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The World: The Tormented History of an Inescapable Para-Concept

Part I: The Pre-History of the "World"

The universe and the world have a long history of conceptual proximity, if not of coincidence. Yet their relation is a complicated one. In fact, any attempt to set a distinction between the two seems doomed to leave a certain zone of confusion. This article will try to point out how the relevance of the idea of the world in contemporary philosophy can be elucidated by mapping its complicated relation to the idea of the universe. Broadly speaking it can be remarked that "universe" seems quite constantly to indicate the ordered totality of all that is, while "world" appears to refer to a more fluctuating object, one that is both superposed if not identical to the one of universe, and a part of the latter. World in fact can refer to the earth, to any planet (other worlds), to the totality of the universe ("wherever you are in the world, one and one equals two"), or finally, by extension, to a limited totality ("in the world of musicians, many are the deaf"). The world always seems to imply an environment, an *Umwelt*, certainly provided with a constituted order, that brings with it a certain self-evidence, a whole the regularities of which can be investigated, but that ultimately appears to have an unstable definition and uncertain borders.

The term universe targets as object of inquiry the whole of that which is; it therefore comes to stand, in different senses, for totality. In fact, despite a quite vast set of more or less metaphoric uses, these uses all still cling to an original referent, to one distinctly defined object (which certainly always remains an object of inquiry): the cosmos as a consistent and remainderless totality. By contrast, when it comes to the "world", the point is not so much whether it stands for the universe or only for a part of it. Rather, it seems to signify something that is a whole, in the sense of an exhaustive set with a solid internal consistency (hence showing its near interchangeability with the noun "universe"), but whose margins we are never too sure about – a consistent totality, in relation to which something else can be thought. With the world, we encounter more difficulties in trying to relate its various uses to an original one. We find ourselves oscillating between an array of objects of reference, none of which seems to be pri-

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mary. “World” comes to signify a consistent totality, inasmuch as a constitutive uncertainty concerning its outside, its borders or the consistency of its elements casts a shadow on the solidity of said totality.

In this article I seek to underline how the concept of the world, as thought through this hypothesis, comes to play a central role in contemporary philosophy; that is, more specifically, how it comes to work as an operator that makes it possible to think beyond the critique of the notion of totality, that allows us to make sense (thus avoiding the fall into a sheer relativism) when no whole is available any longer to refer to. With its mutual irreducible meanings and with its zones of confusion, the world will appear as a sort of polymorphic formation that acts by identifying itself with totality, and therefore confusing the distinctive notion of the latter. Opaque and instable, it is as a sort of para-concept, that nonetheless firmly sits at the centre of philosophy, from which somehow it does not get expelled, as does happen with badly formed concepts. Confusedly identified with totality, it interrogates the validity of this notion; sitting at the centre of philosophy with its opaqueness and instability, it cripples the conceptual order that aims at grasping such totality, and plays a central role in the systematic organization of distinct notions, maintaining nonetheless intact its own confusion.

It will not be the aim of this article to give a diachronic, exhaustive account of the main turns that the notion of the world undertakes within the history of philosophy. It is not possible, however, to enter into our topic without first observing how the idea of the world has not been always present in philosophy. This first part of the article thus examines the conceptual space in which this term is absent, but in which a certain relation of tension between terms determines the very place in which the idea of the world will come to reside. In the second part, planned to be published in a later volume of this journal, I will investigate how in present times the concept of world underwent a sort of intensification, coming to play a particularly important role, exactly because of the operations that its confused nature allows for – a role in which are reflected, in a distorted manner, the elements that articulate the very place via which it first entered the space of philosophy.

Before the World

The beginning of philosophy seems to remain somewhat removed from the world. Not of course in the sense of it expressing some lofty lack of interest for worldly things as a certain *vulgata* cyclically comes to accuse philosophy of. The point is rather that the very notion of world seems not to be present during philosophy's initial period. The concept of world seems in fact to elude Greek thought. It would appear that the three nouns most likely to cover its conceptual field are easily translated by as many contemporary terms: *cosmos*[1] as universe; *gea* as earth (qua natural place as opposed to the sky); and to these two terms might be added *to pan*, or *ta panta*, to indicate in a distributive manner the whole of that which is. In what follows, the aim is to investigate the idea that the conceptual place for the world emerged from the relation between these terms of Greek philosophy and that the conceptual place that it comes thus to occupy will necessarily imply a certain equivocity. The world will come to appear as a certain superposition of the universe, the earth, and the whole of things. This, I argue, will give it a conceptual instability that, far from being a limitation, actually grants it a central, inescapable position in contemporary thought.

Concerning the three terms in whose place the world comes to appear, several things can be observed. First, cosmos comes to refer to the universe in as much as it is the extension of a well-articulated order. The term cosmos is used to describe an array of cases in which an order produces a harmony the effect of which is aesthetic beauty: if cosmetics, make-up, enhances beauty by hiding what are perceived as imperfections or underlying what are considered a face's proper proportions, similarly the beauty of the universe, its "cosmetic" harmony, is the reflection of the rational order that regulates it.[2] Since Thales, the term cosmos came to stand as a guarantee of finitude and unity ("the cosmos is one").[3] Also, the Pythagorean obsession with an order that irradiates through mathematical relations into all natural things and the understanding of which (through the study of mathematics, astronomy or music) ultimately constitutes

1 This article uses, for the Greek term κόσμος, the Romanization "cosmos", identical to the current term in English. Still all other terms stemming from the same root will maintain the use of "k".

2 *Cf*. for instance Plato, *Republic*, II 373c, "*gynaikeion kosmon*."

3 DK A 13b. I refer to Hermann Diels and Walther Kranz, *I presocratici*, G. Reale (ed.), Milano, Bompiani, 2006, pp. 168–169.

a moral goal, is based on the conviction that "the set of all things is to be called a 'cosmos', because of the order that is in it."[4]

The same underlying principle can be found in the two main systems of Greek classicism. Plato clearly stresses how the universe tightens a knot between aesthetic beauty and rational order – a knot that immediately implies moral consequences.[5] *Cosmos* in Greek is used not only to indicate the right constitution (where something that is correctly built is "well constituted") but also to indicate a rationally constituted political constitution: in this vein, in Plato's *Republic* the adjective *kosmios* is employed to describe how, guided by a principle of measure that only the philosopher has firmly grasped, any given trait or character, any given "type of personality" can be held within its harmonic limits (can be set to do what it is suited to doing), thus well integrating with other type of individuals. So, for instance, asks Plato: "and doesn't gentleness [...] once left to itself, become excessive softness, while on the contrary, when correctly trained, becomes order and civilization [*kosmios*, the adjective is here rendered with a noun]?"[6] This passage crucially figures as part of Plato's discussion of education through gymnastics and music, which he considers two fundamental tools for harmonizing a multiplicity of movements and sounds into a beautiful, finite, measured composition. With a stricter sense of "moral order", "cosmos" resurfaces in Book IV, where it comes to indicate "order, dominion upon passions or desires," not per se as the repression of such pleasures and desires, but rather, we are told, as a certain "sobriety" attained by their "balance" (by *kosmésanta*, i.e. "giving oneself balance").[7]

Harmonizing each individual within the limits that their type imposes on them also makes it possible to establish harmonic relations between types of individ-

4 DK b21, in *ibid*., pp. 236–237.

5 Such a knot will remain a major underlying theme that will remain intact from Greek to Roman civilization, as witnessed for instance by the double meaning of *decoro* in Latin, which indicates both the pleasant arrangement of a surface – whether a table, a cloth or someone's skin – and the capacity to behave with decency in conformity with a moral order.

6 Plato, *Republic*, III, 410e. For the Greek text I refer to Platone, *La Repubblica*, Milano, Bompiani, 2009. The translations that I have consulted are those by Roberto Radice for the same edition and by Paul Shorey, Plato, *Republic*, in *Plato in Twelve Volumes, vol. 5 and 6*, Cambridge, MA, Harvard University Press, 1978.

7 *Ibid*., IV, 443d.

uals. It is upon a same measure or harmony that both the individual and the constitutional order regulating the relations between individuals are formed – and Books 3 and 4 of *Republic* exactly describe how the interconnection of such two orders is produced through education to measure, proportion and harmony. In a key passage depicting how the philosopher forms the link between the ideal supercelestial order that he contemplates and the city to which he transmits the principle of good governance, Plato observes that the philosopher achieves such a task by "looking at and contemplating [...] realities that do not commit or endure reciprocal injustice, and are all arranged according to order and to a given relation" ("*kosmoi de panta kai kata logon ekonta*").[8] This cosmos, here presented as a reiteration of *logos*, is, it can be argued, in no way per se anything else than the cosmic universe, as this latter is such – is a universe or cosmos – inasmuch as it is shaped by a superior logic of order and proportion, without which it would not be a cosmos, but an orderless material multiplicity, a *chora*.

This metaphysical extension of the *Republic* that is the *Timaeus*, as is well known, unfolds the details of such a logic: in the first, simpler explanation of the order of the universe, the reader is plunged straight into terminological turmoil, as Timaeus speaks about the necessity to investigate the "cause of the composition of the becoming and of *to pan*" (translated either as "universe" or as "all things").[9] The concept is reiterated immediately, this time as the need to find the "principle of the becoming and of the *cosmos*" (translated either as "universe" or as "world").[10] Between the two sentences, the construction is almost identical and, to add to the confusion, *ta panta* is used again a few lines further on clearly with the generic sense of "all things."[11] The answer, of which the general characteristics are presented in this passage in the text, is that, analogously to what the philosopher will do at the microcosmical level of the city, the demiurge, wanting "all things" to be good, operates upon a tumultuous multiplicity, which swirls in a disordered becoming, and composes its movement as a moving image of the perfection of the principles of Unity and Identity. Thus ordered, fashioned, made beautiful, the whole of that which is (*to pan*) comes to

8 *Ibid*., VI, 500c.

9 Plato, *Timaeus*, 29d–e. Giovanni Reale (Platone, *Timeo*, in Platone, *Tutti gli scritti*, Milano, Bompiani, 1991) translates "universo", while R. G. Bury (Plato, *Timaeus*, in *Plato in Twelve Volumes, vol. 9*, Cambridge, MA, Harvard University Press, 1929) prefers "all things".

10 *Ibid*., 30a. Reale translates "mondo", while Bury prefers "universe".

11 *Ibid*., 50b and 50e.

form what we correctly call a "universe", a totality in which the indeterminacy of becoming is, as far as possible, reduced to the unity of a principle regulating the relation of the parts: it is due to such order that the whole is not a merely "all things", but a universe, a cosmos. This is in fact confirmed in the "palinode", in Timaeus's second and more accurate discourse, which invents a terminological dialectics that resolves the equivocity presented in the first discourse. In fact, after pointing out how the material multiplicity that constitutes all things is a sort of "amorphic kind, capable of receiving every determination,"[12] he defines the action of ordering that the demiurge imposes on it as *kosmeisthai to pan*: "to order the universe" is the translation in most editions, yet it would not be inexact to render it, as it were, as "to universize the whole," or even "to cosmeticize all things." The universe is such inasmuch as an action shapes or forces an infinity into a finite order, the mediation between the two being a well-ordered movement, such as that which the earthly observers see of rotational movement in the sky at night.[13]

As a recent study points out, Aristotle for his part has a certain allergy to cosmetics.[14] Although the question of the general order of the universe plays a central role in his thought, he distances himself from previous classic cosmological accounts. In fact, if a causal perspective is central to Aristotle's approach to nature, still the question of the general cause of the universe cannot be taken as an immediate step, as doing so cannot but lead to a diversity of problems, from superstition to logical contradictions.[15] Aristotle tackles this problem from several angles. First is that each transformation, generation and corruption have to be relative to a support, to an *hypokeimenon*, the latter fundamentally being a rela-

[12] *Ibid*., 51a.

[13] A first presentation of the upper sky as the part of the cosmos that better translates into movement the ideal relation between the first principles is to be found in *ibid*., from 38b on; the mode of translation from ideal relations to simple geometric shapes, and the description of how the universe is constituted upon a less and less (from the sky down to earth) ordered relation of these is to be found in *ibid*., from 53b on.

[14] Monte Ransome Johnson, "Aristotle on Kosmos and Kosmoi", in P. S. Horkey (ed.), *Cosmos in the Ancient World*, Cambridge, Cambridge University Press, 2019, pp. 74–107.

[15] For logical contradictions, see Aristotle, *Physics*, I, 6 and 7. For the *Physics* I have used mainly the translation by Luigi Ruggiu (Aristotele, *Fisica*, Milano, Rusconi, 1995), and the revised Oxford translation by R. P. Hardie and R. K. Gaye, edited by Jonathan Barnes (Aristotle, *The Complete Works of Aristotle, The Revised Oxford Translation. One Volume Digital Edition*, J. Barnes (ed.), Princeton, Princeton University Press, 2014).

tion between matter and form that is regulated by principles.[16] The question of physical becoming cannot therefore be posited without reference to one or another physical support, it cannot therefore go beyond *physis*. If an investigation into the causes of generation of one determinate natural thing does go beyond *said thing*, it nonetheless still refers to a further *hypokeimenon*. Ultimately, the investigation on nature starts *in media res*; it treats nature as eternal and refers to its logical principles, instead of focusing on the question of chronological beginning. In addition to this line of argument, Aristotle consistently states the idea that natural objects have the principle of their movement in themselves: although linked to one another by the interplay of the four causes, movement does not ultimately depend on an external principle, and this is inconsistent with any cosmogonic principle.[17] As Monte Ransome sums it up: natural "things all have the causes of their motion in virtue of themselves, and not any other cause, and thus cannot have been caused to exist by anything else external like luck, spontaneity or intellect," or, we might add, by any other cosmogonic principle on which the previous philosophers have insisted. "Hence cosmogony is impossible."[18] Finally a movement of generation would require a motor that would have to be itself in movement, which implies an infinite regression: to this extent, Aristotle's critique of the "cosmetic" idea of a demiurge, or even an abstract principial force that would actively shape the universe into a determined set of ordered relations, relies on the fact that such a creator, or rather such a cosmetician, in order to move formless matter and impose order on it,

[16] See Aristotle, *Metaphysics*, Zeta 7. For the *Metaphysics*, I refer to the revised Oxford translation by W. D. Ross, edited by Jonathan Barnes (in *The Complete Works of Aristotle*), to the translation by Jean Tricot (Aristote, *Métaphysique*, Paris, Vrin, 1991), and to the translation by Giovanni Reale (Aristotele, *Metafisica*, Milano, Bompiani, 2000).

[17] Aristotle, *Physics*, II, from 192b5 on.

[18] Johnson, "Aristotle on Kosmos and Kosmoi", p. 91. What needs of course to be further specified is twofold: first, the relation between movement and generation. To this extent, *Physics* II, 1, although not making this point explicit, does shift the discourse from "movement and rest" to "nature as form" and therefore to the problem of generation (see from 193a35 on). Second, one has to understand if the principle of the movement of a natural thing is internal inasmuch as the formal and final cause insists as a second substance in the first substance of the individual thing, or inasmuch as the material and efficient causes are themselves natural. Not only do both arguments preclude a cosmogenetic approach, they are probably ultimately also one and the same argument, if nature is said to be *hypokeimenon* and "form" is ultimately, qua form, a second specific substance that equally insists in one thing qua final and formal cause and in another (the parents) qua material and efficient.

would itself have to be in movement, and therefore demand a further cause of its own movement, a further motor.[19]

Rather than starting from a cosmogenic perspective, from the questioning of the causes of the order of the universe, Aristotle focuses thus on the order of nature at the global level of *to holon*, *to pan*, of the whole of the different substances of which the universe is made; and, more specifically, he points his attention on the functioning of *o ouranos*, the sky. Aristotle rejects the cosmogonic schema of an order imposed by a trans-celestial principle, up to the point that, as Ransome Johnson notes, "the concept of the cosmos appears in the Physica" mainly "in the context of the rejection of cosmogony."[20] However, this does not mean that the swirling multiplicity of *physis* would not receive a principle of limitation. To the contrary, his critique of previous cosmological theories, it might be argued, aims at a better understanding of how a principle of finitude shapes the universe. Far from rejecting the necessity of finding a formal principle of order and finitude, Aristotle grasps the necessity of such a principle having to be logically immanent to the cosmos itself, logically derived by the physical observation of its laws.

In this sense, he observes that nature presents both aspects of actual finitude, of achieved stability of forms, and aspects of becoming, of indetermination; and a becoming is a power, the actualization of which is still possible, and therefore indeterminate. In other words, if in order to be, each thing has to be "one", that is has to have achieved a certain formal stability without which it would not be one thing, at the same time there is no thing that does not endure some sort of movement, be it of spatial translation or a becoming of formation and dissolution. The fact is that the question of movement seems to double itself. On the one hand, movement as such in the universe has to be eternal (as the idea of a generation of the movement of all things leads us to an infinite regress).[21] On the other, there has to be, as for each singular movement, a motor

[19] See Aristotle, *Metaphysics*, Lambda 6, 1071b30–35. As regards why the prime unmoved mover is not a cosmogonic solution, see *infra*.

[20] Johnson, "Aristotle on Kosmos and Kosmoi", p. 89.

[21] Aristotle superposes the eternity of the universe and the eternity of movement. The argument of the necessity of the eternity of movement is elliptically implied in *Metaphysics* Lambda, but finds its full explanation in *Physics* VIII, 1, 251a20: movement cannot have been produced by a first state of stasis, as stasis is privation of movement, and therefore proceeds from movement. The bottom of the argument is that the universe qua totality of

also for the totality of movement as such. This principle of movement cannot be a becoming, because, if this were the case, it might also not actualize itself, while it is inconceivable for Aristotle that becoming, movement and time would stop. Becoming simply *is*, and its continuity requires "that a Principle is, the substance of which is act as such."[22] Such an act, qua pure act, cannot be, for the aforementioned reasons, the result of a potentiality, but is pure actuality, not actively acting upon something. It has therefore to be understood as a final cause of movement of all things, as that in relation to which all things move. The prime unmoved mover is therefore obtained as a logical consequence of the determination of nature as constant movement, as constant becoming; and the determination of nature as constant movement is in its turn established through the impossibility of generating movement from an extra-cosmic cause, without falling into logical fallacy.

The prime unmoved mover is therefore established as a motor that is not a generator, and all the determinations of which (the fact of being pure thought thinking itself, qualified as such in the moment in which it is the object of its own reflection; the fact of being an intelligence that becomes intelligible by the act of intellection) are the consequence of the necessity of determining and describing this pure act, the existence of which is required by the very nature of the movement that characterizes the *physis*. In this sense, it is worth noting that the prime unmoved mover is established as an internal necessity of movement of *physis*, and this is consistent with the definition according to which *physis* is characterized by the internality of the cause of movement. It might of course be argued that Aristotle identifies such a principle with god. However, seen from this perspective, Aristotle's god stems from the necessity to get rid of any cosmogonic principle of the order of the world. Although transcending *physis*, the prime unmoved mover is a logical function necessary to explaining the latter. It could almost be said to be an internal necessity of *physis*. It is a cosmetic principle from which all cosmogenic traits (which are inseparable from the idea of a monotheistic God, into which the Aristotelian tradition will be integrated) are

things in movement cannot be produced unless from a movement immanent to the universe itself (as an external, active principle of movement leads to paradoxes and infinite regression). Aristotle also constructs a similar argument about the possible end of movement (see Aristotle, *Physics* VIII, 1, 251b30).

[22] Aristotle, *Metaphysics*, Lambda 6, 1071 b 20. For the treatment in the *Metaphysics* of the necessity of time, movement and becoming to eternally be, see *ibid*., 1071b5.

removed. Logically inferred from the study of *physis*, this god will not be an infinite power (another "intuitive" feature of the monotheistic God to which the Aristotelian prime unmoved mover will be reduced) but rather a non-infinite actuality: while an "infinite mover," "it does not have any dimension" and is therefore "neither finite nor infinite."[23] The movements of natural things, and above all the processes of generation and corruption, imply both the actuality of a state, the actual condition of a form, and a potentiality inherent to their material condition: the state of movement and alteration in which all things are, implies both determination and indetermination, and the prime unmoved mover that those movements imply is like an extreme point at which all characteristics of indetermination proper to nature vanish. In apparent contradiction with Aristotle's rejection of actual infinity – as we will see below – the prime mover is something like a completely determined infinity, an infinity from which all traits of indetermination and potentiality are subtracted, an infinity that is purely actual, pure determination and therefore identical to perfect finitude; a pure actuality that is nonetheless not acting (as this would imply a potentiality, which is proper to matter)[24] and that has an infinite role in shaping and determining the indeterminacy of natural things. Things are in movement (local movement, alteration, growth, formation and dissolution), and as such movement is an actual, determined state of their main natural character, which is to say, the fact of being movable, of having a certain potentiality inseparable from a state of indetermination. As such, movement is the act, the actual state, of that which essentially, qua material, is inseparable from a state of potentiality, of indetermination.[25] Movement, for material things, directly comes from the fact

[23] Aristotle, *Metaphysics*, Lambda 7, 1073a5–10. More precisely, it has "neither a finite nor an infinite extension."

[24] This seems consistent with *Lambda 9*, describing the prime mover as act of thought thinking itself qua pure act of thought. Such act is rather pure actuality, as it has no proper movement or *dunamis*. It therefore lacks nothing; at the same time, being perfectly finite, it also has no limitation (it even contains everything, as the principle contains what is derived), and is therefore, one can say, infinite. Such "infinity" is rather, one can say, an all-encompassing totality. A pure actuality that does not act, the prime unmoved mover is rather immobile than simply unmoved. Although described as "something that moves without being moved" (*ti o ou kinoumenon kinei, ibid*., A7, 1072a25), it is also said to be "a being existing necessarily" (*ex anankes ara estin on*; *ibid*., 1072b10): if the being that moves unmoved exists by necessity, it is not simply unmoved, but unmovable.

[25] See Aristotle, *Physics*, III, 1 and 2, passim. Movement, although clearly implying a potentiality, is described by Aristotle as an act. It is in fact the proper act of that which is caught in a state of potentiality: it is in fact "act of the movable", and the material thing is that

that matter, although inseparably given with form, is per se a potentiality to be formed, a potentiality that is as such furthest from the most eminent sense of substance, which is essence qua form. The potentiality of matter, essentially united with form in the *synolon*, always determines that the actuality of form is gnawed at by potentiality (and ultimately also by this realm of formless potentiality that are accidents).[26] But at the same time movement is the actual state of the potentiality of matter.[27] It is that which tends towards the order of the form. The prime unmoved mover is the very point on which movement ultimately depends inasmuch it is an ordered transformation. It is that in relation to which we see that movement is not a mere manifestation of a potentiality understood as indeterminacy, but an ordered progress, whether towards form, natural place or, more generally, as that harmonic set of relations comprising the universe.

The fact is that such a principle will be less and less well received the further we go from the edges of the sky towards the centre: from one sky to the next, the multiplicity of that which is appears to be less receptive to the final and formal order provided by the logical function of the eternal substance. This continuity between a principle of order, which transcends nature but is logically implied by it, and the ways in which this principle is differently effective in nature, can be better grasped by looking at the different uses of the term *ouranos*, sky, which Aristotle is far keener to use than *cosmos* to refer to a certain idea of the totality of that which is. As Johnson remarks, Aristotle uses the term *ouranos* in three

which is, as such, in power, always caught in a becoming: movement is therefore "act of that which is in power" (*ibid.*, III, 1, 201a28). Stretching the text somewhat, it would not be inexact to claim that movement describes an actual formal trait of any material thing. But such a formal trait does not belong to the predication of the genus in the individual; it is not, as form is, a predication of the second substance in the first (see Aristotle, *Categories*, 5, 2b30), one that provides a form which insists in the individual thing as in "other thing" (Aristotle, *Metaphysics*, Zeta 8, 1033b5). It is rather, one can argue, the proper actual form of natural, material thing qua material things. It is the act of their potentiality or the form of their matter. Movement is the form of matter qua matter; it is the actuality of the potentiality inherent to material things. Not the actuality as exhaustion of the potentiality, but the very actual state of being in potentiality that pertains to things which are moving. For *Categories*, I mainly refer to Jean Tricot's French translation (Aristote, *Catégories*, in Aristote, *Organon*, Paris, Vrin, 1994), and for English the revised Oxford translation by J. L. Ackrill, edited by Jonathan Barnes (in *The Complete Works of Aristotle*).

[26] For the definition of matter qua substance "in potentiality", see Aristotle, *Metaphysics*, Eta 2, 1042b10.

[27] See note 25, specifically the reference to Aristotle, *Physics*, III, 1, 201a28.

different senses. First to refer to the sky, as that which contains everything, as the "place of the totality", the limit of the container on which "the divine sits." Then, to point to the celestial superlunary spheres characterized by constant circular movement and incorruptibility (the circular movement of the superlunary skies being the transcription of the finite in the infinite, the closest that the indetermination of the movements of matter can go to the stability of the eternal principle).[28] Lastly for the totality of that which is contained in the first, including the earth with all its accidental movements.[29] Set in continuity with such a physical "whole", the prime unmoved mover is not an extra-cosmic entity actively regulating the movement of the universe, but a substance, a liminal substance of the latter, motionlessly "sitting" on the outer rim of the skies. The prime unmoved mover is in fact itself substantial; it is made of one of the three substances – the incorruptible one.

In its most general and immediate sense, substance is said of the cause of a thing, of that for which a thing is what it is. If, in its eminent sense, this is essence, ultimately meant as predication, qua form, of the genus in the individual,[30] at the same time substance is always such a form, that per se is completely independent of anything else, but considered inasmuch as it is bound in its union with matter: substance is also the *hypokeimenon*, the support of the thing, meant first and foremost as *synolon*, union of matter, or potentiality to be informed, and actual form.[31] Two substances other than the divine enter into this definition: the eternal substance of the planets, which do not undergo any process of corruption, but only a process of spatial translation; and the sublunary,

[28] The idea that the circular movement of the skies is a sort of "transcription" of a transcendent order is already present in Plato's *Timaeus*, where the transcendent order (the ideal relation between the identical and the different) is nonetheless perceived as an active principle, in its turn actively imposed on the world by the demiurge. See Plato, *Timaeus*, 38b–39c.

[29] Johnson, "Aristotle on Kosmos and Kosmoi", p. 78.

[30] Essence is by definition that which something is in an eminent sense (essence hence refers to substance); but essence is that which a thing is *per se*, without reference to anything external (Aristotle, *Metaphysics*, Zeta 4, 1030a10). And that is the definition of the form qua predication of the second substance in the first, the second substance not referring to any external or accidental type of relation. Substance is in fact the cause of being of any given thing (*ibid*., Eta 2, 1043a1), but the essence of a thing is that for which a thing is for itself. Only the form, qua pure actuality, is in itself the cause of what a thing is, with no reference to anything else. For the definitions of substance, see *ibid*., Zeta 3 and 4, passim. For the definition of form as essential sense of the substance, see *ibid*., Eta 2.

[31] For a different sense of *hypokeimenon*, see *ibid*., Zeta 3.

or corruptible, substance.[32] The fact is that substance, as said, is also form, the pure act that is normally found qua informing the material one, with which it is united in *synolon*: divine substance is thus pure form, which, ultimately, being free from any matter qua potentiality to be informed, is nothing but pure act.[33] To this extent, the divine one, although meta-physical, corresponds completely to the logic of substance, i.e. to the internal requirements of the logics of physics. It is a substance, but as its existence is necessary (necessarily deduced from the very nature of movement), "it exists by necessity, and therefore it is a principle." Surprisingly, adds Aristotle, its being necessary also determines it as a "good."[34] As such, it "moves as that which is object of love."[35] The refusal of the cosmogenic perspective, the will to start from the very turmoil of the movement of things in *physis*, still leads to substance being placed as a necessity, to be-

[32] *Cf. ibid.*, Lambda 1, 1069a30.

[33] It is a complex question to determine if, in the individual subject to corruption, the form corresponds or not to the genus. If the idea of second substance in the *Categories* seems to point in this direction (see Aristotle, *Categories*, 5, 2b30), inasmuch as the genus is a necessary determination, that has nothing accidental about it, and that defines what the thing is for itself, on the other hand the *Metaphysics prima facie* excludes that the essence of an individual thing might lie in anything general, and even that the universal (meant as that which can be predicated of a multiplicity of things) can be a substance (Aristotle, *Metahpysics*, Zeta 13). Finally, the form is as "something other" than the potentiality of the matter that it informs, that which cannot be generated or corrupted (*ibid.*, Zeta 8 1033b5), and for which that which is, is what it is. To this extent the soul, defined in *De Anima* as "the form of a body that has life as potentiality" (Aristotle, *De Anima*, 412a30), is the essence of the human being; but, upon closer investigation, the form does not exist *per se* (except for God). Instead, it insists in the *synolon*, it is purely internally determined and has no proper individuality (the *De Anima* seems in fact to suggests that the rational soul is fundamentally transindividual – see *ibid.*, III, 5), all of its characteristics pertaining to the second substance, to the genus. The point is that Aristotle is ultimately locked in a double-bind: on the one hand, only of the singular is there essence and nothing general is essence of the singular; on the other, only of the substance is there science, so there is no science of the singular. If the metaphysics oscillates in accepting that the genus is substance it is probably because on the one hand, qua identifiable with the form, it is such in an eminent sense, but on the other it is not (and this is a fundamental point of explicit distantiation from most of the previous philosophers), inasmuch as it does not exist as such, but only, for material things, in connection to individual matter. Ultimately, a pure formal principle, a pure act, is needed for a thing to be more than a mere materiality, a pure potentiality on the shores of non-being. But it remains problematic if this principle is something other than a singular form that acts generically in a set of individuals.

[34] Aristotle, *Metaphysics*, Lambda 7, 1072b10.

[35] *Ibid.*, 1072b1.

coming a logical principle, and to identifying it with moral superiority and, we might add, aesthetic perfection. Little wonder, then, that a few pages later we read that "mutation is always towards the worst."[36] Aristotle's cosmetic allergy is thus revealed as the need to immanentize the cosmic principle, to liberate it from any cosmogonic perspective, while keeping intact, and even articulating further, the idea of the cosmos as a principle of limitation acting in (and, in Aristotle's case, from within, or rather from its borders) nature.

From the celestial order down to cosmetics and to the moral order a same rationality is thus deployed. But what is then this *to pan* to which the cosmetic action of ordering is applied? If the universe is finite, still it is such qua order, and not qua matter of which such order is said. As such, the matter is an indeterminate potentiality of determination and finitude. Still, it might be worth to recall that "*to pan*", as seen, is defined in the *Timaeus* as harbouring, prior to its "cosmicization" a "capacity to receive determinations": more precisely, Plato's *chora* contains all determinations (at several passages Timaeus points out that it already contains the particles of each of the four elements[37]) but disposed in an undetermined fashion, in a turmoil that infinitely shakes them out of balance. More than giving determinations, the cosmos appears to be that which stabilizes determinations out of the *a-peiron*, out of the indeterminate turmoil of their movements, rendering as finite as possible the relations between elements, by composing them in an ordered movement.

This capacity to be informed has to be read, despite the mythological language adopted here, as a quite strict anticipation of Aristotle's definition of matter. Matter in Aristotle's *Physics* is of course first and foremost a cause irreducible to any other, and the support of all things (as said, it is one of the irreducible senses of *hypokeimenon*, and therefore of *ousia*); but, at the same time, it is also described as something that cannot be known directly, but only inasmuch as it is formed, limited, shaped, made finite by an order of composition (informed by a form).[38] If this is the case, it is fundamentally because, as pointed out in *Metaphysics* Eta, it is power or potentiality, it is "substance existing in power."[39]

[36] *Ibid*., Lambda 9, 104b25.
[37] *Cf*. for instance Plato, *Timaeus*, 53a.
[38] Aristotle, *Physics*, I, 7, 190b5–190b15.
[39] Aristotle, *Metaphysics*, Eta 2, 1042b10.

Matter, as affected by becoming, is as such potentiality, potentiality that has to be understood in relation to an act, the act of being informed by a form. As being is being one, and is thus determinate, and as matter as such is an indeterminate constant potentiality of new determinations, we can say that matter can always be known both as a potentiality realized in a form, and as a potentiality of transformation of said form. We know it as a past indetermination and as an indeterminate promise of alteration.

Furthermore, we know it as a sort of collapsing into each other of accidentality and essentiality: on the one hand, we know matter as a potentiality, one that as such is only known through a formal determination, and that therefore appears on the verge of non-being. If matter certainly is, if it does not have any substantial inexistence, still it is on the verge of non-being; it is even, explains Aristotle "non-being by accident."[40] This expression indicates that it is in fact largely accidental which potentiality embedded into matter will pass into actuality and when this passage is liable to happen. But this ultimately means that the indetermination proper to matter is nothing else than the indetermination proper to accidental changes, to those accidents that, by definition, are furthest from essence – to those accidents that have as a cause nothing but matter.[41] Nonetheless, on the other hand, *dunamis* is absolutely essential for Aristotle: it is one of the senses of being, and as such it stands on its own, unable to be reduced to any other. *Metaphysics* Delta 7 presents a list of senses of being (per se, according to categories, as true, as act and as potentiality),[42] the equivocity of which, as Pierre Aubenque has pointed out, cannot be reduced to a single common sense.[43]

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40 Aristotle, *Physics*, I, 9, 192a5.

41 "Matter is the cause of the accident." (Aristotle, *Metaphysics*, Eta 2, 1027a10). A strange idea indeed, because matter seems here to be not a material cause, which would mean essentially cause of a potentiality to be informed, but a cause of the actual "taking place" of the event, which, although not formally determined, indeed has an actuality. We find here something similar to the idea that matter implies an actuality of movement that is something like the proper actual form of the natural, material thing qua material thing, the form of matter qua matter, or the actuality of their potentiality qua potentiality, the very actual state of being in potentiality that pertains to things which are moving. An accident, which is clearly actual but as well clearly unrelated to any essential, formal principle of order, can be thought as the actual manifestation, or form, of such an actuality of potentiality. It is something like the terrible form of potentiality itself.

42 *Ibid*., Delta 7, 1017a10 – 1017b10.

43 Pierre Aubenque, *Le problème de l'être chez Aristote*, Paris, PUF, 1962; see part 1, Chapter 2, § 3 and § 4, and in particular pages 177, 186, 190, 198, 213.

Potentiality, qua capacity to receive determinations, is in itself a determination irreducible to all other determinations, and it is something irreducible to all order, i.e. to any and every order of the cosmos qua actuality. In the finitude of the cosmos, the determinate presence of the indeterminate seems inescapable.

More precisely, matter, qua essential potentiality, or indeterminacy, is treated in strict relation to the concept of infinity. Matter certainly receives a determinate name (*hyle*), but is conceptually treated as that to which the notion of indeterminate, or infinite, is applied.[44] The infinite is first of all affirmed by Aristotle to exist in principle (in a sort of anticipation of Anselm's ontological argument, he claims that the infinite has to be a principle, because if it could be deduced by a principle, this would limit it, which goes against its nature).[45] Secondly, it is empirically founded (through temporal continuity, through the possibility of infinite division, through the fact that "generation and corruption have no end," through the fact that everything finite is limited by something else, which must in turn be limited by something else, in an infinite regress, and, finally, through the intrinsic illimitation of the activity of thinking).[46] The infinite is principial and ever-present, and it *is* wherever there is mutation. Indubitably present, the infinite is nonetheless contradictory. In fact, whatever further determination one seeks to give the infinite, the infinite seems to reject: it is not a quality, as a quality has to be determinable; nor is it a substance, since substance is indivisible, and therefore finite.[47] Necessarily existing as a matter of principle, the infinite seems to be actually nothing. Unless, adds Aristotle, it is a potentiality. This potentiality is not, he specifies, the potentiality of something that will be then exhausted by an act (wood can become a chair, and this potentiality will come into actuality or not), but is rather one that remains throughout infinite actualizations. It is never exhausted by one of its parts becoming actualized. "Like a day or like a fight," it constantly passes into actuality, while remaining in potentiality: the day or the fight continue, moment by moment, even when it is another day, even when we have to fight for or against something new. As such a potentiality, concludes Aristotle, "the infinite exists with the same mode

44 "Infinite" and "indeterminate" are the two extremes of the area of sense proper to *apeiron*, i.e. the absence of *peras*, limit, a term indicating the boundaries that define the proper form and order of something or of some action.

45 Aristotle, *Physics*, III 4, 203b5.

46 *Ibid*., 203b 15–30.

47 *Ibid*., 204a, passim.

as matter."[48] The infinite is therefore not that outside which nothing is, but that from out of which something new always comes to actually exist. It is an indeterminacy out of which determinations come. Surprisingly, infinity is, as it cannot be excluded. Still, it is not a whole or a totality: it is rather "a part", exactly "like matter is part of the whole."[49] It is an inescapable indetermination. Although presented here not as *to pan* but rather as a determinate *hyle*, matter appears once again as an essential, inescapable, anti-cosmic excess. The infinite is an immanent indetermination and a material excess that constantly ruins the idea of the cosmos as a closed totality, while at the same time being that out of which the order of the cosmos passes into actual realization.[50]

It is of such a universe, as a well-structured totality that is finite in extension, and whose order is deployed down to the smallest detail, that the earth, *gea*, is the centre. If the irradiating point of the logic of the cosmos seems to transcend the cosmos itself (the prime unmoved mover for Aristotle, the relation of the Identical and the Different for Plato), nonetheless the point of equilibrium is undoubtedly the earth. A bizarre point of equilibrium indeed, as its central position at once constitutes the axis of equilibrium of the universe, and the very point at which its well-ordered structure seems to work the least smoothly, possibly as it is located furthest from its supercelestial principle.

The earth is the third of the terms within whose relation of tension the world will make its appearance at the centre of. It is the place at which the distributive multiplicity of all that is (*ta panta*) seems to respond more poorly to the cosmic order that animates it, thus showing that a negative principle, a lack of order, or, to put it with Aristotle, "an almost non-being" affects it, rendering accidental a large portion of the movements of its parts. For both Plato and Aristotle, the circularity of the movements of the skies leaves room on earth for the contingency

48 *Ibid*., III, 6, 206b15.

49 *Ibid*., 206a25.

50 As seen, although Aristotle rejects the idea of an actual infinite, nonetheless the prime unmoved mover cannot be said not to be infinite. It has a perfect actuality, the finitude of which embeds certain characters of totality that we tend to attribute to infinity: it is a closed, self-contained actuality which comes to order the cosmos as a closed totality. It lacks nothing and nothing is really outside of it, as everything has it as final cause. Everything depends on it, except the indeterminacy of matter, the indeterminacy of the infinity of potentiality. Such a closed but all-encompassing totality is therefore logically opposed to the idea of the infinite qua immanent indetermination of that which is.

of relations and transformations, thus determining a constant imperfection in the actuality of forms. Plato considers that the surface of the earth is populated by beings of which we can only have "probable knowledge" (give a "likely account").[51] Bodies evolve within time, and within the inner limits of the outer skies. Both time and skies reflect with their circularity (the revolution of the skies, the alternation of day and night) the perfect immobility of the principle of Identity; they calibrate their becoming upon this principle. Although thus composed and moving with measure and harmony, still they are in motion, and motion always displays a certain degree of "deformity, the cause of which is lack of equality,"[52] of measure and proportion. And as the skies are in their turn the principle of motion of the elementary figures upon which earthly things are composed, the consequence is that these latter, also because of their uneven composition (earthly things, as well as the humans populating earth, have been created by the demiurge through an imperfect calibration of the principle

[51] See Plato, *Timaeus*, 29d and 59c. The text refers in both cases to "*eikota muthos*", that which in this context is, as Reale underlines (see note to 29d), to be understood not as fable, but as a "likely narration," a narration based on "probable knowledge," i.e. the knowledge of sensible things, largely driven by imagination, or rather conjectural thinking, that Plato in his *Republic* names *eikasia* (the four degrees of knowledge – *noesis*, *dianoia*, *pistis* and *eikasia* are summed up in Plato, *Republic*, VI, 511d–e). Worth noting here is that *eikota* seems to indicate a clear link to *eikasia*. In fact, *eikota* means probable, and is an adjectival participle built on *eoika*, a verb bearing an array of meanings in the realm of "knowledge through senses" (to resemble, to look like, to believe or judge better); and the expression *eikasia* comes from the verb *eikazo*, of which *eoika* is the past tense, with use as present. Beside such considerations on the hierarchies of kinds of knowledge in Plato, it might also be worth noting that such "probable knowledge" is somehow echoed in Aristotle's idea that we know matter only in an indirect fashion, as matter is a potentiality that we come to know only if and when realized through an act. The actual state of a thing will nonetheless bare the trace of the accidentality that characterizes the passage from power to act, and anyway the potentiality proper to the material *hypokeimenon* of the thing is never exhausted by any actual state, and thus neither are the accidents to which it might be exposed. A natural thing will always, to an extent, be in the realm of "probable knowledge." Interestingly enough, Plato also describes the material substratum of things as determined by a certain power or potentiality (*dunamis*; see Plato, *Timaeus* 49b and 50b). This *dunamis* is meant certainly as the movement (local movement, movement in time, growth and corruption) that characterizes all things, but at the same time the material substratum is defined as a certain "formless" capacity – a capacity "to receive all things," to receive determinations (*ibid*., 51b), which, although not putting, as said, matter in the realm of pure passivity, still maintains its formative capacity in the realm of the possible, in a condition of less reality, or, to say it in Aristotelian terms, on the shores of non-being.

[52] *Ibid*., 58a.

of Difference upon the principle of Identity),[53] will suffer an even greater degree of deformity, their resulting movement being largely disharmonic, accidental.

For Aristotle, movements on earth are largely disordered, subject to shocks that constantly go against the tendency that each element which enters into the composition of a given thing has to rejoin its natural place (sky for airy components, the sea for the water component of things, etc.) and that each living thing has to correspond to the formal principle that characterizes the species that it belongs to.[54] These natural movements are constantly and incessantly at variance with casual encounters, with fundamentally accidental hits. Interestingly enough, the accident (as opposed to that which is necessary, but here quite perfectly applying also to movements through shock, independent from the natural, necessary movement by which each element tends to rejoin its natural place) is defined as that which "belongs to something and can be truly asserted, but neither necessarily nor constantly."[55] Such are those characteristics of a given thing that are actual and real, but that have no relation to its essence.[56] There is no necessity for any such accident, any such paradoxical characteristic which "belongs to something in virtue of itself, but that does not enter in its substance."[57] Rather, "there is a chance cause of it, i.e. an indeterminate one."[58] On earth where violent shocks, accidents and disordered movements happen, something is attached to the substance of things, without having any necessity,

53 *Ibid*., 43c–e.

54 Aristotle, *On the Heavens*, IV, 310a15–311a15, and in a shorter form *Physics*, V, 208 b10–25. For *On the Heavens* I have used the revised Oxford translation by J. L. Stocks, edited by Jonathan Barnes (in *The Complete Works of Aristotle*).

55 Aristotle, *Metaphysics*, Delta 30, 1025a15.

56 This bizarre idea of an "inessential reality" is rendered by a certain fluctuation in the translation of the verb *uparko*, which goes from "to be attached to" (Barnes) to "belong to" (Reale).

57 *Ibid*., Delta 30, 1025a30. Here I follow Hugh Tredennick's translation (Aristotle, *Metaphysics, Volume I*, Cambridge, MA, Harvard University Press, 1933), but I render the final *ousia* as "substance", instead of "essence", as suggested both by Barnes and Reale. In fact, saying that the accident does not belong to the essence is a sort of truism. The *ousia* in fact, as first category, is said to be sub-stance, determined as "sub-ject" of what is predicated via the other categories. Something of the order of the accident can be truly predicated of the substance, and hence in a way be attached or even belong to it. But it will never be part of its essential definition. Only those attributes that relate to the predication of the second substance in the first, of the genus and of the species in the individual, determine its essence.

58 Aristotle, *Metaphysics*, 1025a25.

or even any essentiality. And in fact, continuing to book Epsilon of *Metaphysics*, we read that "the accident is almost simply a name," that which makes of it something "obviously akin to non-being."[59] Ultimately, it is the singular nature of material things that is characterized by such an ontological devaluation: "matter, which is capable of being for most part different than what it is, is the cause of the accident."[60] Of course, each accident, being accidentally attached to something, can either not occur at all, or can happen, but without sticking to something's essence; still, each thing on earth appears to be necessarily visited by contingencies, to stick essentially to accidents, which can only be shaken by finding another one glued to itself: a thing is always invested ("crashed into", but also "dressed" and even "qualified") by accidents, exactly like a substance is such qua supported by matter. Accidents stick like a necessity, but a somewhat negative necessity, at once appearing as a potentiality and as a lack of being. Accidents do not enter into the substance, but their mere contingency sticks to it (although the matter that is their cause is, qua potentiality, one of the senses of *hypokeimenon*, which is in turn one of the senses of essence).

It is the indeterminate potentiality of matter – the lack of complete determinate reason inherent to its movements (and, to a certain extent all movement, even the most regular, qua potentiality, suffers from a certain indetermination) – that determines the inescapable presence of accidents as sticking to things. These accidents at once determine things in their singularity, and make them constantly slide toward the edge of non-being. Material accidents stick to the things of this world through the accidentality of the movement that they impose on them: they stick to the substance as something that is part of it as a sort of deprivation of being, but a deprivation of being that is inherent to the movement of the things of this world, to that constant passage from potentiality to actuality without which they would not grow towards their natural form or in orderly fashion tend towards their natural place.

What we find in this necessary presence of accidents as "sticking" to substance – accidents are at once external to the essence of substance but necessarily part of its actualization – is something similar to the idea that matter has a certain actuality of its own potentiality, or that there is a form of matter itself qua mat-

[59] *Ibid*., Epsilon 2, 1026b20.

[60] *Ibid*., 1027a10.

ter. In fact, that which is accidental is far from being pure potentiality or pure formless matter. An accident manifests itself as an accidental quality or trait of something, which is actual and which has a determinate form, but one that is devoid of all necessity. What accidents show is that matter is far more than a mere potentiality of being affected by a formal cause; accidents are actual traits that stick to the form of something, although in an inessential manner. Of these traits, matter is the cause, as it functions almost as a formal cause: matter is no longer the cause of the *potentiality* to be informed by the necessary order of the form and by the necessary laws of the cosmos, but is the cause of a *possible* formal trait (or rather, of one amongst a multitude of possible formal traits) that has no necessity.[61] On earth the formal order of the cosmos always comes with matter, i.e. with a formal, but anticosmic, principle of indetermination.

If earthly beings are so affected by such accidental actual traits, the reason is as follows: embedded in matter, all movements and transformations are stretched between an ideal, ultimate and common final cause, the absence of movement of the prime unmoved mover, and the consequences of such finalistic movement: the immediate consequences, i.e. the circular motion of the skies, and the mediate consequences, i.e. the movement of each element towards its natural place, which is ultimately a place of rest, of absence of movement. The crossed movements towards such places determine a swirl of shocks, a cascade of indeterminations. Between the common tendency of all things to teleologically mimic the formal order, the perfection of the prime unmoved mover and the tendency of each element to rest in its natural place, comes the evolution of

[61] On the one hand, it is important to remark that the traits that determine the intraspecific differences between individuals belonging to the same species are accidental, as the essence of something is determined by the predication in it of the second substance (see notes 25 and 30). On the other hand, it is also important to point out that Aristotle justifies as follows the strange idea that accidents are not mere potentiality, but something provided with a formal actuality, one that nonetheless has no necessity: if there were no accidents then "everything, without exception, would be necessary" (*ibid*., Kappa 8, 1065a5) – a notion that Aristotle flat out rejects without any further explanation, as if it were *per se* evident that there is both the necessary and the possible. It seems therefore that for Aristotle it is necessary that the possible is, and that ultimately this works as a way to save freedom, not only in the realm of the potential, but qua actual freedom (differently than in the case of the contingent futures). Accidents seem somehow to be inevitable both to have some concept of the singular, individual thing (of which, for Aristotle, there is no science), and to pinpoint a certain ontological foundation of freedom within chance.

each living being towards its formal and final cause, as well as its decay. The entirety of the processes of generation and corruption, as well as the formal and final causes regulating them in the case of each particular being, have no external, ideal or metaphysical cause (which is consistent with an immanentist paradigm of movement in nature).[62] They are rather the result of determinate, necessary movements (nature not only implies for each element the tendency to finally rest in its natural place, but also embeds each singular piece of matter with the potentiality to move towards the development of a form by intertwining the efficient, final and formal causes), but also of a decay of such necessity, the ultimate ground of which is the indetermination that the potentiality of matter brings with itself. In fact, if it is true that a living being comes to shape itself through having its specific form as a final cause, this form cannot be thought separately from the matter in which it determines a teleology of movement: it is almost as if the necessity of the form would stick to (or rather stick out of) the indeterminate, aleatory nature of matter, more than the accident would stick to a form. Or rather, the form of a thing seems to be immanently determined in the relation between a cosmic principle, a belonging to the universe, and a principle of indetermination that is specific to the material core of the thing.

The *apeiron* is thus farthest from the finite order of the cosmos. However, in no way can it be said to be an excess over and beyond the finitude of the sky as we can perceive it; the *apeiron* is, on the contrary, the indeterminacy of the earth – it is an infinite that constitutes the soft core of the universe. The *apeiron* is subtracted from the cosmos. It is the lack of determination that gnaws at its core. The very idea of finitude having such a soft core (an indeterminacy the potentiality of which both opens it to the infinite, and makes it almost slip into non-being), I would argue, comes to constitute the very idea of the world itself. With this, we come to the very core of the tension between the terms that I have presented in order to outline the site of the term world: instead of an all-encompassing, infinite cosmos, we have a tension between the universe qua principle of form and finitude, and an immanent principle of indetermination, which is far more than mere potentiality, but is a principle of infinitude carrying its own formal efficiency. The term world comes to existence as the concept of something whose order is always gnawed at by an indeterminacy, which at the same

[62] Aristotle, *Physics*, II 1, 192b10 and 192b30. This is explicitly affirmed as a principle, of which there is no further demonstration (*ibid*., 193a1–10).

time opens it towards an infinite potentiality, and lets it crumble in a cascade of accidents, and hence veer toward the borders of non-being.[63]

World as Collapse of Finitude

At the beginning, I claimed that the conceptual place of the world is determined within the three-way relation between a finite universe, the earth that resides at its centre and the well-ordered multiplicity of things that inhabit it. Now it appears, however, that the multiplicity of that which is, is well ordered according to a cosmological principle, but only inasmuch as the latter goes together with a negative principle, a sort of resistance that, as we see upon approaching the material core of the universe, determines an imbalance, an instability, a constant corrosion of order. It is in such dynamic subtraction from the order of the cosmos, from a cosmos that allegedly puts everything (*to pan*) in its place, with the earth at its centre, that the idea of the world makes its entrance on stage, as a sort of magnification of the lack of mutual harmony of these terms.

It is nonetheless true that the Latin term *mundus*, in which all iterations of "world" in Romance languages have their root, appears *prima facie* to mimic the Greek concept of cosmos. An interesting recent article suggests how we

[63] Such a relation between a finite and well-ordered cosmos and a centre in which this very logic seems to diminish, to be affected by a certain indeterminacy (*apeiron*), is of course opposed throughout classical thought by a "counter-narrative" in which the supporting logic is one of infinitude, while order is always a local result. This path clearly appears in the line going from Democritus to the Hellenistic schools, where the infinite stands as a principle that is intensive (infinity of atoms), extensive (synchronic or diachronic infinity of worlds), and subtractive (qua indeterminacy of the movement of the atoms in the void). The premises of such an approach can already be found in Anaximander. For Anaximander "the infinite contains entirely the cause of the generation of the universe and of its dissolution" and "from the infinite have come by separation all the worlds, which are infinite" (DK A10, in Diels and Kranz, *I presocratici*, pp. 182–183). But we might note that "universe" here translates *to pan*, and "worlds", *kosmoi*. It is therefore from and infinitude of "things", or elements, that an infinite number of finite combinations (*kosmoi*) comes (in a chronological succession). Each of these finite combinations or "worlds", should not be confused with "earth" (*gea*), the latter being later in the fragment presented as a part of it. It would therefore rather make sense to translate this as "the infinite contains entirely the cause of the generation of all that is and of its dissolution" and as "from the infinite have come by separation all the universes, which are infinite".

might understand this apparent contradiction. Simona Georgescu[64] notes how it is commonly accepted that the array of meanings attributed to *mundus* mimic that of the Greek term *cosmos*. For the Latin term, she lists the meanings of "clean", "ornament" and "world". If the ornament is at the source of the idea of moral and political order, albeit more in Greek than in Latin, here it is rather the sense of "clean" that appears to be central – the Latin *immunditia*, for instance, denotes both physical and moral dirtiness.[65] *Mundus* would therefore stem primarily from the sense of "clean" or "ornament", its extension to the meaning of "world" having then emerged from out of the diversity of meanings carried by the Greek terms *cosmos*.

It might thus be argued that, if this analogy between the Greek and Latin terms is so perfect, then "the world", contrary to what I have claimed so far, was already conceptually present in Greece. But on the one hand, as we have seen, contemporary translations from Greek also have to render as "world" several occurrences of the words *gea* and *to pan*/*ta panta*, which shows that the world sits uncomfortably in the triangulation of these terms with the term *cosmos*. On the other hand, the Latin word *mundus* seems to have had its cosmic analogy, its etymological solidity, blurred, if not gnawed away at, by a supplementary sense. *Mundus*, as Georgescu points out, in fact contains a supplementary sense, that of "pit", or "path to the underworld", "a gap leafing to the underworld, and the underworld itself. Its shape is that of a receptacle, a pit, a yawning gap."[66] As it is impossible to harmonize this last sense with the others (impossible to form a "cosmos" from all senses of the world, one might say), this last sense has been interpreted as a sheer homonymy. Georgescu, however, dismisses the idea of homonymity as a quick fix, pointing to some contrary textual evidence. Most notably, she remarks how this term not only can be reintegrated into the circulation of meanings that constitutes the term world, but can even be posited

[64] Simona Georgescu, "The World as a Yawning Gap. New Insights into the Etymology of Lat. Mundus 'World'", in N. Holmes, M. Ottink, J. Schrickx and M. Selig (eds.), *Lemmata Linguistica Latina: Vol. 1. Words and Sounds*, Berlin and Boston, De Gruyter, 2020, pp. 207–223. I am indebted to Luca di Blasi for having brought this text to my attention.

[65] In contemporary Italian, *immondizia* is one of the most used terms for "garbage", while *immondo* is an adjective primarily used to denote someone who has a despicable moral attitude.

[66] *Ibid*., p. 214. Even more, she points how the *mundus* was identified with the *omphalos* of the city: the point that leads, like a belly button, to the visceral centre from where life and order stems, but that is in constant turmoil and transformation.

as the very foundation upon which all the others connect.[67] *Mundus* as "world" is accordingly a "hemispherical cavity", the vault of which provides the basis for the idea of the celestial vault that encompasses the world. The world is thus seen here as a closed sphere that literally sits on another one, on a gap that the beautiful, closed totality of the world tries to cover, to hide, to "cosmeticize", while exposing it with this very attempt. The term *mundus* accordingly refers originally to this gap (as shown by its phonetic alteration *fundus*, bottom), while the *mundus*/world is the cosmeticization of the fact that the well-ordered totality of that which is ultimately sits on a *fundus*, on a bottom that is rather first and foremost a hole.[68]

Further still, the text continues, this infernal *mundus* sits at the bottom of another etymological line, the one going towards *mando* (to chew) and from here to the Anglo-Saxon mouth/*Mund*. The gap upon which the world sits – and that is mirrored as an etymological disturbance that ruins the nice harmony of the other meanings (cleanliness-order-world) which allegedly make sense of our universe – is not simply an absence, but a metabolic principle that transforms chaos into order only on the condition of creating turmoil and causing disorder in the harmony that stems from it.[69] The *mundus* is fundamentally a *cosmos* founded on chaos, chaos reversed into order, on condition of leaving it active, because its destructive power is inseparable from its metabolic, productive function. The *mundus* is the idea of an active indetermination, of a threatening

[67] See *ibid.*, pp. 208–210, for previous authors attempting either to find a connection between the two etymological lines, or to establish the meaning of "underworld cavity" as original; see from p. 214 for the mechanics of the phonetic and semantic alterations suggesting how the lines going towards *fundus* and towards *mundus* qua clean/ornament evolve from a common point. This argument is also backed up with a chronological account of textual evidences.

[68] For the mimetic aspect between the world and the *fundus*, see *ibid.*, p. 213: "the essential aspect for understanding the significance of this mundus is exactly its shape. [...] [T]he shape of the subterranean mundus is similar to the sky vault, the upper sky." And this meaning is said to be "the oldest, and thus the one that should be put in the first place."

[69] The mouth here doubles the belly button: the belly button is that through which the formation of the human individual is made first possible, but it is also at the same time the thinnest part of surface separating us from the visceral movement, with all their disorder and "un-neatness"; the mouth is that from which articulated thought is given the opportunity to be expressed, but is also that which expresses a disordered instinct of hunger and material destruction, upon which the metabolic process sustaining the individual, and therefore their thoughts, is based.

potentiality, which is a power to form and a subtractive capacity to undo. It is literally the world that sits on the infinite of its potentiality, but a potentiality that is identified with chaos.[70] What we find synthetized in one word here is exactly the instable relation between the different terms (*cosmos*, *panta*, *gea*), a relation at whose place the world comes: that between a formal principle of order and finitude, and a counter-principle that is not only the infinite potentiality to be ordered, but that has a specific actuality, a specific turbulent productivity, a specific capacity to create novelties that do not fit into the nice order of the universe – i.e. to create unexpected singularities.

It should not therefore come as a surprise, insists Georgescu, that even in Greek the term chaos initially designated an array of senses inseparable from the general meaning of "world", and that only through time was it cornered, and "reduced to [designate] the underworld."[71] Far from mimicking the connection of the senses of the word *cosmos*, the Latin "*mundus* might have followed the same trajectory" as chaos.[72] Yet, where in Greek a clear separation appears between chaos and cosmos, in Latin there is no migration towards another word: the complexity of the different etymological lines remains intact, leaving chaos and cosmos, *fundus* and *mundus* intertwined. This is how the indeterminacy of the primordial senses of *mundus* continues to gnaw at the sense of order that the term comes to suggest.

I would argue that it is exactly this dynamic that is central in the unique role that the idea of "world" plays in the history of philosophy: how is it that a term

[70] *Ibid*., p. 218.

[71] *Ibid*. I have not included "chaos" among the terms in the place of which the world comes (a choice of terms that is of course not exhaustive, that which is consistent with the fundamental instability of this idea). Though inseparable from the world, in classic Greek chaos nonetheless designates the infernal underworld, and metaphorically refers to some sort of turmoil. Still, chaos originally stands for the undetermined vastness of the primordial formless matter (an idea very similar to the Platonic *hyle*). The term presents the idea of an indetermination radically contrary to the cosmic principle. It is not a term used to designate the world in its current state, but to designate the indetermination upon which a cosmic principle of determination acts. Georgescu interestingly points out how originally it comes to designate such a state of potentiality, and by extension the world as such. It is a term that has somehow been purged by the constellation of terms, in the relation of which the world comes to appear.

[72] *Ibid*., p. 219.

that is so radically equivocal, opaque and vague, can come to occupy such a comfortable and even dominant position within philosophy? How over the centuries can it come to occupy in a more or less stable manner a place whose relevance blatantly conflicts with its unclarity and instability? If other terms have arisen from nothing or fallen into disgrace, if other terms have resisted dramatic changes that aim at reducing their equivocity and giving them a solid foundation, or at least a coherent place in this or that philosophical system, "world" seems to have escaped such typical philosophical operations. Its insistence, its central presence in the systems of the majority of authors, seems to rule out our thinking that its conceptual instability relies on the scarce relevance accorded to it; on the contrary, I would argue, its resistance to disappearance, to systematization and to deconstruction relies on what I would call its "essential equivocity", on an opaqueness that has nothing to do with a poverty of meaning, but that on the contrary is the product of a rich, but structurally instable, relation of meanings.

Relevant in its instability, and shining in its opacity, while occupying a central place in philosophy, the world is an idea that suggests order and finitude on condition of gnawing away at any temptation to transform it into a stable and encompassing totality. What articulates it as a formidable conceptual tool, one that nonetheless always escapes a strict and consistent conceptual systematization, is its capacity to function as a point of incompleteness: it is as if every time a philosophical system tends to form a conceptual totality (the ultimate aim of which would be to produce a representation, a conceptual double of the world), the concept of the world presents itself, in said system, as a point of inescapable opacity. Not only does the world come to re-open the space of uncertainty that the idea of cosmos tries to resolve; it also works to "de-cosmeticize" philosophy itself, by casting itself like a wrong note that disturbs its harmonic attempts at systematization. It is like a note from which the very struggles of philosophical systems to do something conceptually new somehow seem to stem, as infinitely repeated, infinitely failing and yet extremely productive attempts to reduce its dissonance.

Based on this, the part two of the article will aim to explore how the idea of the world gains a firm footing in the history of modern philosophy, making it possible to grasp infinity not so much as an extensive concept, but rather as an immanent quality that gnaws away at any attempt to describe the whole of that which is as a closed totality. It will investigate how the idea of the world

established itself within philosophy as a point of immanent indetermination, of intensive infinity, one that unties philosophy from the temptation to frame that which is within the finitude of a cosmos, of a well-organized unity rendered by a limited set of clear and distinct concepts. After a short survey of some historical moments leading to the consolidation of this perspective in modern philosophy, the article will focus in particular on how several contemporary uses of the idea of the world as immanent infinity are conceptually related to the idea that any point of reality has a certain capacity to do something that exceeds its determinate qualities, its "cosmic" attributes. In an apparent torsion of the opposition universe-world with which we started, the universal will come to appear as the concept that names the capacity of each thing to subtract itself from the totality of the cosmos, to perform an active de-totalization. We will therefore try to unfold the hypothesis according to which the world is a conceptual tool that makes it possible to form a new idea of universe, of something that is "for all" and no longer has anything to do with totality. A conceptual tool that, far from abolishing the idea of universality, allows for its internal subversion: more specifically, it makes possible to describe universal traits, define universally valid rules and construct universal statements, but inasmuch as the elements of such universals identify with a whole only by eroding its compactness and completeness. The world will appear as a functioning, effective para-conceptual tool, producing within philosophy the separation between systematicity of approach and the necessity of a totalizing system – a separation obtained by a disentangling of the notion of universality and the idea of cosmos. This is a literally explosive approach that, as we will see, puts into turmoil our conception of the relationship between practice and theory, our idea of the subject, and that ultimately calls for us to leave open the dramaturgy of what it is that philosophy is supposed to do.

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