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Вальтер
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ЛЕКЦИИ / LECTURES

DISCUSSIONS ON THE ETERNITY OF THE WORLD IN LATE ANTIQUITY¹

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ABSTRACT: This article studies the debate between the Neoplatonist philosophers Simplicius and John Philoponus on the question of the eternity of the world. The first part consists in a historical introduction situating their debate within the context of the conflict between Christians and Pagan in the Byzantine Empire of the first half of the sixth century. Particular attention is paid to the attitudes of these two thinkers to Aristotle's attempted proofs of the eternity of motion and time in *Physics* 8.1. The second part traces the origins, structure and function of a particular argument used by Philoponus to argue for the world's creation within time. Philoponus takes advantage of a tension inherent in Aristotle's theory of motion, between his standard view that all motion and change is continuous and takes place in time, and his occasional admission that at least some kinds of motion and change are instantaneous. For Philoponus, God's creation of the world is precisely such an instantaneous change: it is not a motion on the part of the Creator, but is analogous to the activation of a state (*hexis*), which is timeless and implies no change on the part of the agent. The various transformations of this doctrine at the hands of Peripatetic, Neoplatonic, and Islamic commentators are studied (Alexander of Aphrodisias, Themistius, al-Kindi, al-Farabi), as is Philoponus' use of it in his debate against Proclus.

KEYWORDS: Christians, Pagans, Philoponus, Simplicius, Aristotle, Proclus, Themistius, Neoplatonism, physics, creation, change, motion

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PART ONE :
PHILOPONUS AND SIMPLICIUS
ON THE ETERNITY OF THE WORLD

1. Introduction

One of the main reasons for the existence of particle colliders like the one we saw earlier today¹ is to try to reproduce as closely as possible the conditions of the very first instants of the existence of our universe, a few billionths of a second after the Big Bang, which is now believed to have happened some 13.7 billion years ago.

It seems natural today to talk about the Big Bang, with its resulting implication that the universe had a beginning in time, as if it were obvious. Yet it was not until 1922, less than a century ago, that the Russian Physicist Alexander Friedmann suggested Einstein's view of a static, spherical universe be replaced by a theory of a universe in which space varies throughout time. It were Friedmann's views, eventually accepted by Einstein and elaborated by Georges Lemaître, that led to the current standard view of a universe emerging from a point of infinite density and now expanding at a perpetually accelerating rate. As late as 1950, scholars such as Thomas Gold, Hermann Bondi and Fred Hoyle defended a steady-state theory in which, much like Aristotle believed, the universe remained the same for eternity. Since then, the discovery of the cosmic background radiation by Penzias and Wilson in the mid-1960s, followed by evidence obtained in 1998 for the acceleration of cosmic expansion, have led to the widespread acceptance of the Big Bang theory, although still not all scientists are convinced.

These debates have some points of resemblance to one that took place almost 1500 years ago, between the Christian John Philoponus, who believed in something approximating a Big-Bang cosmology, and the Pagan Simplicius, who followed Aristotle in defending something like a steady-state cosmology.

The present article concerns a few of the transformations of a debate that began in the fourth century BC, over whether the world as we know it is eternal or was created in time. Our story will begin, like most questions in Greek philosophy, with Plato and Aristotle, who seem to us today to have defended opposing positions on this question, although, as we'll see, not everyone in Antiquity thought so. We'll briefly review the positions of some of their followers in what modern historians refer to as Middle and Neoplatonism, in a period where, as Pierre Hadot has shown, philosophy gradually changed its nature. From a focus on the teacher's transformation, by means of dialogue, of the disciples' way of perceiving, being and living, philosophy gradually shifted until it became primarily the painstaking commentary of the works of the great founders of the various philosophical schools. We'll see how this task of commenting on the works of the ancients was not viewed as primarily "objective" in the modern sense, but had a number of specific goals, including ex-

¹ A collider at Institute of Nuclear Physics, Akademgorodok, Russia.

plaining the texts of Plato and Aristotle in such a way that they were compatible with the more elaborate theories of Neoplatonism, and emphasizing the underlying harmony of the doctrines of Plato and of Aristotle, despite all appearances to the contrary. We'll try to illustrate these and other phenomena by examining the debate between the pagan Simplicius and the Christian Philoponus in the mid-6th century AD, as they each take up and transform various Aristotelian and Platonic texts and doctrines in order to support their own very different view of the nature and origin of the universe. We'll pay particular attention, as we proceed, to the way each side in this debate makes use of specific ancient philosophical doctrines concerning motion and change, taken especially from Aristotelian physics. Specifically, we'll see how Philoponus and Simplicius each exploit an opposing aspect of Aristotelian physics – the possibility or impossibility of instantaneous change – in order to argue, respectively, for and against the Christian doctrine of creation *ex nihilo*.

1.1. Interpretations of Plato's *Timaeus*

Our **Text 1** is, of course, one of the key passages in all of Western philosophy, and it's hard to overestimate its impact and influence. Leaving aside for the moment the fundamentally important question of whether Plato intends us to understand this text literally, metaphorically, or in some other sense, let's note a few important points at the outset.

First, as Cornford pointed out in 1937, “Plato is introducing into philosophy for the first time the image of a creator god”. Whatever his precise ontological status — and Plato's successors were to expend vast quantities of ink and papyrus on this question — the Demiurge appears, in the *Timaeus*, to be an anthropomorphic divinity who thinks, has motivations, and has a will. His motivation for creating the universe is clear: it is his goodness, equated here with his lack of *phthonos* or jealousy. As subsequent commentators did not fail to point out, there seems to be an implicit *reductio ad absurdum* underlying Plato's argument. If the Demiurge is powerful enough to create a world, but then fails to do so, his only reason for failing to do so would seem to be jealousy, stinginess, or just plain spite. But since the Demiurge is good, there can be no evil in him. Therefore, he cannot fail to create the world, therefore he creates it.

Second, we note that although the Demiurge “framed” (Greek *sunistêmi*) the world, he did not create it out of nothing. There was already something present when he began his creative activity: something that was visible and was moving in a disorderly way. The Demiurge does not create these elements, whatever they may be, but “takes them up” (Greek *paralambanein*) and brings them from a state of disorder into one of order.

A little later in the *Timaeus* (**Text 2**), Plato declares that although the world is generated, it will have no end to its existence, owing to the will of the Demiurge.

Plato's position as set forth in the *Timaeus* was rather unusual. As Aristotle points out, it was common, if not universal among Plato's philosophical predeces-

sors, to make the universe arise out of some eternally preexisting element and be dissolved back into those elements: this was indeed the standard Presocratic view, at least as interpreted by the later Greek philosophers who transmitted their fragments. But Plato seemed to teach that the world both had a beginning and was eternal, or rather everlasting. This view seems to have been both extraordinary and innovative, so much so that it immediately sparked debate over whether Plato really meant what he had said. This is illustrated by our third text, from Aristotle's *On the Heavens*.

We see from this text that according to Aristotle, although all previous philosophers agreed that the world had a beginning, in other words, was generated (Greek verbal form *genomenon*, adjective *genêtos*) out of some pre-existent material, Aristotle distinguishes between those who, like Empedocles and Heraclitus, believed the world periodically emerged from and dissolved back into that element, and Plato, who believed that although the world had been generated out of pre-existing elements, its existence would henceforth have no end in time.

We also learn from the text of the *De Caelo* that “some people” argued that Plato's description of the generation of the world in the *Timaeus* was not intended to be taken literally, but was merely for pedagogical purposes. We know from other sources that this was the view of such first-generation members of Plato's Academy as Speusippus² and Xenocrates³, as well as the early commentator Crantor.⁴ It became the standard, although not universal view among Middle- and Neoplatonists.⁵

1.2. Hellenistic and Neoplatonist interpretations

As time went by, Plato's statement in the *Timaeus* that the world was generated (Greek *genêtos*)⁶ continued to be a source of embarrassment to the commentators, whose attempts to explain what Plato meant became increasingly sophisticated, not to say sophistic. We should bear in mind that Greek adjectival form ending in *-tos* is inherently ambiguous. Generally speaking, it indicates capability or potentiality, and can be assimilated to the English ending *-able*: what is *kinêtos* (derived from the noun *kinêsis*) is what is *movable*. But the Greek ending leaves open the question of whether or not that potentiality is realized: hence the adjective *genêtos* can mean both what *is* generated and what *can, could, or might be* generated.⁷

² Fr. 54b Lang

³ Fr. 33; 54 Heinze.

⁴ Cf. Simplicius, *In de Caelo* 306, 16-307, 11 (Cherniss 422); Crantor fr. 2; 4 Mullach.

⁵ Cf. Porphyry ap. Proclus, *In Tim.*, I, 382, 26 ff., Simplicius, *In Phys.* 1121, 25 ff. More precisely, Plutarch, Atticus and Galen argued for a literal understanding of the account of creation in the *Timaeus*; all the other commentators (Apuleius, Albinus, Taurus, Alcinoos, Porphyry and all subsequent Neoplatonists) argued for some form of symbolic or allegorical interpretation.

⁶ See especially *Timaeus* 28B.

⁷ Cf. Praechter, RE V A 1 (1934), 64.

Partly in order to take account of this ambiguity, the Middle Platonist Calvinus Taurus⁸ (fl. c. 145AD) distinguished four meanings of the world generated (*genêtos*).

As we can see in **Table 1**, these meanings include (1) what is not generated but has the same genus as generated things; such things are generable in the sense that an object hidden in the center of the earth can still be visible (Greek *horaton*), even if it will never actually be seen. The second meaning (2) covers what is notionally but not actually composite: things, that is, that can be analysed in thought into their component parts. The third meaning (3) of *genêtos* concerns what's always in the process of becoming; that is, according to Platonic philosophy, the whole of the sub-lunar world, which is subject to constant change. Finally (4), *genêtos* can mean what derives its being from elsewhere; that is, from God: similarly, the moon's light may be said to be generated by the sun, although there has never been a time when this was not the case.

Slightly more than a century later, the Neoplatonist philosopher Porphyry (c. 234-c. 310) added additional meanings of *genêtos* (**Text 4** and **Table 2**): these include (5): what has the *logos* of generation, i.e. what can be analysed in thought. It must be admitted that it's not terribly clear what the difference is between this meaning and Taurus' meaning no. 2, except that Porphyry adds the crucial example of what is composed out of matter and form. Meaning (6) covers sensible objects like houses, ships, plants and animals, which obtain their being through a process of generation. Finally, the seventh and last meaning (7) of *genêtos* is what begins to exist in time after not having existed. It's this last meaning of 'generated' that Porphyry denies is applicable to Plato's creation story in the *Timaeus*. Later in the fragments cited by Philoponus, Porphyry reveals that he himself believes that "constituted of form and matter" is the most appropriate interpretation of *genêtos* in Plato's *Timaeus*.

I'd like to call your attention to the part of our **Text 4** where Porphyry claims that phenomena such as lightning, snapping of the fingers, and anything that comes into and out of existence suddenly (*exaiφhnês*) is not said to be generated: instead, these are things that come into being without a process of generation (*genesis*) and pass into not being without a process of destruction (*phthora*). He is quite right to claim there is a good Aristotelian pedigree for such notions,⁹ as we shall see later. What will turn out to be especially crucial for the problems that interest us here is that Porphyry – unless Philoponus is putting words into his mouth here – seems to draw an analogy between these processes of instantaneous generation or change and God's creation of the universe. As in the case of these examples, the world did not have to undergo a process of generation in order to come being, but God brought it into substantification (*ousiôsis*) simultaneously with his thought (*hama noêmati*). We will look more closely into this question shortly below.

⁸ Cf. W. Baltes 1976, 105-121.

⁹ See, with Baltes, *De Caelo* 280b6 ff. (examples of touching and moving); *Physics* 258b10 ff. (examples of the principles (*arkhai*) and of what is partless (*ameres*)).

Simplicius, writing some two and a half centuries after Porphyry, was to follow the Tyrian's lead.¹⁰ According to Simplicius, by 'generated' Aristotle means what earlier does not exist, but then later does (i.e., meaning no. 7). Plato, in contrast, means by 'generated' what has its being in becoming (meaning no. 6) and derives its being from another cause (meaning no. 4). It was, Simplicius claims, because Philoponus was too dumb to realize that Aristotle and Plato did not mean the same thing by the term '*genêtos*' that he wrongly maintained that Plato and Aristotle held opposing views on the question of whether the universe is generated or created. This, of course, is precisely what most scholars believe today, so that we are today, at least on this point, the heirs of Philoponus rather than Simplicius.

Since we have already mentioned the Neoplatonists, the school of Greco-Roman thought usually considered to have been founded by Plotinus (c. 204-270 AD), it seems appropriate give a sketch here of the historical background to the debate between Philoponus and Simplicius.

2.1. The Historical Background

The mid-6th century was an interesting period in the history of philosophy. By this time, the triumph of Christianity was pretty well complete in the Roman Empire, where it had been the official religion, if not since the time of Constantine I, then certainly since 380 under Theodosius I. In 529, the emperor Justinian sealed the fate of pagan philosophical education by ordering the closure of the Platonic Academy at Athens, forbidding pagans to teach anywhere within the Empire.¹¹

By the sixth century, philosophy in the Roman Empire had acquired a fixed set of characteristics. The reigning philosophical tendency, since the time of Plotinus, who died in 270 AD, and his successors Porphyry and Iamblichus, was Neoplatonism. The members of this school considered themselves to be faithfully carrying on the teachings of Plato, but their teachings were in fact the result of a long process of combining Platonism, Aristotelianism, Stoicism, Pythagoreanism, and perhaps even some Gnostic elements and elements from the Hellenistic Mystery religions. Neoplatonism had grown increasingly more refined and complicated in the course of the 250 years since Plotinus, who had come up with an emanative system in which the ineffable supreme principle, the One, gave rise to two other hypostases, the Intellect and the Soul. The lower part of the hypostasis soul, otherwise known as Nature, then gave existence to the sensible world in which we all live. Following certain tendencies already present in Plato, this sensible or phenomenal world was considered less real and less valuable than the world of intelligible Platonic forms that constituted the Intellect (*nous*). The human soul, intelligible in its origin, was considered to have fallen into the body as the result of some pagan equivalent of Original Sin, and the goal of human life was held to be the reversal of the process of emanation: we are to

¹⁰ Simpl., *In Cat.*, 1154, 2 ff.

¹¹ R. Sorabji 1987, 164. The doubts expressed by Alan Cameron about the extent and efficacy of Justinian's edicts are probably ill-founded, cf. Ph. Hoffmann 1987, 197 and n. 77.

separate our souls and our intellects from our material body, and make them rise back up to the intelligible world whence they came.¹² By the time of Simplicius and Philoponus in the early sixth century AD, many more levels of reality had been inserted between the sensible world and the ultimate principle, which was variously known as God, the One, or even simply the Ineffable. The First Principle became utterly unapproachable and distant from the material world, while the intermediate levels of reality – intelligible, intellective-and-intelligible, intellective, and so on – became associated with a host of strange divinities taken from such Orientalizing sources as the Orphic Poems and the Chaldaean Oracles.

As far as the nature of philosophy itself was concerned, it had changed since the time of Plato and Aristotle, as Pierre and Ilsetraut Hadot have shown.¹³ No longer the direct transmission from master to disciple of a philosophy conceived as a way of life, it had become primarily a matter of the meticulous commentary on a canonical series of texts by the Founding Fathers of the school. In the case of Neoplatonism, these founding Fathers were primarily Plato and Aristotle.

Most historians of philosophy consider that Plato and Aristotle, the Founding Fathers of Western thought, were about as opposed as it's possible to be. After all, Plato believed in separate intelligible Forms or Ideas; Aristotle did not, but believed that forms are inherent in and inseparable from the bodies they inhabit. Plato believed in reincarnation: the human soul had contemplated the Intelligible Forms before being incarnated in a body, and had thereby obtained a direct vision or intuition of absolute Truth or Reality, a vision which has become obscured by life in the body and which it is philosophy's task to reawaken via *anamnêsis* or recollection. For Aristotle, the soul is the actuality or entelechy of a physical body endowed with organs, and it probably doesn't survive after death (Aristotle doesn't really seem to much concerned about this point). For Plato, as mentioned, all learning is recollection: we possessed all knowledge before our souls became incarnated in our material body, and learning and study are simply the gradual recovery of that lost knowledge. For Aristotle, our minds are a clean slate when we are born, and we acquire knowledge by means of sensation, perception, memory, and experience. Things get a bit more complicated when it comes to the questions that concerned Simplicius and Philoponus in the writings under consideration here, that is, the question of whether time, motion, and the world are created or eternal. Aristotle clearly maintained that both time and motion were not created but eternal, as was the world: no matter what moment in time, or what motion in physical space you choose, there will always have been a moment or motion before it, and there will always be one after it. In this

¹² This return is variously referred to as *epistrophê*, *anagôgê*, or *anadromê*; cf. Ph. Hoffmann 1987, 210.

¹³ See, for instance, Pierre Hadot, *Philosophy as a Way of Life. Spiritual Exercises from Socrates to Foucault*, edited with an Introduction by Arnold I. Davidson, translated by Michael Chase, Oxford/Cambridge, Mass.: Basil Blackwell, 1995; Pierre Hadot, *What is Ancient Philosophy?*, translated by Michael Chase, Harvard University Press, 2002.

sense, because there is no first or last moment of the world's existence, the world is eternal¹⁴ (Greek *aidios*: we will see below that this term takes on a different meaning in Neoplatonism). Plato's position was harder to pin down. In his most famous and influential dialogue, the *Timaeus*, he talks as though a creative divinity, which calls the Demiurge or craftsman, created the world, time, and the human soul at a specific moment, fashioning them out of a chaotic hodgepodge of wildly moving elements, or rather proto-elements.¹⁵ Yet Plato had presented this account in the form of a myth, and there was considerable debate in Antiquity over whether it should be understood literally, or merely in some kind of a symbolic or allegorical way.¹⁶

Probably as early as the end of the third century AD, the Neoplatonic philosophical curriculum had become systematized, if not by Porphyry,¹⁷ then certainly by Iamblichus, his student. Beginning philosophy students started off with Aristotle, reading, in order, first Porphyry's *Introduction* or *Isagoge*, and then Aristotle's works on logic (in the order *Categories*, *De interpretatione*, *Prior Analytics*, *Posterior Analytics*, *Topics*, and *Sophistici elenchi*), physics, and psychology, culminating with the *Metaphysics*. They then read a selection of Plato's dialogues, culminating in the *Timaeus* and especially the *Parmenides*, considered to be the *summa* of all metaphysical speculation.¹⁸ This partly explains how the Neoplatonists could reconcile Plato and Aristotle: the study of Aristotle was considered as an *introduction* to the study of Plato. Aristotle was considered as a fairly reliable guide to the sensible world and to the disciplines that enable us to understand it; but one had to turn to Plato to understand intelligible reality, the world of the Forms or Ideas, and then, if possible, God or the First Principle. Thus, if one wondered why Aristotle did not discuss the Forms or Ideas that play such an important part in Plato's thought, the answer lay ready to hand: Aristotle was writing for beginners, who lived on the level of sense-impressions and appearances. Such beginners had no reason to clutter their minds with metaphysical or theological notions, which they would, at any rate, be unable to understand.

By the mid-sixth century, two main centers of the teaching of pagan philosophy had developed: one in Alexandria and the other in Athens. Modern scholars are divided over whether there were important doctrinal differences between these schools. What is certain is that in the Greek writings that happen to have come down to us, those by authors from Alexandria (Ammonius, Philoponus, Olympiodorus and so on) tend to be commentaries on Aristotle's treatises on logic and natural philosophy, while those from the Athenian school (Syrianus, Proclus, Damascius, and so on) tend to be metaphysical treatises and/or commentaries on the works of Plato. As early as Antiquity, it had been claimed that the Alexandrian school under Am-

¹⁴ For an excellent analysis of Aristotle's arguments on this point, see A. Ross 2010.

¹⁵ This is how Aristotle interprets the cosmogony of the *Timaeus*, cf. *On the Heavens* 1, 10-12.

¹⁶ Cf. W. Wieland 1960, 293; R. Sorabji 1983, 268-272; Baltes, *Weltentstehung* 1; L. Judson 1987, 179.

¹⁷ I. Hadot 1985, 5.

¹⁸ Cf. Ph. Hoffmann 1987, 205 n. 109, with further references.

monius had reached an agreement with the local Christian authorities to abstain from metaphysical speculation,¹⁹ and/or topics that might be contrary to Christian orthodoxy, which would explain the relatively “sober” character of the Alexandrian philosophical works. For instance, to judge by their extant works, the Alexandrian commentators seem to have considered that the highest metaphysical principle was not the One or the Ineffable, but the Demiurge. Other modern scholars, led by Ilsetraut Hadot, have claimed that the Alexandrian emphasis on Aristotle, and the Athenian preference for Plato, are merely the result of historical accidents of transmission. It just so happens that what has come down to us of the Alexandrian writings are those from the earlier stages of the philosophical curriculum, where professors abstained from metaphysical speculation simply because their students were not yet prepared to understand them.²⁰ Likewise, the Aristotelian commentaries of the Athenian philosophers have been lost, but some of their Platonic commentaries and metaphysical treatises have survived, thanks to historical accidents.²¹

Pagan education at Athens thus effectively ended in 529, when, as we saw, Justinian closed the Platonic Academy, ordering that no pagan philosopher could teach within the Empire. As a result, Simplicius, Damascius, and five other Neoplatonic philosophers fled to the court of the Persian king Chosroes I, who, they had heard, was interested in philosophy. But the exiles were soon disillusioned with their Persian hosts. Once again, scholars disagree about what happened next. For Michel Tardieu, followed by I. Hadot, Simplicius and Damascius continued to Mesopotamia and settled in Harran, near the current border between Turkey and Syria. Here they founded a Neoplatonic school, or rather joined one that already existed in that location, a school that was to play a part in the transmission of Greek philosophical and scientific thought to Islam.²² Other scholars find this scenario unlikely, and suppose that Simplicius and his colleagues returned to either Athens or Alexandria.²³ According to Ilsetraut Hadot, at any rate, it was at Harran that Simplicius wrote his *Commentary on the Physics*, some time after 538.²⁴

¹⁹ According to Damascius (*Life of Isidore*, fr. 315 Zinzten), Ammonius derived financial benefits from this arrangement. *Contra*: L. S. B. MacCoull 193, 2.

²⁰ See especially I. Hadot 1978 (= English translation 2004), *passim*. A good summary of the debate may be found in I. M. Croese 1998, 12f.

²¹ The main one of these being the preservation of the manuscripts that constitute the so-called “Collection philosophique”. Cf. M. Rashed 2002.

²² This “école Platonicienne de Harran”, as Tardieu calls it, was still in existence in the 10th century.

²³ If this were the case, however, it might be hard to explain Simplicius' repeated, and apparently sincere claim that he had not read Philoponus' work *Against Proclus*. It is hard to believe Simplicius would not have read this work if he was at Athens or Alexandria, where it must have been readily available.

²⁴ Simplicius first wrote a commentary on the *De Caelo*, then on the *Physics*, and finally on the *Categories*. The authenticity of the commentary on the *De anima* attributed to Simplicius in the mss. is disputed (I. Hadot 1985, 22).

2.2. Simplicius and Philoponus

Although they seem never to have met, Simplicius and John Philoponus both began their philosophical studies at Alexandria under Ammonius, who taught there between 475 and 526 AD.²⁵ But while Simplicius soon left for Athens, Philoponus remained at Alexandria, first writing fairly standard commentaries on Aristotle, based on the notes he took at Ammonius' classes.²⁶ It was precisely in 529, however, the year of Justinian's edict, that Philoponus suddenly began to publish treatises in which he defended an aggressively Christian view, criticizing the doctrines of pagan philosophers.²⁷ He began with a work entitled *On the Eternity of the World against Proclus*, in which he refuted the arguments in favor of the world's eternity by Proclus, the great Athens-based teacher of Ammonius.²⁸ It seems likely that Philoponus' choice was not unconnected with what was happening at Athens: perhaps, as some Arabic sources state, Philoponus felt the need to distance his Neoplatonism from pagan philosophy, and point out that its doctrines could, after all, be reconciled with Christianity. Philoponus' treatise, entitled *Against Aristotle on the eternity of the world*, which Simplicius sets out to refute in his commentaries on Aristotle's *De Caelo* and *Physics*, is somewhat later, and was probably written in the 530s.²⁹ As far as Philoponus' motives are concerned, it is perhaps worth citing the view of the Is-

²⁵ I. Hadot 1985, 7.

²⁶ The first redaction of Philoponus *In Phys.* dates from May 5, 517 (L. S. B. MacCoull (1995, 49). A. Ross (2010, *passim*) is in error when he affirms that the Philoponian arguments he examines come from this commentary. They are taken from the *Contra Aristotelem*, as we shall see below. Mahdi (1967, 234-235) suggested that Ammonius chose Philoponus to edit his class-notes because "it was evidently convenient to have as an intermediary or mouthpiece a Christian who was a competent judge of public opinion to make sure that nothing offensive to public sensibilities met the public eye". This is pure speculation, and fails to explain why Philoponus was passed over when it came to deciding on Ammonius' successor as head of the Alexandrian school. In general, Mahdi's analyses, based largely on the work of Max Meyerhof, have been rendered obsolete by subsequent research.

²⁷ This has been questioned by Lang and Macro 2001, who affirm that the *De aeternitate mundi* is a philosophical work bereft of Christian apologetics, and that, in general, "there is virtually a complete absence of evidence for a Christian commitment in Philoponus' philosophical writings". This claim seems patently absurd, and has been persuasively refuted by M. Share 2005, 4 ff.: see, for instance, *De aet. mundi* VI, 28, p. 229, 9-11 where Philoponus claims Plato in the *Timaeus* took his doctrines "from the Holy Scriptures, as has been well pointed out by some of those who are on our side" (καὶ τοῦτο πάλιν ἐκ τῶν ἱερῶν γραμμάτων ἀναλεξάμενος, ὡς καλῶς τινες τῶν ἡμετέρων ἐπεσημῆναντο).

²⁸ L. S. B. MacCoull (1995, 48) refers to this work as containing Philoponus' "pathbreaking rejection of the steady-state universe in favor of a 'Big-Bang Theory' consistent with the Christian doctrine of Creation". Less tendentiously, it may be described as a work in which Philoponus argues for a literal interpretation of Plato's *Timaeus* against the cosmological doctrines of Aristotle.

²⁹ R. Sorabji in C. Wildberg 1987, 24.

lamic philosopher al-Fārābī (ca. 870-950), who wrote at least one refutation of Philoponus' arguments³⁰:

One may suspect that his intention from what he does in refuting Aristotle is either to defend the opinions laid down in his own religion about the world, or to remove from himself the suspicion that he disagrees with the position held by the people of his religion and approved by their rulers, so as not to suffer the same fate as Socrates.

Thus, Fārābī has two explanations, complementary rather than alternative, concerning Philoponus' decision to turn against Aristotle. Both could be characterized as socio-ideological. Philoponus felt pressure to conform to Christian beliefs,³¹ and so he set out to refute Aristotle's pagan world-view, either because he sincerely believed his Christian views were correct and Aristotle was wrong, or because he was afraid for his own safety unless he was perceived to support the Christian rather than the pagan view.³² The first view is more likely, given that we now know that Philoponus was indeed a convinced Monophysite Christian, spending the last part of his life composing Christian theological treatises, some of which, ironically enough, served only to get him condemned for the heresy of tritheism on January 3, 568.³³

2.3. Philoponus, *Contra Aristotelem*

In the *Contra Aristotelem*, Philoponus set about refuting Aristotle's views on the eternity or perpetuity of the world. As a Christian, Philoponus felt obliged to defend the Biblical account, according to which God created the world from nothing in six days, some six thousand years previously. Philoponus' treatise is lost, but the fragments that remain, preserved mainly by Simplicius, show that it consisted in 8

³⁰ Al-Fārābī, *Against John the Grammarian*, 4, 8, p. 257 Mahdi. For a critical evaluation of this testimony, see U. Lang 2001, 7f. Ironically, Philoponus himself (*aet. mundi* 9, 4, 331, 20-25 Rabe) suggests that when Plato calls the world created by the Demiurge a "happy god" (*eudaimôn theos*), he was merely yielding to popular superstition, lest he should suffer the same fate as Socrates. Cf. K. Verrycken 1997, 278.

³¹ This is basically the view of K. Verrycken 1990; 1997.

³² Cf. H. Chadwick 1987, 42: "...Philoponus saw the Athens affair as an opportunity and a challenge, whether he wrote in order to attract Justinian's favour by an attack on the principal architect of late Neoplatonic dogmatics or to avert unwelcome attention from the Alexandrian philosophers by demonstrating that not all of them were motivated by a cold hatred of Christianity as Proclus was". Some ancient sources claim Philoponus wrote his anti-Aristotelian works in order to make money; cf. K. Verrycken 1990, 258-263. L. S. B. MacCoull (1995, 52), for her part, explains Fārābī's report in the context of contemporary conflicts between Monophysite and Chalcedonian Christians.

³³ Cf. H. Chadwick 1987. More precisely, Philoponus "broke away from the miaphysite communion and endured anathema for the sake of his rather abstruse Trinitarian doctrine" (U. Lang 2001, 8). On the theological background of Philoponus' Trinitarian works, see also L. S. B. MacCoull 2005, 412 ff. Philoponus was condemned a second time in 575, this time for his unorthodox views on the nature of the resurrection body, and again at the Third Council of Constantinople in 680-681.

books. In the first five, Philoponus attacks Aristotle's views on the nature and existence of an fifth element, the so-called ether, eternally moving in a circle, as set forth in his *De Caelo*, book I, 2-4, with a digression on *Meteorology* 1.3. In the sixth book, which is the one we'll be interested in here, Philoponus attacked Aristotle's arguments in *Physics* 8.1 in favor of the eternity, or rather the perpetuity, of motion, time, and therefore the world. According to Philoponus, the world as a whole was created at a specific moment in time and will also be destroyed at a subsequent moment. Such doctrines are anathema to Simplicius, as we'll see shortly.

2.4. Simplicius on Philoponus

When we start to read that part of Simplicius' commentary on *Physics* 8 in which he reports Philoponus' objections against Aristotle,³⁴ it is immediately clear that Simplicius does not like Philoponus very much. He never refers to him by name, but usually as *houtos* (this guy), or as the Grammarian. He also calls him a Telchine, one of the mythological blacksmiths and magicians of Rhodes who, by Late Antiquity, had become synonymous with backbiters or slanderers; he also calls Philoponus a jaybird, or a barking dog. Philoponus' arguments are "heaps of garbage", or filth, and Simplicius calls upon Heracles to divert the river Alpheus to clean out the excrement that his arguments have caused to accumulate in the minds of his readers. By constantly emphasizing that Philoponus is a Grammarian (Greek *grammatikos*), Simplicius is able to emphasize that his opponent is not even a professional philosopher, but a mere teacher of literature, a greenhorn who has a superficial acquaintance with some notions of philosophy. For Simplicius, Philoponus is an *opsimathês*³⁵, someone who comes to learning late in life, which implies that he was probably somewhat younger than Simplicius.³⁶ The vast length of his writings, claims Simplicius, is intended to dazzle the layman, even though much of his material is copied from Alexander of Aphrodisias and Themistius.³⁷ His intended audience is, moreover, made up of dim-witted students and morons in general.³⁸ In short, according to Simplicius, Philoponus is uneducated, superficial, thick-witted, and he writes like someone who is insane, drunk, and maniacal.

³⁴ Simplicius, *In Phys.*, p. 1130, 1 ff. Diels.

³⁵ Ibid., 1133, 10.

³⁶ Philoponus was probably born in Egypt around 490 (L. S. B. MacCoull 1995, 49), and died around 575 (*eadem* 2005, 415).

³⁷ Simplicius, *loc. cit.*, 1130, 5.

³⁸ *anoêtôn anthrôpôn* 1130, 1. Scholten (1997, 14) suggests Philoponus may have written his *De Opificio Mundi* ca. 557 in order to prove that Christians were not simpletons who deserved the derision of their pagan colleagues. It has also been suggested (R. Walzer 1957 = 1962, 195; E. Behler 1965, 132) that this work was a response to critiques from the Christian side, who complained that Philoponus had not made enough use of Scripture in his previous polemical works.

For Simplicius, then, these upstart Christians, the worst of whom is the sophist Philoponus, blaspheme against the heavens, eliminating the different in substance between the celestial and sublunar worlds.³⁹ In so doing, they ignore the passages in their own holy Scriptures, which teach that “The heavens proclaim the glory of God, and the firmament announces the work of his hands” (Psalm 18). Incomprehensibly, they consider filthy, corruptible matter, such as that of corpses (i.e., the relics of martyrs), to be more worthy of honor than the heavens. As for Philoponus, he dares to proclaim that the light emanating from the heavens is no different from the light emitted by glow-worms and fish-scales. For Simplicius, in contrast, to denigrate the heavens is to blaspheme against the Demiurge, who brought them into being, he whom the late Neoplatonists identified with Zeus or the Intellect.⁴⁰

Above all, Simplicius despises Philoponus and his correligionaries because of their anthropomorphic conception of God. Since Philoponus thinks God is like a human being, it is only natural that he thinks God's production, the heavens and the world as a whole, will perish as the works of human beings do. But as Philippe Hoffmann emphasizes⁴¹, taking God to be an individual is

a radical inversion of the philosophical attitude, which consists in rising *above* individual humanity.

Hoffmann goes on to quote the great Dominican historian of philosophy H.-D. Saffrey, who writes that in Neoplatonism

...man is nothing; particular, individual man is nothing but the degradation of Man with a capital H. ...Man's misfortune is to be an individual, and the entire effort of philosophy is directed to raising oneself back up to the universal and the All.

By anthropomorphizing their God, moreover, the Christians are guilty of making Him arbitrary and capricious. When Philoponus (fr. 120 Wildberg) suggests that God may have created the elements in the beginning, then handed over their subsequent administration to Nature (rather like the Newtonian concept of a God who winds up the celestial clockwork, and then leaves it to run on its own), Simplicius is, as usual, scandalized.⁴²

Who in his right mind could conceive of such a change in God, such that not having created earlier, in the briefest moment of time he should become the creator of the elements alone, and then cease from creating once again, handing over to Nature the generation of the elements out of one another, and of the other things from the elements?

³⁹ This was, of course, the aspect of Philoponus' thought that was appealing to, and influential upon, Galileo ; cf. M. Rashed 2004.

⁴⁰ On the question of the identity and ontological rank of the Demiurge, see R. Sorabji 2004, vol. II, § 8 (e), pp. 170-173, with further references. See also M. Chase, “What does Porphyry mean by *theôn patêr*?”, *Dionysius* 22, Dec. 2004, p. 77-94, esp. pp. 88 ff.

⁴¹ 1987, 209 & n. 129.

⁴² Simplicius, *loc. cit.*, 1147, 1 ff.

What shocks Simplicius here is the arbitrariness attributed to God. He is said to create the world: fine, says Simplicius, although it would require a long argument to agree on the sense of “create” that is appropriate here. But why on earth, or rather in Heaven, should He have decided to create at one moment rather than another⁴³? And why should he then stop creating, like some factory worker clocking in and out of the plant? Like Leibniz some 1200 years later, Simplicius cannot tolerate the idea that God's behavior might be arbitrary or capricious, that is, that He might act without having a *sufficient reason* for acting in the time, place, and way he did. Simplicius' own Neoplatonic doctrine of emanation escapes this particular problem (although it is less successful in avoiding others): emanation, he argues, can be considered as a continuous creation,⁴⁴ one that has no beginning or end, so that there is no room for asking: why did God create six thousand years ago, rather than seven thousand?

2.5. Pagans vs. Christians at the end of Antiquity

As Hoffmann has shown, Simplicius' attitude toward Philoponus and his correligionaries is symptomatic of the general attitude of educated pagans at the end of Antiquity toward Christians. The Christians are an impious group of atheists and revolutionaries, whose only redeeming virtue is that they will not be around for long: their doctrines will soon wither away, like the gardens of Adonis. In their desire for glory, they are like Herostratus of Ephesus, who burned down the temple of Artemis in 356 BC, just because he wanted to be famous. Motivated by the search for glory rather than the pursuit of truth, they have failed to purify their rational soul, with the result that they allow themselves to be motivated by their passions and imagination rather than reason.

2.6. Aristotle, *Physics* 8.1

So much, then, for the historical background. Before we turn to some examples of the actual debates between Simplicius and Philoponus, let's refresh our memories of the text they're both commenting on: the first chapter of book 8 of Aristotle's *Physics* (Text 5).

We recall that the 8th book of Aristotle's *Physics*, which some interpreters like al-Fārābī considered the culmination of the entire book,⁴⁵ sets out to prove the existence of an unmoved Prime Mover, responsible for all the motion in the universe. To accomplish this, Aristotle starts out in *Physics* 8.1 by trying to prove that motion is eternal, time is eternal, and therefore the entire world as a whole is eternal.

⁴³ Cf. Sorabji, 2004, II, § 9(b), pp. 180-181.

⁴⁴ Cf. Sorabji, 2004, II, § 8(f), pp. 173-174.

⁴⁵ A short treatise by al-Fārābī against Philoponus' arguments is extant (cf. Mahdi 1967), but it concerns only Philoponus' arguments against the *De Caelo*. It has been suggested that al-Fārābī's lost treatise *On Changing Beings* (*Fī al-mawjūdāt al-mutaḡayyira*) was devoted to Philoponus' arguments against *Physics* 8; cf. H. Davidson 1969, 360; M. Rashed 2008 *passim*.

To prove that motion is eternal, Aristotle starts out from the definition of motion he had already given in *Physics* 3, 1, 210a10 ff. (**Text 7**): Motion is the actuality (*energeia* or *entelekheia*) of what is movable insofar as it is movable. This, Aristotle claims, implies that before motion can take place, the things that are capable of motion must already exist. But these things are either generated, or eternal. If generated, their existence must be preceded by the motion or change that generated them; if they are eternal, but were not *always* in motion, then they must have begun to move at a specific point in time, prior to which they were at rest. But if so, since rest is the privation in motion, then while they were at rest there must have been some cause that kept them at rest. Before these things begin their motion, therefore, there must have been another change or motion that overcame the cause that was maintaining them at rest. Aristotle's conclusion is that no matter whether the things capable of motion are generated or eternal, there is always a change or motion previous to any change or motion one chooses to consider. In this sense, then, motion is eternal. There is no such thing as a first motion.

Aristotle's second argument is based on his definition of time as the number of motion according to the before and after (*Physics* 4, 10-12). Since time is the number of motion, if there is always time, there is always motion as well. Aristotle therefore (*Physics*, 8, 1, 251b10 ff.) goes on to give a series of arguments for the eternity of time.⁴⁶

Aristotle's first argument for the eternity of time is from authority: all natural philosophers except Plato, he says, have agreed that time is eternal. The key point here, and we will return to it shortly, is that Aristotle takes the account of creation in Plato's *Timaeus* quite literally.

Aristotle's second argument for the eternity of time is based on the nature of the present instant or the now (Greek *to nun*). By Aristotle's definition, the now is the end of one period (viz., the past), and the beginning of another one (the future). Since every now thus implies time before and after it, it follows that there can be no first or last now, and hence that time is eternal. Finally, Aristotle goes on to show that these arguments prove that time, and therefore motion, not only had no beginning but will also have no end, for whichever instant or *nun* you consider, there will always be one after it. Time is thus beginningless and endless, infinite *a parte ante* and *a parte post*, as the Latins would say, and as the Arabs would say, both *azalī* and *abadī*.⁴⁷

3. Simplicius vs. Philoponus: the gloves come off

All kinds of interesting issues are raised in the debate between Simplicius and Philoponus over the interpretation of *Physics* 8.1.

Among the most interesting aspects of the debate, from a purely philosophical viewpoint, is Philoponus' attempt to refute Aristotle by arguments based on the na-

⁴⁶ As Simplicius explains (p. 1152, 24 ff.), Aristotle uses the following hypothetical syllogism: if time is everlasting, then motion is everlasting. But the antecedent is true, therefore, so is the consequent.

⁴⁷ On this terminology, cf. J. Jolivet 2006, 224 ff.

ture of infinity; these arguments are the subject of section 9 (a), p. 175-80 of the second volume of Richard Sorabji's *Philosophy of the Commentators*. In order to rule out the possibility of beginningless time, Philoponus adduces the fact that, according to Aristotle, there can be no actual infinite; that no infinite series can be traversed or increased; that no one infinite series can be larger than another; and that no infinite quantity can be a multiple of another infinite quantity. I'm going to ignore these arguments here, partly because they've been extensively discussed elsewhere,⁴⁸ and partly because I want to concentrate here on what's more directly relevant to the theme of the conflict between pagans and Christians at the end of Antiquity.

3.1. Simplicius on the created nature of Christ

The first example I'd like to discuss occurs when Simplicius is answering Philoponus' attempt to overturn what he calls the "famous axiom of the philosophers", to the effect that nothing can be generated (Greek verb *genesthai*, adjective *genêton*) out of nothing, an axiom Philoponus rightly considers essential for the pagan proof that motion is eternal (Simpl. *In Phys.* 1143, 20 ff.). Philoponus contends that contrary to what Aristotle says, what is generated can indeed come into being out of nothing, or more precisely out of what does not exist in any way (*ek tou medamêi mêdamôs ontos*). He argues that God creates matter, from which he thinks it follows that, contrary to what the Pagans claim, not everything that comes into being originates out of what exists (*to on*). Not only matter, moreover, but all forms within matter, and, in short, everything except the First is created, according to Philoponus, with only the First being ungenerated and uncaused.

Simplicius takes advantage of this opportunity to question Philoponus' Christian orthodoxy. He first cites Aristotle at *Physics*, I, 8, 191a24 ff., who argues that nothing can be generated out of nothing, but that whatever comes into being must do so out of its own privation. This allows Simplicius to make fun of Philoponus for not understanding what the philosophers mean by "generation" (Greek *genesis*): it is not, as the Grammarian thinks, what depends on just any kind of cause, but "what has been assigned its passage to being within a part of time" (these, as we'll see shortly, being the two meanings Aristotle attaches to the term 'generated'). But now Simplicius administers the *coup de grâce*:

Simplicius, *In Phys.*, p. 1144, 28-32 Diels

And since <Philoponus> says that only the First is ungenerated and without a cause, joining <the epithet> 'without a cause' to <the epithet> 'ungenerated', he also says, *not even showing respect for those who share his views*, that what comes after the First is *also generated and is created*. For he too says that what is generated is created (...)

καὶ εἴπερ τὸ πρῶτον μόνον ἀγένητον καὶ ἀναίτιόν φησι, συντάξας τῷ ἀγενήτῳ τὸ ἀναίτιον, καὶ μηδὲ τοὺς ὁμοδόξους εὐλαβηθεὶς γινόμενον καὶ ποιούμενον δηλονότι καὶ τὸ μετὰ τὸ πρῶτον φησι· τὸ γὰρ γινόμενον καὶ δημιουργούμενον καὶ αὐτὸς φησιν...

⁴⁸ Cf. H. Davidson 1969, 363 ff. ; R. Sorabji 1983 ; 1987b, L. Judson 1987.

It seems to me that this is a jab by Simplicius at Philoponus' Christian orthodoxy. For if Philoponus affirms that everything after the First – that is, presumably, God the Father – is created, then that includes Christ the Son. But to say that Christ is created is heretical, and goes against the Nicene Creed:

Symbolum Nicaeno-Constantinopolitanum (ed. Ph. Schaff, <i>The Creeds of Christendom, with a history and critical notes</i> . 2, <i>The Greek and Latin creeds, with translations</i> , 1878, p. 57)	English Language Liturgical Commission translation
Πιστεύω εἰς ἓνα Θεόν, Πατέρα, Παντοκράτορα, ποιητὴν οὐρανοῦ καὶ γῆς, ὁρατῶν τε πάντων καὶ ἀοράτων.	I believe in one God, the Father, the Almighty, maker of heaven and earth, of all that is, seen and unseen.
Καὶ εἰς ἓνα Κύριον Ἰησοῦν Χριστόν, τὸν Υἱὸν τοῦ Θεοῦ τὸν μονογενῆ, τὸν ἐκ τοῦ Πατρὸς γεννηθέντα πρὸ πάντων τῶν αἰώνων·	I believe in one Lord, Jesus Christ, the only Son of God, eternally begotten of the Father,
φῶς ἐκ φωτός, Θεὸν ἀληθινὸν ἐκ Θεοῦ ἀληθινοῦ, γεννηθέντα οὐ ποιηθέντα, ὁμοούσιον τῷ Πατρὶ, δι' οὗ τὰ πάντα ἐγένετο.	...light from light, true God from true God, <i>begotten, not made</i> , of one Being with the Father; through him all things were made.

Thus, Nicene Orthodoxy held that Christ was “begotten, not made”.⁴⁹ In contrast, the doctrine that Christ was made or created (Greek *poiêthen*) is, of course, nothing other than Arianism.⁵⁰ There were heterodox Christian sects known more specifically for their belief that God's body was created. As we saw, Philoponus, who fought so hard to defend Christianity against the pagans, was himself a Monophysite, although he was later judged guilty of heresy. I find it quite surprising – and I'm not aware that it's been noticed before – that the resolute pagan Simplicius should be so apparently up to date on the niceties of theoretical Christology.

3.2. Simplicius and Philoponus on perpetuity (*aidiotês*)

Another example of Simplicius' attacks on Philoponus' Christian faith comes in the context of Aristotle's “proof” that time is everlasting, based on the fact that all his predecessors, except for Plato, said it is:

But so far as time is concerned we see that all with one exception are in agreement in saying that it is uncreated (...) Plato alone asserts the creation of time, saying that it is simultaneous with the world, and that the world came into being (Aristotle, *Physics*, 8, 1, 251b14-19).

Philoponus provides three counter-arguments.

First, just because five or ten men say time was generated, this is no reason to prefer their testimony to that of Plato. We cannot judge the validity of opinions on the basis of how many people support them; if we did, Aristotle, who was the only

⁴⁹ The question of the distinction between created and begotten is discussed at length by Ambrose of Milan, for instance, in Book I, Ch. 16 of his *Exposition of the Christian Faith*.

⁵⁰ It was also the doctrine of the Gnostic Ebionites, for that matter: cf. Epiphanius, *Panarion*, *Anacephalaeosis* II, 30, 1.

one to introduce a fifth element (ether) alongside the four traditional ones of earth, air, fire, and water, would be out of luck.

Second, Aristotle's claim that we should follow the majority is hard to square with his statement in the *De Caelo* (1, 10, 29b12 ff.) that even though all the other natural philosophers say the world is generated, he shows it to be ungenerated.

Third, since Plato said in the *Timaeus* that "time came into being with the heavens", he is more consistent than the others, who claim that the world is generated but that time is ungenerated, although neither can exist without the other.

Philoponus goes on to argue that we should not accept the testimony of the natural philosophers that time is ungenerated, since Aristotle says they were wrong in every other respect. Besides, Philoponus says, he could point out many illustrious ancient philosophers who claim that time is generated.

Simplicius begins his refutation of Philoponus' arguments by claiming that Aristotle does not claim that the testimony of other philosophers is demonstrative proof, but he only quotes them to back up his own demonstrations; such testimony helps to persuade beginners.

Second, Simplicius claims that when Plato and Aristotle call the world and time 'generated' (Greek *genêton*), they do not mean the same thing (**Text 6**). When Aristotle *seems* to argue against Plato, he is in fact "...arguing not against Plato, but against those who understand the term 'generated' according to its surface meaning" (1165, 4-5). Simplicius has already explained, at 1154, 4 ff., that by 'generated' Aristotle means what exists subsequently after having been non-existent, and what exists in a part of time. Plato, in contrast, means by it all that is not true, viz. intelligible, being, and not simultaneously entire: 'generated', according to Plato, means whatever has an external cause of its being. Simplicius continues by claiming that Philoponus is showing his ignorance when he attributes to Plato his own understanding of the term 'generated', viz. that it refers to what comes into existence after having previously been non-existent. Philoponus was, as usual, too dumb to understand Plato when, in the *Timaeus*, he says that the Demiurge wished to make the world as similar as possible to its intelligible model. The model (Greek *paradeigma*), according to Plato, was characterized by eternal everlastingness (*tên aiônion aidiotêta*), and so the Demiurge provided the world with temporal everlastingness (*tên khronikên aidiotêta*) by bestowing upon it time, as an image of eternity.

A few remarks are in order on this theory of the division of everlastingness or perpetuity (*aidiotês*) into eternal (*aiônios*) and temporal (*khronikê*). It was foreshadowed by Plotinus in his treatise on Time and Eternity (*Ennead* III 7, 3) and developed by Porphyry (*In Tim.*, book 2, fr. 46 Sodano), but it reached its full development in Proclus (*Elements of Theology*, proposition 55). Here is Proclus' corollary to that proposition, in Dodds' translation:

...the perpetuity (*aidiotês*) we spoke of was of two kinds: the one eternal (*aiônios*), the other in time (*khronikê*); the one a perpetual steadfastness, the other a perpetual process; the one having its existence concentrated in a simultaneous whole, the other diffused and unfolded in

temporal extension; the one whole in itself, the other composed of parts each of which exists separately in an order of succession.

Roughly, what this boils down to is the following. When Aristotle used the words *aidios* and *aidiotês*, modern translators are quite correct to render them as “eternal” and “eternity”. For Aristotle, as we have seen, something is eternal which has no beginning or end to its existence, which pretty much the way we use the terms today. By the time of Late Neoplatonism, however, owing to the process of increasing ontological complexity I mentioned earlier, Eternity (*aiôn*) became reserved for the world of intelligible forms, and it came to designate not infinite duration, but complete timelessness. The things that are *aiônia* are ontologically higher than and prior to time; as Proclus puts it, they are “concentrated in a simultaneous whole”. At the other extreme of the ontological hierarchy, there are the objects of the world of sensible reality in which we live. This world and everything in it is *khronikos* or temporal, that is, subject to time, or as Proclus likes to put it “having its existence in a part of time”. But the Neoplatonists soon realized that these two classes, temporality and eternity, were not enough, for they left no room for that which had its existence in time, like the sensible world, but lasted for an indeterminate duration, like the elements and the celestial bodies. The word they chose to designate this intermediate realm was *aidiotês*, which the Medieval Latins were to translate as *aevum*, and we can translate as perpetuity or everlastingness.

Thus, when Simplicius, following Proclus, says that the Intelligible Model used by the Demiurge is “eternally perpetual”, he means that it always exists, because it transcends time. When he says the world is “temporally perpetual”, he means that it exists for ever, but *within* time.

In general, when Simplicius discusses the questions of whether or not time, motion, and the world are *aidioi*, he means not “are they eternal?”, but “are they perpetual or everlasting?”, that is, do these things, or do they not, possess a temporal limit to their existence? The distinction is important in Neoplatonism, but Philoponus tries to ignore it in his criticism of Aristotle.

Philoponus, as we saw, questions Aristotle's assertion that his definition of motion requires the previous existence of things that are capable of motion. Aristotle says this is true of motion that has a beginning in time, but Philoponus retorts it must be true of all motion, including beginningless motion. If this is so, then the substance of the heavens must pre-exist its circular motion. But in this case, argues Philoponus, this heavenly circular motion is not perpetual (*aidios*), because nothing that is preexisted in time by something else is perpetual. It follows either that Aristotle's definition of motion does not apply to beginningless motion, and is therefore inadequate, or else that contrary to Aristotle's claims, it is not true that motion requires the previous existence of what is capable of motion.

The key to Philoponus' argument is obviously his claim that nothing that is perpetual (*aidion*) can have anything preceding it in time. But this argument seems to be based on an understanding of *aidion* as meaning ‘eternal’ as it does in Aristotle: as

applying to that which has neither a beginning nor an end. Philoponus' argument fails if one adopts the Neoplatonic understanding of *aidion* as simply designating that which has a perpetual duration in time, whether or not it has a beginning in time, that is, regardless of whether its perpetuity is *a parte ante* or *a parte post*, *abadi* or *azali*. On this understanding of *aidion* it does *not* follow that if there is some *x* that precedes *y* in time, then *y* cannot be *aidion*. On the contrary, *y* can perfectly well have a beginning in time (in which case there will be things preceding it in time) and *also* have an existence that is of limitless duration, i.e. it can still be *aidion*.

3.3. Simplicius on the Egyptian origins of *Genesis*

But let us return to our sheep, as the French say. Continuing his refutation of Philoponus, Simplicius denies that Aristotle differs from Plato when, in the *De Caelo*, he introduces a fifth element as characteristic of the heavens. This is a good example of the pagan Neoplatonist concern, more or less universal since the time of Porphyry, if not already of Antiochus of Ascalon, to reconcile Plato and Aristotle.⁵¹ The two great founders of philosophy cannot be allowed to contradict one another. If they sometimes appear to do so – as even the Neoplatonists were obliged to concede – then the reason is, as Simplicius states of the apparent contradiction between Plato's and Aristotle's use of the term 'generated' (*genêton*):

...it was the ancient usage to argue against the surface meaning out of consideration for more superficial understandings. Since, then, 'generated' was said of things that having previously not existed, later existed, therefore, arguing against this meaning of the term, Aristotle seems to censure Plato for having said 'generated', but in fact he is censuring not Plato, but those who have attached 'generated' in this sense to time and to the world.

Whereas Aristotle *appears* to say, *expressis verbis*, that Plato was the only one to say that time is generated, and that he was *wrong* to do so, in fact, on the Neoplatonist explanation that Simplicius adopts, Aristotle was criticizing not Plato, but those who understood only the superficial or apparent meaning of 'generated', viz. that something begins to exist after having been non-existent. Plato's 'real' meaning, which professors like Simplicius explained to their students, is that to say that a thing is 'generated' actually means that it depends on an external cause for its existence, is not intelligible, and is not a simultaneous whole but has its being in becoming.

This principle of the exception-free harmony between Plato and Aristotle thus often obliged the Neoplatonists to perform painful feats of exegetical contortion. Simplicius claims that Plato, like Aristotle, says the heavens consist of fire, earth and what is in between, because they are visible and tangible. But Plato, he argues, also agrees that the substance of the heavens is different from the four sublunar elements, since when in the *Timaeus* he attributes a geometrical figure to each element (the

⁵¹ On this theme, see George E. Karamanolis, *Plato and Aristotle in agreement? Platonists on Aristotle from Antiochus to Porphyry*, Oxford: Clarendon Press, 2006.

tetrahedron or pyramid to fire, the octohedron to air, the eikosahedron to water, the cube to earth), he assigns the dodecahedron to the ether.

This is all very well, except that Plato never mentions the dodecahedron in the *Timaeus* passage in question (55c), but merely a “fifth figure”. It is the pseudonymous work entitled *De natura anima et mundi* that first mentions it (ch. 35, p. 136, 20 Marg). Obviously hard put for testimonies in favor of his view, Simplicius next has recourse to Plato's student Xenocrates, who, in his work *On Plato's life* (fr. 53 Heinze) did indeed mention five Platonic elements, one of which is ether. Yet from these two meager (non-Platonic) testimonies to the affirmation that Plato and Aristotle mean *the same thing* by the fifth element, is a bit of a stretch, to say the least.

Undaunted, Simplicius continues, defending the view that it is quite coherent to claim both (a) that the world is generated (either hypothetically or in the sense that it has a cause) and (b) that time is ungenerated. He expends a great deal of sarcasm on Philoponus' claim that he can point to many philosophers who held time to be generated: he begs Philoponus to enlighten him with regard to these illustrious philosophers of whom even Aristotle was unaware, his real belief being, of course, that Philoponus did not name them for the excellent reason that they did not exist.

Finally (p. 1166, 20 ff.), Simplicius concludes his refutation of Philoponus on this point with a final argument. I'm not aware of any modern scholarship dealing with this passage from Simplicius. But one notable scholar who did called attention to this passage was Ralph Cudworth, in his *True Intellectual System of the Universe* (I quote from his translation in chapter 4, p. 313 of the 1678 edition):

Ralph Cudworth, *True Intellectual System of the Universe*, London 1678, ch. 4, p. 313

(...) Simplicius a zealous Contender for the Worlds Eternity, affirms the Mosaick History of its Creation by God, to have been nothing else but *muthoi Aiguptioi*, Egyptian Fables.

The Place is so considerable, that I shall here set it down in the Authors own Language,

If Grammaticus here mean the Lawgiver of the Jews, writing thus, [In the beginning God made Heaven and Earth, and the Earth was invisible and unadorned, and Darknefs was upon the Deep, and the Spirit of God moved upon the Water:] and then afterward when he had made Light, and separated the Light from the Darkness, adding [And God called the Light Day, and the Darknefs Night, and the Evening and the Morning were the Firft Day] I say, if Grammaticus thinks this to have been the First Generation and Beginning of Time, I would have him to

Simplicius, *In Phys.*, p. 1166, 20 ff. Diels

εἰ δὲ τὸν τῶν Ἰουδαίων νομοθέτην ἐνδείκνυται λέγοντα “ἐν ἀρχῇ ἐποίησεν ὁ θεὸς τὸν οὐρανὸν καὶ τὴν γῆν, ἡ δὲ γῆ ἦν ἀόρατος καὶ ἀκατασκεύαστος, καὶ σκότος ἐπάνω τῆς ἀβύσσου, καὶ πνεῦμα θεοῦ ἐπεφέρετο ἐπάνω τοῦ ὕδατος”, εἶτα ποιήσαντος αὐτοῦ τὸ φῶς καὶ διαχωρίσαντος ἀνὰ μέσον τοῦ φωτὸς καὶ ἀνὰ μέσον τοῦ σκότους ἐπήγαγε “καὶ ἐκάλεσεν ὁ θεὸς τὸ φῶς ἡμέραν καὶ τὸ σκότος νύκτα, καὶ ἐγένετο ἑσπέρα καὶ ἐγένετο πρωὶ ἡμέρα μία”, εἰ οὖν ταύτην τοῦ χρόνου νομίζει γένεσιν τὴν ἀπὸ χρόνου, ἐννοεῖται ὅτι μυθική τις ἐστὶν ἢ παράδοσις καὶ

know that all this is but a Fabulous ἀπὸ μύθων Αἰγυπτίων εἰλκυσμένη.
Tradition, and wholly drawn from Egyptian
Fables.

When copying this passage in the manuscript later known as Marcianus Graecus 227, the 13th-century scribe Georgios could not restrain his indignation, writing in the margin: “Behold this dog Simplicius, saying that the words of Moses are myths!”⁵²

Unfortunately, Simplicius does not tell us where he got his information from. I am neither an Egyptologist nor an Old Testament scholar, and so I'm not capable to evaluating Simplicius's claim. I do know, however, that some modern scholarship has taken up the hypothesis that Egyptian influence can be discerned in the opening chapters of Genesis.⁵³ This is particularly the case with the so-called Cosmogony of Hermopolis.

4. Conclusion

To characterize Simplicius' views of Philoponus in a nutshell, I can do no better than to cite a passage from Simplicius' commentary on the *Categories* (p. 7, 23-32 Kalbfleisch), in which the pagan commentator sums up the qualities that a good commentator on Aristotle should possess:

The worthy exegete of Aristotle's writings must not fall wholly short of the latter's greatness of intellect (*megaloñoia*). He must also have experience of everything the Philosopher has written, and must be a connoisseur (*epistēmōn*) of Aristotle's stylistic habits. His judgment must be impartial (*adekastōn*), so that he may neither, out of misplaced zeal, seek to prove something well said to be unsatisfactory, nor, if some point should require attention, should he obstinately persist in trying to demonstrate that [Aristotle] is always and everywhere infallible, as if he had enrolled himself in the Philosopher's school. [The good exegete] must, I believe, not convict the philosophers of discordance by looking only at the letter (*lexis*) of what [Aristotle] says against Plato; but he must look towards the spirit (*nous*), and track down (*anikhneuein*) the harmony which reigns between them on the majority of points.

I think it's safe to say that in Simplicius' view, Philoponus fails to make the grade on all these points: he does not know Aristotle well, he lacks impartiality (although in his case it is not because he strives to prove that Aristotle is always right, but to prove that he is very often wrong), and above all he insists on the disagreement between Plato and Aristotle, remaining at the level of the surface meaning of their texts and failing to discern the underlying harmony between the two great philosophers. I suspect Simplicius would also apply to Philoponus what he says, shortly afterwards

⁵² τὸν κῦνα συμπλίκιον ὧδε μοι σκόπει φάσκοντα μύθους τοὺς λόγους μωϋσέως. Cf. Kalbfleisch's Preface to Simplicius, *In Phys.*, CAG IX, p. XIV.

⁵³ Examples include A. H. Sayce (1932), Abraham Shalom Yehuda (1933, 1934), Cyrus Gordon (1982), James Hoffmeier (“Some thoughts on Genesis 1 and 2 and Egyptian Cosmology”), Atwell, “An Egyptian Source for Genesis 1”, J. D. Currid, “An examination of the Egyptian background of the Genesis Cosmology”, *Biblische Zeitschrift* 35 (1991), 18-40.

in his *Commentary on the Categories*, about the qualities required of a good philosophy student:

He must, however, guard against disputatious twaddle (*eristikê phluaria*), into which many of those who frequent Aristotle tend to fall. Whereas the Philosopher endeavors to demonstrate everything by means of the irrefutable definitions of science, these smart-alecks (*hoi perittôs sophoi*) have the habit of contradicting even what is obvious, blinding the eye of their souls. Against such people, it is enough to speak Aristotle's words: to wit, they need either sensation (*aisthêsis*), or punishment.⁵⁴ If they are being argumentative without having paid attention, it is perception they need. If, however, they *have* paid attention to the text, but are trying to show off their discursive power, it is punishment they need.

Philoponus, for his part, never mentions Simplicius, but if he had, his evaluation of the Pagan philosopher would no doubt have been equally unflattering.

PART TWO: PHILOPONUS, SIMPLICIUS, AND THE THEORY OF INSTANTANEOUS CHANGE

1. Introduction

As we saw in the first part of this article, one of Aristotle's key arguments in *Physics* 8, 1 for the eternity or everlastingness of the world was that whatever motion one chooses to examine, one will always find a motion that precedes it. There is therefore no such thing as a first motion. Aristotle based this argument on his own definition of motion in *Physics* III, which seemed to him to imply that the preexistence of an object or objects capable of motion is a necessary condition for the occurrence of motion. But the ability to always identify one more portion of a thing's temporal existence – one more moment before the one that seemed to be first, one more moment after the one that seemed to be last – is precisely what Aristotle means by temporal infinity⁵⁵ in the sense of unlimited duration. Therefore, if one can always identify one more moment in the series of moments that constitute the world's existence *a parte ante* and *a parte post*, the world is, at least in Aristotle's sense, infinite. In his *Against Aristotle*, Philoponus, whose goal is to overturn Aristotle's arguments

⁵⁴ Aristotle, *Topics*, 1, 11, 105a3ff. Aristotle's examples of a questioner needing punishment are people in doubt as to whether or not they ought to honor the gods or love their parents; people who need perception are those unsure of whether or not snow is white. The passage is also quoted by David (Elias) 122, 22-24; Julian, *To the Cynic Heracleios*, 237D.

⁵⁵ We recall that for Aristotle there can be no actual infinity, but only a potential one. See, for instance, *Physics* 3, 7, with the commentary of M. J. White 1992, 153 f. White identifies this conception of infinity as the ∞ sense of 'infinite', which "does not designate any totality (...) does not signify a cardinal or ordinal number. Rather, it signifies the absence of an upper bound". The ∞ sense of 'infinite' is therefore to be distinguished from the Cantorian transfinite ordinal ω .

against the eternity of the world, therefore has to use all the resources at his disposal to refute this particular argument.

1.1. Aristotle on motion

Motion, as Aristotle claims in *Physics* 3, 1, 201a10-11 (**Text 7**), is the actualization of the movable *qua* movable, and this, he claims, implies that before there can be motion, there must first exist a movable object.

Aristotle's theory of motion is at the same time one of the most familiar and most difficult aspects of his thought.⁵⁶ According to the definition in **Text 7**, motion seems to be the incomplete actualization of a potentiality (Greek *dunamis*), while the complete actualization (Greek *energeia* or *entelekheia*) of that potentiality is the state of being that occurs once the *kinêsis* has reached its goal. To take the example of a house, the wood and stones out of which it is to be built possess the potentiality (Greek *dunamis*) of becoming a house: they are what is buildable (Greek *oikodomêton*). The incomplete actualization of this potentiality is the process of being built (Greek *oikodomêsis*), while its complete actualization is the existence of the house. Likewise, if I walk across the room, my walking is a *kinêsis* as long as it is incomplete, that is, as long as I have not yet reached my goal. Once I've reached the place I was walking to, my process of walking is complete: in Greek, it can no longer be described as a *kinêsis*, but it's now a *kinêma* or completed motion.

Aristotle mentions the difference between complete and incomplete motion and actuality in a number of places (**Texts 8a ff.**). Text **8a**, from *Physics* III, 1, explains why it's hard to figure out what motion is: motion is neither a potentiality (*dunamis*) nor an actuality (*energeia*). Instead, it's an *incomplete* actuality, because that of which it is the actuality -- the house while it's being built, me while I'm walking to the other side of the room -- is not yet complete as such, that is, with regard to its true nature or what it is meant to be.

Our next text (**8b** = *Metaph.* Θ 6, 1048b18-36) is much more difficult, but I've included it because it brings up a key aspect of Aristotelian doctrine. Here, Aristotle begins by distinguishing between actions (*praxeis*) that have a limit (*peras*) and those that do not. Actions with limits are not ends in themselves: examples include losing weight (which is not done for its own sake, Aristotle believes, but for the sake of health). They are therefore not real activities (*energeiai*), but motions (*kinêseis*). Actions properly so called are motions that have their end within themselves: examples include such process verbs as seeing (Greek *horan*), understanding (Greek *phronein*), thinking (Greek *noein*). In the case of these verbs, we can make true

⁵⁶ A glance at the contemporary literature show that there is not much agreement on exactly what this definition means. Problems include the nature and meaning of the term *entelekheia*: is it a process, or the result of a process? Is the definition self-sufficient, self-explanatory and sufficiently clear, or is it ambiguous, requiring a previous understanding of Aristotle's doctrines of various levels of potentiality and actuality? Is the potentiality in question best understood as a two- or a three-place predicate? And so on.

statements using both the present and the perfect tenses simultaneously: the fact that I'm seeing *now* is not incompatible with the fact that I *have seen* an instant ago; the fact that I'm thinking *at this instant* doesn't rule out that I was thinking *an instant ago*. This is not true, Aristotle believes, in the case of verbs describing processes that do *not* have their end in themselves: I cannot truthfully or relevantly say that I *am* learning and *have* learned, that I *am* recovering my health and *have* recovered my health, for in these cases the use of the perfect tense ('have learned', 'have recovered') means that the process indicated by the verb is at an end, so that it is henceforth false to say "I *am* learning" or "I *am* recovering my health". Aristotle ends the passage by summarizing his results: processes such as seeing and thinking are activities or actualities (*energeiai*), whereas walking, building, coming-into-being and moving are merely motions (*kinêsis*).

The key point to this distinction seems to be that *kinêseis* are processes that are necessarily incomplete because their goal lies outside themselves, and once they reach their goal they cease to exist. *Energeiai*, in contrast, since they contain their goal within themselves, are complete at each instant of their existence. Note that two of Aristotle's paradigmatic actuality verbs are "to be happy" and "to live well". We find a similar idea in Aristotle's discussion of the nature of pleasure in Book 10, chapter 4 of the *Nicomachean Ethics* (**Text 8c**). Like seeing, Aristotle explains here, pleasure is complete at every moment, and its intensity is therefore not increased if it lasts longer. This means it is not a motion (*kinêsis*), for all motion takes time. Nor is there any coming-into-being (*genesis*) of pleasure, any more than there is of a point or a numerical unit.

The notion that processes like happiness, pleasure, and living well are complete at every instant was to be extremely important in later Hellenistic ethics. If they are fully realized in each instant, so much so that they are not subject to any possible increase, then all possible happiness and well-being are contained in the present instant. This is no doubt the origin of the Hellenistic doctrine that "only the present is our happiness", a theme taken up in Goethe's *Faust* and so brilliantly studied by Pierre Hadot.

Text 8d is a brief extract from *De anima* 3, 7, which serves to highlight once again the distinction between motion as imperfect activity or the motion of that which is still imperfect, whereas true or absolute (*haplôs*) activity or actuality pertains to what's perfect: this is, as we've seen, the kind of activity like seeing and hearing that's perfect at every instant.

It seems apposite here to quote the commentary on this passage by John Philoponus (= **Text 8e**). Here Philoponus reminds us that when any of our five sense-organs is activated by the presence of a sensible object, this doesn't take place through motion (*kinêsis*). Instead, such a case is an example of something brought from the second kind of potentiality (*tou deuterou dunamei*) to the second kind of actuality, and this process does not involve being affected (Greek *paskhein*) or altered (*alloiôsis*). It therefore cannot be a motion at all, since Aristotle's definition of motion involves the element of incompleteness. Yet things that are characterized by

this second sense of potential are already complete: therefore, the process by which such things are actualized cannot be motion, but may be called change (*metabolê*).

In order to make sense of this argument we must, I am afraid, take another detour, this time back to Book II, chapter 5 of Aristotle's *De anima* (Text 8f). Here, Aristotle distinguishes various meanings of potentiality (*dunamis*) and actuality (*entelekheia*). These meanings are as follows (Cf. Table 3):

1. A person is potentially knowledgeable simply *qua* human being, i.e. because he or she belongs to a genus to which the predicate “knowledgeable” can be meaningfully applied, in that she is capable of becoming knowledgeable.
2. A person can be called knowledgeable because she has acquired some knowledge, such as grammar, whether or not she is actually exercising or making use of this knowledge. This is the state described as *hexis*.
3. Finally, a person who is actually exercising her knowledge — i.e. by actually reading and writing — is in actuality (*entelekheiai*) and possesses that knowledge in the proper sense of that term (*kuriôs*).

Now, Aristotle continues, whereas the transition from state (1) to state (2) is a case of alteration or qualitative change (*alloiôsis*), the transition from state (2) to state (3) is either not alteration at all, or else is another kind of alteration. The idea seems to be that when we exercise a skill, faculty, or habit that we already possess, we are not undergoing alteration — are not becoming other than or different from (Greek *alloios*) from what we are — but are rather developing into what we truly are.⁵⁷

These notions were systematized by the Aristotelian commentators. It was noted (cf. Table 3) that the *hexis* (step 2 above) can be considered as being in actuality when compared to pure potentiality (stage 1), but in potency when compared to pure entelechy (stage 3). Likewise, stage 1 can be called the first potentiality, stage 2 can be called the first (or lowest) actuality *and* the second (or highest) potentiality, while stage 3 is often referred to as the second (or highest) actuality.

1.2. A tale of two entelechies

When, therefore, in his definition of motion in *Physics* 3 Aristotle speaks of motion as the entelechy of the movable *qua* movable, the commentators distinguished between two meanings of the word ‘entelechy’. This term, they wrote, can refer

1. to something that's in possession of its complete or perfect form, having rid itself of all its potentiality (*dunamis*). This is the entelechy that characterizes the state of affairs resulting from motion. Grammatically, it's what's designated by the perfective aspect (*kekinêtai*): “it has moved (and completed its motion)”. To quote Michael J. White,⁵⁸

⁵⁷ See, for instance, Joachim on *EN* X, 4, p. 275: “The conversion from *hexis* into *theoria* or *energeia* is not a transition or a passage or process at all, but the instantaneous or timeless manifestation of what is already there”.

⁵⁸ M. J. White 1992, 49.

the completion or *telos* of a *kinêsis* is connoted by a stative-perfective verbal form, which entails the possession of the property or the obtaining of the state of affairs that supervenes on the completion of the *kinêsis* (...) at the limit point temporally marking the *terminus ad quem* of a continuous *kinêsis*, the body that has undergone the *kinêsis* in question must be said to possess the *property* or be in the state supervening on the completion of the *kinêsis*.

2. The second meaning of ‘entelechy’ is that which characterizes an object in motion; that is, an object that has begun its motion and is progressing toward its goal, which is form, but has not yet reached it and therefore retains its potentiality. It's in this sense that the Commentators often characterize motion as “the path from potentiality to actuality”.

We should bear in mind here that for Aristotle, the concept of motion or *kinêsis* is much broader than our modern-day intuitive idea of motion. When we think of motion we usually think first and foremost of motion in space or local motion. For Aristotle, by contrast, there is motion or change in all of the categories of being, and particularly in the first four of them.⁵⁹ Thus, for Aristotle, there are the following kinds of motion or change (**Table 4**):

1. Substantial motion, which manifests itself as coming-into-being (*genesis*) and perishing (*phthora*),
 2. Qualitative motion, or alteration (Greek *alloiôsis*);
 3. Quantitative motion, or growth (*auxêsis*) and diminution (*phthisis*);
- and finally:
4. Local motion, or transportation (*phora*).

We will see below how the Islamic philosopher al-Kindi added another motion to these four: the motion of creation (*al-ḥaraka-l-ibdāʾ*).

The various kinds of change can be illustrated by our **Text 9**, from the *Paraphrase of the Physics* by the fourth-century Platonist/Aristotelian Themistius. Themistius emphasizes that motion exists in all the categories that are characterized by potentiality and entelechy or actuality (*entelekheia*). The latter term has two meanings, one designating the process by which bronze, for instance, *is becoming* a statue, the other the state in which it *has become* a statue. The former actuality – let's call it actuality 1 – is indicated by the present and imperfect tense of verbs (*kineitai*), and is characterized by the continuing presence of potentiality. It can be termed motion and the perfection of potentiality. Actuality 2, by contrast, is the complete realization or perfecting, not of the potentiality itself (which it destroys), but of the thing that had been previously characterized by potentiality.

⁵⁹ The fact that Aristotle actually allows motion only in the categories of substance, quality, quantity and place – and even substantial change is ruled out in *Physics V* – has led modern commentators to think that Aristotle must have had in mind a “revised list” of the categories (I. Croese 1998, 152). Among ancient commentators, Theophrastus and Simplicius strove to prove that there really is motion in all ten categories.

The actualization of the buildable (*to oikodomêton*) *qua* buildable — that is, in so far as it remains buildable, as opposed to already being built — is thus the process of building (*hê oikodomêsis*), which is a motion (*kinêsis*). It follows, Themistius tells us, that motion is the first actuality of what is potential, in much the same way, one presumes, as the acquisition of the knowledge of reading and writing is the first actuality of the human being *qua* potentially literate. The second actuality, corresponding to a person's actually reading and writing, is the change into form. As the journey toward form, motion is not an actualization in the proper sense, since this title is reserved for the Aristotelian enmattered form (*eidōs*), which is a type 2 entelechy or actuality. Instead, motion is an imperfect actualization.

As Ahmad Hasnawi has pointed out (1994), this passage from Themistius was highly influential. John Philoponus copied it out almost word for word in his Commentary on the *Physics* 3, 1.⁶⁰ This latter work was translated into Arabic, and many of the scholia to Iṣḥāq ibn Ḥunain's Arabic translation of the *Physics* are taken from Philoponus' commentary.⁶¹ One example will suffice to show this. In **Text 9b** we once again find the doctrine of two actualizations or entelechies, which the author refers to as perfections (Arabic *al-kamāl*). The first one, motion, is incomplete and maintains its potentiality: it can be considered as a journey toward the last actualization. This latter actualization, complete, is characterized by the elimination of all potentiality.

2.1. Aristotle and the commentators on instantaneous change

For Aristotle in the *Physics*, all motion is continuous and takes place in time. This, at any rate, is what might be called the “standard” Aristotelian position. As he proves in *Physics* VI, space, time, and motion are isomorphic: they are all continuous and infinitely divisible. It follows that all motion is infinitely divisible, has extension, and takes time.

Yet there is another trend in Aristotelian thought that seems to conflict with this doctrine: in some circumstances, Aristotle allows that some kinds of change may take place instantaneously. In *Physics* I, 3, for instance (**Text 10a**), Aristotle reproaches the Presocratic philosopher Melissus for not having considered the possibility that change can take place all at once (*athroas*); while in *Physics* 8, 3 (**Text 10b**) and in the *De sensibus* (**Text 10c**), Aristotle mentions the freezing of water as an alteration that takes place all at once (*hama*, *athroon*). Aristotle also states in the *Metaphysics*, particularly book Z, that substantial change or the generation of form is instantaneous,⁶² while in *Metaphysics* B⁶³ he argues that points and the limits of bodies come into being without generation.⁶⁴ In short, in various passages of his works,

⁶⁰ Philoponus, *In Phys.*, CAG 16, p. 341, 22 f. Vitelli.

⁶¹ This fact has often been overlooked, since the scholia are usually attributed in the manuscript to Yaḥyā' ibn 'Adī.

⁶² Cf. *Metaph.* Z 8, 1033a24-b19.

⁶³ Cf. *Metaph.* B 5, 1002a28-b5.

⁶⁴ We have already seen that geometrical points and numerical units do not undergo any process of generation: cf. *NE* 10, 4, 1174b11 f. (**Text 9c** above).

Aristotle appears to entertain the possibility that of the kinds of motion or change, only locomotion must unequivocally take place in time, while alteration, substantial change, *energeia* and relational change may all occur instantaneously.⁶⁵

In his *Quaestiones*,⁶⁶ the great Peripatetic philosopher Alexander of Aphrodisias (late 2nd-early third century AD) picked up on the Aristotelian distinction between an activity (*energeia*) that is perfect or complete (*teleia*), and an activity that is imperfect or incomplete. For Alexander, incomplete activity is an affect or accident (*pathos*) and a quality (*poiotês*), while perfect activity, also known as its entelechy, is a form. This is obviously the same basic theory as we found in Themistius.

Like many of Alexander's minor texts,⁶⁷ this one was translated into Arabic, in at least two versions. One of these, entitled "On form and the fact that it is the perfection and accomplishment of motion according to Aristotle",⁶⁸ renders the passage from *Quaestio* 1. 21 with some interesting modifications and additions. I've provided an English translation of the Arabic in **Text 11**. Here we find the now-familiar distinction between imperfect and perfect motion, with the former being an accident (Arabic *al-ʾaṭaru*, Greek *pathos*) of the thing and the latter being equated with its actualization, perfection or completion (Greek *entelekheia* = Arabic *antālāšyā*, obviously a mere transliteration). Note that this translation renders Alexander's term 'activity' (*energeia*) by a term meaning 'motion' (*al-ḥarakatu*), so that Alexander's distinction between perfect and imperfect activity becomes a distinction between perfect and imperfect motion. The Arabic also contains an explanation of the term entelechy that is lacking from Alexander's Greek text.

In a very important article, Ahmad Hasnawi (1994) has discussed this text and adduced a number of parallels from the later Greek commentators on Aristotle, including the passage from Themistius we examined earlier (**Text 9**). He also discussed another text that circulated in Medieval Arabic under the name of Alexander, under the title *Fi anna-l-fi'la a'ammu mina-l-ḥarakati 'alā ra'yī Aristū*, "On the fact that action (*fi'* = Greek *energeia*) is more general than motion in the view of Aristotle". Despite the fact that the Arabic manuscript tradition unequivocally attributes this text to Alexander, Hasnawi has shown that this text is nothing other than a translation of a part of book IV of Philoponus' work *Against Proclus on the eternity of the world*. Here, Philoponus confronts the fourth argument in favor of the world's eternity, which Proclus had set forth in a lost work.

⁶⁵ I. Croese 1998, 51.

⁶⁶ *Quaestio* I, 21, p. 34, 30 - 35, 15 Bruns.

⁶⁷ The texts circulating in Arabic under Alexander's name have been edited by 'Abdarrahmān Badawī, *Aristū 'inda-l-'Arab, Dirāsa wa-nuṣūṣ ḡair manšūra*, Cairo 1947 (Dirāsāt islāmiya 5). Cf. R. W. Sharples 1987, 1187-1188.

⁶⁸ Treatise no. 8 in the enumeration of Alexander's works preserved in Arabic by A. Dietrich 1964.

2.2. Philoponus against Proclus

In the fourth of his arguments in favor of the eternity of the world (**Text 12**), Proclus argued that if the Demiurge or Maker of the cosmos is to be unmoved, then he must create perpetually. He adduces two reasons, both using *reductio*, why the Maker must be unmoved. If he were moved, then since motion is imperfect actuality, the Maker would be imperfect at one point and subsequently imperfect: an unacceptable conclusion. Second, if the Maker were moved, he, who is the creator of time, would require time, presumably as a result of the unstated premise (which Philoponus renders explicit) that all motion requires time.

In Book four, chapter four of his *Against Proclus on the eternity of the world* (**Text 13**), Philoponus tries to refute this argument. He does not deny the Aristotelian premises that all change is a kind of motion, that motion is imperfect actuality, and that all motion takes place in time. What he does deny is that God's creative action can correctly be called *motion*.⁶⁹ It is not right, Philoponus claims, to call God's creative activity (*energeia*), which produces all things through the divine will alone, with no need for time or spatial intervals, a 'motion'. Activity or actuality is, as we have seen, a category with broader extension than motion: while all motion is necessarily an activity, not all activity is motion.

This affirmation is backed up by the now-familiar distinction between imperfect and perfect activity or actuality (*energeia*). Imperfect actuality is motion, which can also be defined as the transition from the first potentiality to the acquisition of a *hexis*. Perfect actuality, in contrast, is an instantaneous projection (*probolê*) from a *hexis*, where 'instantaneous' (Greek *athroos*) means that it is not a process that takes place in time, but it takes place in the now (Greek *to nun*), that indivisible limit which, according to Aristotle, is not time, precisely because it is the limit of time.

To illustrate this phenomenon of instantaneous projection, Philoponus uses the same examples he had already used in his commentary on the *De Anima* (**Text 14**), and which had long been traditional among the commentators⁷⁰: the projection of light from a illuminating source (the sun, fire, or lightning); the faculties of sense-perception, particularly sight; and intellectual perception. In all these cases, the activity in question is timeless, therefore complete at every instant, and therefore, not a motion. But these are precisely, according to Philoponus, the features that characterize God's creative activity. It follows that Proclus is wrong: since God's creative activity is not motion, but analogous to the instantaneous activation of or projection from a *hexis*, then it implies neither imperfection nor a requirement for time on God's part. QED.

⁶⁹ We recall from **Text 8b** that for Aristotle, a motion is an activity that is incomplete because it has its goal outside itself, while an actuality or entelechy is an activity that has its goal within itself and is consequently complete at each instant.

⁷⁰ As Hasnawi has shown (1994, p. 70 and n. 36), they go back at least to Alexander of Aphrodisias; cf. *Mantissa*, p. 143, 21-145, 3 Bruns.

2.3. Back to Philoponus vs. Simplicius

After this long detour, let's return to the debate between Philoponus and Simplicius on the eternity of the world. We recall, I hope, that in *Physics* 8.1 Aristotle attempted to prove the eternity of the world by showing that in order for there to be motion at all, the objects capable of motion must already exist.

Philoponus disagrees. This is not true, he claims in the case of eternal motion, for what's eternal cannot have anything preceding it. If, then, some movable object preceded a motion, that motion could not be eternal. Nor is it true in the case of non-eternal motion: the four elements (earth, air, fire and water), he argues, each have their own characteristic motion (upward in the case of air and fire, down in the case of earth and water), but these characteristic motions pertain to each element as soon as that element comes into existence, so that once again it is false that what is movable must always preexist motion. In addition, since all four elements transform into one another, each motion would become a natural characteristic of each element, which is a contradiction.

Philoponus spends a long time on these arguments, and Simplicius even longer refuting them, but they may seem to a modern reader to consist in rather tedious nitpicking and logic-chopping. More interesting for our present purposes is Philoponus' claim (*apud* Simplicium, *In Phys.*, 1140, 13) that the beginninglessness of the world could only be proved if it were true that *ex nihilo nihil fit*; nothing can come into being out of nothing. In his work *Against Aristotle*, Philoponus (**Text 15**)⁷¹ believes he can refute this 'famous axiom' by trotting out some arguments he had already used in books 9 and 11 of his work *Against Proclus on the Eternity of the world*. Interestingly, part of one of these texts (Philoponus, *aet. mundi* 9, 11) corresponds precisely to the third of the three texts discussed by Ahmad Hasnawi. Like *aet. mundi* 4, 4, this text was translated into Arabic and attributed to Alexander of Aphrodisias, under the title *Maqālatu al-Iskanadari al-Afrūdīsī fī ibtālī qawli man qāla innahu lā yakūnu šay'un illā min šay'in wa itbāti anna kulla šay'in innamā yakūnu lā min šay'in*, that is: "Treatise by Alexander of Aphrodisias, refuting the doctrine that affirms that nothing comes about from nothing, and establishing that everything only comes about from nothing". Philoponus repeats some of the arguments from this work in fragment 115 of his *Against Aristotle on the eternity of the world* (**Text 15**). Nature, he claims, requires a substrate both to exist and to act, and this entails that it must create out things that already exist (*ex ontôn*). Yet this is not true of God, who transcends all beings. If He is superior to nature, it is precisely because He creates not only the form but also the matter of all he creates. Nature may require time and the process of development to create the beings it creates: but not so God, who creates timelessly and without a process of generation, through his will alone.

Finally, just as Aristotle tries to prove in *Physics* 8, 1 that the world is eternal *a parte ante* – i. e. that it had no beginning – from the fact that it had no first moment of

⁷¹ Philoponus, *Against Aristotle*, fr. 115 Wildberg = Simplicius, *In Phys.*, 1141, 10ff.

existence, so he argues (*Physics* VIII, 1, 251b29-252a6) that the world is eternal *a parte post* – that is, that it will have no end – from the fact that whatever moment one tries to identify as the last one of its existence turns out to imply the existence of another moment after it. What is movable (Greek *kinêton*), Aristotle claims, continues to be movable even after it has moved, and what can cause motion (*kinêtikon*) still retains this ability after it has stopped exercising it. Likewise, even if a destructive agent has destroyed everything capable of destruction, that agent still retains its ability to destroy, and so it will destroy again, and will itself be destroyed at some point in the future. But destruction is a motion, so there is no end to motion.

Philoponus is not buying this argument, of course. He retorts that there are many things that cease to exist when they cease to move, such the heart, the lungs, and fire. In addition, some things are not destroyed by an external agent, but simply run out of the power necessary for their survival. Finally, he argues (**Text 16**), it is wrong to assume that what is destroyed is destroyed by motion. Aristotle admits that there are some things that come into being instantaneously or all at once (*athroon*), without motion or temporal extension: and Philoponus cites the now-familiar examples of the presence and absence of forms (cf. *Metaphysics* Z), the uniting of geometrical points (*Metaphysics* 1002A32-1002b2), physical contacts (*De Caelo*, 1, 11, 280b6-9), lightning (probably taken from Porphyry), and sense-perception (*Metaphysics* 9, *Nicomachean Ethics* 10), in this case visual.

In this fragment from his *Against Aristotle*, Philoponus again stresses that God's act of creation, like Aristotle's examples of instantaneous change, is not a motion, precisely because it takes no time. Simplicius seems to recognize that the existence of phenomena of instantaneous is a dangerous counter-objection to Aristotle's doctrine of the eternity of the world: thus, he replies that when Aristotle speaks of phenomena that take place all at once (*athroon*), he does not mean that they take place without time and change, but that in their case extension, change and time are “concentrated” (*sunêirêmenê*). In the case of such phenomena as lightning, contact, the curdling of milk and the freezing of water, he argues — all examples sometimes adduced to illustrate instantaneous change — the word ‘athroos’ does not mean that they take place instantaneously or outside of time, but that they occur all at once as opposed to part by part. Yet by admitting that change and time in such cases are *sunêirêmena*, Simplicius comes very close to admitting they are timeless, or even eternal, for according to post-Plotinian Neoplatonic theory, time unfolds (*anellitein*) the multiplicity that is concentrated on the level of eternity (*sunêirêmenon en tois aiôsi*).⁷²

3 Excursus: *creatio ex nihilo* and instantaneous change in Islamic thought

We saw that Ahmad Hasnawi has proved that several of the texts circulating in Arabic translation under the name of Alexander of Aphrodisias were in fact translations

⁷² Cf. Proclus, *In Parm.*, col. 1235, 21-22 Cousin ; Simplicius, *In Cat.*, 356, 26 f. Kalbfleisch ; *In Phys.*, 794, 35 Diels.

of passages from works by Philoponus. It seems to me that the themes with which these texts deal – the doctrine of the double entelechy, the theory that not every *energeia* is motion, the possibility of a *creatio ex nihilo*, the doctrine that perfect motion is form – are not accidental. They were all, as we have seen, themes mobilized by Philoponus to prove the possibility of the Christian doctrines of *creatio ex nihilo*, and the world's finite existence in time. It seems likely that by extracting these doctrines and attributing them to the respected Exegete Alexander, rather than the suspect Christian Philoponus, the Islamic translators and adapters wished to make these Philoponian arguments available for use in advancing their own philosophical and religious agenda. I'd like to briefly examine a couple of examples of this process.

The affinities between the thought of Philoponus and the Islamic philosopher al-Kindi (c. 801-873) have long been recognized: aspects of their doctrine of the intelligence are similar, as is their acceptance of some version of the doctrine of *creatio ex nihilo*.⁷³ As has recently been noted,⁷⁴ one of Kindi's characteristic doctrines was that of the possibility of instantaneous change or motion. Indeed, Kindi went so far as to add to the standard Aristotelian list of types of motion (transportation, generation, corruption, augmentation, diminution, alteration; cf. **Table 4**) a new type: the motion of creation (*al-ḥarakatu al-ibdā'*), which differs from generation in that the motion of creation does not take place out of a preexistent substrate.⁷⁵ In his *Epistle on definitions* (p. 190 al-A'sam), Kindi defines creation as "the manifestation of the thing out of non-being" (*al-ibdā' u huwa izhāru al-ṣay'i 'an laysa*). Finally, in his *Epistle on the quantity of Aristotle's books* (**Text 17**)⁷⁶, Kindi emphasizes that God's first creative act happened all at once in no time: indeed, it is only the unbelievers who maintain the contrary. Note that this text is strongly reminiscent of Philoponus (**Text 15**): just as Philoponus had argued that since nature creates out of a preexistent substrate, i.e. matter, then if God is to be superior to nature he must create out of no substrate, so Kindi argues that if God is powerful enough to create *ex nihilo* and without matter, then He – unlike man, who needs both matter and time in order to create – has no need of time for his creative act.

In contrast, as Marwan Rashed has shown, Kindi's successor al-Fārābī (c. 870-950) probably devoted his lost work *On changing beings* to proving the impossibility of instantaneous change and the necessity that all change be continuous. Just as Kindi defended the possibility of instantaneous change in order to pave the way for a

⁷³ A. Hasnawi 1994, 89 ; Walzer, *Greek into Arabic*, 191-192. As Hasnawi notes, the doctrine of *creatio ex nihilo* is a prominent element in the Long Version of the *Theology of Aristotle* and the *Letter on Divine Science*, which has led Zimmermann to suppose it must have been among the elements of the original *Theology of Aristotle*.

⁷⁴ M. Rashed 2008, 106.

⁷⁵ Abū Sulaymān al-Sijistānī, in Abū Ḥayyān al-Tawḥīdī, *al-Imtā' wa-l-mu'ānasa*, vol. 3, p. 133 Amin/al-Zayn, quoted by M. Rashed 2008, 53.

⁷⁶ Vol. 1, p. 375 ed. Abū Rida.

doctrine of creation *ex nihilo* taking place outside of time, Fārābī wished to eliminate this possibility in order to confirm Aristotle's proofs of the eternity of the world.

It seems highly likely that, whatever the precise details of the process of transmission from Greek into Arabic may have been, Kindi was adopting the ideas of Philoponus on this point, while Fārābī defended the viewpoint of Simplicius. This would seem to provide confirmation for the view expressed by the eminent Islamic scholar Josep Puig: “Al-Fārābī y Juan Filopón son los pilares en que se sustentan la filosofía helenizante y el *Kalām*, respectivamente”.⁷⁷

It was in the circle of al-Kindi, as recent scholarship has shown, that such apocrypha as the *Theology of Aristotle* were composed, a work that was hugely influential on Islamic philosophy, and ascribed to Aristotle a Plotinian-style emanationist system (the work consists largely of re-worked extracts from the *Enneads*).

As in the philosophy of Kindi, a key concept of the *Theology of Aristotle* is that of what is *duʿātan wāḥida bi lā-zamān*, “instantaneous / all at once and outside of time”⁷⁸, which seems to correspond to the Greek *athroos/aneu khronikês parataseôs*. As recent scholars have argued⁷⁹, this doctrine is closely related to another key notion appearing in the *Theology*: that the Creator is situated beyond eternity, and is in fact the cause of eternity. In the words of Marwan Rashed, “the Creator’s being beyond time prevents His act of creation from needing some period of time in order to be fulfilled”.⁸⁰ Thus, we read that the first maker makes whatever He makes without intermediary, together and all at once (*maʿan wa fī duʿātan wāḥidatan*)⁸¹. In our **Text 18**, we find several echoes of themes we have encountered in late Greek philosophy: the world was not created in time, and if some ancient texts seem to say so (the author almost certainly has Plato's *Timaeus* in mind), then this was merely for the sake of instruction (as the Greeks said, it was *didaskalias heneken*). Similarly, it is probably no accident, but an echo of Philoponus' arguments, when the author of the *Theology* stresses that the creative activity of the luminous power emanates from it without motion.⁸² The idea that some actions are not performed in time, and that some effects are simultaneous with their causes, looks very much like an echo of Philoponus' use of the doctrine of instantaneous change to refute Aristotle and clear the way for the Christian doctrine of creatio *ex nihilo*. Interestingly, the passage comes from one of the few in the *Theology* that do not derive from Plotinus. As Fritz Zimmermann (1986, 204) has remarked, the author of the *Theology* “gives much greater prominence to the Plotinian ‘all at once’ than does Plotinus himself”. But the

⁷⁷ Averroes, *Epitome de Física (Filosofía de la naturaleza)*, Madrid 1987, p. 236.

⁷⁸ Cf. *Theologia*, p. 31; 41; 70; 114 Badawī.

⁷⁹ M. Rashed 2008, 48 ; C. d'Ancona 1995, 63ff.

⁸⁰ On the fact that the First Cause is situated prior to time and eternity, cf. *Theology*, p. 7, 8 Badawī: *wa-anna al-dar wa-l-zamān taḥtahā*; *Liber de Causis* prop. 2 (both cited by C. d'Ancona 2010).

⁸¹ K viii.46/D 93 (Lewis).

⁸² *wa-anna haḍa-l-fīʾl yakūn minhu bi-ḡair ḥaraka*, p. 6, 11 Badawī.

‘all at once’ (*to athroon/ fī duʿātan wāḥidatan*) is perhaps not necessarily Plotinian: there seems to be good reason to believe the concept is more Porphyrian/Philoponian than Plotinian.⁸³

As a final illustration of the influence of this cluster of themes on Islamic thought, I've included (**Text 20**) a passage from the *Harmony of Plato and Aristotle*, a work that has almost always been attributed to al-Fārābī. Here, the author attempts to explain Aristotle's doctrine of the eternity of the world, which would be impious if understood literally. All Aristotle meant, it is explained, is that the Creator did not create the world bit-by-bit or gradually, but all at once and outside of time (*duʿāta bi-lā zamān*). This is, of course, precisely the doctrine of Philoponus, who, as we have seen, took it over from the Aristotelian theory, as developed by subsequent Peripatetics, of the kind of instantaneous change that occurs in such phenomena as the diffusion of light, the curdling of milk, the freezing of water, sense perception and intellectual intuition. Yet since Fārābī opposed Philoponus on this topic – he wrote at least two works refuting Philoponus' attacks on the Aristotelian doctrine of the eternity of the world – I think Marwan Rashed is very probably correct in declaring the *Harmony* to be a work not by Fārābī, but by one of his Christian students.

4. Conclusion

We have seen, I hope, how Philoponus makes use of a wide variety of Aristotelian doctrines to combat Aristotle's own doctrine of the eternity of the world. In particular, he uses Aristotle's admission of the possibility of instantaneous change to respond to pagan objections against the Christian doctrine of God's creation of the world within time. Contrary to what Proclus believes, such creation is not motion, so it does not imply, since motion is imperfect actualization, that God was ever imperfect. Nor, since all motion is in time, does it imply that God, the creator of time, required time in order to act. The doctrine of instantaneous change also allows Philoponus to present serious objections to Aristotle's doctrine that the world is eternal because for every moment of its existence one identifies as first, one can always identify an earlier one, and for every moment identified as last, one can also identify a later one. The possibility of instantaneous change implies that creation need not be a motion that takes time, but may be more like the actualization of a *hexis*, which is instantaneous and leaves the possessor of the *hexis* – in this case, God – unchanged.

As far as the origins of these ideas are concerned, they clearly derive ultimately from Aristotelian physics, and from the tension it contains between two notions: on the one hand, that all change and motion are continuous, infinitely divisible, and take place in time; and yet, on the other, that some kinds of motion and change may

⁸³ In a fragment from his lost *Commentary on the Physics* (fr. 131 Smith = Simpl. *In Phys.* 106, 27 ff. Porphyry glosses *athroos* as meaning “timeless” (*akchronos*), and Simplicius tells us that Porphyry “strove to show that alteration is timeless”. Simplicius disagrees: in cases such as freezing or illumination, the term *athroos* does not mean the phenomenon takes place outside of time, but that all its parts undergo the change simultaneously.

occur instantaneously. There is evidence that some Stoics adopted a doctrine of instantaneous motion,⁸⁴ and this needs to be explored further. But as we have seen from our **Text 4**, it seems possible that it was the Neoplatonist philosopher Porphyry of Tyre who first applied the theory of instantaneous change to the theme of the creation of the world. It may seem unlikely that a Neoplatonist like Porphyry, notoriously hostile to Christianity, could have defended a theory so compatible with Christianity that it was enthusiastically taken up by the Christian John Philoponus.

Yet this impression may be misleading. As Willy Theiler showed long ago (1966, 177-180), and as we can see from our **Text 20**, Porphyry appears to have adopted the Chaldaean doctrine the demiurge creates matter, just as Philoponus believed. Indeed, the Demiurge creates by his very being. Human craftsmen need tools because they lack complete mastery over the matter they use: one they have used these tools to remove the obstacles in their material, the *logos* or form appears atemporally in the product of their work. If there were no such obstacles, they would be able to impose form on their matter instantaneously (*athroôs*). From the examples of human emotions and demonic activity, which can achieve material effects on material bodies, Porphyry derives an argument *a fortiori*: since the Demiurge is so far superior to humans or to demons, he is much more able to bring the universe into existence by mere thought (αὐτῷ τῷ νοεῖν), since unlike his inferior imitators he has no need of a preexistent matter, but produces all things out of himself while remaining at rest. Now, the doctrine that God or the Demiurge creates ἅμα γὰρ νοήματι was precisely the one we saw attributed to Porphyry in our **Text 4**, so once again it seems that this latter passage, and the doctrine it contains, is authentically Porphyrian.

Finally, I think Theiler is correct to assume that resemblances of doctrine and vocabulary between our texts **20** and **21**⁸⁵ allow us to attribute another passage from Proclus' *Commentary on the Timaeus* to Porphyry, even if the latter's name does not appear in it (**Text 21**). Here it's explicitly affirmed that God's creation of the cosmos takes place instantaneously (*athroôs*), even more so than the traditional example of the sun's illumination.

When examining our **Text 4**, we saw that there was some doubt as to whether the key section of that fragment was really by Porphyry, or whether it could have been some kind of editorial intervention by Philoponus. This key passage, we recall, ran as follows:

In addition, Porphyry says that things which derive their existence from [a process of] generation and coming to be, for example a house or a ship or a plant or an animal, are also said to be generated. For this reason we do not describe a flash of lightning or a snapping of the fingers or anything else that exists and ceases to exist in an instant as generated: as Aristotle also says, all such things come to be without a [process of] generation and switch to non-existence without [a process of] decay. It is clear that nobody would hold that the world is

⁸⁴ Sextus Empiricus, *Outlines of Pyrrhonism*, 3, 79-80.

⁸⁵ Many of the same technical terms appear in both texts, such as διαωνίως, ἀπογεννᾶν, παράγειν.

generated in the sense of having to come to be through a process of generation, for God brought all things into substantification simultaneously with <his> thought.

I think the parallel texts we have just seen from Proclus confirm the impression that all these remarks really are by Porphyry. We can add another couple of considerations to corroborate this view, concerning both vocabulary and content. As far as content is concerned, the use of lightning (Greek *astrapê*) as an example of instantaneous generation is hinted at by Aristotle⁸⁶, but is made explicit in Porphyry's work *To Gaurus, on the animation of the embryo*, 11, 3. Speaking of the soul's incarnation in a human body, Porphyry writes:

"Its arrival and departure take place instantaneously, without having traveled through becoming nor having assumed extension through perishing, in the same way as a bolt of lightning does not subsist bit by bit, but it either exists or it does not, rejecting any extension of becoming and perishing (...) ensoulment takes place simultaneously throughout the substrate, as the sunrise for distributing rays from one limit of earth to the other, and to all that is seen by the sun, is timeless".

The second indication that this passage may be authentically Porphyrian comes from the vocabulary, specifically the occurrence of the noun *ousiôsis*, formed from the noun *ousioô* "to invest with being, give substance to". Its first attested occurrence is in Origen, an older contemporary of Porphyry, who uses it eight times. Numenius uses it once, as does Plotinus, and his student Porphyry then uses it at least seven times in those works of his that happen to have been partially preserved (*In Cat.* p. 99, 7 ; 10 Busse ; *Sentence* 39, p. 47, 3 ; 41, p. 52, 8 ; 9 ; 14 Lamberz ; *In Ptol. harm.* p. 11, 33-12, 2 Düring ; *In Parm.*, 12, 6 ; 9 Hadot). It therefore seems legitimate to describe the use of derivatives of the verb *ousioô* as characteristic of Porphyry.

If this notion of instantaneous creation is indeed genuinely Porphyrian, we will have here a wonderful case of historical irony, for it will have been Porphyry, the arch-enemy of Christianity, who supplied John Philoponus with one of his key arguments in defense of the Christian doctrine of *creatio ex nihilo*.⁸⁷

⁸⁶ As Croese notes (1998, 110-111), Aristotle speaks of lightning as ungenerated at *Meteor.* II, 9, 369b35-6, but only to reject the notion, which he attributes to Empedocles and Anaxagoras. She entertains the possibility that this might be Philoponus' own view, but in fact the example derives, in all likelihood, from Porphyry.

⁸⁷ I have called attention elsewhere to other cases where Porphyrian doctrines influenced developing Christian dogma: cf. especially M. Chase, "La subsistence néoplatonicienne. De Porphyre à Théodore de Raithu", *Chôra: Revue d'Études Anciennes et Médiévales* (Bucharest-Paris) 7-8 (2009-2010), p. 37-52.

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APPENDICES

1. TABLES

Table 1: Calvinus Taurus on the meanings of *genêton*
(apud Philoponum *aet. mundi*, p. 145, 13-147, 25 Rabe)

Meanings of <i>genêton</i>	Examples
1. what was not generated, but belongs to same genus as generated things	body in center of the earth (visible, but will never actually be seen)
2. what is composite by virtue of a thought experiment, even if not composite in actuality	middle note of the musical scale from the highest and the lowest, flowers, animals
3. what is always in a process of becoming	sublunar elements
4. what derives its being from elsewhere (viz., from God)	moon derives its light from the sun (although there's never been a time when it did not do so)

Table 2: Porphyry on the meanings of *genêtos*
(apud Philoponum *aet. mundi*, VI, 8, p. 148, 7 ff. Rabe)

Meanings of <i>genêtos</i>	Examples
5. That which has the <i>logos</i> of generation (= Taurus meaning 2?)	words, syllables (decomposable into letters); geometrical figures (rectilinear figures decomposable into triangles), compounds of matter and form
6. What receives its being through generation and becoming	house, ship, plant, animal (snap of fingers, flash of lightning : come into existence without any process of generation)
7. What begins to exist in time, after having not existed	most familiar meaning, but Plato didn't apply it to the world

Table 3: potential and actuality

1. First potential (<i>dunamis</i>)	= human beings' capacity for learning to read and write	= the buildable (bricks and stones <i>qua</i> building materials)
2. First actuality (<i>hexis</i>) = second potential (<i>dunamis</i>)	= possession of ability to read and write	= the process of building
3. Second actuality (= entelechy)	= exercising one's knowledge of reading and writing	= the house's acquisition of its form

Table 4: kinds of motion of motion or change

1. Substantial motion	coming-into-being (<i>genesis</i>) and perishing (<i>phthora</i>),
2. Qualitative motion	alteration (<i>alloiôsis</i>)
3. Quantitative motion	growth (<i>auxêsis</i>) and diminution (<i>phthisis</i>)
4. Local motion	transportation (<i>phora</i>).

2. TEXTS

Pinax

- Text 1 = Plato, *Timaeus* 29D-30C
Text 2 = Plato, *Timaeus* 41a-D
Text 3 = Aristotle, *De Caelo*, I, 10, 279b12-280a23,
Text 4 = Porphyry, *Commentary on the Timaeus* fr. 36-37 Sodano = Philoponus,
De aet. mundi VI, 8, p. 148, 7-15 Rabe.
Text 5 = Aristotle, *Physics* 8, 1, 250b12-252b8
Text 6 = Simplicius, *In Phys.*, 1154, 3-20 Diel
Text 7 = Aristotle, *Physics*, 3, 1, 201a9-202a3
Text 8a = Aristotle, *Physics* 3, 1, 201b27-202a3
Text 8b = Aristotle, *Metaph.* Θ 6, 1048b18-36
Text 8c = Aristotle, *Nicomachean Ethics*, 10, 4, 1174a13
Text 8d = Aristotle, *On the Soul*, 3, 7, 431a6-7
Text 8e = John Philoponus, *In De anima*, 3, 7, p. 558, 16 ff. Hayduck
Text 8f = Aristotle, *On the soul* 2, 5, 417a22
Text 9 = Themistius, *In Phys.*, 3, 1, p. 68, 30 ff. Schenkl.
Text 9b = Aristotle, *Al-Ṭabī'a*, p. 171, 8-13 Badawi
Text 10 = Aristotle, *Physics*, 1, 3, 186a4 f.
Text 10b = Aristotle, *Physics*, 8, 3, 253b6-26
Text 10c = Aristotle, *De sensu*, 6, 446b28-447a13
Text 11 = Alexander of Aphrodisias, *On form and the fact that it is the perfection and accomplishment of motion according to Aristotle*, p. 289-290 Badawi
Text 12 = Proclus, *On the Eternity of the World*, apud Philoponus, *aet. mundi.*, p. 55, 22 ff. Rabe
Text 13 = Philoponus, *aet. mundi*, 4, 4, p. 64, 22-65, 26 Rabe
Text 14 = Philoponus, *In De Anima* 2, 5, p. 296, 22-298, 23 Hayduck
Text 15 = Philoponus, *Against Aristotle on the Eternity of the World*, fr. 115 Wildberg = Simplicius, *In Phys.*, p. 1141, 12-30
Text 16 = Philoponus, *Against Aristotle on the Eternity of the World*, fr. 129 Wildberg = Simplicius, *In Phys.*, 1173, 1-13.
Text 17 : Al-Kindi, *On the quantity of Aristotle's books*, p. 375, 9 ff. Abū Rīda
Text 18 = *Theology of Aristotle*, p. 27 Badawi = p. 237 d'Ancona *et al.*
Text 19 = Pseudo-Farabi, *Harmony of Plato and Aristotle*, p. 64 Martini Bonadeo
Text 20 = Porphyry, *Commentary on the Timaeus*, fr. LI, p. 38, 5 ff. Sodano = Procl., *In Tim.*, vol. 1, 395, 10 ff. Diehl.
Text 21 = Proclus, *In Tim.*, vol. 2, p 102, 6 ff. Diehl.

Text 1: Timaeus 29D-30C (Cornford 1937, p. 33)

Let us, then, state for what reason becoming and the universe were framed by him who framed them. He was good; and in the good no jealousy in any matter can ever arise. So, being without jealousy, he desired that all things should come as near as possible to being like himself. That this is the supremely valid principle of becoming and of the order of the world, we shall most surely be right to accept from men of understanding. Desiring, then, that all things should be good and, so far as might be, nothing imperfect, the god took over all that is visible – not at rest, but in discordant and unordered motion – and brought it from disorder into order, since he judged that order was in every way the better.

{TI.} Λέγωμεν δὴ δι' ἣντινα αἰτίαν γένεσιν καὶ τὸ πᾶν τόδε ὁ συνιστὰς συνέστησεν. ἀγαθὸς ἦν, ἀγαθῷ δὲ οὐδεὶς περὶ οὐδενὸς οὐδέποτε ἐγγίγνεται φθόνος· τούτου δ' ἐκτὸς ὧν πάντα ὅτι μάλιστα ἐβουλήθη γενέσθαι παραπλήσια ἑαυτῷ. ταύτην δὴ γενέσεως καὶ κόσμου μάλιστ' ἂν τις ἀρχὴν κυριωτάτην παρ' ἀνδρῶν φρονίμων ἀποδεχόμενος ὀρθότατα ἀποδέχοιτ' ἂν. βουλευθεὶς γὰρ ὁ θεὸς ἀγαθὰ μὲν πάντα, φλαῦρον δὲ μηδὲν εἶναι κατὰ δύναμιν, οὕτω δὴ πᾶν ὅσον ἦν ὁρατὸν παραλαβὼν οὐχ ἡσυχίαν ἄγον ἀλλὰ κινούμενον πλημμελῶς καὶ ἀτάκτως, εἰς τάξιν αὐτὸ ἤγαγεν ἐκ τῆς ἀταξίας, ἡγησάμενος ἐκεῖνο τούτου πάντως ἄμεινον.

Text 2: Plato, *Timaeus* 41a-d, translation Cornford

Be that as it may, when all the gods had come to birth – both all that revolve before our eyes and all that reveal themselves in so far as they will – the author of this universe addressed them in these words:

“Gods, of gods whereof I am the maker and of works the father, those which are my own handiwork are indissoluble, save with my consent. Now, although whatsoever bond has been fashioned may be unloosed, yet only an evil will could consent to dissolve what has been well fitted together and is in a good state: therefore, although you, having come into being, are not immortal nor indissoluble altogether, nevertheless you shall not be dissolved nor taste of death, finding my will a bond yet stronger and more sovereign than those wherewith you were bound together when you came to be”.

ἐπεὶ δ' οὖν πάντες ὅσοι τε περιπολοῦσιν φανερώς καὶ ὅσοι φαίνονται καθ' ὅσον ἂν ἐθέλωσιν θεοὶ γένεσιν ἔσχον, λέγει πρὸς αὐτοὺς ὁ τόδε τὸ πᾶν γεννήσας τάδε—

“Θεοὶ θεῶν, ὧν ἐγὼ δημιουργὸς πατήρ τε ἔργων, δι' ἐμοῦ γινόμενα ἅλυστα ἐμοῦ γε μὴ ἐθέλοντος. τὸ μὲν οὖν διὰ δεθὲν πᾶν λυτὸν, τό γε μὴν καλῶς ἀρμοσθὲν καὶ ἔχον εὖ λύειν ἐθέλειν κακοῦ· δι' ἃ καὶ ἐπέπερ γεγέννησθε, ἀθάνατοι μὲν οὐκ ἔστε οὐδ' ἄλυστοι τὸ πάμπαν, οὐτι μὲν δὴ λυθήσεσθέ γε οὐδὲ τεύξεσθε θανάτου μοίρας, τῆς ἐμῆς βουλήσεως μείζονος ἔτι δεσμοῦ καὶ κυριωτέρου λαχόντες ἐκείνων οἷς ὅτ' ἐγίγνεσθε συνεδείσθε.

Text 3: Aristotle, *De Caelo*, I, 10, 279b12-280a23, translation Guthrie (LCL)

All thinkers agree that it [The world] has had a beginning, but some maintain that having begun it is everlasting, others that it is perishable like any other formation of nature (...) Now the view that it has had a beginning but is everlasting is an impossible

Γενόμενον μὲν οὖν ἅπαντες εἶναι φασιν, ἀλλὰ γινόμενον οἱ μὲν αἶδιον, οἱ δὲ φθαρτὸν ὥσπερ ὀτιοῦν ἄλλο τῶν συνισταμένων, (...) **Τὸ μὲν οὖν γενέσθαι μὲν αἶδιον δ' ὅμως εἶναι φάναι τῶν ἀδυνάτων.** Μόνα γὰρ ταῦτα θετέον εὐλόγως ὅσα ἐπὶ πολλῶν ἢ πάντων ὁρώμεν

one. Reason demands that we should only take for our hypotheses what we see to be generally or universally true, and this one is just the opposite, for observation shows us that everything which has a beginning also comes to an end (...)

The self-defence attempted by some of those who hold that it [sc. the world] is indestructible but generated, is untrue. They claim that what they say about the generation of the world is analogous to the diagrams drawn by mathematicians: their exposition does not mean that the world ever was generated, but is used for instructional purposes, since it makes things easier to understand just as the diagram does for those who see it in process of construction. (...)

It is now clear that the world cannot at the same time be everlasting and have had a beginning.

υπάρχοντα, περὶ δὲ τούτου συμβαίνει τούναντίον· ἅπαντα γὰρ τὰ γινόμενα καὶ φθειρόμενα φαίνεται (...)

Ἦν δὲ τινες βοήθειαν ἐπιχειροῦσι φέρειν ἑαυτοῖς τῶν λεγόντων ἄφθαρτον μὲν εἶναι γενόμενον δέ, οὐκ ἔστιν ἀληθές· ὁμοίως γὰρ φασὶ τοῖς τὰ διαγράμματα γράφουσι καὶ σφᾶς εἰρηκέναι περὶ τῆς γενέσεως, **οὐχ ὥς γενομένου ποτέ, ἀλλὰ διδασκαλίας χάριν** ὥς μᾶλλον γνωρίζοντων, ὥσπερ τὸ διάγραμμα γιγνόμενον θεασαμένους (...)

Ὅτι μὲν οὖν ἀδύνατον ἅμ' αἰδίων αὐτὸν εἶναι καὶ γενέσθαι, φανερόν.

Text 4: Porphyry, *Commentary on the Timaeus* fr. 36-37 Sodano = Philoponus, *aet. mundi* VI, 8, p. 148, 7-15 Rabe

And Porphyry adds other senses of 'generated' to those enumerated by Taurus. He says (10) that a thing which is described as [subject to] generation is said to be generated even though it has never actually come to be; examples are words and syllables, because they can be analysed into letters and are composed of letters, and diagrams, [among which] rectilinear figures, for example, are notionally divided into triangles and (15) constructed out of triangles. It is, I presume, clear that this amounts to the same thing as being composed of matter and form, for things that are generated in the sense that they are not simple but composed of matter and form are said to be generated on the same basis as diagrams are [said to be]: because things simpler than either, out of which (20) their composition and into which their dissolution notionally take place, are conceived of as having prior existence, they are, in contrast to things that are simple from every point of view and carry with them no notion of composition, referred to as generated. Therefore

καὶ ὁ Πορφύριος δὲ πρὸς τοῖς ὑπὸ τοῦ Ταύρου κατηριθμημένοις καὶ ἕτερα προστίθῃσιν τοῦ γενητοῦ σημαινόμενα· φησὶν γὰρ (10) γενητὸν λέγεσθαι καὶ τὸ λόγον ἔχον γενέσεως, καὶ μὴδέποτε γεγονὸς ἦ, ὥς τὰ ὀνόματα καὶ αἱ συλλαβαὶ τῷ ἀναλύεσθαι εἰς στοιχεῖα καὶ συντίθεσθαι ἐκ στοιχείων καὶ ὥς τὰ διαγράμματα οἷον τὰ εὐθύγραμμα τῶν σχημάτων εἰς τρίγωνα τε διαιρεῖται τῷ λόγῳ καὶ (15) ἐκ τριγώνων σύγκειται. δῆλον δήπου, ὅτι εἰς ταῦτον συντρέχει τοῦτο τῷ ἐξ ὕλης καὶ εἶδους συνθέτῳ· τὸ γὰρ οὕτω γενητὸν ὥς οὐκ ὄν ἀπλοῦν ἀλλὰ συγκείμενον ἐξ ὕλης καὶ εἶδους κατὰ τὸν αὐτὸν λόγον τοῖς διαγράμμασιν γενητὸν λέγεται· τῷ γὰρ προεπινοεῖσθαι (20) ἀμφοτέρων τινὰ ἀπλούστερα, ἐξ ὧν ἡ σύνθεσις αὐτῶν θεωρεῖται καὶ εἰς ἃ ἡ ἀνάλυσις, ταύτη γενητὰ λέγεται πρὸς ἀντέμφασιν τῶν πάντῃ ἀπλῶν καὶ μηδεμίαν ἐπίνοιαν ἐχόντων συνθέσεως. ὥστε ὥς ἐν ἄμφω ληπτέον. καὶ ταύτῃ ἴσως οὐδὲ μνήμην τούτου τοῦ σημαινομένου ὁ (25) ἕτερος τῶν ὑπομνηματιστῶν πεποιήται.

these two senses should be regarded as one. And perhaps this is why (25) the other of [our two] commentators [sc. Taurus] has not even mentioned this sense.

Fr. 2, 36 Sodano

In addition, Porphyry says that things that derive their existence (p. 141, 1) from [a process of] generation and coming to be, for example a house or a ship or a plant or an animal, are also said to be generated. For this reason we do not describe a flash of lightning or a snapping of the fingers or anything else that exists and ceases to exist in an instant as generated: as Aristotle (5) also says, all such things come to be without a [process of] generation and switch to non-existence without [a process of] decay. It is clear that nobody would hold that the world is generated in the sense of having to come to be through a process of generation, for God brought all things into substantification (10) simultaneously with <his> thought. This being so, we shall have no need of this sense [of 'generated'] in our investigation of Plato's meaning.

Finally, Porphyry says [that things which are called generated in the] familiar, everyday sense, things that have had a beginning from a [point of] time without previously having existed, a sense in which he claims Plato did not describe the world as generated, are said (15) to be generated.

Text 5: Aristotle, *Physics* 8, 1, 250b12-252b8, translation R. P. Hardie and R. K. Gaye

(10) Was there ever a becoming of motion before which it had no being, and is it perishing again so as to leave nothing in motion? Or are we to say that it never had any becoming and is not perishing, but always was and always will be? Is it in fact an immortal never-failing property of things that are, a sort of life as it were to all naturally (15) constituted things? (...)

Let us take our start from what we have already laid down in our course on *Physics*.

ἔτι φησὶν ὁ Πορφύριος γενητὸν λέγεσθαι καὶ τὸ διὰ γενέσεως καὶ (p. 141, 1) τοῦ γίνεσθαι τὸ εἶναι λαβόν, ὡς οἰκία καὶ πλοῖον καὶ φυτὸν καὶ ζῶον, **καθὸ τὴν ἀστραπὴν καὶ τὸν κρότον καὶ ὅσα ἐξαίφνης ὑφίσταται καὶ παύεται οὐ λέγομεν εἶναι γενητά· πάντα γὰρ τὰ τοιαῦτα, ὡς καὶ Ἀριστο-** (5) **τέλης φησὶν, ἄνευ γενέσεως εἰς τὸ εἶναι παραγίγνεται** καὶ χωρὶς φθορᾶς εἰς τὸ μὴ εἶναι μεταβάλλει.

καὶ δῆλον, ὅτι οὐδεὶς ἂν κατὰ τοῦτο γενητὸν εἶναι τὸν κόσμον ὑπόθοιτο ὡς διὰ γενέσεως εἰς τὸ εἶναι παραγενόμενον· **ἀμα γὰρ νοήματι εἰς οὐσίωσιν ὁ θεὸς τὰ (10) πάντα παρήγαγεν.** ὥστε οὐδὲν τούτου τοῦ σημεινομένου εἰς ἐξέτασιν τῆς Πλάτωνος διανοίας δεησόμεθα.

ἐπὶ πᾶσιν γενητὸν λέγεσθαι φησὶν ὁ Πορφύριος καὶ τὸ πᾶσιν γνώριμόν τε καὶ καθωμιλημένον τὸ ἀπὸ χρόνου ἀρχὴν τοῦ εἶναι λαβὸν πρότερον οὐκ ὄν, καθὸ φησὶν μὴ λέγεσθαι ὑπὸ Πλάτωνος γενητὸν τὸν κόσ- (15) σμον.

Θ (10) Πότερον γέγονέ ποτε κίνησις οὐκ οὔσα πρότερον, καὶ φθείρεται πάλιν οὕτως ὥστε κινεῖσθαι μηδέν, ἢ οὐτ' ἐγένετο οὔτε φθείρεται, ἀλλ' αἰεὶ ἦν καὶ αἰεὶ ἔσται, καὶ τοῦτ' ἀθάνατον καὶ ἄπαυστον ὑπάρχει τοῖς οὖσιν, οἷον ζωὴ τις οὔσα τοῖς φύσει (15) συνεστῶσι πᾶσιν (...)

ἀρξώμεθα δὲ πρῶτον ἐκ τῶν διωρισμένων ἡμῖν ἐν τοῖς φυσικοῖς πρότερον. **φαμὲν δὴ τὴν κίνησιν εἶναι ἐνέργειαν¹ τοῦ κινητοῦ ἢ**

¹ ἐνέργειαν Ross, E,K Simpl. ; ἐντελέχειαν Bekker Λ Themist.

Motion, we say, is the actuality of the movable in so far as it is movable. Each kind of motion, (251a10) therefore, necessarily presupposes the existence of the things that are capable of that motion. In fact, even apart from the definition of motion, every one would admit that in each kind of motion it is what is capable of that motion that is in motion: thus it is what is capable of alteration that is altered, and what is capable of local change that is in locomotion. Thus, there must be something capable of being burned (15) before there can be a process of being burned, and something capable of burning before there can be a process of burning. Moreover, these things also must either have a beginning before which they had no being, or they must be eternal. Now if there was a becoming of every movable thing, it follows that before the motion in question another change or motion must have taken place in which (20) what was capable of being moved or of causing motion had its becoming. To suppose, on the other hand, that these things were in being throughout all previous time without there being any motion appears unreasonable on a moment's thought, and still more unreasonable, we shall find, on further consideration. For if we are to say that, while there are on the one hand things that are movable, and on the other hand things that are mobile, there is a time when there is a first movent and a first (25) moved, and another time when there is no such thing but only something that is at rest, then this thing that is at rest must previously have been in process of change, for there must have been some cause of its rest, rest being the privation of motion. Therefore, before this first change there will be a previous change (...)

(251b10) Further, how can there be any 'before' and 'after' without the existence of time? Or how can there be any time without the existence of motion? If, then, time is the number of motion or itself a kind of motion, it follows that, if there is always time, motion must

κίνητον. ἀναγκαῖον ἄρα ὑπάρχειν τὰ (10) πράγματα τὰ δυνάμενα κινεῖσθαι καθ' ἐκάστην κίνησιν. καὶ χωρὶς δὲ τοῦ τῆς κινήσεως ὀρισμοῦ, πᾶς ἂν ὁμολογήσειεν ἀναγκαῖον εἶναι κινεῖσθαι τὸ δυνατόν κινεῖσθαι καθ' ἐκάστην κίνησιν, οἷον ἀλλοιοῦσθαι μὲν τὸ ἀλλοιωτόν, φέρεσθαι δὲ τὸ κατὰ τόπον μεταβλητόν, ὥστε δεῖ πρότερον καυστόν εἶναι (15) πρὶν καίεσθαι καὶ καυστικὸν πρὶν κάειν. οὐκοῦν καὶ ταῦτα ἀναγκαῖον ἢ γενέσθαι ποτὲ οὐκ ὄντα ἢ αἶδια εἶναι. εἰ μὲν τοίνυν ἐγένετο τῶν κινήτων ἕκαστον, ἀναγκαῖον πρότερον τῆς ληφθείσης ἄλλην γενέσθαι μεταβολὴν καὶ κίνησιν, καθ' ἣν (20) ἐγένετο τὸ δυνατόν κινηθῆναι ἢ κινήσαι· εἰ δ' ὄντα προϋπῆρχεν αἰεὶ κινήσεως μὴ οὔσης, ἄλογον μὲν φαίνεται καὶ αὐτόθεν ἐπιστήσασιν οὐ μὴν ἀλλὰ μᾶλλον ἔτι προάγουσι τοῦτο συμβαίνειν ἀναγκαῖον. μᾶλλον ἔτι προάγουσι τοῦτο συμβαίνειν ἀναγκαῖον. εἰ γὰρ τῶν μὲν κινήτων ὄντων τῶν δὲ κινήτων ὅτε μὲν ἔσται τι πρῶτον κινούν, τὸ δὲ κινούμε (25) νον, ὅτε δ' οὐθέν, ἀλλ' ἡρεμεῖ, ἀναγκαῖον τοῦτο μεταβάλλειν πρότερον· ἣν γάρ τι αἷτιον τῆς ἡρεμίας· ἢ γὰρ ἡρέμησις στέρησις κινήσεως. ὥστε πρὸ τῆς πρώτης μεταβολῆς ἔσται μεταβολὴ προτέρα (...)

(251b10) πρὸς δὲ τούτοις τὸ πρότερον καὶ ὕστερον πῶς ἔσται χρόνου μὴ ὄντος; ἢ χρόνος μὴ οὔσης κινήσεως; εἰ δὴ ἔστιν ὁ χρόνος κινήσεως ἀριθμὸς ἢ κινήσις τις, εἴπερ αἰεὶ

also be eternal. But so far as time is concerned we see that all with one exception (15) are in agreement in saying that it is ungenerated (...) Plato alone asserts the generation of time, saying that it had a becoming together with the universe, the universe according to him having had a becoming (...)

Let this conclude what we have to say in support of our contention that there never was a time (252b5) when there was not motion, and never will be a time when there will not be motion.

χρόνος ἔστιν, ἀνάγκη καὶ κίνησιν αἰδίων εἶναι. ἀλλὰ μὴν περὶ γε χρόνου ἔξω ἐνὸς ὁμοιοητικῶς ἔχοντες (15) φαίνονται πάντες· ἀγέννητον γὰρ εἶναι λέγουσιν (...) Πλάτων δὲ γεννᾶ μόνος· ἅμα μὲν γὰρ αὐτὸν τῷ οὐρανῷ [γεγονέναι], τὸν δ' οὐρανὸν γεγονέναι φησὶν. εἰ οὖν ἀδύνατόν ἐστιν καὶ εἶναι

ὅτι μὲν οὖν οὐδεὶς ἦν χρόνος οὐδ' ἔσται ὅτε κίνη- (5) σις οὐκ ἦν ἢ οὐκ ἔσται, εἰρήσθω τοσαῦτα.

Text 6: Simplicius, *In Phys.*, 1154, 3-20 Diel, transl. M. Chase

It is now necessary to state what I have often said elsewhere, viz. that since 'generated' and 'ungenerated' have many meanings, and Plato and (5) Aristotle use them in different senses, they seem to be contrary to one another, although they are not really opposed. After all, 'generated' means what earlier does not exist, but later exists, and what has its subsistence in a part of time, and this is the meaning in which Aristotle uses 'generated', which he opposes to 'everlasting' in his division. Another meaning of 'generated' is the one that is opposed in divisions to true being, which is eternal and (10) self-subsistent²: it is what has its being in becoming and comes into existence from another cause, not by itself. And 'generated' is said by means of both of these, viz. by the opposition to what is truly existent and simultaneously whole, and the opposition to what is self-subsistent, even if it is everlasting. And it is according to this meaning that Plato calls the entire sensible and corporeal structure 'generated', for (15) all that is corporeal is dispersed, and can neither

Τὰ πολλάκις ἐν ἄλλοις εἰρημένα πρὸς ἐμοῦ καὶ νῦν ἀναγκαῖον εἰπεῖν, ὅτι πολλαχῶς τοῦ γενητοῦ καὶ ἀγενήτου λεγομένων ἄλλως μὲν ὁ Πλάτων ἄλλως δὲ ὁ Ἀριστοτέλης αὐτῷ χρώμενοι δοκοῦσιν ἐναντιοῦσθαι πρὸς ἀλλή- (5) λους οὐκ ἐναντιούμενοι. καὶ γὰρ γενητὸν λέγεται τὸ πρότερον μὲν μὴ ὄν, ὕστερον δὲ ὄν, καὶ ἐν μέρει χρόνου τὴν ὑπόστασιν ἔχον, καθ' ὃ σημαίνονμενον Ἀριστοτέλης χρῆται τῷ γενητῷ πρὸς τὸ αἰδίων ἀντιδιαίρων αὐτό. ἄλλο δὲ τοῦ γενητοῦ σημαίνονμενον τὸ πρὸς τὸ ὄντως ὄν τὸ αἰώνιον καὶ αὐθυπόστατον ἀντιδιηρημένον, ὅπερ ἐν τῷ γίνεσθαι τὸ εἶναι ἔχον ἀπ' (10) αἰτίας ἄλλης ὑφίσταται καὶ οὐχ ὑφ' ἑαυτοῦ. καὶ δι' ἄμφω ταῦτα διὰ τε τὴν πρὸς τὸ ὄντως ὄν καὶ ἅμα ὅλον ὄν καὶ τὴν πρὸς τὸ αὐθυπόστατον ἀντίθεσιν γενητὸν λέγεται, καὶ αἰδίων ἢ. καὶ κατὰ τοῦτο τὸ σημαίνονμενον ὁ Πλάτων πᾶσαν τὴν αἰσθητὴν καὶ σωματικὴν σύστασιν γενητὴν καλεῖ· τὸ γὰρ σωματικὸν πᾶν διεσπασμένον οὔτε αὐτὸ ὑφίστάνειν ἑαυτὸ δύναται οὔτε (15) ἅμα ὅλον συνῆχθαι οὔτε κατὰ τὴν οὐσίαν οὔτε κατὰ τὸ εἶναι τῆς οὐσίας· καὶ δηλὸς ἔστιν εὐθύς τῷ ὄντι τὸ γενητὸν ἀντιτιθεῖς, ἐν οἷς φησι· "τί τὸ ὄν μὲν αἰεὶ, γένεσιν δὲ οὐκ

² On the links between *aiōnios* and *authupostatos*, cf. Proclus, *Elements of Theology*, props. 51-52; *In Tim.*, I, p. 279, 15 ff. Diehl.

give existence to itself, nor be brought together into a simultaneous whole, neither with regard to substance, nor to the being of substance. He clearly opposes at the outset what is generated to what exists, where he says³: ‘What is that which always exists, having no coming into being, and what is that which is always becoming, but is never existent?’. It is, then, in accordance with this <sense of> ‘generated’, not the one stated by Aristotle, (20) that Plato says both the world and time are generated.

Text 7: Aristotle, *Physics*, 3, 1, 201a9-202a3

We have now before us the distinctions in the various classes of being between what is in actuality and what is potential. The actuality of what exists potentially, in so far as it exists potentially, is motion — namely, of what is alterable *qua* alterable, alteration; of what can be increased and its opposite what can be decreased (there is no common name), increase and decrease; of what can come to be and can pass away, coming to be and passing away; of what can be transported, locomotion (...)

Hence we can define motion as the actualization of the movable *qua* movable...

Text 8a: Aristotle, *Physics* 3, 1, 201b27-202a3

The reason in turn why motion is thought to be indefinite is that it cannot be classed simply as a potentiality or as an actuality. A thing that is merely capable of having a certain size is not undergoing change, nor yet (30) a thing that is actually of a certain size, and motion is thought to be a sort of actuality, but incomplete, the reason for this view being that the potential thing whose actuality it is is incomplete. This is why it is hard to grasp what motion is. It is necessary to class it with privation or with potentiality or with sheer actuality, yet none of these seems possible. There remains then (202a1) the suggested mode of definition,

ἔχον, καὶ τί τὸ γινόμενον μὲν, ὄν δὲ οὐδέποτε.” κατὰ δὴ τοῦτο τὸ γενητὸν καὶ οὐχὶ τὸ ὑπὸ τοῦ Ἀριστοτέλους λεγόμενον (20) καὶ τὸν κόσμον γενητὸν ὁ Πλάτων φησὶ καὶ τὸν χρόνον.

διηρημένου δὲ καθ’ ἕκαστον γένος τοῦ μὲν ἐντελεχεία τοῦ δὲ δυνάμει, ἢ τοῦ δυνάμει ὄντος ἐντελέχεια, ἢ τοιοῦτον, κίνησις ἐστίν, οἷον τοῦ μὲν ἀλλοιωτοῦ, ἢ ἀλλοιωτόν, ἀλλοίωσις, τοῦ δὲ αὐξητοῦ καὶ τοῦ ἀντικειμένου φθιτοῦ (οὐδὲν γὰρ ὄνομα κοινὸν ἐπ’ ἀμφοῖν) αὔξησης καὶ φθίσεως, τοῦ δὲ γενητοῦ καὶ φθαροῦ γένεσις καὶ ξησις καὶ φθίσις, τοῦ δὲ γενητοῦ καὶ φθαροῦ γένεσις καὶ φθορά, τοῦ δὲ φορητοῦ φορά (...)

διὸ ἡ κίνησις ἐντελέχεια τοῦ κινητοῦ, ἢ κινήτόν...

τοῦ δὲ δοκεῖν ἀόριστον εἶναι τὴν κίνησιν αἴτιον ὅτι οὔτε εἰς δυνάμιν τῶν ὄντων οὔτε εἰς ἐνέργειαν ἔστιν θεῖναι αὐτήν· οὔτε γὰρ τὸ δυνατόν ποσὸν εἶναι κινεῖται ἐξ ἀνάγκης οὔτε τὸ ἐν- (30) ἐργεῖα ποσόν, ἢ τε κίνησις ἐνέργεια μὲν εἶναι τις δοκεῖ, ἀτελὴς δὲ αἴτιον δ’ ὅτι ἀτελὲς τὸ δυνατόν, οὐ ἔστιν ἐνέργεια. καὶ διὰ τοῦτο δὴ χαλεπὸν αὐτὴν λαβεῖν τί ἐστίν· ἢ γὰρ εἰς στέρησιν ἀναγκαῖον θεῖναι ἢ εἰς δυνάμιν ἢ εἰς ἐνέργειαν ἀπλήν, τούτων δ’ οὐδὲν φαίνεται ἐνδεχόμενον.

λείπεται (202a.) τοίνυν ὁ εἰρημένος τρόπος, ἐνέργειαν μὲν τινα εἶναι, τοιαύτην δ’

³ Plato, *Timaeus*, 27d6-28a1.

namely that it is a sort of actuality, or actuality of the kind described, hard to grasp, but not incapable of existing. ἐνέργειαν οἷαν εἴπαμεν, χαλεπὴν μὲν ἰδεῖν, ἐνδεχομένην δ' εἶναι.

Text 8b: Aristotle, *Metaph.* Θ 6, 1048b18-36, translation D. Ross

Since of the actions which have a limit none is an end but all are relative to the end, e.g. the losing weight, or slimming-down, and the bodily parts themselves when one is making them thin are in movement in this way (i.e. without being already (20) that at which the movement aims), this is not an action or at least not a complete one (for it is not an end); but that movement in which the end is present is an action. E.g. at the same time we are seeing and have seen, are understanding and have understood, are thinking and have thought (while it is not true that at the same time we are learning and have learnt, or are being cured and have been cured). At the same time we are living well and have lived well, (25) and are happy and have been happy. If not, the process would have had sometime to cease, as the process of making thin ceases: but, as things are, it does not cease; we are living and have lived.

Of these processes, then, we must call the one set movements, and the other actualities. For every movement is incomplete: making thin, learning, walking, building; these are movements, and incomplete at that. For it is not true that at the same time (30) a thing is walking and has walked, or is building and has built, or is coming to be and has come to be, or is being moved and has been moved, but what is being moved is different from what has been moved, and what is moving from what has moved. But it is the same thing that at the same time has seen and is seeing, or is thinking and has thought. The latter sort of process, then, I call an actuality, and the former a movement.

Ἐπεὶ δὲ τῶν πράξεων ὧν ἔστι πέρας οὐδεμία τέλος ἀλλὰ τῶν περὶ τὸ τέλος, οἷον τὸ ἰσχυαίνειν ἢ ἰσχυασία [αὐτό], αὐτὰ δὲ ὅταν ἰσχυαίνῃ οὕτως ἐστὶν ἐν κινήσει, μὴ (20) ὑπάρχοντα ὧν ἕνεκα ἡ κίνησις, οὐκ ἔστι ταῦτα πράξεις ἢ οὐ τελεία γε (οὐ γὰρ τέλος). ἀλλ' ἐκείνη <ἢ> ἐνυπάρχει τὸ τέλος καὶ [ἡ] πράξις. οἷον ὁρᾷ ἅμα <καὶ ἐώρακε,> καὶ φρονεῖ <καὶ πεφρόνηκε,> καὶ νοεῖ καὶ νενόηκεν, ἀλλ' οὐ μανθάνει καὶ μεμάθηκεν οὐδ' ὑγιαίνεται καὶ ὑγιάσται.

εὐ ζῇ καὶ εὖ ἔζηκεν ἅμα, (25) καὶ εὐδαιμονεῖ καὶ εὐδαιμόνηκεν. εἰ δὲ μὴ, ἔδει ἂν ποτε παύεσθαι ὥσπερ ὅταν ἰσχυαίνῃ, νῦν δ' οὐ, ἀλλὰ ζῇ καὶ ἔζηκεν.

τούτων δὲ <δεῖ> τὰς μὲν κινήσεις λέγειν, τὰς δ' ἐνεργείας. πᾶσα γὰρ κίνησις ἀτελής, ἰσχυασία μάθησις βάδισις οἰκοδόμησις. αὗται δὲ κινήσεις, καὶ ἀτελεῖς γε. οὐ γὰρ ἅμα (30) βαδίζει καὶ βεβάδικεν, οὐδ' οἰκοδομεῖ καὶ ὠκοδόμηκεν, οὐδὲ γίγνεται καὶ γέγονεν ἢ κινεῖται καὶ κεκίνηται, ἀλλ' ἕτερον, καὶ κινεῖ καὶ κεκίνηκεν. ἐώρακε δὲ καὶ ὁρᾷ ἅμα τὸ αὐτό, καὶ νοεῖ καὶ νενόηκεν. τὴν μὲν οὖν τοιαύτην ἐνέργειαν λέγω, ἐκείνην δὲ κίνησιν.

Text 8c: Aristotle, *Nicomachean Ethics*, 10, 4, 1174a13 ff., trans. Ross

Seeing seems to be at any moment complete, for it does not lack anything which coming into being later (15) will complete its form; and pleasure also seems to be of this nature. For it is a whole, and at no time can one find a pleasure whose form will be completed if the pleasure lasts longer. For this reason, too, it is not a motion. **For every motion (e.g. that of building) takes time and is for the sake of an end**, and is complete when it has made (20) what it aims at. It is complete, therefore, only in the whole time or at that final moment. In their parts and during the time they occupy, all motions are incomplete, and are different in kind from the whole motion and from each other (...) They differ in kind, then, and it is not possible to find at any and every time a movement complete in form, but if at all, only in the whole time (...) it seems that <motion> is not complete at any and every time, but that the many motions are incomplete and different in kind, since the whence and whither give them their form. **But of pleasure the form (1174b5) is complete at any and every time.** Plainly, then, pleasure and movement must be different from each other, and pleasure must be one of the things that are whole and complete. This would seem to be the case, too, from the fact that **it is not possible to move otherwise than in time**, but it is possible to be pleased; for that which takes place in a moment is a whole.

From these considerations it is clear, too, that these thinkers are not right in saying that pleasure is a motion or a coming into being. For these (10) cannot be ascribed to all things, but only to those that are divisible and not wholes; there is no coming into being of seeing nor of a point nor of a unit, nor is any of these a motion or coming into being; therefore there is no motion or coming into being of pleasure either; for it is a whole.

δοκεῖ γὰρ ἡ μὲν ὄρασις καθ' ὄντιν οὖν χρόνον τελεία εἶναι· οὐ γὰρ ἔστιν ἐνδεὴς οὐδενὸς ὃ εἰς ὕστερον (15) γινόμενον τελειώσει αὐτῆς τὸ εἶδος· τοιούτῳ δ' ἔοικε καὶ ἡ ἡδονή. ὅλον γάρ τι ἐστί, καὶ κατ' οὐδένα χρόνον λάβοι τις ἂν ἡδονὴν ἥς ἐπὶ πλείῳ χρόνον γινομένης τελειωθήσεται τὸ εἶδος. διόπερ οὐδὲ κίνησις ἐστιν. ἐν χρόνῳ γὰρ πᾶσα κίνησις καὶ τέλους τινός, οἷον ἡ οἰκοδομική, καὶ τελεία ὅταν ποιήσῃ (20) οὐ ἐφίεται. ἢ ἐν ἅπαντι δὴ τῷ χρόνῳ ἢ τούτῳ. ἐν δὲ τοῖς μέρεσι καὶ τῷ χρόνῳ πᾶσαι ἀτελεῖς, καὶ ἕτεραι τῷ εἶδει τῆς ὅλης καὶ ἀλλήλων.

(...) τῷ εἶδει οὖν διαφέρουσι, καὶ οὐκ ἔστιν ἐν ὁτῶν χρόνῳ λαβεῖν κίνησιν τελείαν τῷ εἶδει, ἀλλ' εἴπερ, ἐν τῷ ἅπαντι (...) ἔοικε δ' οὐκ ἐν ἅπαντι χρόνῳ τελεία εἶναι, ἀλλ' αἱ πολλαὶ ἀτελεῖς καὶ διαφέρουσαι τῷ εἶδει, εἴπερ τὸ πόθεν ποιεῖδοποιόν.

τῆς ἡδονῆς δ' ἐν ὁτῶν (5) χρόνῳ τέλειον τὸ εἶδος. δῆλον οὖν ὡς ἕτεραί τ' ἂν εἶεν ἀλλήλων, καὶ τῶν ὅλων τι καὶ τελείων ἡ ἡδονή.

δόξειε δ' ἂν τοῦτο καὶ ἐκ τοῦ μὴ ἐνδέχασθαι κινεῖσθαι μὴ ἐν χρόνῳ, ἥδεσθαι δέ· τὸ γὰρ ἐν τῷ νῦν ὅλον τι.

ἐκ τούτων δὲ δῆλον καὶ ὅτι οὐ καλῶς λέγουσι κίνησιν ἢ γένεσιν εἶναι τὴν ἡδονήν. οὐ (10) γὰρ πάντων ταῦτα λέγεται, ἀλλὰ τῶν μεριστῶν καὶ μὴ ὅλων. **οὐδὲ γὰρ ὁράσεως ἐστὶ γένεσις οὐδὲ στιγμῆς οὐδὲ μονάδος, οὐδὲ τούτων οὐθὲν κίνησις οὐδὲ γένεσις· οὐδὲ δὴ ἡδονῆς· ὅλον γάρ τι.**

Text 8d: Aristotle, *On the Soul*, 3, 7, 431a6-7, transl. Hicks

For motion is, as we saw, an activity of that which is imperfect; but activity in the absolute sense, that is, the activity of that which has reached perfection, is quite distinct.

ἡ γὰρ κίνησις τοῦ ἀτελοῦς ἐνέργεια, ἡ δ' ἀπλῶς ἐνέργεια ἑτέρα, ἡ τοῦ τετελεσμένου.

Text 8e: John Philoponus, *In De anima*, 3, 7, p. 558, 16 ff. Hayduck

And whenever the sense-object is present and the sense acts, the sense is brought to actuality by the presence of the sense-object. It is not through motion that it comes to be actual. Sense is not affected or altered when it is brought from potentiality of the second kind to (20) being actual. For Aristotle does not want what is brought from the second sort of potentiality to the second sort of actuality to be altered nor to be affected, so it is either not motion or another kind of motion. For if anyone wants to call this 'motion' let him call it another species of motion over and above those mentioned in the *Physics*, and introduce a new classification of nature. Then he [Aristotle] also establishes that the advance (25) from the second kind of potentiality to the second kind of actuality is not motion. For he says that 'motion is the actuality of what is incomplete' (for motion is transported from the incomplete to the complete, and it [the incomplete thing] is affected and altered) but what is potential in the second way is complete. The activity of things that are complete is not motion but something else besides motion. So the passage from the second sort of potentiality (30) to the second sort of actuality is not a motion but a change.

ὁπνίκα δὲ τὸ αἰσθητὸν παρῇ καὶ ἐνεργήσῃ ἡ αἴσθησις, τότε ὑπὸ τῆς τοῦ αἰσθητοῦ παρουσίας ἄγεται εἰς ἐνέργειαν. ἔρχεται δὲ εἰς τὸ ἐνέργεια οὐ διὰ κινήσεως· οὐδὲν γὰρ πάσχει οὔτε ἀλλοιοῦται ἡ αἴσθησις ἀγομένη ἀπὸ τοῦ δευτέρου δυνάμει εἰς (20) τὸ ἐνέργεια. βούλεται γὰρ Ἀριστοτέλης τὸ ἀπὸ τοῦ δευτέρου δυνάμει εἰς τὸ δευτερον ἐνέργεια ἀγόμενον μὴ ἀλλοιοῦσθαι μηδὲ πάσχειν, ὅθεν ἢ οὐκ ἔστι κίνησις ἢ ἄλλο εἶδος ἔστι κινήσεως. εἰ γὰρ τις κίνησιν ἐθέλοι ταύτην λέγειν, λεγέτω ἄλλο κινήσεως εἶδος παρὰ τὰ ἐν τῇ Φυσικῇ λεχθέντα καὶ καινοτομεῖτω τὴν φύσιν.

εἴτα καὶ κατασκευάζει ὅτι οὐκ ἔστι κίνησις ἡ (25) ἀπὸ τοῦ δευτέρου δυνάμει εἰς τὸ δευτερον ἐνέργεια πρόοδος. φησὶ γὰρ ὅτι ἡ κίνησις τοῦ ἀτελοῦς ἐστὶν ἐνέργεια (ἡ γὰρ κίνησις ἀπὸ ἀτελοῦς εἰς τέλειον φέρεται, καὶ πάσχει καὶ ἀλλοιοῦται), τὸ δὲ δευτερον δυνάμει τέλειόν ἐστι· τῶν δὲ τελείων ἡ ἐνέργεια οὐκ ἔστι κίνησις, ἀλλ' ἕτερόν τι παρὰ τὴν κίνησιν. οὐκ ἄρα οὖν κίνησις ἐστὶν ἡ ἀπὸ τοῦ δευτέρου δυνάμει ἀγωγή (30) εἰς τὸ δευτερον ἐνέργεια, ἀλλὰ μεταβολή.

Text 8f: Aristotle, *On the soul* 2, 5, 417a22- , translation Hicks

We must also draw a distinction in regard to the terms potentiality and actuality: at present we are using them without qualification. For instance, we may use the term knowledgeable, firstly, in the sense in which we might speak of man as knowledgeable, because man is one of the genus of beings which are knowledgeable and have knowledge; secondly, in the sense in which we at once call the man knowledgeable who has learnt, say, grammar.

διαιετέον δὲ καὶ περὶ δυνάμεως καὶ ἐντελεχείας· νῦν γὰρ ἀπλῶς ἐλέγομεν περὶ αὐτῶν. ἔστι μὲν γὰρ οὕτως ἐπιστήμὸν τι ὡς ἂν εἴπομεν ἄνθρωπον ἐπιστήμονα ὅτι ὁ ἄνθρωπος τῶν ἐπιστημόνων καὶ ἐχόντων ἐπιστήμην· ἔστι δ' ὡς ἤδη λέγομεν ἐπιστήμονα τὸν ἔχοντα τὴν γραμματικὴν·

(25) Now of these two men each possesses the capacity, but in a different sense: the one because the genus to which he belongs, that is to say, his matter, is potentially knowledgeable; the other because he is capable, if he chose, of contemplating, provided there is nothing external to hinder. Whereas he who is at the moment contemplating is in actuality and knows the object A in front of him in the proper sense of the term. Thus the first two are both potentially knowledgeable: (30) the first becomes knowledgeable actually after he has undergone qualitative change through instruction and often after transition from the reverse condition; while in the latter case it is by (417b1) another kind of transition that the man passes from the mere possession, without the use, of sensation or grammar to the use of it (...) it is by exercise of knowledge that the possessor (5) of knowledge becomes such in actuality: and this either is no alteration (for the thing develops into its own nature and actuality), or else is alteration of a different sort. Hence it is not right to say that that which thinks is altered when it thinks any more than the builder is altered when he builds. That, then, which works the change from potential existence to actuality in a thinking and (10) intelligent being should properly receive a different name and not be called instruction: while that which learns and is brought from potential to actual knowledge by that which is in actuality and capable of instructing should either not be said to be acted upon at all, or else two modes of alteration should be assumed, one change to the dispositions of privation (15) and the other to the habits and nature.

(25) ἑκάτερος δὲ τούτων οὐ τὸν αὐτὸν τρόπον δυνατός ἐστιν, ἀλλ' ὁ μὲν ὅτι τὸ γένος τοιοῦτον καὶ ἡ ὕλη, ὁ δ' ὅτι βουλευθεὶς δυνατὸς θεωρεῖν, ἂν μὴ τι κωλύσῃ τῶν ἔξωθεν· ὁ δ' ἤδη θεωρῶν, ἐντελεχεία ὦν καὶ κυρίως ἐπιστάμενος τόδε τὸ Α. ἀμφοτέροι μὲν οὖν οἱ πρῶτοι, κατὰ δύναμιν ἐπιστήμονες (30) <όντες, ἐνεργεῖα γίνονται ἐπιστήμονες> ἀλλ' ὁ μὲν διὰ μαθήσεως ἀλλοιωθεὶς καὶ πολλάκις ἐξ ἐναντίας μεταβαλὼν ἔξωθεν, ὁ δ' ἐκ τοῦ ἔχειν τὴν ἀριθμητικὴν (417b.) ἢ τὴν γραμματικὴν, μὴ ἐνεργεῖν δέ, εἰς τὸ ἐνεργεῖν, ἄλλοντρόπον (...) θεωροῦν γὰρ γίνεται τὸ ἔχον (5) τὴν ἐπιστήμην,

ὅπερ ἢ οὐκ ἔστιν ἀλλοιοῦσθαι (εἰς αὐτὸ γὰρ ἢ ἐπίδοσις καὶ εἰς ἐντελέχειαν) ἢ ἕτερον γένος ἀλλοιώσεως. διὸ οὐ καλῶς ἔχει λέγειν τὸ φρονοῦν, ὅταν φρονῇ, ἀλλοιοῦσθαι, ὥπερ οὐδὲ τὸν οἰκοδόμον ὅταν οἰκοδομῇ. τὸ μὲν οὖν εἰς ἐντελέχειαν ἄγειν ἐκ δυνάμει ὄντος [κατὰ] τὸ νοοῦν καὶ (10) φρονοῦν οὐ διδασκαλίαν ἀλλ' ἑτέραν ἐπωνυμίαν ἔχειν δίκαιον· τὸ δ' ἐκ δυνάμει ὄντος μανθάνον καὶ λαμβάνον ἐπιστήμην ὑπὸ τοῦ ἐντελεχείᾳ ὄντος καὶ διδασκαλικοῦ ἦτοι οὐδὲ πάσχειν φατέον, [ὥσπερ εἴρηται,] ἢ δύο τρόπους εἶναι ἀλλοιώσεως, τὴν τε ἐπὶ τὰς στερητικὰς διαθέσεις μεταβολὴν (15) καὶ τὴν ἐπὶ τὰς ἔξεις καὶ τὴν φύσιν.

Text 9: Themistius, *In Phys.*, 3, 1, p. 68, 30 ff. Schenkl, translation M. Chase

Let it be stated with regard to what has been said that motion is one of those things that has many meanings. In addition, that each of these things in which we said motion (30) is present, **exists and is spoken of in two ways**, either as better or worse. In the case of substance, this double aspect appears as form and privation, in the case of quantity, one aspect is perfect and

Κείσθω δὴ καὶ τοῦτο πρὸς τοῖς εἰρημένοις τὴν κίνησιν εἶναι τῶν πολλαχῶς λεγομένων. ἔτι πρὸς τούτοις, ὅτι τούτων ἕκαστον ἐν οἷς εἵπομεν (30) εἶναι τὴν κίνησιν, διχῶς ἐστὶ τι καὶ λέγεται ἢ ὡς ἄμεινον ἢ ὡς φαυλότερον. ἐπὶ μὲν οὖν τῆς οὐσίας τὸ διττὸν τὸ εἶδος καὶ ἡ στερησις, ἐπὶ δὲ τοῦ ποσοῦ τὸ μὲν τέλειον τὸ δὲ ἀτελές, ἐπὶ δὲ τοῦ ποιοῦ τὸ μὲν μέλαν

the other imperfect, and in the case of quality, one thing is black (69, 1) and the other white, or any other of the contraries; in the case of place one thing is above and the other below. Now since motion is nothing else apart from these things, it too would rightly be double in every genus. We shall state how this is true in what follows. For the moment, let us say what motion is, making use of what has been determined. First of all, we postulated that it is present in every genus (5) of being in which 'in actuality' and 'in potentiality' is to be found. I say, then, that motion is the entelechy of what is movable, insofar as it is such. Why has 'insofar as it is such' been added? So that it may come to be in entelechy while the potentiality, of which it is the entelechy, remains and is preserved. The entelechy of each thing is twofold, as in the case of bronze, which is potentially a statue. There is entelechy (10) of it both when it is becoming a statue, and when it has already become one. Yet this latter actualization <takes place> without the potentiality according to which it was capable of becoming a statue being preserved: for it already is one, and it no longer has the potentiality. Therefore, this <actualization> is the perfection, not of the potentiality — how could it be, since it destroys it? — but of the thing in which the potentiality was present. The first-mentioned entelechy, in accordance (15) with which it became a statue, if it preserves the potentiality, I call such an entelechy motion and the perfection of the potentiality, for every perfection preserves what it perfects. For as long as the potentiality is preserved, the motion is also preserved, but once the former has ceased the latter ceases as well. But the potentiality ceases when the form and the shape supervene (...)

Motion, then, is twofold in each genus (...) That motion is such is also clear from another example. When what is buildable comes to be being built in actuality, still maintaining its (p. 70, 1) potentiality, then it is in motion, but once it has

(69.) τὸ δὲ λευκὸν ἢ ἕτερα ἅττα τῶν ἐναντίων, ἐπὶ δὲ τοῦ τόπου τὸ μὲν ἄνω τὸ δὲ κάτω. ἐπεὶ τοίνυν καὶ ἡ κίνησις οὐδὲν ἄλλο παρὰ ταῦτα ἐστίν, εἰκότως καὶ αὕτη διττὴ τις ἂν εἴη καθ' ἕκαστον γένος. πῶς δὲ ἔξει τοῦτο, ἐν τοῖς ἐφεξῆς ἐροῦμεν.

νῦν δὲ ἀποδῶμεν, τί ἐστὶν κίνησις, προσχρώμενοι τοῖς ὠρισμένοις. ἔκειτο δὴ πρῶτον ἡμῖν καθ' ἕκαστον γένος (5) τῶν ὄντων εἶναι, οἷς ἐνυπάρχει καὶ τὸ ἐντελέχεια καὶ τὸ δυνάμει. **λέγω τοίνυν κίνησιν εἶναι τὴν τοῦ δυνάμει κινητοῦ ἐντελέχειαν ἢ τοιοῦτον**. τί οὖν πρόσκειται ἢ τοιοῦτον; ἵνα ἐντελέχεια γένηται μενούσης ἔτι καὶ σφζομένης τῆς δυνάμεως, ἥσπερ ἦν ἐντελέχεια. διττὴ γὰρ ἐφ' ἐκάστου ἡ ἐντελέχεια, οἷον ἐπὶ τοῦ χαλκοῦ τοῦ δυνάμει ἀνδριάντος. ἐντελέχεια γὰρ (10) αὐτοῦ ἐστὶν καὶ ὅταν γίνηται ἀνδρίας, ἐντελέχεια καὶ ὅταν γένηται ἡδη. ἀλλ' αὕτη μὲν ἡ ἐντελέχεια οὐκέτι σφζομένης ἔτι⁴ τῆς δυνάμεως καθ' ἣν ἡδύνατο γενέσθαι ἀνδρίας. ἡδη γὰρ ἐστὶν καὶ οὐκέτι ἔχει τὸ δυνάμει, διό καὶ τελειότης οὐ τῆς δυνάμεως αὕτη (πῶς γὰρ ἦν φθείρει;), ἀλλὰ τοῦ πράγματος ἐν ᾧ ἡ δύναμις ἦν.

ἡ δὲ πρότερον ῥηθεῖσα ἐντελέχεια καθ' (15) ἣν ἐγένετο ἀνδρίας, εἰ τὸ δυνάμει διαφυλάττει, τὴν τοιαύτην ἐντελέχειαν κίνησιν λέγω καὶ τελειότητα τῆς δυνάμεως. πᾶσα γὰρ τελειότης σφζει ὁ τελειοί. ἔως μὲν γὰρ ἡ δύναμις σφζεται, σφζεται καὶ ἡ κίνησις, παυσαμένης δὲ παύεται. παύεται δὲ ἡ δύναμις, ἡνίκα ἂν τὸ εἶδος ἐπιγένηται καὶ ἡ μορφή (...).

διχῶς οὖν ἡ κίνησις καθ' ἕκαστον γένος. (...) ὅτι δὲ τοιοῦτόν ἐστιν ἡ κίνησις, δηλὸν καὶ ἐξ ἄλλου παραδείγματος. τὸ γὰρ οἰκοδομητὸν ὅταν ἐνεργεῖα γένηται οἰκοδομούμενον, σφζον ἔτι καὶ τὸ (70.) δυνάμει, τότε κινεῖται,

⁴ ἐστὶ Schenkl.

been completely built, it henceforth neither preserves its potentiality nor is it in motion. If, then, the entelechy of the buildable, while it remains buildable, is the process of building, and the process of building is a motion, the entelechy of the buildable qua buildable is a motion, and hence of the increasable qua increasable and of the transportable qua transportable. By substitution, one can also (5) say that motion is the first actuality of what exists potentially: for the last one is the change into form in which it is henceforth at rest, but the first one is the journey toward <the last actuality>, a journey which is still motion. But since we also call the form an entelechy, and in the proper and absolute sense, it is clear that the journey toward form is toward the entelechy that is in the proper sense and absolute. Therefore, it is not entelechy (10) in the absolute sense; how could it be, since it is an entelechy that journeys toward such <a perfect entelechy>, but is imperfect? Thus, motion is an entelechy neither in the proper nor in the absolute sense, but qua imperfect.

But it is not also an imperfect activity, but qua activity it is perfect.

ὡς ὅταν γε οἰκοδομηθῇ παντελῶς, οὔτε τὸ δυνάμει σφίξει λοιπὸν οὔτε κινεῖται. εἰ οὖν ἡ τοῦ οἰκοδομητοῦ ἐντελέχεια μένοντος οἰκοδομητοῦ οἰκοδόμησις ἐστίν, ἡ δὲ οἰκοδόμησις κίνησις, ἡ τοῦ οἰκοδομητοῦ ἄρα ὡς οἰκοδομητοῦ ἐντελέχεια κίνησις ἐστὶ καὶ ἡ τοῦ αὐξήτου ἄρα ὡς αὐξήτου καὶ ἡ τοῦ φορητοῦ ὡς φορητοῦ. ἔστι δὴ καὶ μεταλαμβάνοντα (5) εἰπεῖν κίνησιν εἶναι τὴν τοῦ δυνάμει ὄντος πρώτην ἐντελέχειαν. ὑστάτη μὲν γὰρ ἡ εἰς τὸ εἶδος μεταβολὴ ἐν ᾧ ἡρεμεῖ λοιπὸν, πρώτη δὲ ἡ ἐπ' ἐκείνο πορεία ἣτις ἔτι κίνησις ἐστίν.

ἀλλ' ἐπειδὴ καὶ τὸ εἶδος ἐντελέχειαν λέγομεν τὴν κυρίως τε καὶ ἀπλῶς, δηλὸν ὡς ἡ ἐπὶ τὸ εἶδος πορεία ἐστὶν ἐπ' ἐντελέχειαν τὴν κυρίως τε καὶ ἀπλῶς. οὐκοῦν οὐδὲ ἀπλῶς (10) ἐντελέχεια. πῶς γὰρ ἡ ἐπὶ τὴν τοσαύτην πορευομένη ἀλλ' ἀτελής ἐντελέχεια; οὕτως οὖν ἡ κίνησις ἐντελέχεια οὐχ ὡς κυρίως οὐδὲ ἀπλῶς, ἀλλ' ὡς ἀτελής.

οὐ μὴν καὶ ἐνέργεια ἀτελής, ἀλλ' ὡς ἐνέργεια τέλειος.

Text 9b: Aristotle, *Al-Ṭabī'a*, p. 171, 8-13 Badawi, quoted by A. Hasnawi 1994, p. 65 n. 27

By perfection (i.e., actualization), he (Aristotle) means here the coming forth of what is potential to actuality, not the completion, such that what is in potentiality would be annulled and what is in actuality would be realized — but rather [the perfection] such that potentiality, remaining stable, persistent, and essential, might act. Indeed, that is when motion takes place (...)

Perfection is twofold: first and last. The last is the arrival at actualization of what is in potentiality, the first is the journey toward the last perfection, with potentiality being preserved along with it, and this is motion.

Innamā ya'nī bi-l-kamālī fī hādā al-ma'nā al-ḥurūja mim mā bi-l-quwwati ilā al-fī'li, lā al-tamāma fa-yabṭulu mā bi-l-quwwati wa yaḥṣulu mā bi-l-fī'li, bal 'alā anna al-quwwata ba'du ṭābitatun bāqiyatun qātiyyatun taf'alu. fa-inna 'inda dālika takūnu al-ḥarakatu (...)

Al-kamālu kamālāni: awwalun wa ahīrun. Fa-l-ahīru huwa intihā'ū mā bi-l-quwwati ilā l-fī'li, wa-l-awwalu huwa al-taṭarruqu ilā al-kamālī al-ahīri wa al-quwwatu takūnu ma'ahu mahfūẓatan wa huwa al-ḥarakatu.

Text 10a: Aristotle, *Physics*, 1, 3, 186a4 ff., trans. Hardie-Gaye

For both of them reason contentiously – I mean both Melissus and Parmenides. [Their premisses are false and their conclusions do

ἀμφοτέροι γὰρ ἐριστικῶς συλλογίζονται, καὶ Μέλισσος καὶ Παρμενίδης [καὶ γὰρ ψευδῆ λαμβάνουσι καὶ ἀσυλλόγιστοί εἰσιν αὐτῶν οἱ

not follow. Or rather the argument of Melissus is gross and palpable and offers no difficulty at all: admit one ridiculous proposition and the rest follow, a simple enough proceeding] The fallacy of (10) Melissus is obvious. For he supposes that the assumption “what has come into being always has a beginning” justifies the assumption “what has not come into being has no beginning”. Then this also is absurd, that in every case there should be a beginning of the thing – not of the time and not only in the case of coming to be in the full sense but also in the case of alteration – as if change never took (15) place all at once.

Text 10b: Aristotle, *Physics*, 8, 3, 253b6-26

...there cannot be a continuous process either of increase or of decrease: that which comes between the two has to be included.

(...) It is evident, then, that from the fact that the decrease is divisible into an infinite number of parts it does not follow that some part must always be passing away: it all passes away at a particular moment. Similarly, too, in the case of any alteration whatever, if that which suffers alteration is infinitely divisible it does not follow from this that the same is true of the alteration itself, which often occurs all at once, as in (25) freezing.

Text 10c: Aristotle, *De sensu*, 6, 446b28-447a13

Local movements, of course, arrive first at a point midway before reaching their goal (...), but we cannot go on to assert this [arrival at a point midway] in like manner of things which undergo qualitative change. **For this kind of alteration may conceivably take place in a thing all at once**, without one half of it being changed before the other; e.g. **it is conceivable that water should be frozen simultaneously in every part.**

λόγοι· μάλλον δ' ὁ Μελίσσου φορτικὸς καὶ οὐκ ἔχων ἀπορίαν, ἀλλ' ἐνὸς ἀτόπου δοθέντος τᾶλλα συμβαίνει· τοῦτο δ' οὐθὲν χαλεπὸν]. ὅτι μὲν οὖν πα- (10) ραλογίζεται Μελίσσος, δῆλον· οἶεται γὰρ εἰληφέναι, εἰ τὸ γενόμενον ἔχει ἀρχὴν ἅπαν, ὅτι καὶ τὸ μὴ γενόμενον οὐκ ἔχει. εἴτα καὶ τοῦτο ἄτοπον, τὸ παντὸς εἶναι ἀρχὴν—τοῦ πράγματος καὶ μὴ τοῦ χρόνου, καὶ γενέσεως μὴ τῆς ἀπλῆς ἀλλὰ καὶ ἀλλοιώσεως, **ὥσπερ οὐκ ἀθρόας γίγνο-** (15) **μένης μεταβολῆς.**

...οὔτε γὰρ αὐξάνεσθαι οὔτε φθίνειν οἷόν τε συνεχῶς, ἀλλ' ἔστι καὶ τὸ μέσον.

(...) φανερόν οὖν ὡς οὐκ ἀναγκαῖον αἰεὶ τι ἀπιέναι, ὅτι διαιρεῖται ἢ φθίσις εἰς ἄπειρα, ἀλλ' ὅλον ποτὲ ἀπιέναι. ὁμοίως δὲ καὶ ἐπ' ἀλλοιώσεως ὅποιασοῦν· οὐ γὰρ εἰ μεριστὸν εἰς ἄπειρα τὸ ἀλλοιούμενον, διὰ τοῦτο καὶ ἡ ἀλλοίωσις, **ἀλλ' ἀθρόα γίγνεται πολλάκις,** **ὥσπερ ἡ πῆ-** (25) **ξις.**

αἱ μὲν γὰρ φοραὶ εὐλόγως εἰς τὸ μεταξὺ πρῶτον ἀφικνοῦνται (...), ὅσα δ' ἀλλοιοῦνται, οὐκέτι ὁμοίως· ἐνδέχεται γὰρ ἀθρόον ἀλλοιοῦσθαι, καὶ μὴ τὸ ἥμισυ πρότερον, οἷον τὸ ὕδωρ ἅμα πᾶν πήγνυσθαι.

Text 11: Alexander of Aphrodisias, *On form and the fact that it is the perfection and accomplishment of motion according to Aristotle*, p. 289-290 Badawi = p. 66 Hasnawi 1994

We now return and say that that of motion, some is incomplete and some is perfect, and imperfect motion is an effect (Greek *pathos*), that is, an accidental quality of the thing. But perfect motion is form, that is, the perfection and completion of the thing, and this is what the Philosopher in his *Book of physical audition* calls entelechy (*anṭālāšyā*). The meaning of this term is the flight (*al-harabu*) of what is potential and possible to perfection and completion,⁵ which are the form of the thing.

fa-narjī'u al-āna fa-naqūlu inna mina al-ḥarakati mā hiyya nāqīṣatun wa minhā mā hiyya tām-matun. fa-ammā al-ḥarakatu al-nāqīṣatu fa-hiyya al-aṭaru a'nī kayfiyyata al-ṣay'i al-'arīḍata. wa ammā al-ḥarakatu al-tāmmatu [...] fa hiya al-sūratu a'nī tamāma wa kamālahu wa hiyya allatī sammāhā al-faylasūfu fī kitābihi alladī yud'ā Kitābu al-samā'i al-ṭab'iyyi anṭālāšyā, wa ma'nā hādā al-ismi harabu al-quwwati wa-l-imkāni ilā al-tamāmi wa-l-kamālī alladī huwwa sūratu al-ṣay'i.

Text 12: Proclus, *On the Eternity of the World*, apud Philoponus, *aet. mundi.*, p. 55, 22 ff. Rabe, trans. Lang & Macro 2001, p. 51

The Fourth Argument of Proclus the Successor.

Fourth. Each thing generated from a cause that is unmoved (25) according to its substantial reality is unmoved. For if the maker (p. 56, 1 Rabe) is unmoved, he is unchanged, and if unchanged, then he produces by virtue of his very being, given that he shifts neither from making to not making nor from not making to making. For if he shifts, he will experience change in the very transition from the one to the other, and were he to experience change, he would (5) not be unmoved. If therefore something is unmoved, it will either never make or always make; otherwise, whenever it does make, it would be moved. Consequently, if something unmoved is a cause of something, causing neither never nor sometimes, then it is always a cause, and if so, it is the cause of something perpetual.

If the cause of the all (10) is unmoved – for if it were moved, it would be earlier incomplete and later complete (since every motion is incomplete actuality) and furthermore would need time to bring time into being — then the all must be perpetual, because it come to be from

Πρόκλου διαδόχου λόγος τέταρτος.

“Τέταρτος· πᾶν τὸ ἐξ ἀκινήτου γινόμενον αἰτίου (25) κατὰ τὴν ὕπαρξιν ἀκίνητόν ἐστιν· εἰ γὰρ τὸ ποιοῦν (56.) ἀκίνητον, ἀμετάβλητόν ἐστιν, εἰ δὲ ἀμετάβλητον, αὐτῷ τῷ εἶναι⁶ ποιεῖ μὴ μεταβαῖνον ἐκ τοῦ ποιεῖν εἰς τὸ μὴ ποιεῖν μηδὲ ἐκ τοῦ μὴ ποιεῖν εἰς τὸ ποιεῖν· μεταβαῖνον γὰρ ἔξει μεταβολὴν αὐτὴν τὴν ἐκ θατέρου μετάβασιν εἰς θάτερον, εἰ δὲ ἔξει μεταβολήν, οὐκ ἂν (5) εἴη ἀκίνητον. εἴ τι ἄρα ἀκίνητόν ἐστιν, ἢ οὐδέποτε ποιήσει ἢ ἀεὶ, ἵνα μὴ διὰ τὸ ποτε ποιεῖν κινῆται. ὥστ', εἴ τι ἀκίνητον αἰτίον ἐστὶν τινος, οὔτε οὐδέποτε αἰτίον ὄν οὔτε ποτέ, εἴη ἂν ἀεὶ αἰτίον, εἰ δὲ τοῦτο, αἰδίον ἐστὶν αἰτίον.

εἰ τοίνυν τὸ αἶτιον τοῦ παντὸς (10) ἀκίνητόν ἐστιν, ἵνα μὴ κινούμενον ἀτελὲς ἢ πρότερον ὕστερον δὲ τέλειον (πᾶσα γὰρ κίνησις ἐνέργειά ἐστὶν ἀτελής) καὶ ἵνα μὴ κινούμενον χρόνου δέχεται χρόνον παράγον, ἀνάγκη τὸ πᾶν αἰδίον εἶναι ἀπὸ αἰτίου

⁵ Cf. Dexippus, *In Cat.*, 34, 15 Busse : τῆς κινήσεως εἰς ἐντελέχειαν ἀπὸ τῆς δυνάμεως ὀδευούσης ; Simplicius, *In Cat.*, p. 66, 24 Kalbfleisch : καὶ ἡ κίνησις τοίνυν ὁδὸς οὔσα ἀπὸ τοῦ δυνάμει εἰς ἐντελέχειαν.

⁶ A key concept in the Arabic work *Liber de Causis*.

an unmoved cause. Consequently, if someone, intending to pay respect to (15) the cause of the all, should say that the cause alone is perpetual and the cosmos is not perpetual, he asserts that its cause is moved rather than unmoved. By calling the cause moved rather than unmoved, he says that it is not always complete but is at one time incomplete, because every motion (20) is incomplete actuality and so needs something inferior (I mean time) because of its being moved; yet because he says it is sometimes incomplete and not always complete, i.e., needing something inferior, he in fact shows great disrespect.

Text 13: Philoponus, *aet. mundi*, 4, 4, p. 64, 22-65, 26 Rabe, translation Share (mod.)

It is, I believe, clear to everyone that it is not right to suppose that God's producing, or activity in general, is motion when it brings everything into substantification⁷ just by willing it and has no need of time or any extension (25) for the substantification of realities. For it is not the case that every activity is immediately (p. 65, 1) also a motion, for activity, according to Aristotle, has a broader extension than motion. For he says that activity is of two kinds, complete and incomplete. Incomplete activity is, he says, motion. For, according to him, motion is change from first potentiality (5) to state (hexis). This is how he defines it in book three of the *Physics*: 'motion is the actualization of what potentially is, *qua* such'. By 'actualization' (*entelekheia*) he means the actual (*autên*) actuality and perfection of the potential. So motion (10) is incomplete actuality. By complete activity, on the other hand, he means instantaneous projection from a state (*hexis*) without the state being altered in any way. Instantaneous projection is production that does not proceed with the motion of time but happens in the now, like the emana-

ακινήτου γιγνόμενον. ὥστε, εἴ τις εὐσεβεῖν οἰόμενος εἰς (15) τὸν αἴτιον τοῦ παντός ἐκείνον λέγοι μόνον αἰδῖον τὸν δὲ κόσμον οὐκ αἰδῖον, τοῦτον λέγων οὐκ αἰδῖον ἐκείνον ἀποφαίνει κινούμενον ἀλλ' οὐκ ἀκίνητον· κινούμενον δὲ λέγων καὶ οὐκ ἀκίνητον οὐκ αἰεὶ λέγει τέλειον ἀλλὰ ποτὲ καὶ ἀτελεῖ **διὰ τὸ πᾶσαν εἶναι κίνησιν** (20) **ἐνέργειαν ἀτελεῖ** καὶ ἐνδεᾶ τοῦ χείρονος (λέγω δὴ τοῦ χρόνου) δι' αὐτὸ τὸ κινεῖσθαι, ποτὲ δὲ ἀτελεῖ λέγων καὶ οὐκ αἰεὶ τέλειον καὶ ἐνδεᾶ τοῦ χείρονος ἀσεβεῖ διαφερόντως."

δ'. Ὅτι δὲ οὐ θέμις τὴν ποιήσιν τοῦ θεοῦ καὶ ὅλως τὴν ἐνέργειαν κίνησιν ὑποτίθεσθαι αὐτῷ μόνῳ τῷ θέλῃν πάντα παράγουσαν καὶ χρόνου ἢ διαστάσεώς τινος εἰς οὐσίωσιν τῶν πραγμάτων μὴ δεομένην, (25) παντὶ δῆλον οἶμαι. **οὐδὲ γὰρ πᾶσα ἐνέργεια εὐθὺς** (65.) **καὶ κίνησις ἐστίν·** ἐπιπλέον γὰρ ἡ ἐνέργεια τῆς κινήσεως, ὡς Ἀριστοτέλει δοκεῖ. διττὴν γὰρ εἶναι φησιν τὴν ἐνέργειαν, τὴν μὲν τελείαν, τὴν δὲ ἀτελεῖ. **τὴν μὲν οὖν ἀτελεῖ ἐνέργειαν κίνησιν εἶναι φησιν·** ἐστὶν γὰρ κατ' αὐτὸν ἡ κίνησις ἢ ἀπὸ τοῦ πρώτου δυνάμει (5) ἐπὶ τὴν ἕξιν μεταβολή· οὕτως γὰρ αὐτὴν ἐν τῷ τρίτῳ λόγῳ τῆς φυσικῆς ἀκροάσεως ὠρίσατο, ὅτι ἐστὶν ἡ κίνησις ἐντελέχεια τοῦ δυνάμει ὄντος, ἢ τοιοῦτόν ἐστιν. ἐντελέχειαν δὲ φησιν αὐτὴν τὴν τῆς δυνάμεως ἐνέργειαν τε καὶ τελείωσιν. **οὕτω μὲν οὖν ἀτελής ἐστίν** (10) **ἐνέργεια ἢ κίνησις.** τελείαν δὲ ἐνέργειαν φησιν εἶναι τὴν ἀθρόαν ἀπὸ τῆς ἕξεως προβολὴν μηδὲν ἀλλοιοτέρας γινομένης τῆς ἕξεως.

ἀθρόα δὲ ἐστὶν προβολή ἢ μὴ συμπροϊούσα τῇ κινήσει τοῦ χρόνου ἀλλ' ἐν τῷ νῦν γιγνομένη, οἷα ἐστὶν ἢ τοῦ φωτὸς ἐκ τοῦ

⁷ *Ousiōsis*: see above, **Text 4**. Does this occurrence of the term in a passage certainly by Philoponus indicate that the earlier occurrence should also be attributed to Philoponus, or is Philoponus echoing Porphyry here?

tion of light from a source (15) of illumination; for as soon as a source of illumination such as a fire or the sun is visible, everything with an aptitude for it is instantaneously illuminated. Of this kind too is the activity of seeing: we intemporally perceive sensible objects the moment we look at them. It is for this reason that Aristotle (20) denies that the senses are in motion during the perception of sensible objects. Nor is the activity of the mind motion; it touches the objects of thought (*ta noêta*) instantaneously and without any extension. If, then, the activity of these is timeless, and on that account complete and not motion, how could <Proclus> dare to say (25) that the activity of God is motion?

Text 14: Philoponus, *In De Anima* 2, 5, p. 296, 22-298, 23 Hayduck, translation Charlton, modified

For even if motion is a kind of activity, activity is more universal than motion, and motion than being affected. For everything that is affected is also moved, and everything that is in motion acts, but it is not also the case that what acts is also in motion. For activity, as he himself defines it in the *Physics* [3.2], is the instantaneous (25) projection from the state (*hexis*)⁸, whereas motion is an incomplete activity; for motion is the path from the first sense of potentiality to the state⁹. Inasmuch, then, as motion is a kind of incomplete activity, to that extent activity and motion seem to be the same. But in so far as activity is not the advance from the incomplete

φωτί (15) ζοντος πρόοδος· ἅμα γὰρ τῷ φανῆναι τὸ φωτιστικὸν οἶον τὸ πῦρ ἢ τὸν ἥλιον ἀθρόον πᾶν τὸ ἐπιτήδειον καταλάμπεται. τοιαύτη ἐστὶν καὶ ἡ τῆς ὄψεως ἐνέργεια· ἅμα γὰρ τῷ ἀναβλέψαι ἀχρόνως τῶν αἰσθητῶν ἀντιλαμβανόμεθα. ὅθεν οὐδὲ τὰς αἰσθήσεις ὁ Ἄρι- (20) στοτέλης κινεῖσθαι φησιν ἐν τῇ τῶν αἰσθητῶν ἀντιλήψει. ἀλλ' οὐδὲ ἡ τοῦ νοῦ ἐνέργεια κίνησις ἐστίν· ἀθρόως γὰρ καὶ ἄνευ τινὸς διαστάσεως τοῦ νοητοῦ θιγγάνει. **εἰ οὖν ἡ τούτων ἐνέργεια ἄχρονος καὶ διὰ τοῦτο τελεία καὶ οὐ κίνησις**, πῶς ἂν τὴν τοῦ θεοῦ (25) ἐνέργειαν κίνησιν εἰπεῖν τολμήσειεν;

κἂν γὰρ ἐστὶν ἡ κίνησις ἐνέργειά τις, **ἡ μὲν ἐνέργεια καθολικωτέρα ἐστὶ τῆς κινήσεως**, ἡ δὲ κίνησις τοῦ πάσχειν. πᾶν μὲν γὰρ τὸ πάσχον καὶ κινεῖται, τὸ δὲ κινούμενον πᾶν ἐνεργεῖ, οὐκέτι μέντοι τὸ ἐνεργοῦν καὶ κινεῖται. ἐνέργεια μὲν γὰρ ἐστίν, ὡς αὐτὸς διωρίσατο ἐν τῇ Φυσικῇ ἡ ἀθρόα προ- (25) βολὴ ἀπὸ τῆς ἕξεως, κίνησις δὲ ἀτελής ἐστὶν ἐνέργεια· ἡ γὰρ ἀπὸ τοῦ πρώτου δυνάμει ἐπὶ τὴν ἕξιν ὁδὸς κίνησις ἐστὶ. ἢ μὲν οὖν ἡ κίνησις ἐνέργειά τις ἀτελής, ταύτη ταῦτόν δόξει εἶναι ἡ ἐνέργεια καὶ ἡ κίνησις· ἢ δὲ ἡ ἐνέργεια οὐκ ἔστιν ἐκ τοῦ ἀτελοῦς ἐπὶ τὸ τέλειον πρόοδος, ταύτη οὐ ταῦτόν ἡ κίνησις

⁸ *Hê athroa probolê apo tês hexeôs*. Charlton's translation is quite misleading here: "activity... is the putting forth of the disposition all at once". Quite apart from the fact that "putting forth" and "disposition" are weak translations of *probolê* and *hexis* respectively, it is simply a mistake to translate *apo tês hexeôs* as "of the state" rather than from it. The *hexis* is not projected: it is activity or actualization that is projected (emitted, sent forth) *from* the *hexis*.

⁹ "For the journey from being in potentiality in the first way to the disposition is a change" (Charlton). Another poor translation: by construing 'change' (*kinêsis*, which is more properly motion) as the predicate of an attributive proposition, Charlton masks the fact that we have to do with a *definition* of motion.

¹⁰ "the thinking changes" (Charlton). One wonders what the Greekless reader is supposed to be able to understand by such an expression.

to the perfect, in that respect motion is not the same as activity. And just as 'disposition' (*diathesis*) is said in a more common (30) way that applies also to a state (*hexis*), and also in a more particular way in contradistinction from a state, so too 'activity' is said both in a more common way of every motion, and also it is said in contradistinction from motion; because motion is the advance from the first kind of potentiality to the second <kind of potentiality> of the things that are in conjunction (297, 1) with the substance, the substance being preserved, while activity is the perfect projection of the state, without the state being altered in any way. And activity which is in reality perfect is the instantaneous projection of the state, which does not progress along with the motion of time, but is identical in every part of it, as is the projection of light; for simultaneously with the appearance of the source of light, all that is suitable (5) is illuminated instantaneously; the activity of light does not progress along with the motion of time, but is identical in every part of it. Such is the activity of sense also. At the same time as we look, we apprehend the sense-objects in a non-temporal way. Hence he does not say that the senses are in motion, but that they act.

This, then, is activity in the proper sense. Hence he also says concerning the divine things (10) that they are activities without potentiality. But a motion like learning is the change of the state part by part to the perfect from the imperfect. In between these are the discursive motions¹⁰ or activities, and anything similar there may be; these are neither motions in the proper sense (for there is no change of the state) nor altogether activities; for neither are they identical in every part (15) of time, nor is their projection from the state instantaneous, but one premise comes before another, and the conclusion is last. So this sort of thing is neither motion without qualification nor activity without qualification, unless one were to divide activity in the proper sense into what is instantaneous and partless and what has parts.

τῇ ἐνεργείᾳ. καὶ γὰρ ὥσπερ ἡ διάθεσις λέγεται μὲν καὶ κοινό- (30) τερον καὶ ἐπὶ τῆς ἕξεως, λέγεται δὲ καὶ πρὸς ἀντιδιαστολὴν τῆς ἕξεως ἰδικώτερον, οὕτω δὲ καὶ ἡ ἐνέργεια λέγεται καὶ κοινότερον καὶ κατὰ πάσης κινήσεως, λέγεται δὲ καὶ πρὸς ἀντιδιαστολὴν τῆς κινήσεως, διότι κίνησις μὲν ἐστὶν ἡ ἐκ τοῦ πρώτου δυνάμει ἐπὶ τὸ δεύτερον πρόοδος τινος τῶν περὶ (297.) τὴν οὐσίαν σωζομένης αὐτῆς τῆς οὐσίας, ἐνέργεια δὲ ἐστὶν ἡ τελεία προβολὴ τῆς ἕξεως μηδὲν τῆς ἕξεως ἀλλοιοτέρας γινομένης. καὶ ἔστι τῷ ὄντι τελεία ἐνέργεια ἡ ἀθρόα προβολὴ τῆς ἕξεως ἢ μὴ συμπροϊούσα τῇ κινήσει τοῦ χρόνου, ἀλλὰ κατὰ πᾶν μέρος αὐτοῦ ὁμοίως ἔχουσα, οἷα ἐστὶν ἡ τοῦ φωτὸς προβολή· ἅμα γὰρ τῷ φανῆναι τὸ φωτιστικὸν ἀθρόον πᾶν (5) τὸ ἐπιτήδειον καταλάμπεται, οὐ συμπροϊούσης τῆς τοῦ φωτὸς ἐνεργείας τῇ τοῦ χρόνου κινήσει, ἀλλ' ἐν παντὶ μέρει αὐτοῦ ὁμοίως ἐχούσης. τοιαύτη ἐστὶ καὶ ἡ τῆς αἰσθήσεως ἐνέργεια· ἅμα γὰρ τῷ ἀναβλέψαι ἀχρόνως τῶν αἰσθητῶν ἀντιλαμβανόμεθα· ὅθεν οὐδὲ φησι κινεῖσθαι τὰς αἰσθήσεις, ἀλλ' ἐνεργεῖν.

τοῦτο μὲν οὖν ἐνέργεια κυρίως· διὸ καὶ περὶ τῶν θείων εἶπεν (10) ὅτι ἄνευ δυνάμεως ἐνεργεῖαι εἰσι. κίνησις δ' οἷον ἢ μάθησις ἢ τῆς ἕξεως ἐστὶ μεταβολὴ κατὰ μέρος ἐπὶ τὸ τέλειον ἀπὸ τοῦ ἀτελοῦς. μεταξὺ δὲ τούτων εἰσὶν αἱ διανοητικαὶ κινήσεις ἧτοι ἐνεργεῖαι, καὶ εἴ τι ταύταις ὅμοιον, αἵτινες οὔτε κυρίως κινήσεις εἰσὶν (οὐ γὰρ ἐστὶ μεταβολὴ τῆς ἕξεως) οὔτε καθάπαξ ἐνεργεῖαι· οὐδὲ γὰρ ὁμοίως ἔχουσιν ἐν παντὶ μέρει (15) χρόνου, οὐδὲ ἀθρόα αὐτῶν ἀπὸ τῆς ἕξεως ἢ προβολὴ γίνεται, ἀλλὰ ἄλλη πρὸ ἄλλης πρότασις, ἔσχατον δὲ τὸ συμπέρασμα. οὔτε οὖν ἀπλῶς κίνησις τὸ τοιοῦτον οὔτε ἀπλῶς ἐνέργεια, εἰ μὴ τὴν κυρίως ἐνέργειαν διέλοι τις εἰς τε τὴν ἀθρόαν καὶ ἀμερῇ καὶ εἰς τὴν μεριστήν.

Text 15: Philoponus, *Against Aristotle on the Eternity of the World*, fr. 115 Wildberg = Simplicius, *In Phys.*, p. 1141, 12-30

“...even if nature produces what it fashions out of existent things, by virtue of the fact that it has both its substance and its activity in a substrate, without which it is not capable either of being or of acting, it is not necessary for God, whose substance and activity are transcendent of all beings, to create (15) out of existent things. For in that case, He would be no better than nature, although God creates not only the forms of the things that are fashioned directly by Him, but it is believed that He produces and fashions matter itself; for only what is first is ungenerated and uncaused. If, then, God gives existence (20) to matter as well, but matter does not require another matter in order to exist, for it is the first substrate of all natural things, then it is not the case that everything that comes into being does so out of something that exists. For whether matter comes into being from God always or at a given moment, it will certainly have no need of another matter, since it itself is the first substrate of bodies. If what is generated by nature does so out of what exists, therefore, it is not (25) necessary that the things that are generated by God do so out of what exists, since **nature needs both some time and <the process of> generation in order to fashion each natural thing, while God gives existence to what comes into being directly by him timelessly and without generation**, that is, without forming and shaping the particulars. For it is enough for him to will, in order to bring about the substantification (*ousiôsis*)¹¹ (30) of realities”.

“πρῶτον μὲν, λέγων, εἰ καὶ ἡ φύσις ἐξ ὄντων ποιεῖ τὰ ὑπ’ αὐτῆς δημιουργούμενα διὰ τὸ καὶ τὴν οὐσίαν αὐτῆς καὶ τὴν ἐνέργειαν ἐν ὑποκειμένῳ ἔχειν καὶ χωρὶς ἐκείνου μήτε εἶναι μήτε ἐνεργεῖν δύνασθαι, οὐκ ἀνάγκη καὶ τὸν θεὸν τὸν ἐξηρημένην ἔχοντα τῶν ὄντων ἀπάντων καὶ τὴν οὐσίαν καὶ τὴν ἐνέργειαν (15) ἐξ ὄντων δημιουργεῖν. οὕτω γὰρ οὐδὲν ἔξει πλέον τῆς φύσεως, καίτοι γε οὐ μόνον τὰ εἶδη τῶν ἀμέσως ὑπ’ αὐτοῦ δημιουργουμένων ποιεῖ ὁ θεός, **ἀλλὰ καὶ αὐτὴν τὴν ὕλην παράγειν καὶ δημιουργεῖν πεπίστευται**. μόνον γὰρ τὸ πρῶτον ἀγέννητόν ἐστι καὶ ἀναίτιον. εἰ οὖν καὶ τὴν ὕλην (20) ὁ θεὸς ὑφίστησιν (οὐ δεῖται δὲ ἡ ὕλη ἐτέρας ὕλης εἰς ὑπαρξιν· αὐτὴ γὰρ ἐστι τὸ πρῶτον ἀπάντων τῶν φυσικῶν ὑποκείμενον). οὐκ ἄρα πᾶν τὸ γινόμενον ἐξ ὄντος γίνεται. εἴτε γὰρ αἰεὶ ὑπὸ θεοῦ γίνεται ἡ ὕλη εἴτε ποτέ, οὐ δεῖσεται δήπουθεν ἐτέρας ὕλης, αὐτὴ τὸ πρῶτον οὔσα τῶν σωμάτων ὑποκείμενον· οὐκ ἄρα, εἰ τὰ γινόμενα ὑπὸ φύσεως ἐξ ὄντων γίνεται, ἀνάγκη καὶ τὰ ἀμέσως ὑπὸ θεοῦ γινόμενα ἐξ ὄντων γίνεσθαι, εἴπερ ἢ (25) μὲν φύσις καὶ χρόνου δεῖται τινος καὶ γενέσεως, ἵνα ἕκαστον δημιουργήσῃ τῶν φυσικῶν, ὁ δὲ θεὸς ἀχρόνως καὶ ἄνευ γενέσεως, τουτέστι διαπλάσεως τῶν κατὰ μέρος καὶ διαμορφώσεως, τὰ ἀμέσως ὑπ’ αὐτοῦ γινόμενα ὑφίστησιν· ἀρκεῖ γὰρ αὐτῷ μόνον τὸ θέλειν εἰς τὴν τῶν πραγμάτων (30) οὐσίωσιν.”

Text 16: Philoponus, *Against Aristotle on the Eternity of the World*, fr. 129 Wildberg = Simplicius, *In Phys.*, 1173, 1-13

“Yet even if it is true”, he says, “that after motion has ceased something remains that has the capacity for being moved, not even in this case does the Philosopher correctly conclude what follows. For if not everything

“ἄλλ’ οὐδὲ εἰ ἀληθές, φησί, τὸ μετὰ τὸ παύσασθαι τῆς κινήσεως ὑπομένειν τι τὴν τοῦ κινεῖσθαι δύναμιν ἔχον, οὐδὲ οὕτω καλῶς τὸ ἐξῆς ὁ φιλόσοφος συλλογίζεται. εἰ γὰρ μὴ πάντα διὰ κινήσεως γίνεται τὰ

¹¹ *Ousiôsis* again: see **Texts 4** and **13** above.

that comes into being does so through motion, but there is, according to Aristotle, a coming-into-being <that takes place> all at once (athroa), without motion and temporal extension, then there is also a destruction that is like that, such as the presence (5) of perfect forms in their substrates, and their withdrawal from them, and like points come to be united, and like contacts, and lightning, and the apprehension of visual sensation. Therefore, not everything that perishes does so through motion”. Thus, he would be saying — for he seems to me to have left his argument without (10) a conclusion — that even if what causes destruction perishes, it does not necessarily perish through motion. “And if **God the demiurge**”, he says, “**produces without temporal extension the heavens and the world**, produced directly by him, then when he should wish to destroy the world, its destruction”, he says, “will also be non-temporal”.

Text 17 : Al-Kindi, *On the quantity of Aristotle's books*, p. 375, 9 ff. Abū Rīda, translation M. Rashed 2008

Then Aristotle said (...) that God, may He be praised, does not need a period of time for His creation, in reason of what he made clear, since he established ‘it’ out of ‘not it’ ; so that the one whose ability reached such a point as to produce bodies out of no bodies and to extract being out of not-being, he does not need, since he has the power of producing out of no matter, (15) to produce in time. For since the human act is impossible without matter, the act of the one who does not need matter in order to produce what he produces does not need time.

Text 18: *Theology of Aristotle*, p. 27 Badawi = p. 237 d’Ancona et al. = p. 14 Dieterici ; trans. Lewis I, §§ 44-58, p. 231

How well and how rightly does this philosopher describe the Creator when he says : “He created mind, soul, nature, and all things else”, but whoever hears the philosopher's

γινόμενα, ἀλλ’ ἔστιν ἀθρόα γένεσις κατὰ Ἀριστοτέλη χωρίς κινήσεως καὶ χρονικῆς παρατάσεως, ἔστι καὶ φθορὰ τοιαύτη, ὡς ἡ τῶν τελείων εἰδῶν (5) ἐν τοῖς ὑποκειμένοις παρουσία τε καὶ ἀναχώρησις καὶ ὡς αἱ ἀφαὶ καὶ ἀστραπαὶ καὶ ἡ τῆς ὀπτικῆς αἰσθήσεως ἀντίληψις. οὐ πᾶν ἄρα τὸ φθειρόμενον διὰ κινήσεως φθίρεται”. ὥστε φαίη ἂν (αὐτὸς γὰρ ἀσυμπέραντον, ὡς ἐμοὶ δοκεῖ, καταλέλοιπε (10) τὸν λόγον), ὅτι καὶ φθίρεται τὸ φθεῖρον, οὐ πάντως διὰ κινήσεως φθίρεται. “καὶ εἰ ὁ θεός, φησὶν, ὁ δημιουργὸς ἄνευ χρονικῆς παρατάσεως παράγει τὸν οὐρανὸν καὶ τὸν κόσμον ἀμέσως ὑπ’ αὐτοῦ παραγόμενα, καὶ ὅτε φθεῖραι τὸν κόσμον θελήσῃ, ἄχρονος, φησὶν, ἔσται αὐτοῦ καὶ ἡ φθορά”.

tumma qāla (...) innahu, jalla tanā’uhu, lā yahtāju ilā madda l-ibdā’ihi mimma abāna, li-annahū ja’ala « huwa » min « lā huwa » fa-inna man balaḡat qudratihi anna ya’milu ajrāmā min lā ajrām, fa-aḡraja aysa min laysa, fa-laysa yahtāju — id huwa qādir ‘alā-l’amal min lā ṭīna — anna (15) ya’milu fī zamān, li-annahū, id kāna fīl al-baṣar lā yumkinu min ḡayr ṭīna, kāna fīl man lā yuhtāju fī fīl mā ya’falu ilā ṭīna lā yahtāju ilā zamān.

wa mā aḡsan wa aṣwab mā waṣafa al-faylasūfu al-bārī’ ta’ālī id qāla: innahu ḡaliq al-’aql wa-l-nafs wa-l-ṭabī’ati wa-sā’ir al-aṣyā’ kullihā, ḡayr annahu lā yanbaḡī al-sāmī’ qawli al-faylasūf anna yanzuru ilā lafzihi fa-

words must not take them literally and imagine that he said that the Creator fashioned the creation in time. If anyone (10) imagines that of him from his mode of expression, he did but so express himself through wishing to follow the custom of the ancients. The ancients were compelled to mention time in connection with the beginning of creation because they wanted to describe the genesis of things¹², and they were compelled to introduce time into their description of becoming and into their description of the creation — which was not in time at all — in order to distinguish between the exalted first causes and the lowly secondary causes (...) But it is not so : not every agent performs his action in time, nor is every cause prior to its effect in time.

Text 19: Pseudo-Fārābī, *Harmony of Plato and Aristotle*, p. 64 Martini Bonadeo

The meaning of Aristotle's discourse according to which the world has no temporal beginning is that it did not come into being bit by bit, according to a succession of parts, as happens for instance for plants and animals¹³. This is because what comes into being bit by bit, according to a succession of parts, has some parts that precede others in time (...) the celestial sphere derives from the creation of the Creator – may he be praised ! – at one single time, without duration in time...

yatawahhimu 'alayhi annahu qāla inna al-bārī'u innamā ḥalaqa-l-ḥalq fi zamānin. fa-innahu wa-in (10) tuwuhhimu min lafzihi wa kalāmihi fa-innahu innamā lafz bi-dālika irādata anna yatbi'u 'āda al-awwalīna. fa-innahu innamā uḏṭurru al-awwalūna ilā ḍikr zamānin fi badi' al-ḥalq li-annahum arādū waṣfa kawn al-ašyā' fa-uḏṭurrū ilā anna yadḥalū al-zamān fi waṣfihum al-kawn wa-fi waṣfihum al-ḥalīqa allatī lam takūn fi zamānin al-battata. wa-innamā uḏṭurrū al-awwalūna ilā ḍikr al-zamān 'inda waṣfihum al-ḥalīqa li-yumayyazū bayna al-'ilal al-uwalī al-'āliya wa bayna al-'ilal al-ṭawānī al-sfliya (...) wa laysa dālika ka-dālika, a'nī annahu laysa kull fā'ilin yafalu f'ihi fi zamānin, wa lā kull 'illa qabla ma'lūlihā bi-zamānin.

wa ma'nā qawlihi inna al-'ālam laysa lahu bad' zamāniyya annahu lam yatakawwanu awwalān fa-awwalān bi-ajzā'ihi kamā yatakawwanu al-nabat miṭlān aw al-ḥayawān. id allaḍi yatakawwanu awwalān fa-awwalān bi-ajzā'ihi fa-in ajzā'uhu yataqaddamu ba'dihā 'alā ba'd bi-l-zamān (...) wa yṣḥḥ bi-dālika annahu innamā yakūna 'an ibdā' al-bārī jalla jalālihi iyyāhu dufata bi-lā zamān...

¹² This was already the view of Taurus, for whom Plato's allegorical description of the creation of the world in the *Timaeus* was intended for the masses, unable to understand the notion of causation in a non-temporal sense (K. Verrycken 1998, 299).

¹³ Cf. Philoponus, text 15 supra: ὁ δὲ θεὸς ἀχρόνως καὶ ἄνευ γενέσεως, τουτέστι διαπλάσεως τῶν κατὰ μέρος καὶ διαμορφώσεως. The terms *diaplasia* and *diamorphōsis* are regularly used to convey the notions of the formation and articulation of the embryo in the course of the natural process of growth.

Text 20: Porphyry, *Commentary on the Timaeus*, fr. LI, p. 38, 5ff. Sodano = Procl., *In Tim.*, vol. 1, 395, 10ff. Diels, translation Runia-Share (modified)

Fourth and next is the section of [Porphyry's] (I, p. 395, 10 Diehl) arguments in which he shows that the divine Intellect practises a mode of creation [which is performed] just by being and establishes [this] by a number of arguments. Even artisans [he says] need tools for their activity [only] because they do not have mastery over all [their] material (*hulê*). They show this themselves by using these tools to get [their] material (15) ready for use (*euergos*) by drilling, planing, or turning it, all of which [operations] do not add form, but [merely] eliminate the unreadiness of the [material which is] to receive the form. **The actual rational formula (*logos*) [of the work], on the other hand, supervenes upon (*paragineshai*) the material (*hupokeimenon*) timelessly** from the art once all inhibiting factors have been removed. And if there were no inhibiting (20) factor in the case of [artisans] either, they [too] would add the form to the matter instantaneously and have absolutely no need of tools (...) If, then, human arts and the imaginations of individual [human] souls and the operations of demons achieve such results, is it surprising that the Demiurge should bring perceptible [reality] into existence just (p. 396, 5) by thinking the universe, generating the material immaterially and the tangible intangibly, and partlessly extending the extended?

And one should not be surprised if something which is incorporeal and unextended should be able to cause the existence of the universe. If it is the case that the human semen, which is so small in bulk yet (10) contains within itself all of the [seminal] reasons, gives rise to so many differences (...) it will certainly be much more the case that the demiurgic reason is able to bring all things into existence, since it has no need at all of

Τέταρτον πρὸς τοῖς εἰρημένοις ἐστὶ τῶν λόγων (10) κεφάλαιον, ἐν ᾧ τὸν τρόπον ἐπιδεικνύει τῆς δημιουργίας **αὐτῷ τῷ εἶναι** τὸν θεῖον νοῦν ἐπιτελούμενον, καὶ κατασκευάζει διὰ πλειόνων· καὶ γὰρ οἱ τεχνῖται δέονται πρὸς τὴν ἐνέργειαν ὀργάνων διὰ τὸ μὴ πάσης κρατεῖν τῆς ὕλης, δηλοῦσι δὲ καὶ αὐτοῖς¹⁴ τοῖς ὀργάνοις χρώμενοι πρὸς τὸ εὖ- (15) ἐργὸν ποιῆσαι τὴν ὕλην, τρυπῶντες ἢ ξέοντες ἢ τορνεύοντες, ἃ δὴ πάντα οὐ τὸ εἶδος ἐντίθησιν, ἀλλ' ἐξαιρεῖ τὴν ἀνεπιτηδειότητα τοῦ δεχομένου τοῦ εἶδος· αὐτὸς δὲ ὁ λόγος ἀχρόνως ἀπὸ τῆς τέχνης παραγίνεται τῷ ὑποκειμένῳ, πάντων ἐξαιρεθέντων τῶν ἐμποδῶν.

καὶ εἰ μὴδὲν ἦν καὶ τούτοις ἐμ- (20) πόδιον, **τό τε εἶδος ἀθρόως ἂν τῇ ὕλῃ προσήγον** καὶ ὀργάνων οὐδὲν ἂν ὅλως ἐδεήθησαν (...) εἰ τοίνυν καὶ τέχναι ἀνθρώπινα καὶ ψυχῶν μερικῶν φαντασίαι καὶ δαιμόνων ἐνέργειαι τοιαῦτα δρῶσι, τί θαυμαστὸν τὸν δημιουργὸν αὐτῷ τῷ νοεῖν τὸ πᾶν (5) **ὑπόστασιν παρέχεσθαι τῷ αἰσθητῷ**, ἀύλως μὲν <παράγοντα> τὸ ἔνυλον, ἀναφῶς δὲ ἀπογεννῶντα τὸ ἀπτόν, ἀμερῶς δὲ ἐκτείνοντα τὸ διαστατόν;

καὶ οὐ δεῖ τοῦτο θαυμάζειν, εἴ τι ἀσώματον ὄν καὶ ἀδιάστατον ὑποστατικὸν εἴη τοῦδε τοῦ παντός· εἴπερ γὰρ τὸ σπέρμα τοῦ ἀνθρώπου, τοσοῦτον ὄγκον ἔχον καὶ (10) πάντας ἐν ἑαυτῷ τοὺς λόγους, ὑφίστησι τοσαύτας διαφορὰς (...) πολλῶ δὴ οὖν μᾶλλον ὁ δημιουργικὸς λόγος τὰ πάντα παράγειν δύναται **μὴδὲν εἰς τὸ εἶναι τῆς ὕλης δεηθεῖς**, ὥσπερ ὁ τοῦ σπέρματος· ἐκεῖνος μὲν γὰρ οὐκ ἔξω ὕλης, ὁ δὲ τῶν

¹⁴ αὐτοῖ Runia-Share.

matter for its existence, as has [the reason] associated with the semen. For this latter is not outside of matter, whereas the creator (*hypostatês*) of all things is eternally fixed in himself, and has brought all (25) things into existence out of his abiding (*menein*) self.

πάντων ὑποστάτης ἐν ἑαυτῷ διαιωνίως ἔστηκε καὶ ἀφ' ἑαυτοῦ μέ- (25) νοντος τὰ πάντα παρήγαγε.

Text 21: Procl., *In Tim.*, vol. 2, p 102, 6 ff. Diehl, translation Baltzly modified

God brings forth all things at once (*athroôs*) and throughout eternity. For it is through his very being and through his eternal thinking of wholes that he engenders all the things that result from him – the totality of things both hypercosmic and encosmic: intellects, souls, natures, bodies, (10) and matter itself. If you ask me, demiurgic creation exhibits this 'all at once' aspect more than the Sun's illumination does. In the latter case, the entire light proceeds simultaneously from the Sun. But even though the Sun imitates the Father through visible creation, this is clearly inferior to the Father's eternal (15) and invisible production. Therefore, as we said, though all things have come about from the act of creation eternally and simultaneously, nonetheless the order of effects is still preserved ; for each thing proceeds all at once and each with its own order since there was present in that which produced it an eternal thought and an order prior to the things that have been ordered.

Ὁ μὲν θεὸς ἀθρόως πάντα καὶ διαιωνίως παράγει· κατ' αὐτὸ γὰρ τὸ εἶναι καὶ κατὰ τὴν αἰώνιον τῶν ὅλων νόησιν καὶ τὰ ἀφ' ἑαυτοῦ πάντα ἀπογεννᾷ, τὰ τε ὑπερκόσμια καὶ τὰ ἐν τῷ κόσμῳ σύμπαντα, νόας, ψυχάς, φύσεις, σώματα, (10) τὴν ὕλην αὐτήν. καὶ εἰ δεῖ λέγειν, μᾶλλον ἐπὶ τῆς δημιουργικῆς ἀπογεννήσεως τὸ ἀθρόον ἐστὶν ἢ τῆς ἡλιακῆς ἐκλάμψεως, καίτοι καὶ ἐπὶ ταύτης ἅμα τῷ ἡλίῳ τὸ ὅλον πρόεισι φῶς· ἀλλὰ καὶ οὗτος ὁ τὸν πατέρα μιμούμενος διὰ τῆς ἐμφανοῦς δημιουργίας δῆλον ὡς ὑφεῖται τῆς διαιωνίου (15) καὶ ἀφανοῦς ποιήσεως. πάντων δ' οὖν, ὥσπερ εἵπομεν, ἀπὸ τῆς δημιουργίας ὁμοῦ καὶ αἰωνίως παραγομένων ὁμῶς καὶ ἡ τάξις σφύζεται τῶν ἀποτελεσμάτων· πρόεισι γὰρ ἀθρόως ἕκαστα μετὰ τῆς ἑαυτῶν τάξεως· ἦν γὰρ καὶ ἐν τῷ παράγοντι καὶ νόησις αἰώνιος καὶ τάξις ἢ πρὸ τῶν τεταγμένων.