

## THE FOUR KINDS OF REALITY IN THE *TIMAEUS* AND *PHILEBUS*

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According to the grand cosmogonic vision of *Timaeus*, the reality before creation of the world already had a complex structure, and the process of creation was not creation out of nothing: the universe is created by the demiurge from prime matter in space using eternal paradigms as models. In the *Philebus* the reality also has a complex structure, but this structure is unlike the one presented in the *Timaeus*. Is there any connection between these two renderings of the structure of reality? This is the question this paper attempts to answer by first determining the meaning of the four kinds of reality presented in *Timaeus* and then in *Philebus*.

According to the *Timaeus*, the universe was full of beings before our world was created. The reality was populated by four kinds of beings, all of them eternal, without which creation would not have been possible. They were the demiurge, being, space, and becoming.

The first of these beings is the demiurge, God, about whom Plato does not tell us much. The demiurge is perfect, unchangeable, unmoving — an author of perfection, beauty, and goodness. The demiurge is the creator of the universe and everything which is in it. He is life and intelligence. However, we must be satisfied only with such general images of the demiurge because “the father and the maker of all this universe is past finding out and even if we found him, to tell to all men would be impossible” (28c). His nature is inscrutable to humans, created beings with finite, limited understanding. It appears that the demiurge is a mind, *nous*, that is located in the soul. In the *Timaeus* we see that before creation, “the creator found... that intelligence (*nous*) could not be present in anything which was devoid of soul” (30b), which obviously prevents the existence of an intelligence in a creation without a soul, but it seems also

to mean that the creator himself has a soul.<sup>1</sup> Also, would not the fact of his own soul be the best way of supporting the claim that *nous* should not exist unassociated with a soul? After all, the soul is “the only thing there is that properly possesses understanding” (46d) and where there is *nous*, there must be life and thus soul (*Sophist* 249a) and “there could be no wisdom and reason without a soul” (*Philebus* 30c).

The second thing that existed before the cosmos was created is the indestructible and unchangeable being which is invisible and accessible to understanding (*Timaeus* 52a). The latter characteristic indicates that being is the world of eternal ideas, but the demiurge is not included in being because he is “past finding out”; the demiurge is, as it were, beyond being, and ideas are eternal models used by the demiurge in shaping the world. Things in the world are molded in their image, the former are imitations of the latter, which means not only that these things are inferior to ideas, but also that being imitations “secures for them some dignity and value”.<sup>2</sup>

Next, there is space, the third kind of reality, which is filled with a chaotically moving mass (“prime matter”). This mass constitutes the fourth component of reality before creation of the world.

The fact that space and becoming are listed separately indicates that space should be understood in a Newtonian spirit, independent of mass, rather than in an Einsteinian manner as space being an attribute of the mass in a spatio-material union. Space is independent of what is in it, not an aspect or attribute of what it contains.<sup>3</sup> Space is not to be understood as an empty container of atomists since Plato rejects the existence of the void. Space is never empty, but, still, it is independent of its content.

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<sup>1</sup> Because self-motion is primary among motions and because a self-moving soul is generated, the demiurge identified with *nous* must have a soul or be a soul, Lloyd P. Gerson, *God and Greek philosophy: studies in the early history of natural theology*, London: Routledge 1990, p. 76.

<sup>2</sup> Friedrich Solmsen, *Plato's theology*, Ithaca: Cornell University Press 1942, p. 102.

<sup>3</sup> Thus, it does not appear to be correct to state that we cannot speak about distinguishing space and matter, as maintained by Dietrich J. Schulz, *Das Problem der Materie in Platons Timaios*, Bonn: Bouvier 1966, p. 55, and seconded by Wolfgang Scheffel, *Aspekte der platonischen Kosmologie. Untersuchungen zum Dialog 'Timaios'*, Leiden: Brill 1976, pp. 61, 77, 79.

This space seems to be identical with “a receptacle of all becoming, its wetnurse” (49a), as suggested by Aristotle (*Physics* 209b12),<sup>4</sup> but Aristotle does not appear to be correct in equating matter with space. Aristotle almost certainly used as a guideline Plato’s definition of receptacle as “the thing... totally devoid of all characteristics” (*Timaeus* 50e), which coincides with his own definition of matter (e.g., *Metaphysics* 1029a), but receptacle is that in which becoming takes place, not out of which the becoming is.

The demiurge exercises his power on primal matter out of which the universe is formed, but exercising this power does not go unchallenged. The problem is that the prime matter “of fire, and water, and air and earth, such as they were prior to the creation to the heaven” is not absolutely malleable and is in possession of powers of its own. Therefore, next to “the works of intelligence”, we must also consider “the things which take place out of necessity — for the creation of this world is the combined work of necessity and mind. Mind, the ruling power, persuaded necessity to bring the greater part of created things to perfection” (*Timaeus* 47e–48a).

“The things which take place out of necessity” is a primal mass that is an unstructured, unorganized entity in which changes take place in an unpredictable manner. It is “the nature that receives all the bodies”, the thing that is “totally devoid of all characteristics”, an “invisible and formless being” (50b,e, 51a), in which elemental stuffs, that is, fire, water, earth, and air show at best “faint traces of themselves” (53b) because, in fact, in this disordered mass there was nothing “deserving to be called... fire, water, and the rest of the elements” (69b).

Necessity is a force acting on the level of primal matter. Through it, there arises a constant shaking of space that encompasses matter, and every now and then the shaken matter can configure into regular solids, that is, four elements. This emergence of the elements, however, is not permanent, and the same shaking of space leads to their decomposition. In this sense, then, fire, water, earth, and air show only “faint traces of themselves” in primal matter and they are not “as perfect and excellent as possible”. The task at hand is now to organize prime matter in perma-

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<sup>4</sup> Giovanni Reale considers space to be an aspect of receptacle, although in another place he says that “the receptacle is identical with spatiality”, *Toward a new interpretation of Plato*, Washington: The Catholic University of America Press 1997, pp. 381, 385; cf. also Heinz Happ, *Hyle*, Berlin: de Gruyter 1971, p. 111.

ment perfect atoms of the four primal stuffs and then make out of them all things in the created world. This requires the use of a more organized, goal-oriented force than necessity could ever muster when left to its own devices, because by its nature, necessity has no devices at all. Creating the four types of atoms,<sup>5</sup> establishing proper proportions between them (32b), and then forming the world out of the four constituents (32d) requires a persuading activity of the demiurge.

This spherical world brought into rotational motion and endowed with a soul is as perfect as a world can be, thus being itself "a blessed god" (34b). However, one thing was missing in perfection. As created, the universe was not eternal. It did not have an infinite duration. The demiurge, ideas used as models for the universe, and primal matter are truly eternal because they are everlasting entities about which it can be simply said that they *are*. The universe *is* only in a qualified sense because its being has a starting point and its being was initiated by the demiurge. As such, the world apparently cannot share the demiurge's eternity. This eternity can only be imparted on it in the form of never-ending time which embraces it, and within which it can only be said that the universe is because each point of time is associated with a state of the universe. Time only imitates eternity; it is only a "moving image of eternity" (37d) whose sole function is to make the universe close to perfection. But how is it possible that creation includes creation of time, and yet motion of space was caused by necessity? Does it not involve a contradiction? The demiurge and ideas are immovable in their eternal respite, but primal mass is in motion; therefore, it is possible to distinguish a before and an after of each point of prime matter based on their positions in space at the beginning and at the end of some movement. In Aristotelian fashion then, time can be defined as a measure or as a number of motion (*Physics* 223a33). The contradiction can be solved by observing that the Aristotelian definition of time refers to orderly, periodic movements, so that in the absence of uniform movement there is no time. And this is certainly the case with unordered movements of prime matter in the pre-cosmic space. Although events taking place in this space can be put in a sequence, the sequence is of a nontemporal nature because the events are not ruled by any regular law. "It is only when the regular motion of the heavenly bodies comes into being that time be-

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<sup>5</sup> Not only living beings, but also "fire, water, and things like that, which natural things come from, are each generated and produced by a god" (*Sophist* 266b).

gins".<sup>6</sup> That is, time begins with the formation by the demiurge of earth, moon, sun, planets, and fixed stars — and their movements.

Necessity is a force which has to be coeternal with the demiurge. If it were not, it would have been created by the demiurge. Would the intelligence, source of order in the universe, bring into being a force which would disrupt the orderliness of this universe? Would the demiurge, the source of perfection purposely create a force which would undermine this perfection? Moreover, necessity must be coeternal with the demiurge because the matter out of which the universe is formed is also coeternal with him. The lack of order in prime matter is not tantamount to the total chaos, but to the presence of necessity. Chaos in the prime matter is not a total privation of order, but an "ordered disorder". If the lack of order were just a privation, then the demiurge would have to deal only with the passivity of the chaos to bring it to order, and the extent of the created order would be only limited by the power of its intelligence and creative forces. However, Plato mentions some "principles more ultimate than these that are known to the god" (53d), which can be construed as the existence of laws on the level of quarks that constitute prime matter. In any event, the necessity in chaos is an active force which the demiurge has to face and fight intelligently by persuasion. Plato's vision is close to a manicheic outlook with two opposing forces, but for Plato order must prevail, because it is introduced by an intelligent agent, whereas necessity is a random, unpredictable, and unintelligent agent that cannot overcome intelligence, cannot plan and look forward, cannot use its own force in a meaningful fashion because it lacks (privatively) a means of organizing itself in this fashion. If necessity had such means, it would side with the demiurge, thus the best way for the demiurge to fight necessity is to infuse some intelligence into it, whereby he does not have to fight it by brute force, but by persuasion. And persuasion requires understanding, understanding requires some measure of intelligence, and thus organization — an order. So persuaded, necessity brings "the greater part of created things to perfection", so persuaded, necessity behaves as an intelligent agent and thereby acquires a measure of *nous*. However, this is only a small measure of intelligence, thus the presence

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<sup>6</sup> Gregory Vlastos, The disorderly motion in the *Timaeus*, in R. E. Allen (ed.), *Studies in Plato's metaphysics*, New York: Routledge & Kegan Paul 1965, p. 387; see also his distinction between uniform time, time(U), and irreversible temporal succession, time(S), Creation in the *Timaeus*: is it a fiction?, in R. E. Allen (ed.), *op. cit.*, pp. 410–411.

of disorderliness in the universe never ends. The primary, intelligent causes keep the universe together as "fair and good", but not perfect because the secondary, unintelligent causes are still present and active. The demiurge thus is not an almighty creator because he must share his grip on the shape of the universe with necessity. But because necessity — due to its limited intelligence — is even unable to recognize its power, there is no danger of the world falling apart. The power of the demiurge comes from his superior mind and his knowledge of how to use it in persuading necessity to do the work he intends.

Secondary causes are not completely random; they are the causes "of those things, which, being moved by others, are compelled to move others" (46e), and as such, they are necessary causes. The problem with them is that they are meaningless, they do not lead anywhere; there is no purpose perspiring in them. They are a manifestation of an energy that is wasted because it causes only an aimless motion. This is a motion for motion's sake, unable to accomplish anything and having no intention to do so. The reason is that such an intentional element is missing to start with. Secondary causes are mechanical in nature, allowing, for example, air to turn into earth through condensation, but then earth will be dissolved back into air showing no apparent purpose for these transformations. The world has to be saturated with intentionality to be meaningful; changes in it have to be preconceived to have a purpose, a causal chain has to be spurred with a plan in mind to have any orderliness in the world. Thus an order is a work of intelligence which uses natural or mechanistic causes to accomplish its goal. There is no order even in the most regular behavior of a self-driven mechanism if this mechanism was not first designed by a mind. In this sense, a work of the weakest mind is more orderly than the most regular chain of mechanistic causes. There is more order in an even pitifully shaped sculpture of a thinking being devoid of talent than in a most regular crystal shaped through natural forces.

However, could such a crystal arise as the result of secondary causes only? Not in primal matter. These movements are termed chance movements, and they cannot by themselves lead to an emergence of a structure composed of the four elements. Secondary causes result in movements that resemble Brownian movements of small particles suspended in a fluid, they result in an increase (or, at best, non-decrease) of entropy of the primal matter, that is, a uniform distribution in space of "faint traces" of air, fire, water, and earth.

The causes that count are always a work of intelligent design; they are "divine causes" (68e), teleological causes, because they are "with the eye to the future" (76d), causes "which are endowed with mind and are workers of things fair and good"; but there are also "second or co-operative causes" which "are deprived of intelligence and always produce chance effects without order" (46e). These unintelligent causes were the only ones operating before the demiurge began his work of creation.

Creating the world consisted primarily in introducing an order in prime matter through primary causation of the demiurge. But orderliness of causes means not only adding a goal to existing causal chains, but also organizing otherwise independently working secondary causes for higher purposes and making causal chains working aimlessly in parallel to serve an organizing goal which would be unattainable by one such chain only. Therefore, although the mechanism of sight is complex and can be explained in terms of secondary causes (45b–46c), these are teleological causes that imbue sight with meaning and thus with order. The demiurge "gave us sight to the end that we might behold the courses of intelligence in heaven, and apply them to the courses of our own intelligence" (47b), whereby sight is situated in a larger context of the human body and the human life. The same can be said about hearing and other senses which are interdependent and work in unison for a higher purpose of human life.

To maintain an order in the world, a constant intervention of the demiurge is needed. However, the demiurge does not have to do it personally. He only starts off the workings of the universe and maintains its orderly existence through its subsidiaries. According to Plato, stars are gods and these gods made other gods in the manner described in Greek mythology. To them the demiurge submitted the rest of work, in particular, "fashioning the generations of those that were mortal", and withdrew from the affairs of the world into its eternal rest (40e, 41a, d, 42e, 69c).<sup>7</sup> As to the world as a whole, the demiurge places in it the world-soul to continue his work.

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<sup>7</sup> This deistic solution is a good substantiation of the statement that in the *Timaeus* the demiurge "stands for nothing more than the transition of a state of unordered motion to the state of order", Hans O. Gadamer, *Idee und Wirklichkeit in Platons Timaios*, Heidelberg: Carl Winter 1974, p. 11.

The demiurge created world-soul out of the mixture of the same, the different, and being (35ab). This can mean that the soul is an instantiation of three ideas. The same guarantees the identity of the soul in the course of temporal eternity of the world. The world-soul is the same at the moment of creation as at any point in time of its existence. The different is the idea instantiated in the diversity of the world, in the complexity of its structure, in the large amount of animate and inanimate objects populating the universe. The world-soul is stretched across the entire universe, "from the center on out in every direction to the outermost limit" (36e) to have control over the universe as a whole and over all the objects composing it. Finally, being is what it is, being, existence, "an image of the idea of being"<sup>8</sup> which allows the world-soul to be, to exist. Although eternal, the world-soul is immersed in time, thus not eternal in the same way as the demiurge or the world of ideas.

What is the relation of the world-soul to the necessity? To answer that, consider first the problem of whether necessity is a soul. The fact that necessity can be persuaded indicates that it is a mind (although intelligent to a very moderate extent) and the mind seems to always indwell a soul. But it seems to be a soul also because it is a cause of motion of prime matter. The *Laws* firmly states that soul is identical with self-generating motion, which may imply that there is a soul needed in the primal matter to account for the motions of the triangles. However, "soul is identical with the original source of the generation and motion of all past, present, and future things" (896b), which indicates that soul is the source of motion in the created universe, that is, in the universe endowed with time because "'was' and 'will be' are properly said about the becoming that passes in time" and these phrases we "but incorrectly apply to everlasting being" (*Timaeus* 38a, 37e). Hence, "past, present, and future things" mentioned in the *Laws* are created things, things in the universe, including the universe itself, and only to such things is the soul necessary as the source of motion.<sup>9</sup> After all, being is always changeless (35a), and the customary nature of the demiurge is to be at rest (42e).

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<sup>8</sup> Thomas H. Martin, *Études sur le Timée de Platon*, Paris: Ladrance 1841, [reprint NY: Arno Press 1976], V.1, p. 360.

<sup>9</sup> Gregory Vlastos seems to have been of such an opinion when he wrote that the statement pronouncing the soul to be a primary cause of generation and destruction "merely denotes the supremacy of the soul's teleological action *within the created universe*", but he later abandoned this view, *The disorderly motion in the Timaeus*, in Allen (ed.), *op. cit.*, pp. 397, 396 note 4.



This statement does not seem to imply that soul is needed for motions of or in everlasting being. Hence, the disorderly motions of the prime matter are simply in the nature of this matter and their disorderly character is summarized in the concept of necessity. It seems, however, that it is more natural in the context of Plato's system to assume that necessity is a soul.<sup>10</sup>

An attempt to reconcile the existence of motion in prime matter, as stated in the *Timaeus*, with the principle that the soul is the source of motion by considering the necessity of being a soul, although unintelligent, may prove to be somewhat difficult because the demiurge created world-soul to make the world alive and intelligent, so that necessity would be another soul dwelling in the world. However, this identification is not impossible because people have an immortal soul in the head and a mortal one in the chest (69cd), that is, the world can be in possession of two souls as well. In this way, the disorderliness which needs to be held on a leash by the world-soul and its persuasive powers could be explained by necessity at work and not by "the irrational parts of the world's soul".<sup>11</sup> Being a soul, necessity would be more amenable to persuasion than a purely naturalistic force.<sup>12</sup> Moreover, as Plato explicitly asserted in the *Laws*, the soul that "keeps control everywhere" is really two souls: "that which does good, and that which has the opposite capacity" (896e), so that the former can be identified with the world-soul, the latter with necessity.<sup>13</sup>

To sum up, creation of the universe amounts to extending the realm of orderliness onto becoming, onto the chaotic primal mass. By shaping this mass in the most perfect way, the demiurge brings cosmos, that is,

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<sup>10</sup> A moral argument can also be used in support of the thesis that necessity is a soul: both good and evil are eternal (*Theaetetus* 176a) and evil cannot originate in the gods (*Republic* 379b, 391e); soul is the cause of good and evil (*Phaedrus* 245ce) so there must be an evil soul and a good soul (*Laws* 896e); consequently, the evil in the world originates in necessity, bad soul, not in world-soul which is good.

<sup>11</sup> As offered by Glen R. Morrow, Necessity and persuasion in Plato's *Timaeus*, in Allen (ed.), *op. cit.*, p. 437.

<sup>12</sup> Martin says that creating world-soul amounts to infusing intelligence into an eternal soul of chaos, necessity itself being a "disordered soul", v.2, pp. 183, 190.

<sup>13</sup> Solmsen sees a progression from an inanimate blind necessity of the *Timaeus* to a living bad soul to be exercised under the influence of the Persian religion, *op. cit.*, p. 142.

an order, to the domain of becoming.<sup>14</sup> Becoming is afterwards still becoming, but now it is ordered due to infusing time-ordering and purposiveness of chains of events into the eternal becoming. Unordered becoming is turned into ordered becoming. It is in constant motion so that even space is shaking thereby occasionally separating elements of primal mass, but on its own, becoming never reaches perfection. It lacks sufficient force. If there were such a force, then it would already be perfect because it would have had entire eternity to reach it. Thus, the demiurge intervenes. He creates a perfect universe, but the universe is still in the state of motion and thus becoming because it lacks at least one element of perfection, namely eternity. It has an image of eternity only, so that the universe is doomed to temporally eternal movement without any prospect of becoming one of the non-temporally perfect entities.

Introducing an order in the universe, however, requires an infinite cause even though the dimension of the universe is limited. Even though the universe were limited in time, the demiurge would have to possess infinite cognitive capacity to choose from an infinity of possibilities the one which is best. God made the world by bringing chaos into order, that is, by fashioning with "form and number things which were not fair and good" (53b).<sup>15</sup> The amount of forms and numbers is infinite and this requires an infinite mind to consider them. The order of the universe is thus based on the order inherent in the demiurge, and the demiurge's knowledge of this order. Even creating the best finite world requires an infinite knowledge because the order is definable only in numerical terms as proportion and harmony,<sup>16</sup> and the amount of numbers is infinite.<sup>17</sup> The order then presupposes infinity. The *Timaeus* does not make it explicit, so to see it better, we turn now to the *Philebus*.

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<sup>14</sup> Creation is "the art of determining the undetermined, of ordering the unordered", Gadamer, *op. cit.*, p. 35.

<sup>15</sup> We can thus agree with the statement that the demiurge is not only the perfection, but infinite perfection, Jules Simon, *Études sur la théodicée de Platon et d'Aristote*, Paris: Joubert 1840, p. 202.

<sup>16</sup> "Every craft and science must have share in" number and calculation (*Republic* 522c). "No knowledge without number", as phrased by David A. Kolb, Pythagoras bound: limit and unlimited in Plato's *Philebus*, *Journal of the History of Philosophy* 21 (1983), p. 505.

<sup>17</sup> "If there is number, there would be... an unlimited multitude of beings" because each number is also a being (*Parmenides* 144a).

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The *Philebus* is concerned with the problem of pleasure and its role in a happy, well-rounded life vs. the role of knowledge and truth. Parenthetically, Plato discusses four elements of reality: the *apeiron* (the unlimited), *peras* (the limit), mixture, and cause. The discussion is very sketchy and not always unequivocal.

The *apeiron* forms a class of entities because the *apeiron* is a unity in that it includes entities of the same kind, and this class is "marked out by the common character of the more or less" (26d). Whatever can become "more and less" or "too much" is of the genus of the unlimited (25a). The elements of the *apeiron* are characterized by fluidity, by admitting of degrees, by being indefinite. These can only be properties or qualities, such as the heat, longitude, temperature, color, pleasure, of which there can be more in one case and less in another. Plato explicitly mentions pleasure and pain as elements of the class *apeiron*: "pleasure and pain admit the more and less and belong to the unlimited kind" (41d). It may appear then that *apeiron* is composed of qualities. However, we also read that the hotter and the colder, the more and less "never have an end and since they are endless, they turn out to be unlimited" (24d), that is, the hotter and the colder, the ability of temperature to have gradations, is included in the *apeiron*. Also, Plato lists "the high and the low, the fast and the slow" among the elements of the *apeiron* (26a). It may appear now that qualities of qualities are included in the *apeiron* as well. This, however, would create a nonhomogeneous class: the class of qualities and qualities of qualities. Moreover, there would not be any connection between temperature and the hotter and the colder in the *apeiron*. It seems that Plato uses different ways of saying that the *apeiron* is composed of elements (qualities) seen from the perspective of their having degrees.

Elements of the class *apeiron*, such as pleasure, do not possess "a beginning, middle, or end" (31a). Pleasure admits of different degrees and as such it is *apeiron*. The continuum of pleasures along with the possibility of saying about any two pleasures that one is lesser than another becomes an element of *apeiron*. This continuum has no beginning, middle, or end, thus it is infinite. There is an infinity of pleasures, but any two of them, as elements of the same continuum, can be meaningfully compared. Plato is more interested in that the elements of the *apeiron* admit of degrees and have to be defined in each particular case than

in that these elements are infinite. The infinity of these continua is a side-effect of their indefiniteness. The qualities in the class of the *apeiron* are indefinite because they may have no bounds, have no beginning or end; they may also be indefinite because they have bounds that cannot be reached and they admit of an infinite number of degrees; they are endless in the number of degrees.

There are attempts to include in the class *apeiron* not only continua, but also elements of continua. For example, the statement that elements of the class *apeiron* do not possess "a beginning, middle, or end" is interpreted to mean that "we cannot meaningfully talk about a beginning, middle, and end" of "an object that has no specific measure".<sup>18</sup> However, it does not seem possible that an object has no specific measure, e.g., no specific temperature or mass. The measure can be unknown to us, but the object still has one and as such, the measure is defined if only in itself. But even if we know the measure, what would it mean to "meaningfully talk about a beginning, middle, and end" of an object or its measure? Moreover, the statement that "pleasure and pain admit the more and less and belong to the unlimited kind" (41d) does not imply that "individual pleasures and pains" can also be characterized as *apeiron*;<sup>19</sup> this is supposedly so because Plato is talking about comparison of pains and pleasures which is meaningful only when particular pains and pleasures (pains and pleasures of particular magnitude) are compared; but although comparing continua may be reduced to a comparison of their elements, this does not mean that the elements are of the same genus as the continua.

The second class discussed in the *Philebus* is the class *peras*, the limit. Whatever can be determined as equal or double or anything "that is related as number to number or measure to measure", belongs to the category of the *peras* (25ab). The class *peras* is made out of what is "commensurate and harmonious" because a "definite number" is imposed on them (25e). For instance, "in frost and heat, limit takes away their excesses and unlimitedness, and establishes moderation and harmony in that domain" (26a), so it appears that "frost and heat" are *apeiron* if characterized as excessive and *peras* if seen as harmonious. Frost and heat are temperatures, opposite sides of temperature, so that tem-

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<sup>18</sup> Gisela Striker, *Peras und apeiron: das Problem der Formen in Platons Philebos*, Göttingen: Vandenhoeck & Ruprecht 1970, p. 41.

<sup>19</sup> Striker, *op. cit.*, p. 50.

perature may be characterized at one time as *apeiron*, at another as *peras*. Moreover, the “excess and the overabundance” of our pleasures is contrasted with “law and order” imposed as a limit on pleasures (26b). This indicates that pleasures, like temperature, seem to belong both to the category of the *apeiron* and that of the *peras*. How can this be?

*Apeiron* is a set of qualities characterized qualitatively. We may say that one object has quality  $Q$  to a lesser extent than another object. All the objects can be ordered by a relation proper to  $Q$ . Numbers are not involved in the characterization of the elements of the *apeiron*, although this can be done. We can map, for example, all temperatures and the relation of hotter-and-colder onto the domain of real number and the relation  $<$ . But this is not the concern of the set *apeiron*. Qualitative characterization of qualities is all that is needed to determine the elements of this set. The qualities in the *apeiron* usually have an infinite range and so, numerically, the ranges are the same in size, but, materially, the ranges are different. Each element in the category *apeiron* is thus a pair (quality  $Q$ ,  $<_Q$ ), for example, (temperature, the hotter and the colder) or simply (temperature,  $<_{\text{temp}}$ ), (speed, the fast and the slow) or simply (speed,  $<_{\text{speed}}$ ) or (speed, being slower than), (pleasures, excess) or (pleasures, being lesser than), etc. Particular qualities  $Q$  along with the corresponding relations  $<_Q$  are particular substrata included in the set *apeiron*, and in that sense they are raw material out of which particulars are formed. Temperature in that sense is a continuum, that is, a set of particular temperatures organized by the relation “being lesser than”. This temperature is *apeiron* because it is indiscriminate about how, where, and to what extent it should be utilized. There are no landmarks on this continuum which would allow us to say what is too much, too excessive, too abundant. Such landmarks have to be added to it — and then temperature becomes *peras*, becomes tamed, friendly, usable, meaningful.<sup>20</sup> These landmarks are given as the laws of harmony imposed on each quality separately, so that each quality has laws specific to it, because harmony and proportion varies from one quality to another. Therefore, the *peras* is composed out of the same qualities as *apeiron*, but instead of looking at them as uniform continua as the *apeiron* does, the *peras* takes these qualities along with the laws specifying

<sup>20</sup> For Plato, the unlimited is worthless until “it receives through the limit an order and thereby some value”, Jonas Cohn, *Geschichte des Unendlichkeitsproblems im abendländischen Denken bis Kant*, Leipzig 1896 [reprint Hildesheim: Georg Olms 1960], p. 34.

their harmony and proportion. The latter, however, can only be defined with numbers, thus *peras* characterizes qualities quantitatively.<sup>21</sup> In this way, the qualitative indeterminacy of qualities is overcome by making them a subject of quantitative laws. The association of the qualitative order of qualities with their quantitative order is not accidental because "the art of measurement... is the art of the greater and the lesser", in a word, "nothing other than arithmetic" (*Protagoras* 357a).

This discussion can be summarized in the statements that it is not the case that

$$apeiron = \{ \text{height, speed, ..., quality } Q, \dots \}$$

and not

$$peras = \{ \text{height}_1(\text{object}_1), \text{height}_1(\text{object}_2), \dots, \text{height}_1(\text{object}_1), \text{height}_1(\text{object}_2), \dots, \text{speed}_1(\text{object}_1), \dots, Q(\text{object}_k), \dots \}$$

but instead (the names of relations are Plato's)

$$apeiron = \{ (\text{height, the high and the low}), (\text{speed, the fast and the slow}), (\text{temperature, the hotter and the colder}), \dots, (\text{quality } Q, \text{ more-or-less}_Q \text{ (also called excess-and-overabundance}_Q \text{ or excess-and-limitedness}_Q)), \dots \}$$

and

$$peras = \{ (\text{height, law-and-order}_{\text{height}}), (\text{speed, law-and-order}_{\text{speed}}), \dots, (\text{quality } Q, \text{ law-and-order}_Q \text{ or moderation-and-harmony}_Q), \dots \}$$

Existing things are generated from the mixture of the *apeiron* and *peras* (16d, 27b). This is a mixture in the sense that everything that is, is characterized by many qualities and these qualities have to be in proper proportion. For example, pleasure and pain by themselves belong to the *apeiron* (41d), but lamentation is a mixture of pleasure and pain, "and so it is on infinitely other occasions" (50b). Similarly, man is a being characterized by height, temperature, movements with a certain speed, etc. If any of these qualities is exceeded, then an improper being arises, an unfit being. There cannot be a man 10 feet tall. Such a mixture is inadmissible; in fact, it is not a mixture at all. However, a 10 foot height is proper for trees and a tree mixture that includes the height of 10 feet is admissible. Proportions between height, temperature, speed, etc. that characterize man are different than proportions between these qualities characterizing a tree. "Any kind of mixture that does not in some way or

<sup>21</sup> It is a simplification to state that the *peras* encompasses all numbers and measures but no laws: Striker, *op. cit.*, pp. 60, 61, 68. The numbers and measures have to be meaningfully associated with qualities and this is done by laws corresponding to the qualities. It is then incorrect to exclude these laws from the *peras* and retain only numbers isolated from the qualities.

other possesses measure or the nature of proportion will necessarily corrupt its ingredients and most of all itself. For there would be no blending in such cases at all but really an unconnected medley" (64de).

To create a proper mixture, knowledge of numbers is necessary. "If someone were to take away all counting, measuring, and weighing from the arts and crafts [including the craft of creating mixtures], the rest might be said to be worthless" (55e). Knowledge of numbers is a necessary prerequisite in creating the laws for particular qualities. The demiurge can impose proper laws and order only if endowed with the knowledge of proportion and measure that is built, among other things, from the knowledge of numbers. This knowledge is also necessary to create mixtures to mix ingredients in proper proportions. This knowledge thus has to be infinite if only because the amount of numbers is infinite. Infinity therefore is present not only in the *apeiron* as an infinite extension of qualities constituting the *apeiron*, but also in *peras* to create proper laws and order for particular qualities, and also in the mixture, to mix the qualities in proper proportions. *Apeiron* indicates a passive presence of infinity in the form of infinite ranges of qualities to be operated on. The *peras* and the mixture indicate an active presence of infinity in the form of knowledge brought into motion by the cause, the fourth kind of reality in the *Philebus*, to establish proper laws for elements of reality and then to put these elements together in a proper way. In both latter cases (establishing laws and combining qualities) the cause-demiurge may be assumed to use the ideas as the model. These ideas are not explicitly mentioned in the *Philebus*, but using them, the cause-demiurge can mold the *peras* and the mixture with the infinite cognitive capability.

### 3

There were many attempts to find a correspondence between the quadruple from the *Philebus*—the *apeiron*, *peras*, mixture, and cause—and the quadruple from the *Timaeus*—the demiurge, being, space, and becoming—none of them successful, if a direct, one-to-one correspondence was attempted. The foregoing discussion indicates the following solution. There is only one direct correspondence, namely the demiurge corresponds to the cause. The cause described as "the king of heaven and earth" (*Philebus* 28c), an all-encompassing wisdom (30b), wisdom and reason (30c), is clearly a counterpart of the demiurge.

The being (ideas) is only implicitly present as the model used by the cause to form the *apeiron*, *peras*, and mixture.<sup>22</sup> These three kinds were produced by the craftsman (27ab) and as such they cannot have any direct counterparts among the four kinds of the *Timaeus* which are all eternal. The *apeiron*, *peras*, and mixture were produced by the cause which used the ideas as models for producing properties and their ordering relations and then the laws of their harmony (such ideas as the equal and the greater and the smaller (*Phaedo* 75c) were certainly instrumental in this process). Therefore, in the statement that “whatever is said to be consists of one and many, having in its nature limit and unlimitedness” (*Philebus* 16d), the phrase “whatever is said to be” cannot refer to anything eternal because the *apeiron* and *peras* are not eternal — they are produced. The “whatever is said to be” refers to the created world, to our universe in which everything has *apeiron* and *peras* in its nature, because everything in this world is a mixture of the two kinds.<sup>23</sup>

Space is not used at all in the *Philebus*. However, we can interpret its indirect presence in at least one instance. Space is characterized as “totally devoid of any characteristics” (*Timaeus* 50e, 51a), therefore, the movements of matter in space before the world was formed were truly chaotic; there was no up or down, there was no order in space. This qualitative ordering of space had to be added, to distinguish upward and downward movements, to talk meaningfully of a particular direction. This was done by creating the qualitative order and saturating space with it, that is, by adding directedness to space. Space is then only qualitatively characterized; different directions can be distinguished and motions can be qualitatively ordered.

The prime matter, the realm of becoming, is molded first by endowing it with properties, i.e., by saturating it with the *apeiron*. The matter became capable of having temperature and the temperatures could be

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<sup>22</sup> It does not seem then to be correct to see the ideas to be the result of the activity of the cause in the *Philebus* as it is sometimes assumed, e.g., Léon Robin, see Leo Sweeney, *Divine infinity in Greek and Medieval thought*, New York: Peter Lang 1992, p. 108. Some identified ideas with the *peras*, e.g., Cornelia J. de Vogel, “La théorie de l’apeiron chez Platon et dans la tradition platonicienne”, *Revue philosophique de la France et de l’Etranger* 84 (1959), pp. 22, 25. See also a discussion in David Ross, *Plato’s theory of ideas*, Oxford: Clarendon Press 1953, pp. 133–136.

<sup>23</sup> Usually “whatever is said to be” is identified with everything that exists, including the world of ideas. An extreme view is to identify it only with ideas, as done by Striker, *op. cit.*, p. 22; cf. discussion in Justin C. B. Gosling, *Plato’s Philebus*, Oxford: Oxford University Press 1975, p. 84.



ordered. The matter became capable of displaying colors and colors could also be ordered. The matter became saturated with properties that later are put in different configurations and intensities in mixtures.

The *peras* specifies the laws proper to particular qualities that can now be introduced in the matter. At first, the matter "lacked proportion and measure" which have to be infused into matter as laws or quantitative order and harmony, as laws phrased in terms of "forms and numbers" (*Timaeus* 53ab). In this way the stage is set, and in this way we can interpret the statement that "prior to the coming of the time, the universe had already been made to resemble in various respects the model in whose likeness the god was making it" (*Timaeus* 39e). Before creating every body and soul in the universe, the cause-demiurge prepared qualities with which the bodies and souls were formed. The raw prime matter is tamed qualitatively with *apeiron* and then quantitatively with the *peras*. In this way the cause-demiurge persuades the necessity reigning over matter to use these elements, in particular, the laws from the *peras*, to execute its movements, and to make these movements in matter more regular, more orderly. These laws and the ideal models are used by the cause-demiurge to create particular beings in the universe, both bodies and spirits, in a word, to create a mixture. The result is the world.

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