a large portion of the *NUP* to discussing the time-honored question of the world soul as—in view of the great number of authorities mentioned, if not actually quoted—the quite original way in which he treats the subject.[72] A mixture of argument by authority and argument by reason, it deserves to be looked at in some detail.

To the cold eye of the analytical philosopher, the argument by authority is a species of the logical fallacy known under the name of *e consensu gentium*. Patrizi, we may assume, would turn the tables on the analytical philosopher by claiming that the very reasons that the latter might invoke *against* the validity of *prisca theologia's* claims can equally well be invoked *in favor of* them: the older a doctrine, and the greater the number of (Platonic) philosophers who have put it forward, the less likely it is to be wrong. Ignoring the fanciful chronologies—which might cause greater qualms to the

historian than to the philosopher—a modern thinker might also wish to argue that Patrizi's reasoning is circular: the antiquity of a truth guarantees its authority, and the great number of (Platonic) philosophers falling in with this authority is a proof of its truth (and therefore of its antiquity). Again, Patrizi himself would probably disagree and maintain that far from being circular, his argument is consistent with the laws of thought: for truth, once revealed, is "norma sui et falsi,"[73] timeless, and independent of the contingencies of chronology.

We may safely assume that the argument by authority alone, based as it was on the belief in the perduration of the *prisca theologia,* would have seemed sufficient to Patrizi to establish the existence of the world soul. It is therefore all to his credit that he also gives a second proof of its existence, which relies to a greater extent on reason and focuses more sharply on the justification of the world soul's place and role in the hierarchy of being. Patrizi here invokes the last of the six axioms mentioned above and sets out to give, first, a list of properties that he considers to be specifically characteristic of being and second, in a rather mechanical way, a corresponding negative list detailing the properties of non-being according to the axiom of contraries. Here is a summary list of the most relevant attributes:[74]

ens	**non-ens**
sibi semper simile	semper non-ens
semper id quod erat	semper in non-ens abit
semper idem	numquam idem
non mutatur	mutatur
non alteratur	alteratur
tantum agit	semper patitur
non dividitur	dividitur
partes nullas habet	partes habet
trine non est dimensum	trine dimensum est
moles non est	moles est
mole non indiget	mole indiget
spacio non indiget	in spacio habitat
per se substat	non per se substat
αὐθυπόστατον est	ἑτερόστατον est
incorporeum est	corpus est

According to Patrizi, the real existence of the properties listed in the left-hand column entails the equally real existence of those in the right-hand column; but how are we to imagine the relation between absolute being (the

un'omnia) and absolute non-being (the hypostasis *corpus*)? Being cannot change, for change involves alteration, and alteration is patently irreconcilable with the supreme perfection of the first principle. Furthermore, if the *un'omnia* directly imparted its power and actuality to body, it would not only change itself but would also gradually force body, which is only acted on and cannot subsist by itself, into nonentity (and thus somehow mechanically preempt the will of him "who created the universe").[75] What we need is something to mediate between being and non-being, something to bridge the ontological gap, something that is at the same time immaterial enough to come into close contact with unchanging being without running the risk of progressive annihilation, and material enough to guarantee the continued existence of the bodily world by joining it together and continually preserving it from progressive annihilation.[76]

Conceptually, such an entity is most easily described as partaking of the distinctive features of both extremities. Like Proclus and many others before him, Patrizi now "proceeds from analysis to hypostatization":[77] if it is logically (or formally) necessary that there be a *tertium quid* between *a* and non-*a,* then it is also ontologically (or materially) necessary that this entity exist. It is, of course, the world soul, whose properties can best be described by joining the contradictory descriptions of being and non-being given in the two columns above with the (in)famous pet words of later Neoplatonists, ἅμα καί: it is unchangeable and changeable at the same time, but in a different respect; it is indivisible and divisible at the same time, but in a different respect; it is identical with itself and different from itself at the same time, but in a different respect; and so on. Patrizi does not make a great effort to explain how these contrary qualities and predicates mix and mingle,[78] but he takes great pains to stress over and over again that the single most conspicuous characteristic of the world soul is its double nature of simultaneous corporeality and incorporeality.[79] Thus, we have a third entity whose distinctive property it is to be a body without body. What does all this mean? Let me conclude by suggesting two sources for Patrizi's contentions, and one interpretation.

VI

By maintaining that space, light, and soul are bodies, albeit nonbodily ones, Patrizi has made three counterintuitive claims that go against the grain of much of the philosophical tradition on which he drew.[80] Are these claims blatant superstitions, held by a vainglorious man with a deranged mind, as Francis Bacon thought?[81] Or can we make sense of them, both historically and in themselves?

It is possible to pin down precisely the provenance of Patrizi's idea that space is body. Only one ancient philosopher held it: Proclus. His opinions on this problem are cited by Simplicius in his famous *Corollarium de loco,* which is part of his *Commentary on Aristotle's "Physics"* and which Patrizi repeatedly refers to.[82] Proclus here distinguishes implicitly between space and matter on the one hand and extension and bulk on the other; once one has understood that space is essentially extension and offers no resistance, and that matter is essentially bulk and offers resistance, the initially puzzling claim that space is body by virtue of being three-dimensional makes perfect sense.[83] In fact, what Proclus actually says is that space is "immaterial body" rather than "incorporeal body,"[84] and this is, I suspect, what Patrizi really meant by his own favorite oxymoron.

Patrizi got his notion of corporeal light again from the same source. Here are Proclus' own words, as quoted by Patrizi: "Let us imagine in our mind two spheres, the first filled with the one light and the second with many bodies, but both equal in size. Place the one in a fixed position, with the center being equally fixed, and put the other inside it: you will see the universe in place, moving within the immobile light. It is itself immobile as a whole, in imitation of place, but it moves in some of its parts, in order to be in that way inferior to place."[85] This seems to me to be the key text for our understanding of that strange consequence explicitly drawn by Proclus: namely, that if space is body by being corporeal, immobile, indivisible, and immaterial, and if light is body for exactly the same reasons, then it necessarily follows that "space must be light." This identity holds for Patrizi as well.[86] To those who might wish to object that there could still be empty space (i.e., dark space not filled with light), he would reply that darkness is just a privation of light,[87] or, in other words, that darkness presupposes light (in accordance with the sixth axiom above). In fact, "dark space" is a *contradictio in adjecto,* a logical *Unding* which it is impossible to conceive of.

If space is light, then it also makes perfect sense to represent it as a regular tetrahedron standing on one of its corners, as suggested above. Although the analogy should not be pressed too far, it is clear that the volume of space, and therefore the volume of divine light in any given slice (or hypostasis), diminishes according to the distance from the Principle. The movement of descent is thus not only from the spiritual realm to the bodily realm, but also—literally, and through geometrical necessity—from infinite space to minimal space, from light to darkness, and from life to death, all of which is well in accordance with a universe designed according to Neoplatonic principles.

I am alive to the fact that the tetragonal shape, like every finite representation of the infinite, is not without difficulties, especially when it has to be reconciled with Patrizi's other contention that the infinite universe begins just outside the visible heavens. It is, however, heartening to see that Patrizi himself did not think that a universe in the shape of a four-sided pyramid was an absurd idea or a physical impossibility, as we may be inclined to do: "The astronomers and philosophers of all nations agree in saying that the heavens are spherical. Nonetheless, there is no reason why a pyramid, a cube, an octahedron, a dodecahedron, or an icosahedron could not also revolve when they are fixed on an axis."[88] If pressed, I would locate the visible heavens within the hypostasis of Body, with which it is, however, not congruent. As Patrizi specifies, the heavens are wrapped in "lumen supercoeleste," so that "vniuersus corporeus mundus, et intus in lumine iacet [scil. in the *lumen coeleste*], et extra [scil. in the *lumen supercoeleste*]." According to this interpretation, the heavens would bathe in the supercelestial light within the hypostasis of Body, whereas the remaining hypostases could be considered as the *coelum empyreum*. But I cannot help feeling that all this is vain speculation and frivolous subtlety.[89]

It remains for us to explain the relationship of the world soul to space and light. Once again I think it can most easily be determined with reference to Proclus. It is well-known that many Neoplatonic philosophers, taking up the image of the "chariots" (ὀχήματα) in Plato's *Phaedrus* (247B), devised a subtle spiritual entity (πνεῦμα) that would serve as a kind of "vehicle" for the soul when it traveled to a body, and as a kind of "carriage" while their union lasted.[90] Just like individual souls, so the world soul has its vehicle. Proclus tells us what it is in his *Commentaries on Plato's "Republic"*: "Porphyry, that most excellent philosopher, suspected what we are writing now, and assumed that light was the first vehicle of the cosmic soul."[91] Even if I have so far been unable to prove that Patrizi was familiar with this particular passage, he was certainly familiar with the doctrine expressed there, for it is also referred to, albeit somewhat less clearly, in the *Corollarium de tempore*.[92] In fact, Patrizi's words are but an echo of Proclus' own: "Light is the vehicle of the celestial forces, and the bond between the upper and the lower part of the universe."[93] If the world soul travels with light, and if they both are bonds between the upper and the lower part of the universe, then it is only natural for soul to share light's first and foremost properties—viz., extension without resistance—for otherwise it would be sitting very uncomfortably indeed in its carriage. It is therefore only consistent that in addition to space and light, Patrizi should have described soul as a third entity that is "bodiless body," for no

other attributes could have summed up its role more truly, succinctly, and accurately.

Patrizi's speculations on space, light, and soul, vague and implausible as they may seem to us, offer a picture of remarkable coherence and consistency. His physics and cosmology, built around the key notion of "bodiless body," hold a very definite, if rather solitary, place in the history of science. They can be traced back with philological accuracy to the fifth century C.E., and they resurface in the work of Patrizi just as if no progress had been made in the study of nature during the intervening millennium. Patrizi was, I think, the greatest *Proclian* physicist that ever lived after Proclus—and this is certainly no small claim to fame.

NOTES

This article was written during my tenure of a British Academy Postdoctoral Research Fellowship at the Warburg Institute, University of London. I wish to thank Andrew Wong for preparing figure 4.3, Antonio Clericuzio for bibliographical and Paul Nelles for stylistic advice, and Peter Kingsley and Jill Kraye for both. Above all my thanks go to Anthony Grafton; without his enthusiasm and continuing support, I would not have tried my hand at Patrizi at all. I alone am responsible for the remaining inconsistencies and incongruities.

Throughout, the abbreviation *NUP* stands for Francesco Patrizi, *Nova de universis philosophia, in qua Aristotelica methodo, non per motum, sed per lucem, et lumina, ad primam causam ascenditur* (Ferrara: Benedictus Mammarellus, 1591). The *NUP* consists of four parts called respectively *Panaugia, Panarchia, Pampsychia,* and *Pancosmia;* references will be made to part, book, folio, and column (thus "4, 32, 153 d" means "Pancosmia, book 32, fol. 153, col. d"). The text of the so-called second edition of the *NUP* (Venice: Roberto Meietti, 1593) is identical with that of the 1591 edition: see O. Guerrini, "Di Francesco Patrizi e della rarissima edizione della sua 'Nova Philosophia,'" *Il Propugnatore* 12 (1879): 172–230, and A. Antonacci, *Ricerche sul neoplatonismo del Rinascimento: Francesco Patrizi da Cherso,* vol. 1, *La redazione delle opere filosofiche: Analisi del primo tomo delle "Discussiones"* (Bari: Editrice Salentina, 1984), pp. 108–109 n. 22.

1. *NUP,* sig. a 2v: "Quinque hoc volumine, pias omnes, omnes Catholicae fidei consonas, Gregori Pater Beatiss. tibi afferimus philosophias. Nostram recens conditam [i.e., the *NUP*], Chaldaicam Zoroastri [i.e., the *Chaldean Oracles* as collected by Plethon, plus a few fragments culled from later Neoplatonists by Patrizi himself], Hermetis Trismegisti Aegyptiam [i.e., the Greek text with a new translation of the fourteen tractates contained in Ficino's *Pimander;* a number of extracts from Cyril and Stobaeus, including the *Korē Kosmou;* the Latin *Asclepius;* and the *Definitiones Asclepii*], Aegyptiam aliam Mysticam [i.e., the *Theologia Aristotelis* in Pier Nicola Castellani's translation published in Rome in 1519, or Plato's 'mystic' teaching], et aliam Platonis propriam [i.e., Plato's 'exoteric' teaching as found in his dialogues, of which Patrizi suggests a reading order based on Neoplatonic authorities]. A nobis sane non minimo labore, e ruinis vix erutas, in unum collatas, atque illustratas, et in ordines suos scientificos distinctas."

2. I.e., Niccolò Sfondrato (1535–1591), whom Patrizi had met when they were both students at Padua.

3. The accounts of Patrizi's life rely mainly upon remarks scattered throughout his works and one autobiographical letter, dated 12 January 1587 and addressed to Baccio Valori. The text of this letter, which is preserved in the Fondo Rinuccini (Filza 27, Scatola II) of the Biblioteca Nazionale Centrale in Florence, was first published by A. Solerti, "Lettere autobiografiche di F. Patrizi di Cherso, erudito del secolo XVI," *Archivio storico per Trieste, l'Istria e il Trentino* 3 (1886): 275–281 (I have not seen this publication). A facsimile edition of the text published by Solerti can be found in V. Premeč, *Franciskus Patricijus* (Belgrade: Institut Drustvenih Nauka, 1968), pp. [100–104]. It is also printed in the not very useful volume edited by S. Cella, *Francesco Patrizi da Cherso: Pagine scelte* (Padua: Liviana Editrice, 1965), pp. 37–42, and in D. Aguzzi Barbagli, ed., *Francesco Patrizi da Cherso: Lettere ed opuscoli inediti* (Florence: Olschki, 1975), pp. 45–51. Among the modern accounts of Patrizi's life, the best are E. Jacobs, "Francesco Patricio und seine Sammlung griechischer Handschriften in der Bibliothek des Escorial," *Zentralblatt für Bibliothekswesen* 25 (1908): 19–47, esp. pp. 20–28; P. Donazzolo, "Francesco Patrizi da Cherso erudito del secolo decimosesto (1529–1597)," *Atti e memorie della Società istriana di archeologia e storia patria* 28 (1912): 1–147, esp. 7–47; and B. Brickman, "An Introduction to Francesco Patrizi's *Nova de universis philosophia*" (Ph.D. diss., Columbia University, 1941), pp. 10–20. On his time in Ferrara (1577/1578–1592) and his relationship with the Este family, see M. J. Wilmott, "Francesco Patrizi da Cherso's Humanist Critique of Aristotle" (Ph.D. diss., University of London, 1984), pp. 8–13, and C. Vasoli, "Un filosofo tra lo studio e la corte: Patrizi a Ferrara," in his *Francesco Patrizi da Cherso,* Humanistica 5 (Rome: Bulzoni, 1989), pp. 205–228.

4. *NUP,* sig. a 2v: "Ratione sola, ratio humana ducitur, Rationem ratio, libens sequitur. A ratione, ratio volens nolens etiam trahitur. Ratione igitur, sunt homines ad Deum ducendi. In hanc ergo ueram ac diuinam philosophiam, ratione sola philosophando, totis uiribus incubui. Et ingenti, sed obstinatissimo labore, ad finem, eam mihi videor perduxisse." Sig. a 3r: "Iube ergo pater sanctissime tu primus, iubeant futuri Pontifices omnes . . . per omnia tuae ditionis gymnasia, per omnes Coenobiorum, Scholas, librorum [scil. a Platonicis philosophis scriptorum], aliquos continue exponi. . . . Cura ut christiani orbis principes, idem in suis iubeant gymnasiis."

5. See *NUP,* sig. a 3v.

6. This story has repeatedly been told; for a full survey of earlier literature, see A. L. Puliafito Bleuel, *Francesco Patrizi da Cherso, Nova de universis philosophia: Materiali per un' edizione emendata,* Quaderni di "Rinascimento" 16 (Florence: Olschki, 1993), pp. xix–xxvi, and for the objections raised against the *NUP* by the Congregation of the Index the text edited ibid., pp. xxx–xxxviii. The first *Index librorum prohibitorum* no longer to mention the *NUP* was the one edited in 1900. As the preface specifies, however, this was due not to a reappraisal of Patrizi's merits but to a mere stroke of chronological luck, for "omnes libri ante annum MDC prohibiti, abhinc ex Indice expuncti declarantur, quamvis etiamnum eodem modo damnati habendi sint, quo olim damnati fuerunt" (p. xiii).

7. It is likely that Patrizi understood the adjective *scientificus* in its original meaning of "producing knowledge" (on which see E. Benveniste, "Genèse du terme 'scientifique,'" in his *Problèmes de linguistique générale* [Paris: Gallimard, 1974], 2:247–253).

The best general descriptions of Patrizi's philosophy (taking into account both the *Discussionum peripateticarum libri IV* [Basel: Pernea Lecythus, 1581] and the *NUP*) are those by P. O. Kristeller, *Eight Philosophers of the Italian Renaissance* (Stanford: Stanford University Press, 1964), pp. 110–126, and by B. P. Copenhaver and C. B. Schmitt, *Renaissance Philosophy,* vol. 3 of *A History of Western Philosophy* (Oxford: Oxford University Press, 1992), pp. 187–195. By far the best analysis of the *NUP* is the one given by Brickman, "Introduction," pp. 21–75, but T. A. Rixner and T. Siber, *Leben und Lehrmeinungen berühmter Physiker am Ende des XVI. und am Anfange des XVII. Jahrhunderts, als Beyträge zur Geschichte der Physiologie in engerer und weiterer Bedeutung,* vol. 4, *Franciscus Patritius* (Sulzbach: J. E. von Seidel Kunst- und Buchhandlung, 1823), pp. 21–132, is still worth reading. For a brief account of Patrizi's debts in the *NUP* to the writings of Ficino, see M. Muccillo, "Marsilio Ficino e Francesco Patrizi da Cherso," in *Marsilio Ficino e il ritorno di Platone: Studi e documenti,* ed. G. C. Garfagnini, Studi e testi 15 (Florence: Olschki, 1986), 2:615–679, esp. 664–679. Patrizi's reliance on Damascius is well illustrated by T. Leinkauf, *Il neoplatonismo di Francesco Patrizi come presupposto della sua critica ad Aristotele,* Symbolon 9 (Florence: La nuova Italia editrice, 1990).

8. For the difficulties of such an undertaking, see the *Emendationes* edited by Puliafito Bleuel, pp. 7–97.

9. *NUP* 1, 1, 1 a: "Franciscus Patricius, Nouam, Veram, Integram, de vniuersis conditurus Philosophiam, sequentia, vti verissima, pronunciare est ausus. Pronunciata, ordine persecutus, Diuinis oraculis, Geometricis necessitatibus, Philosophicis rationibus, clarissimisque experimentis comprobauit."

10. *NUP* 4, 1, 61 a: "Quid autem illud fuit, quod summus opifex primum omnium extra se produxit? Quid aut debuit, aut expedijt prius produci, quam id quo omnia alia, vt essent eguerunt, et sine quo esse non poterunt?" See also 65 d.

11. *NUP* 2, 11, 22 c: "Effectus enim, a causa quidem semper uenit," and 1, 3, 5 c: "Omne enim producens, praestantius est producto" (this translates Proclus, *Inst. theol.* 7).

12. *NUP* 4, 2, 68 b: "Patuit quoque, continuum sui natura, omni diuisione antiquius ac prius esse: cuius diuisio, ac desectio, humanae cogitationis vi facta, numerum procreasse."

13. *NUP,* 2, 11, 22 d: "Ergo fas nullo modo est, ut unum, idem sit cum multitudine, quae illius proles est, et effectus" (this translates Proclus, *Inst. theol.* 5).

14. *NUP* 2, 11, 22 d–23 a: "Oportet autem omnem entium progressionem esse continuatam. Id autem fit per hyparxeon coniunctionem: Quae fit per inferioris participationem a superiore"; see also 3, 1, 49 b: "Natura enim in suis operibus non saltat, sed ordine, a proxima causa, proximum producit effectum." This is what A. O. Lovejoy, *The Great Chain of Being* (1936; reprint, Cambridge, Mass.: Harvard University Press, 1982), p. 52, called "the principle of plenitude"; for a witty, and utterly destructive, criticism of this so-called principle, see L. Vax, "Splendeur et déclin du merveilleux philosophique," in *Du banal au merveilleux: Mélanges offerts à Lucien Jerphagnon,* Les Cahiers de Fontenay 55–57 (Fontenay/St. Cloud: Ecole Normale Supérieure, 1989), pp. 275–314, esp. pp. 309–310.

15. *NUP* 3, 2, 51 b: "Contrario namque vno in rebus posito, poni necesse est et alterum"; 3, 5, 58 d: "Vno contrario in natura posito, poni est necesse, et alterum." This axiom does,

however, admit of exceptions when convenient: "Verum vt plurimum esse, duo contraria in rerum vniuersitatis generibus reperiri. Non tamen in omni" (ibid.). It should be noted that logical contraries are not the same thing as correlative modalities, which can indeed only exist as pairs (see on this R. Sorabji, *Matter, Space, and Motion: Theories in Antiquity and Their Sequel* [London: Duckworthy, 1988], p. 134).

16. *NUP* 2, 11, 22 c: "Vere sciamus, entia antequam fierent, in Deo fuisse omnia, et ex ipso, et per ipsum omnia esse facta"; 2, 11, 23 c: "Sub patre ergo Deo, et a patre, Paternum est profundum. In quo vnitas primaria, et in ea omnes vnitates, quas nomine alio ideas appellamus"; cf. with this *Chaldean Oracles,* frag. 18 des Places (*Oracles chaldaïques,* ed. and trans. E. des Places [Paris: Les Belles Lettres, 1971]). It is likely that Patrizi derived his concept of πατρικὸς βυθός in the first place from Proclus apud Simpl., *In Phys.* 614, 6 Diels (Simplicius, *In Aristotelis Physicorum libros quattuor priores commentaria,* ed. H. Diels, Commentaria in Aristotelem Graeca 9 [Berlin: Reimer, 1882]) (on which see below). See also *NUP* 2, 11, 22 c: "Primissimum illud, un'omnia est appellatum."

17. See Proclus, *Inst. theol.* 116; Patrizi's translation is *Procli Lycii Diadochi, Platonici philosophi eminentissimi: Elementa Theologica, et physica. Opus omni admiratione prosequendum. Quae Franciscus Patricius de Graecis, fecit Latina* (Ferrara: Dominicus Mammarellus, 1583).

18. *NUP* 2, 11, 23 a–b: "Et quoniam in vn'omnia, vnum primas tenebat, omnia, secundas: necessario in hac productione, vni ipsi, vnitas aliqua primaria debuit respondere. Vnitates vero reliquae responderent ipsi vn'omnia. Vnitas ergo quaedam primaria, ab vno est genita; Reliquae vnitates hanc, vt secundariae sequuntur, et sunt ab ea proximae"; and 23 c: "Et ipsa vnitas primaria Idea boni."

19. On the superessential, see *NUP* 2, 11, 23 b: "Vel etiam sunt ipsae vnitates, super entia omnia, et superessentiales." Patrizi uses the words *mens* and *intellectus* interchangeably: see *NUP* 2, 11, 23 c: "sapientes ueteres communi consensu [m]entem, et intellectum appellauere," and 3, 1, 49 c: "omnes intellectus, siue dixeris Mentes." The triad ὄν–ζωή–νοῦς, so often referred to in the writings of Proclus, goes back to Plato, *Sophist* 248A–249E, where the παντελῶς ὄν is said also to possess ζωή and νοῦς. P. Merlan (who did not think very highly of Proclus) maintained that it was merely "eine zufällig aufgeraffte Dreiheit von Begriffen . . . , deren innere Zugehörigkeit nie gezeigt wird" (see his review of *Proklos: Grundzüge seiner Metaphysik,* by W. Beierwaltes, *Philosophische Rundschau* 15 [1968]: 94–97, esp. 96). Much the same can be said of its presence in the *NUP;* see the remarks following in the text.

20. *NUP* 2, 11, 23 c: "Quoniam vero, a perfectissima venit, ipsa quoque suo gradu erit perfectissima [scil. essentia]"; "Ergo diuina illa essentia, uiuens est, et uita fruitur, optima, et sufficientissima."

21. *NUP* 2, 11, 23 c: "Per motionem autem hanc suam, cognitionem in se produxit." See on this S. Gersh, *Kinesis akinetos: A Study of Spiritual Motion in the Philosophy of Proclus,* Philosophia antiqua 26 (Leiden: Brill, 1973). (For Proclus, the "cognitive" activity of the noetic world is at the same time a "creative" activity; the same does not seem to be true for Patrizi.)

22. *NUP* 2, 11, 23 c: "Vel enim sursum, vel in se, vel deorsum motum hunc tendere necesse est." Patrizi says that the reflexive movement "procreates a second intellect" (ibid.:

"Dum uero se intelligit, et in superas suas causas reuoluitur, secundum procreat intellectum"), but this statement is muddled by his apparent confusion between *intellectus secundus, spiritus,* and *mens secunda,* which follows.

23. *NUP* 2, 11, 23, d: "Simile quiddam sibi anima, quae iam in corpus decidit, et ei [scil. intellectui] est coniuncta, in corpus profundit. Quam nos, nomine satis noto, sed significatu satis ignoto, naturam appellamus. . . . A qua [scil. natura] in corpus itidem producitur qualitas, quae naturae veluti instrumentum seruit, in corpore, et eius partibus, alterandis, et disponendis. Et dispositis formam inducit. Per quam corpus in aliam, aut aliam speciem conformetur. Sed et qualitas a natura fert similitudinem, et ei est dissimilis. Et formas easdem fert a qualitate. Et corpus a forma, ijs nimirum modis, qui proprijs horum graduum tractatibus explicabuntur."

24. *NUP* 2, 11, 24 b: "[I]lla omnia . . . aptata sunt, et ordine disposita. . . . Ut . . . omnia essent, quasi Iacobi scala, a coelis ad terram protensa, nouem gradibus disposita, per quos, Angeli, et nuncij Dei, descendendo, sapientiam, et gloriam Dei, ad nos deferrent, et ascendendo, piorum merita, et impiorum demerita ad conspectum Dei referrent." The reference is to Genesis 28:12, a text often adduced to intimate the coherence of the universe: see, e.g., A. Altmann, "The Ladder of Ascension," in *Studies in Mysticism and Religion Presented to G. G. Scholem on His 70th Birthday* (Jerusalem: Magnes Press, 1967), pp. 1–32 (reprinted in idem, *Studies in Religious Philosophy and Mysticism* [Ithaca, N.Y.: Cornell University Press, 1969], pp. 41–72); M. Idel, "The Ladder of Ascension—The Reverberations of a Medieval Motif in the Renaissance," in *Studies in Medieval Jewish History and Literature,* ed. I. Twersky, vol. 2 (Cambridge, Mass.: Harvard University Press, 1984), pp. 83–93. On "degrees," see *NUP* 2, 11, 23 d: "His autem post vnum primum, nouem gradibus, rerum tota constat vniuersitas. Qui quidem gradus ordine sunt dispositi a summo ad imum ita, vt nullum inter eos uacuum sit relictum"; and 24 b: "Gradus hi nouem, sunt primus rerum atque entium ordo, in profundum, a summo ad imum ductus."

25. *NUP* 2, 11, 24 a: "Pythagoras, quando tetractym nominabat, et per eam, sacrosancto ac summo omnium iurabat iuramento."

26. *NUP* 2, 11, 24 b: "Est alius ordo in latitudinem actus, in singulo quoque gradu. . . . Quem ordinem sicut primum illum, gradus nominauimus, sic seriem proprio nomine appellabimus. In qua serie vnitatum in latitudinem, graduum singulorum latitudinem ratio persuadet esse locatam." Strictly speaking, there are only eight series, for the last, starting from body, is reflexive and therefore not a "ramification" *sensu stricto.*

27. For a similar, though not identical structure, see Proclus, *The Elements of Theology,* ed. E. R. Dodds, 2nd ed. (Oxford: Oxford University Press, 1963), p. 255, commentary on props. 108 and 109.

28. *NUP* 2, 11, 24 c: "Tertius itidem in longitudinem est ordo, quem cathenam libuit nuncupare. Qui quidem est eiusdem generis, seu speciei, per gradus omnes transitus."

29. *NUP* 2, 11, 24 c: "Est lucis vnitas, et vnitatis lux. Est, et essentia lucis, et lux essentiae. Et vita lucis, et lux vitae, et Mens lucis, et lux mentis," etc. For possible interpretations of the *lux corporis,* see *NUP* 1, 4 and 1, 5.

30. *NUP* 2, 11, 24 c: "Ex tribus enim illis longitudine, latitudine, et profunditate, sicuti corporum nascitur soliditas, et stabilitas, et firmitudo." Puliafito Bleuel, *Nova de universis*

philosophia, p. lvi n. 205, mistakenly calls this "il modello delle quattro gerarchie sovvraposte."

31. Plato, *Timaeus* 56A. On the "fiery" (πυροειδές) and "nimble" (κινητικόν) nature of the pyramid, see also Plutarch, *De defectu oraculorum* 34 (428D).

32. Cyril of Alexandria, *Contra Iulianum* i.46; [Iamblichus], *Theologumena arithmeticae,* p. 20, 9–10 de Falco (ed. V. de Falco, rev. U. Klein [Stuttgart: B. G. Teubner, 1975]). See on this A.-J. Festugière, "La pyramide hermétique," *Museum Helveticum* 6 (1949): 211–215 (reprinted in idem, *Hermétisme et mystique païenne* [Paris: Aubier-Montaigne, 1967], pp. 131–137), and the additional remarks by P. Merlan, "Die Hermetische Pyramide und Sextus," *Museum Helveticum* 8 (1951): 100–105 (reprinted in idem, *Kleine philosophische Schriften,* ed. F. Merlan, Collectanea 20 [Hildesheim: Olms, 1976], pp. 346–351).

33. [Iamblichus], *Theologumena arithmeticae,* p. 22, 10–13 de Falco.

34. For the Greek text, see *Corpus Hermeticum,* ed. A. D. Nock, trans. A.-J. Festugière (Paris: Les Belles Lettres, 1954–1960), 4:133, fr. 28; Patrizi's translation of the sentence in question reads "Pyramis ergo subiecta naturae, et intellectuali mundo" (fol. 50v).

35. See Jacobs, "Francesco Patricio," p. 36 (on the Scorialensis Σ III. 1).

36. Given Patrizi's contentions for the isotropy of space (discussed later), the orientation of the pyramid is immaterial. For his rejection of the sphericity of the heavens see *NUP* 4, 10, esp. fol. 87 d: "Caelum igitur nostris demonstrationibus nullo modo aut est, aut dici potest sphaericum," and later discussion in text.

37. *NUP* 2, 11, 24 c–d: "Sic ratio . . . suadet, in rerum omnium vniuersitate, esse firmitatem, et stabilitatem, et soliditatem longe quam sit in corporibus, ualidiorem."

38. The foregoing attempt at reconstructing the structure of Patrizi's universe has not taken into account the slightly different description of it given in *NUP* 2, 1, which seems to belong to a different period in the redaction of the work; see Brickman, "Introduction," pp. 25, 33, with n. 14.

39. Fols. 61 a–65 d, 66 a–68 d, and 69 a–73 b, respectively.

40. *Franc. Patricii Philosophiae, De rerum natura, Libri II. priores. Alter de Spacio Physico, Alter de Spacio Mathematico* (Ferrara: Vittorio Baldini, 1587). Textual identity starts on fol. 2v, line 4 (= *NUP* 4, 1, 61 c, line 19: "Communis quaedam omnium hominum notitia . . .") and extends to the end of fol. 26v (= *NUP* 4, 2, 68 d), where the last sentence of the 1587 ed. reads: "Hosce autem libros, sequantur ij, quos Italice, de Nova Geometria edidimus"; *NUP* simply has "quos de Noua Geometria adiungemus."

41. *Della nuova geometria di Franc. Patrici Libri XV. Ne' quali con mirabile ordine, e con dimostrazioni à marauiglia più facili, e più forti delle usate si vede che le Matematiche per via Regia, e più piana che da gli antichi fatto non si è, si possono trattare* (Ferrara: Vittorio Baldini, 1587). The Latin translation of this in *NUP* 4, 3 differs slightly in the way in which it presents the material, but there is no difference in substance. For the history of doctrines on space in general, see M. Jammer, *Das Problem des Raumes: Die Entwicklung der Raumtheorien*

(Darmstadt: Wissenschaftliche Buchgesellschaft, 1960), esp. pp. 92–93. On Patrizi in particular, see J. Henry, "Francesco Patrizi da Cherso's Concept of Space and Its Later Influence," *Annals of Science* 36 (1979): 549–573, and E. Grant, *Much Ado about Nothing: Theories of Space and Vacuum from the Middle Ages to the Scientific Revolution* (Cambridge: Cambridge University Press, 1981), pp. 199–206.

42. This statement is qualified later in the text, with note 56.

43. See *De rerum natura,* fol. 2r: "Methodo, placitisque novam, rebus veterrimam, sensui, rationi, sibique consonam condere studemus, naturae philosophiam." See also *NUP* 1, 1, 1 b: "A cognitis . . . initium sumendum. Cognitio omnis, a mente primam originem: a sensibus exordium habet primum"; and 4, 1, 61 b: "sensuumque testimoniis, rationumque probationibus vtamur."

44. The following account is based on *NUP* 4, 1, which was translated (with a few lines of 4, 2) into English by B. Brickman, "On Physical Space," *Journal of the History of Ideas* 4 (1943): 224–245. There is a German translation of a few paragraphs taken from *NUP* 1, 1; 4, 1; and 2, 20, in M. Fierz, "Über den Ursprung und die Bedeutung der Lehre Isaac Newtons vom absoluten Raum," *Gesnerus* 11 (1954): 62–120, esp. 106–113 (on Patrizi, see above all pp. 79–83); an Italian translation, also of a few paragraphs only, can be found in Cella, *Francesco Patrizi,* pp. 116–129.

45. G. Berkeley, *An Essay towards a New Theory of Vision* (1709), in *Philosophical Works: Including the Works on Vision,* ed. M. R. Ayers, rev. ed. (London: Dent; Totowa, N.J.: Rowman and Littlefield, 1975), §126, p. 45.

46. Contemporary logicians generally distinguish between four meanings of the verb "to be": it can be equivalent to "$\exists$" in "God is"; to "=" in "Elizabeth II is the queen of England"; to "$\in$" in "Elizabeth II is a woman"; and to "$\subset$" in "The woman is a human being."

47. *NUP* 4, 1, 61 a: "Quid enim illi, aliud est locus, quam spacium, longum, latumque?" See Aristotle, *Physics* 4.4, 210b34–211a1: ἀξιοῦμεν δὴ τὸν τόπον εἶναι πρῶτον μὲν περιέχον ἐκεῖνο οὗ τόπος ἐστί; 212a6: τὸ πέρας τοῦ περιέχοντος σώματος. On the various other definitions of space put forward by Aristotle, see Sorabji, *Matter, Space, and Motion,* pp. 186–201.

48. Patrizi uses four different words to express this notion: *anteresis, antitypia, renitentia,* and *resistentia* (*NUP* 4, 1, 62 d).

49. See *Stoicorum veterum fragmenta,* ed. H. Von Arnim, vol. 2, *Chrysippi fragmenta logica et physica* (Leipzig: Teubner, 1923), nos. 463–481.

50. See Aristotle, *De caelo* 1.1, 268b1: οὐκ ἔστιν εἰς ἄλλο γένος μετάβασις. This is not contradicted by the statement on fol. 65 d that finite space ("finitum quod in mundo est," on which see discussion later) has the power "corpora omnia penetrandi," for Patrizi specifies that it only penetrates the bodies' empty parts ("propriis illorum spaciis"), which are nonbodily *per definitionem.* I therefore disagree with the account of the problem given by E. Grant, "The Principle of the Impenetrability of Bodies in the History of Concepts of Separate Space from the Middle Ages to the Seventeenth Century," *Isis*

69 (1978): 551–571, esp. 569, who fails to see that space penetrates not body but the *vacua,* and strangely ignores his own correct hint put forward a few years earlier in his "Place and Space in Medieval Physical Thought," in *Motion and Time, Space and Matter: Interrelations in the History of Philosophy and Science,* ed. P. K. Machamer and R. G. Turnbull (Columbus: Ohio State University Press, 1976), pp. 137–167, esp. 159–161 and 166 n. 105: "Patrizi's 'yielding' (*cessio*) is simply an aspect of 'penetration' (*penetratio*)." In modern terminology we might perhaps say that material bodies are semipermeable to space.

51. Patrizi was convinced that any given quantity of water can be compressed to half its size (*NUP* 4, 1, 63 a), which shows that despite his invoking *experientia,* he made little effort to gain any empirical knowledge of the world. The question whether water could be compressed was, however, hotly debated in Patrizi's days; it was empirically refuted only in the middle of the seventeenth century when members of the Florentine Accademia del Cimento, "the first organization founded for the sole purpose of making scientific experiments," concluded that "a power not only thirty but a hundred and perhaps a thousand times that needed to reduce a volume of air into a space thirty times less than it first occupied, does not compress a volume of water even by as much as a hair or other lesser observable space, below what its natural extension requires": see W. E. K. Middleton, *The Experimenters: A Study of the Accademia del Cimento* (Baltimore: Johns Hopkins University Press, 1971); quotations on pp. 1, 217.

52. C. B. Schmitt, "Experimental Evidence for and against a Void: The Sixteenth-Century Arguments," *Isis* 58 (1967): 352–366, esp. 356, 363 (reprinted in idem, *Studies in Renaissance Philosophy and Science* [London; Variorum Reprints, 1981], no. VII). On these vacua, see *NUP* 4, 1, 63 a: "Necessario ergo . . . relinquitur, vt in spaciola vacua sibi interspersa sese receperit [scil. aqua], atque ita sit densior effecta."

53. See, e.g., C. G. Hempel, *Philosophy of Natural Science* (Englewood Cliffs, N.J.: Prentice-Hall, 1966), pp. 25–28.

54. It is surprising that A. Koyré, in his standard work *From the Closed World to the Infinite Universe* (Baltimore: Johns Hopkins University Press, 1957), completely ignores Patrizi's role in the history of this problem.

55. Aristotle, *De caelo* 1.9, 279a12–13. The theory of "a finite world immersed in an infinite space" was later rejected by Kepler on grounds very similar to those advanced by Aristotle: see Koyré, *Closed World to Infinite Universe,* pp. 86–87.

56. Compare *NUP* 4, 1, 63 d: "Si in vapores, vel in fumum resoluatur, tum centies millies, et forte amplius, maiorem occupabit locum [scil. mundus]," with Cleomedes, *Caelestia* (formerly called *De motu circulari*) 1.1, p. 2, 43–45 Todd (ed. R. B. Todd [Leipzig: B. G. Teubner, 1990]): εἰ δὲ καὶ εἰς πῦρ ἀναλύεται ἡ πᾶσα οὐσία [scil. ἡ τοῦ κόσμου] . . . , ἀνάγκη πλέον ἢ μυριοπλασίονα τόπον αὐτὴν καταλαμβάνειν; and see R. B. Todd, "A Note on Francesco Patrizi's Use of Cleomedes," *Annals of Science* 39 (1982): 311–314. Cleomedes, slightly more modest in his calculation, thought that the universe would only occupy a place at least ten thousand times greater than it does now. For Patrizi's estimate of the current size of the universe, see *NUP* 1, 8, 18 b–d.

57. *NUP* 4, 1, 65 b: "Spacium ergo extensio est hypostatica, per se substans, nulli inhaerens."

58. See on this Sorabji, *Matter, Space, and Motion,* pp. 28–29 (improving upon his "John Philoponus," in *Philoponus and the Rejection of Aristotelian Science,* ed. Sorabji [London: Duckworth, 1987], pp. 1–40, esp. 23–24).

59. *NUP* 4, 1, 65 b: "Itaque corpus incorporeum est [scil. spacium], et noncorpus corporeum. Atque vtrumque per se substans, per se existens, adeo vt etiam per se stet semper, atque in se stet: neque vnquam, neque vsquam moueatur, neque essentiam; neque locum mutet, nec partibus, nec toto." See also (e.g.) 4, 2, 68 b; 4, 23, 122 a.

60. *NUP* 4, 3, 69 ab: "[O]stendimus [.] punctum id esse, quod in spacio sit minimum. . . . Atque ita quod Euclides vti principium supposuerat, punctum partes nullas esse [= Euclid, *Elements* 1, def. 1], vti principiatum est demonstratum."

61. For some preliminary observations on Patrizi's geometry, see E. Cassirer, *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit,* 2nd ed. (Berlin: Bruno Cassirer, 1911), 1:260–267. The discussion by H. Védrine, "L'obstacle réaliste en mathématiques chez deux philosophes du XVI^{e} siècle: Bruno et Patrizi," *Platon et Aristote à la Renaissance: 16^{e} Colloque international de Tours,* De Pétrarque à Descartes 32 (Paris: Vrin, 1976), pp. 239–248, is superficial and inadequate.

62. See *NUP* 1, 1; 1, 10; and 4, 4 (on which this account is mainly based). It is beyond the scope of this essay to give a general account of the history of "light metaphysics"; in any case, such comprehensive studies as I have been able to consult contained nothing illuminating about Patrizi. For the general history of the doctrines of light as a *physical* phenomenon (as opposed to a *metaphor*), see V. Ronchi, *The Nature of Light: An Historical Survey* (London: Heinemann, 1970). On Patrizi in particular, see E. E. Maechling, "Light Metaphysics in the Natural Philosophy of Francesco Patrizi da Cherso (1529–1597)" (M.Phil. thesis, University of London, 1977). I have not seen A. A. Spedicati, "Sulla teoria della luce in F. Patrizi," *Bollettino di storia della filosofia dell'Università degli Studi di Lecce* 5 (1977): 244–263 (mentioned by Muccillo, "Ficino e Patrizi," p. 668 n. 155). For a preliminary survey of the sources of the *Panaugia,* see Muccillo, pp. 665–670.

Patrizi distinguishes (as others had before him) between *lux* ("the source of light"; see 1, 1, 1 c: "Dei ipsius eiusque bonitatis imago"), *lumen* ("luminosity"; ibid.: "primaria eius [scil. lucis] proles"), and *radii* ("rays," which are also said to be he first offspring of *lux,* on which account *lumen* would be the second; 1, 3, 5 b: "Radius . . . quasi lux secunda. . . . Lumen autem est lux tertia, tum a prima, tum a secunda emanans"). For the purposes of this article, the places of *lumen* and *radii* in respect to *lux* are of no importance; "light" is indiscriminately used to translate *lux* and *lumen.*

63. *NUP* 4, 4, 73 d: "Verissimeque dictum; Deum, lucem inhabitare inaccessabilem [*sic*!], idest in seipso qui est inaccessibilis non solum, postquam eam iussit in mundo fieri, sed perpetuis antea seculis, et tota eius sempiternitate."

64. *NUP* 4, 4, 73 c: "Lux autem e se lumen non emittere, non potest"; see also 74 b.

65. Patrizi himself explicitly states in the same chapter "cum Dionysio" that God is "ὑπερούσιος, superessentialis" (74 a): see, e.g., ps.-Dionysius, *De divinis nominibus* 1.1, ed.

B. R. Suchla, Patristische Texte und Studien 33 (Berlin: De Gruyter, 1990), p. 108, l. 7; p. 109, ll. 11.13, etc.

66. *NUP* 4, 4, 73 c: "Quid autem facilius fundi potuit per spacium, quam lumen?" All the quotations in the remainder of this paragraph are from chapter 4, 4. For light as bodiless body, see also 1, 1, 2 d and 3 a; 1, 4, 10 a; 1, 8, 12 a; 4, 4, 74 b.

67. *NUP* 1, 1, 1 c; 4, 4, 75 c.

68. See above all *NUP* 1, 5–9. The distinction between different kinds of light raises the question of its homogeneity, but it seems that Patrizi introduced the distinction in the opening chapters of the *NUP* only to forget it later. Since it appears to play no role in the further development of the work, it does not require an extensive treatment here.

69. For a comprehensive genealogy of the succession of philosophers, see *NUP* 2, 9, 19 a–20 b, and for the general context the rather too superficial remarks by C. Vasoli, "L'idea della *prisca Sapientia* in Francesco Patrizi," in *Roma e l'antico nell'arte e nella cultura del Cinquecento,* ed. M. Fagiolo, Biblioteca Internazionale di Cultura (Rome: Istituto della Enciclopedia Italiana, 1985), pp. 41–56, esp. 49–51, with the literature quoted pp. 53–54 n. 2.

70. Patrizi's cautionary words (*NUP* 3, 4, 54 a: "si vere Plutarchus scripsit") show what an unusually meticulous historical scholar he was for his days. In fact, the view he ascribes to Democritus on the strength of a doxographical account by "Plutarch" is the result of a garbled reading of a few words in the Ps.-Plutarch, *De placitis* 1.7, p. 67, 7–8 Mau (*Placita philosophorum,* ed. J. Mau, in *Plutarchi Moralia,* ed. K. Ziegler et al., vol. 5, fasc. 2.1 [Leipzig: B. G. Teubner, 1971]) = p. 87 Lachenaud (*Opinions des philosophes,* ed. G. Lachenaud, in Plutarque, *Oeuvres morales,* tome 12, 2e partie [Paris: Les Belles Lettres, 1993]): see the apparatus *ad loc.* and *Die Fragmente der Vorsokratiker,* ed. H. Diels and W. Kranz, 13th ed. (Berlin: Weidmannsche Buchhandlung, 1968), vol. 2, no. 68 [55], A 74, p. 102, 14.

71. *NUP* 3, 4, 54 a and 55 b.

72. The first departure from tradition is when Patrizi says (*NUP* 3, 1, 49 b) that he intends to use the word *anima* to signify the human soul only, and the word *animus* to signify all other kinds of soul (e.g., "mundi, coeli, sphaerarum, siderum, elementorum, brutorum, stirpium, et si qui sunt alii": 50 b). Such a distinction is, however, not adhered to outside the *Pampsychia,* where Patrizi favors the far more common word *anima* for "soul" throughout. This may be another hint that the work lacks the author's *ultima manus*.

73. B. de Spinoza, *Ethica ordine geometrico demonstrata* (1677), in vol. 2 of *Opera,* ed. C. Gebhardt (Heidelberg: Winter, 1925), pars 2, prop. 43 (scholium).

74. For a fuller but even more repetitive list, see *NUP* 3, 2, 51 c.

75. *NUP* 3, 2, 51 c: "[M]undus conseruetur, vniuersitas rerum constet, quousque placitum illi fuerit, qui vniuersa condidit." The exact relationship between God and the *un'omnia* is nowhere made explicit.

76. *NUP* 3, 4, 56 d.

77. The expression is Dodds's, in Proclus, *Elements of Theology,* p. 247.

78. All we are told is that they do so "mirando quodam modo" (*NUP* 3, 2, 51 d), which is how philosophers usually express the feeling that there is "something, . . . they know not what" (J. Locke, *An Essay concerning Human Understanding* [1690], ed. P. H. Nidditch, 2nd ed. [Oxford: Clarendon Press, 1979], p. 296 [= book 2, chap. 23, §2]).

79. *NUP* 3, 2, 51 d: "[T]ertia quaedam in vniuersitate erit natura, non corporea, non incorporea. sed vtrumque et incorporea, et corporea, ita vt media quaedam sit inter vtramque. Incorporeo suo, ab incorporea pendens. Corporeo uero ad corpus vergens"; see also 4, 2, 52 a; 4, 4, 56 c; and many other passages. The logic of graduated continuity would require a sequence *incorporeum–incorporeum corporeum–corporeum incorporeum–corporeum,* which is in fact mentioned by Patrizi at 3, 2, 51 a. In practice, however, he conflates the two middle terms and does not distinguish between *incorporeum corporeum* and *corporeum incorporeum.*

80. Plotinus, for example, unambiguously stated that light and space are not bodies: *Ennead* 1, 6 (1), 3, 18; 2, 1 (40), 7, 27–28; 4, 5 (29), 7, 41–42; 6, 3 (44), 5, 29–30.

81. F. Bacon, *Descriptio globi intellectualis,* ed. J. Spedding, in vol. 3 of *The Works of Francis Bacon,* ed. J. Spedding, R. L. Ellis, and D. D. Heath (London: Longman, 1857; 2nd reprint, Stuttgart-Bad Cannstatt: Frommann-Holzboog, 1986–1994), pp. 713–768, esp. 747: "Quae enim a Platonicis et nuper a Patritio (ut diviniores scilicet habeantur in Philosophia) dicuntur [scil. de coelis et spatiis immateriatis], non sine superstitione manifesta, et jactantia, et quasi mente turbata, denique ausu nimio, fructu nullo, similia Valentini iconibus et somniis"; cf. idem, *De dignitate et augmentis scientiarum,* ed. J. Spedding, in vol. 1 of *The Works,* pp. 423–837, book 3, chap. 4, esp. p. 564: "Dogmata . . . Patritii Veneti, qui Platonicorum fumos sublimavit."

82. The Greek text of the *Corollarium* can be found in Simplicius, *In Aristotelis Physicorum libros quattuor priores commentaria,* pp. 601, 1–645, 19 Diels. The latest English translation is by J. O. Urmson, *Corollaries on Place and Time* (London: Duckworth, 1992); the passages referring to Proclus (i.e., pp. 611, 10–618, 25) can also be found (with facing Greek text) in S. Sambursky, *The Concept of Place in Late Neoplatonism* (Jerusalem: Israel Academy of Sciences and Humanities, 1982), pp. 64–81, and a French translation of them was produced by A.-J. Festugière as Proclus, *Commentaire sur la République,* (Paris: Vrin, 1970), 3:328–348. The quotations from the *Corollarium* can be found at *NUP* 1, 8, 19 c–d and 1, 9, 20 b; they refer to Simplicius, *In Phys.,* pp. 612, 29–613, 5; 614, 1–7; 616, 25–31, 34–35. Henry's "Francesco Patrizi" already contains a general reference to the *Corollarium de loco* (p. 556 n. 50), but the author (who seems to be relying on P. Duhem, *Le système du monde,* 10 vols. [Paris: Hermann, 1954–1959], for his knowledge of Proclus) fails to see the full significance of this identification.

83. See on this claim that space is body L. P. Schrenk, "Proclus on Corporeal Space," *Archiv für Geschichte der Philosophie* 76 (1994): 151–167. Patrizi also knew an explicit formulation of the distinction between corporeal resistance and spatial extension that was made by Porphyry, *Vita Pythagorae* 47, p. 58, 12–16 des Places (*Vie de Pythagore,* ed. and trans. E. des Places [Paris: Les Belles Lettres, 1982]): μαθήμασι τοίνυν καὶ τοῖς ἐν μεταιχμίῳ σωμάτων τε καὶ ἀσωμάτων θεωρήμασι τριχῇ μὲν διαστατὰ ὡς σώματα, ἄνευ δ'ἀντιτυπίας ὡς ἀσώματα προεγύμναζε κατὰ βραχὺ πρὸς τὰ ὄντως ὄντα

(τριχῇ . . . ἀσώματα is excluded from the text as an interpolation by des Places; the *Vita Pythagorae* is referred to by Patrizi in his *Chaldean Oracles* [as in note 1], fol. 3 d).

It is perhaps not superfluous to note that Descartes's argument for the corporeality of space is very different from Patrizi's and rests on his identifications of space with extension, of extension with matter, and of matter with body: the two claims have nothing in common but the name.

84. Proclus apud Simpl., *In Phys.,* p. 612, 25: σῶμα ἄϋλον (rather than *σῶμα ἀσώματον).

85. Proclus apud Simpl., *In Phys.,* p. 612, 19–35; quoted *NUP* 1, 8, 19 c (translation by Urmson, *Corollaries,* with slight alterations). This thought experiment recalls Plotinus, *Ennead* 5, 8 (31), 9, 1–15.

86. See *NUP* 4, 4 passim. Proclus apud Simpl., *In Phys.,* p. 612, 29: φῶς ὁ τόπος ἂν εἴη. See on this L. P. Schrenk, "Proclus on Space as Light," *Ancient Philosophy* 9 (1989): 87–94.

87. *NUP* 4, 4, 73 d.

88. *NUP* 4, 11, 88 a: "Coelum confessione Astronomorum et Philosophorum omnium nationum . . . esse sphaericum. Quid item prohibet, Pyramidem, cubum, octaedrum, dodecaedrum, Icosaedrum, si axibus figantur cicumuolui?"

89. Ibid. Another minor problem concerns Patrizi's statement that the shape of light is *orbicularis* (*NUP* 1, 1, 2 d). To this I have no solution to offer except to let it stand as a contradiction within Patrizi's own system (cf. note 72). Sadly unsatisfactory as this contradiction may be, I have not come across a passage in the *NUP* (or in any other of Patrizi's works, for that matter) that would allow us to explain it away or, even better, to resolve it on a higher level.

90. See on Plato's chariot and the Neoplatonists R. Cudworth, *The True Intellectual System of the Universe,* 2nd ed. (London: J. Walthoe, 1743), 2:787–793, and J. F. Finamore, *Iamblichus and the Theory of the Vehicle of the Soul,* American Classical Studies 14 (Chico, Calif.: Scholars Press, 1985), who gives a full bibliography of earlier works on the subject.

91. Proclus, *In Rem publicam,* 2, 196, 24–26 Kroll (*In Platonis Rem publican commentarii,* ed. W. Kroll [Leipzig: B. G. Teubner, 1899–1901]). Cf. Simplicius, *In Phys.,* p. 615, 33–35 (quoted in note 92 below), where this doctrine is similarly ascribed to Porphyry.

92. Proclus apud Simpl., *In Phys.,* p. 615, 33–35: καὶ δύναιτο μὲν ἂν τὸ αὐγοειδὲς ὄχημα τῆς τοῦ παντὸς ψυχῆς ἐνδείκνυσθαι, ὡς ὁ Πορφύριος ἐξηγήσατο. The doctrine here ascribed to Porphyry can already be found in the newly discovered summary accounts of the first two books of Galen's *Commentary on the "Timaeus"*: see C. J. Larrain, *Galens Kommentar zu Platons Timaios,* Beiträge zur Altertumskunde, 29 (Stuttgart: Teubner, 1992), §9, p. 86, ll. 11–13: ἂν δ' ἀσώματόν τις τὴν ψυχὴν εἶναι λέγῃ καθάπερ ὁ Πλάτων, ἀλλ' ὄχημά τι δίδωσιν αὐτῇ αὐγοειδές. Proclus' *Commentaries on the "Republic"* were included in J. Oporinus' edition of Plato's *Opera omnia* (Basel: Ioannes Valder, 1534), which Patrizi might have known.

93. *NUP* 1, 4, 11 a: "Est enim lumen virtutum coelestium vehiculum, et vinculum vniuersi superi et inferi." In view of Patrizi's undeniable use of Proclus/Simplicius as his main source for the speculations on light and space, I feel that the question, sometimes encountered in secondary literature, of whether he was "influenced" by B. Telesio's speculations on the same (see, e.g., *De rerum natura iuxta propria principia libri IX* [1586; reprint, Hildesheim: Olms, 1971], 1.25–28, 2.16–18, 4.5–17) loses some of its pertinency unless the extent and nature of this "influence" are severely qualified.

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5

The *Problemata* as a Natural Philosophical Genre

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The Aristotelian corpus not only established for some two millennia the definitions and standards for many branches in the natural sciences, but also founded a genre that respected neither the disciplinary boundaries nor the systematic presentations for which Aristotle is famous. Although rightly called pseudo-Aristotelian in their final form—thirty-eight books containing some nine hundred problems, accumulated over the centuries by the Peripatetic school possibly as late as the fifth or sixth century C.E.—the *Problems* of Aristotle developed from an authentic Aristotelian core and spawned a vigorous tradition of editions and imitations. The latter outlasted the active use of the rest of Aristotle's natural science, with the publication of another work entitled "Problemes of Aristotle" through the eighteenth and even the nineteenth centuries.[1] Collections of *problemata,* variously copied or imitated from Aristotle and other ancient models (notably Alexander of Aphrodisias, Plutarch, and Cassius), comprised questions and answers about the causes of natural phenomena (especially relating to medicine, natural history, and meteorology) and elicited learned and popular interest to fuel over one hundred editions in the genre during the early modern period. I would venture that only books of secrets surpassed the *problemata* among works of natural philosophy in their bulk and the range of their success.[2]

The continuities and shifts in this long-lived genre illustrate the persistence and changing purposes of an encyclopedic inquiry about the particulars of nature independent of institutional and disciplinary boundaries. *Problemata* promised authoritative philosophical, that is, causal, understanding, made pleasant through the variety and familiarity of the phenomena they explained. Following the lead of Brian Lawn's masterly survey of problem literature,[3] but substituting Aristotle for the Salernitan questions as my point of departure, I wish to identify the *problemata* as a distinct subgenre within the broader category of works composed in question-and-answer format, generated by the editions and imitations of, as well as additions to, the "Problems of Aristotle" and defined by a characteristic combination of title, form, and range of topics.[4] After a general discussion of some of the other uses to which