

A case for creationism: Christian cosmology in the 5th and 6th centuries^{*}

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As Christians, Muslims and Jews throughout the Middle Ages were struggling to come to terms with the ancient philosophical heritage, it seems always to have been the doctrine of the eternity of the world that posed the most formidable challenge. Most if not all Christian thinkers adhered to a literal interpretation of Genesis 1:1, according to which God, in the beginning, created heaven and earth. But they differed widely on the question as to whether or not it was possible to demonstrate the truth of this belief by philosophical argument. The conflict between what we may call ‘rationalistic’ and ‘fideistic’ attitudes to this problem came to a head in Western Europe in the thirteenth century, when Aristotle’s arguments in favour of eternity became a focus of attention.¹ The brightest luminary on the thirteenth-century horizon, Thomas Aquinas, denied the possibility. In the end it was his opinion that carried the day. According to Thomas, there will always be equal arguments for and against a beginning of the world; the fact that there was a beginning is something we learn only from revelation; it is, in Thomas’ parlance, an article of faith (*Summa theologiae* 1^a, q. 46, a. 2). This opinion became predominant also in modern philosophy. When it was reformulated as the First Antinomy of Reason in Kant’s *Kritik der reinen Vernunft*, and the assertion as well as the denial of a beginning were declared to violate the necessary conditions for any possible experience, the debate between creationists and eternalists was finally laid to rest.² And cosmology was handed over to the scientists.

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¹ I take a ‘rationalistic’ attitude in this context to involve not the strong view that *only* rational argument can satisfactorily solve the problem, but the weaker view that rational argument *can* satisfactorily solve the problem.

² ‘Creationism’ is used in this paper for the reasoned belief that the world has at some point begun to exist, both as to its present structure and as to its matter (it was created ‘post nihil’); conversely, ‘eternalism’ will be used without qualification for the reasoned belief that there has been no such beginning. Note that most late antique and medieval thinkers will distinguish the sort of eternity intended by this belief (infinite temporal duration, often called perpetuity or sempiternity) from ‘eternity proper’ (‘the possession of interminable life, all at once and completely’, to quote Boethius (*Cons.* 5 prosa 6). See further below, p. 97.

Philoponus' rationalistic outlook

The opinion that there are equal arguments for and against a beginning of the world goes back to antiquity: it is reported by Philo of Alexandria (*Ebr.* 199) as well as by Galen (*Exp. med.* 19), and no doubt in other sources. But those who maintained that the belief in a beginning of the world *could* be satisfactorily defended by philosophical arguments were also able to rely on ancient predecessors. Usually they would rely, directly or indirectly, on John Philoponus, and more specifically on his three works on the eternity of the world, in which he made a concerted effort to argue philosophically in favour of creationism.³

Only one of these works, the earliest, survives practically in its entirety. It is known as *De aeternitate mundi contra Proclum* (or *Contra Proclum* for short). It consists of a detailed refutation from philosophical—as opposed to scriptural or patristic—premises of the Platonic Successor Proclus' eighteen arguments in favour of eternalism. It is dated by the author to AD 529, the very year that Justinian enforced the closure of the school of philosophy at Athens.⁴ The second work (*Contra Aristotelem*) was a refutation of Aristotle's arguments in *De caelo* 1 and *Physics* 8. It is partly known through quotations and reports in Simplicius' commentaries on the relevant Aristotelian works.⁵

³ There is some uncertainty as to the number and contents of Philoponus' non-extant works on the eternity of the world. The Arabic bibliographies distinguish clearly between a refutation of Aristotle in six books and a shorter treatise 'showing that every body is finite and has finite power' (Davidson 1969: 359). Thus, the shorter treatise seems to have been closely related if not identical in content to the (probably independent, see Davidson 1969: 358–59) work reported by Simplicius at *In Phys.* 1326.37–1336.34. Similar content is also found in the second part of the first chapter of the Arabic summary of *De contingentia mundi*, which certainly must have been an independent work. Thus, it has been suggested that the work reported and discussed by Simplicius at *In Phys.* 1326.37–1336.34 is in fact identical to (the first chapter of) *De contingentia mundi* (Pines 1972: 341). On the other hand, towards the end of Simplicius' reports and discussions of the sixth book of *Contra Aristotelem*, 'which tries to eliminate the eternity of motion so that there can be no proof of the eternity of the world based on it' (1182.28–30; cf. 1118.4–7), beginning at 1129.29 and seemingly continuing until 1182.27 (frs VI/108–33 Wildberg), we find an extended passage (1178.5–1179.26) that closely parallels the first part of the first chapter as well as the third chapter of the Arabic summary. If this passage was indeed part of the sixth book of *Contra Aristotelem* (it is included as fr. VI/132 by Wildberg), it is clear from the way it is introduced by Simplicius (ibid. 1178.5–9) that it was set apart from the preceding refutation of Aristotle's arguments as a positive demonstration of the impossibility of a movement without beginning, in much the same way as *De contingentia mundi* is introduced as the demonstrative complement to *Contra Proclum* and *Contra Aristotelem* (Pines 1972: 321–22; see also n. 8 below).

⁴ Literally to the year 245 after Diocletian's accession (*Aet.* 579.14–16).

⁵ Fragments collected and translated in Wildberg (1987).

The third work (*De contingentia mundi*) is only extant in the form of an Arabic summary (which is probably a translation of a Greek summary).⁶ In its preface (which seems to have been translated more or less in unabbreviated form), Philoponus explains that he has previously written works attempting to refute the sophistical arguments of Proclus, Aristotle and others in favour of eternalism, and that he now wishes to demonstrate his creationist thesis, since (as he says) the ‘perfect knowledge’ of things ‘which can (only) be known by syllogistic reasoning’ requires both the demonstration of the truth of the matter and the refutation of any sophistical arguments that have been employed to establish the contradictory of the truth.⁷ This seems to indicate that the two refutations and the demonstration were all part of a unified programme aimed at establishing first that creationism *can be* true and subsequently that it *must be* true.⁸

Perhaps we should pause here for a moment to ask ourselves how it can be possible at the same time to pursue cosmology as a demonstrative science and insist on the infallible truth of the Christian revelation—i.e. how to combine absolute rationalism and absolute faith. I can imagine at least two different ways of doing this. One is to subscribe to the notorious doctrine of the ‘double truth’: what is true in natural philosophy can be false in theology, and vice versa. This doctrine was condemned by the Bishop of Paris in 1277, but it is a moot point whether it really had any adherents.⁹ If it had, Philoponus was certainly not among them. Another possibility, and I think the one that Philoponus opted for, would be to assume that there can be no contradiction between natural philosophy—as correctly practised—and the Christian revelation—as correctly interpreted. We may call this a Harmony View of the relationship between natural philosophy and Christianity. Now, since all the Greek philosophers actually did contradict any historically conceivable interpretation of the Christian revelation on at least *some* points, an important corollary of the Harmony View for anyone writing in late antiq-

⁶ Pines (1972: 344 and n. 288).

⁷ I rely on the English translation by Pines (1972) as well as the French translation by Troupeau (1984). The quoted phrases are from Pines’ translation (1972: 322).

⁸ Cf. Philoponus, *Aet.* 9.20–10.2. A similar description of his three works in favour of creationism is given by Philoponus in the preface to *De opificio mundi* (1.6–14, where lines 1.7–13 seem to refer to the two refutations and lines 1.13–14 to *De contingentia mundi*). He goes on to explain that he has been ‘mildly rebuked’ for only having focussed on philosophical arguments and not having paid due attention to the words of Moses (*ibid.* 1.14–2.5). *De opificio mundi* is thus conceived of as the exegetical complement to the philosophical trilogy, purporting to show (often through allegorical interpretation) that the revelation of the Pentateuch does not disagree with ‘the phenomena’, i.e. with scientifically observable facts (*ibid.* 2.19–25; 6.19–24).

⁹ See Dales (1984).

uity or the Middle Ages will be that all the Greek philosophers made (philosophical) mistakes, which must be rectified. This is, I think, what *Contra Proclum* and *Contra Aristotelem* are all about. In order to carry out the first part of his programme and establish that creationism can be true, Philoponus needs to show that Proclus' and Aristotle's premises either do not support their conclusions or else are false. No doubt the main aspiration of the programme was to demonstrate the truth of creationism, by substituting the false premises with true ones and drawing the inferences correctly. But in so far as he was considered to have carried out this task successfully, Philoponus also managed, in the process, to vindicate natural philosophy and convince his readers of its fundamental solidarity with the Christian cause.

Philoponus' Byzantine legacy

The significance of Philoponus' arguments for the Islamic and Jewish cosmological traditions is well attested and well known.¹⁰ The arguments were partly transmitted via Islamic rationalist theology (kalām), and partly through Al-Kindī's works. From the Islamic and Jewish cosmologists they were picked up by Latin Christian philosophers and theologians.¹¹ What is probably less well known is that variants, or descendants, of some of these arguments are also well established in Middle and Late Byzantine textbooks and treatises on cosmology.

This is true especially of the argument known in the Arabic tradition as 'John the Grammarian's', for which our main source is the previously mentioned summary of *De contingentia mundi*, chap. 1. This argument is based on two propositions which Aristotle is supposed to have proved in the *De caelo* and the *Physics* respectively: (1) The world is a finite body, and (2) every finite body possesses finite power. From these propositions and the definition of 'finite power' as a power, the effect of which will eventually cease, it follows that the world is not eternal. The objection that the world may be sustained by infinite power deriving from an incorporeal source, namely the unmoved mover or God, is brushed aside by Philoponus as being irrelevant, since, as Aristotle would admit (*Cael.* 1.12, 281b20–22), a

¹⁰ See especially Davidson (1969) and (1987).

¹¹ To mention but the two most well-known examples, the argument from the impossibility of an actualized infinity, adumbrated by Philoponus at *Aet.* 9.20–13.11 and set out in further detail in book 6 of *Contra Aristotelem* (if this is the text reported by Simplicius, *In Phys.* 1178.5–1179.26) as well as in chap. 3 of *De contingentia mundi*, was known both to Thomas Aquinas, who rejected it (*Summa contra Gentiles* lib. 2, c. 38) and to Bonaventure, who accepted it as sound (*Comm. in Sent.* lib. 2, d. 1, p. 1, a. 1, q. 2).

world which has a natural potentiality for being destroyed must in the course of an infinite period of time at some point actually be destroyed. Thus it must also have come into existence in the beginning, according to the axiom (stated by Plato at *Phaedrus* 245d3–4 and argued by Aristotle in *Cael.* 1.12) that everything capable of being destroyed has necessarily come into existence.¹²

‘John the Grammarian’s argument’ is also reported by Simplicius (*In Phys.* 1327.11–1329.12), but it is entirely possible that it was first introduced in Middle Byzantine cosmology by way of the Arabic tradition. A slightly garbled version of it appears, together with a number of other arguments familiar from Philoponus’ works, in the *Conspectus rerum naturalium* (3.30) by Symeon Seth of Antioch, who is well known as a translator from Arabic in the latter half of the eleventh century. Symeon argues, in open contradiction to both Plato and Aristotle, that since the world is a body, and every body possesses finite power, it must also have a beginning and an end. To dispel any doubt that the power of the world is finite he adds, somewhat unconvincingly, that while the fixed-star sphere completes a revolution in twenty-four hours, it would have done so in less time had it had greater power.

‘John the Grammarian’s argument’ also appears in the works of John Italos, an approximate contemporary of Symeon. Thus we are told in his *Quaestiones quodlibetales* (71.28–42) that not only did Plato expressly teach that the world has had a beginning, even Aristotle implied as much, since it follows from his own proofs of the incorporeality of the first mover in *Physics* 8 that the world, being a body and thus necessarily finite and possessed of finite power, is not eternal.

The same argument was restated in Late Byzantium by Nikephoros Blemmydes, who took it upon himself, in his widely circulated *Epitome physica* (PG 142, coll. 1224B–1228D), to refute a number of arguments in favour of eternalism. He attributed these to the Peripatetic school, but seems in fact to have collected them, together with their refutations, from Philoponus’ works, mainly *Contra Proclum*.¹³ In support of the premise that the power of the world is finite Blemmydes referred to the impossibility of any part of a finite whole having infinite power, since this would entail that the whole has a power exceeding the infinite; but if the parts have finite

¹² The extensive reliance on this axiom and its converse (for which see below, pp. 94–95) and its consequences for Christian cosmology and psychology in late antiquity (especially in the works of Aeneas of Gaza and John of Scythopolis) is explored in Krausmüller (2009).

¹³ For details, see Bydén (2003: 182–84 and notes).

power the finite whole must have so too (coll. 1225B–E). Variants of ‘John the Grammarian’s argument’ may also be identifiable, in different stages of degeneration, and probably deriving proximately from Blemmydes, in Nikephoros Choumnos’ *On the Nature of the World* (c. 1315) and Nikephoros Gregoras’ *Florentius* (probably written in 1337).¹⁴

It is striking that most of these writers do not only owe their arguments in favour of creationism to Philoponus, but in addition share his rationalistic approach to the problem under discussion. Indeed, the essential harmony between natural philosophy and Christianity seems to be taken for granted by the majority of Byzantine cosmological writers. Symeon Seth, for instance, who explains in his preface that he wants to present more than a mere doxography, by giving demonstrative proofs of the true opinion on each subject (*Consp.* 1.1–9), for the most part argues in favour of the Aristotelian-Ptolemaic world view, except when it comes to eternalism and a few other doctrines difficult to reconcile with the Christian faith, which he takes pains to argue against.¹⁵ Blemmydes’ *Epitome physica* is a work in much the same vein as Symeon’s *Conspectus*, only on a rather more encyclopaedic scale, exhibiting the same overall adherence to the natural philosophy of Aristotle and his commentators, revised in theologically sensitive areas with the help of philosophical arguments, drawn not only from Philoponus but also from the Stoic Cleomedes and others. Similarly, Choumnos begins his treatise by declaring his bold ambition to settle the debate on the nature of the world by proceeding demonstratively from securely established principles and definitions, such as are agreed upon by everyone, and continues by blending arguments in favour of Aristotle and Ptolemy with arguments against them, whenever this is required for the defence of the Christian doctrine.¹⁶ Gregoras, on the other hand, was alto-

¹⁴ Choumnos in Sakkalion (1890: 76.12–20); Gregoras, *Florentius*, 1487–97. It is, however, entirely possible that Gregoras is reasoning independently on the basis of Aristotle’s *De caelo*, whereas Choumnos may be developing a point in Ps.-Justin, *Confutatio dogmatum quorundam Aristotelis* (130C), which is probably somewhat earlier than Philoponus’ works (see below, n. 30).

¹⁵ In *Consp.* 29, he argues that the heavenly spheres and bodies can have no souls, since they are simpler and thus less ‘organic’ than the bodies of plants, which have only one soul faculty. In *Consp.* 37, he denies that the heavens are composed of a fifth body, on the grounds that the arguments of those (Plato, Proclus and Philoponus) who think it is composed of the finest part of the four elements, especially fire and air, are stronger. In *Consp.* 43, he suggests that the astronomical hypotheses of epicycles and eccentrics are unnecessary, since they were introduced in order to avoid having to ascribe retrograde motions to the planets, considered by the Greeks to be gods (and thus unworthy of such motions).

¹⁶ For Choumnos’ prefatory declaration, see Sakkalion (1890: 75.14–23).

gether more sceptically—and fideistically—inclined.¹⁷ In any case, it does not seem exceedingly far-fetched to hypothesize that the conviction that the view of Genesis 1:1 admits of proof by philosophical argument was spread to the Byzantine world from the same source that provided the standard philosophical arguments in favour of the selfsame view, namely Philoponus' works on the eternity of the world.

Creationism and Christianity

It should be noted that the fact that Philoponus considered the problem as to whether or not the world has had a beginning to admit of resolution by rational argument does not in any way imply that he regarded the outcome of the argument as indifferent from the point of view of his Christian faith. It may seem superfluous to mention this, but it has in fact been claimed in recent years that 'Philoponus' rejection of Proclus' arguments is motivated by philosophy, not Christianity'.¹⁸ For a number of reasons, I think this claim is wrong. It is certainly not supported by the circumstance that Philoponus fails to make use of any specifically Christian premises in his refutation of Proclus. A refutation is a dialectical exchange. It has to start out from premises that the opponent accepts, otherwise it cannot reach its goal. A philosophical demonstration, on the other hand, such as Philoponus seems to have attempted in *De contingentia mundi*, must start out from premises that are (as Aristotle says in the *Topics*) true and primary, and that anyone with any philosophical understanding will accept.

One reason—albeit by no means a decisive one—for thinking that the claim about Philoponus' motivation is wrong is that it is highly unlikely that any Greek Christian writing on cosmology in the sixth century would deny that the world—its structure as well as its matter—has had a beginning. It is sometimes asserted that creationism has never been a unanimous view among Christians. The reality, for once, seems less complicated. It is true that a clear and consistent orthodox position on the issue seems to have been arrived at only through the confrontation with various forms of Gnosticism espousing eternalism in the course of the second century.¹⁹ But after that it was, as far as I can see, universally adopted. The four examples occasionally cited as evidence for late antique Greek Christian belief in the eternity of the

¹⁷ For Gregoras' epistemology, see Bydén (2012).

¹⁸ '[T]here is no evidence that Philoponus brought his Christian beliefs to bear on philosophy. Indeed, the evidence is all the other way: he apparently did not bring his Christianity to the banquet of philosophy' (Lang & Macro 2001: 12).

¹⁹ See the classic study by May (1978: 151–84).

world, namely a passage in Nemesis (late fourth century), one in Synesius (AD 409), one in Ps.-David or Elias (late sixth century), and one in Ps.-Philoponus or Stephanus (early seventh century), are all of dubious relevance.

To begin with Nemesis (*Nat. hom.* 2.31.8–16), who dismisses as irrational Eunomius' view that the world will be destroyed as soon as it has been completed, it is not to the idea that the world will be destroyed that he objects. It is to the idea that the world has not yet been completed, which bears no direct relation to the question of the eternity of the world, either a *parte ante* or a *parte post*.

Synesius (*Epist.* 105, 87–88) does indeed state his conviction that the world will never be destroyed. He does not, however, claim that this is a Christian view. On the contrary, he mentions it as an example of the discrepancy between his own, philosophically induced, opinions and those accepted by the Church, which makes him hesitant to take up the bishopric that has been offered to him. If anything, then, the passage is indicative of the fact that Christians and pagan philosophers in the early fifth century were strongly committed to contradictory positions.

Next, ?Elias (*In Cat.* 187.6–7) explains that the parts of a continuum have to be taken potentially and not actually, for otherwise, he says, 'the definition will be destructive', adding, parenthetically, that 'we will also make the heavens, being continuous and impassible (συνεχῆ ὄντα καὶ ἀπᾰθῆ), destructive and divisible'. It is difficult to understand what this is supposed to mean, and possibly the text is corrupt. In any case, this casual remark, made in the course of a lecture on elementary logic, is hardly sufficient to label the author as an eternalist, especially since the participle is not necessarily factive (it may have conditional force).²⁰

Much the same can be said of Ps.-Philoponus (?Stephanus, *In De an.* 540.24–28), who simply reports some anonymous people contending that in the world as a whole no temporal priority obtains between actuality and potentiality, for *if* the world is eternal, as Aristotle believes, they must be simultaneous; the author aptly compares the problem to the conundrum about the hen and the egg.

So much for the evidence of Greek Christian belief in the eternity of the world from the third century onwards. It is not even clear whether any eternalists could be recruited from among the ancient Latin Christians.

²⁰ Of course, it is not sufficient to label him as a non-eternalist either, so it cannot be used to establish the author's religious persuasion (his Christianity has been called into question by Wildberg 1990: 42–45).

Boethius' *Consolation of Philosophy* Book 5, Prose 6 has often been adduced as an example, but Richard Sorabji has pointed out, rightly to my mind, that '[t]he lack of a beginning or end is put forward as a *hypothesis* of Aristotle and Plato' without being clearly endorsed by Boethius (1983: 196 n. 28).²¹

Another reason—and a more important one—for doubting the claim that the motivation for *Contra Proclum* was unrelated to Philoponus' Christian faith is that it seems unlikely that any Greek *non-Christian* writing on cosmology at this time would deny that the world (even the present cosmic structure) is eternal.²² All known pagan philosophers in the fifth and sixth centuries pledged their allegiance to Plato.²³ And Platonists had always agreed that the perceptible world was created (γενητός), not only in the sense of being composite and thus necessarily involved in a process of coming-to-be and passing-away, but also in the sense that it was created by a cause.²⁴ For without a cause, Plato said in the *Timaeus* (28a), nothing can be created. They differed, however, as to whether or not this implied that the perceptible world had had a beginning. And again, they all held that the process of coming-to-be and passing-away unfolds in time, but they disagreed as to whether or not this meant that *time* had had a beginning.

The authoritative text on these questions was Plato's *Timaeus*. At first blush, the *Timaeus* would appear to answer them in a fairly unambiguous way: at 28b it is plainly stated that the cosmos, inasmuch as it is corporeal and therefore perceptible, did not always exist, but has come into being, beginning from some starting-point (γένεσθαι, ἀπ' ἀρχῆς τινος ἀρξάμενος). And at 38b it is explained that time came into being simultaneously with the

²¹ That is to say, the whole passage of Book 5, Prose 6, sects 10–14 is to be understood as an explication of *Plato's* view in support of Boethius' rejection (in sect. 9) of the attribution of the coeternity thesis to the Athenian philosopher.

²² I.e. in the sense of not having ever begun to exist (cf. n. 2 above). It is not at all unlikely that they would deny that it is eternal in the atemporal sense in which God is. For the distinction between perpetuity and eternity proper, see below, p. 97. Asclepius (*In Met.* 185.32–186.3) says (apparently reporting—ἀπὸ φωνῆς—Ammonius) that some people claim (φασι 185.32 and 186.1, in the latter instance changed into φησὶν by Hayduck) that Aristotle agrees with Plato (*Tim.* 41a–b) that the heavens are both in substance and in their activity destructible, but will be maintained forever since they emanate from the first principle. But later (*In Met.* 194.19–195.4) he explains that Aristotle and Plato considered that the heavenly bodies are indeed perpetual (αἰδία) and indestructible in substance, but not in their activity, and also not conceptually, since they are material and thus composite.

²³ I am not aware of any 5th–6th-century Greek writers on cosmology who were neither Christian nor pagan.

²⁴ See the synopsis of interpretative possibilities by Calvenus Taurus (fl. c. AD 140) apud Philoponum, *Aet.* 145.13–147.25.

heaven, in order that they may also be dissolved simultaneously, in so far as this will happen. But there is a complication: the account of the *Timaeus* is expressly said by the eponymous main speaker to lack in accuracy and consistency, since it is adapted to the capabilities of mortal men (29c–d). It is only a plausible story (an εἰκῶς μῦθος).

A non-literal interpretation to the effect that the *Timaeus* passages should not be taken to imply a beginning of the cosmos and of time was proposed already by Plato's second successor as head of the Academy, Xenocrates.²⁵ He was followed, not in the details of his interpretation but in his rejection of literalism, by the vast majority of Platonists for centuries to come.

Aristotle, as we have seen, took the account of the *Timaeus* at face value, and tried to refute it. In the early imperial period, Middle Platonists like Plutarch and Atticus also defended a literal interpretation;²⁶ but when the *Timaeus* became a set text in the Neoplatonic schools, around the turn of the third century, an exegetical orthodoxy insisting on eternal creation seems to have rapidly evolved. What Plato had meant, according to this orthodoxy, was simply that the perceptible world, being a composite thing, is the site of a perpetual process of coming-to-be and passing-away that is dependent for its continuation on a cause, which really *is*.²⁷ It has been suggested that the confrontation with Christianity was instrumental in the firm establishment of this interpretation.²⁸ Be that as it may: by the time the literal interpretation was subjected to Proclus' criticism in his commentary on the *Timaeus* and in his eighteen arguments in favour of eternalism, that is to say in the mid-fifth century, it had had no currency in Platonic circles for at least two hundred years.²⁹

In these historical circumstances, then, when every Christian cosmologist and no non-Christian cosmologist could be expected to defend creationism, it seems perverse to insist that the fact that Philoponus did so had nothing to do with his Christianity. It is exceedingly likely that Philoponus would not

²⁵ What the doctrine of creation was meant to suggest, according to Xenocrates, was rather that the complex structures of the world are always constituted by a disarray of primary elements (Aristotle, *Cael.* 1.10, 279b32–280a2 with Simplicius, *In Cael.* 303.32–304.15).

²⁶ Atticus, fr. 6 Baudry; Plutarch, *De an. proc.* 1014a–c; cf. Proclus, *In Tim.* 1, 276.30–277.7; 1, 381.26–382.4.

²⁷ According to Proclus (*In Tim.* 1, 277.8–17), Crantor understood γενητός in this context to mean 'derived from an external source', whereas Plotinus, Porphyry and Iamblichus took it to mean 'composite'. Proclus expresses his agreement with both parties, although his accounts of Plotinus' and Porphyry's views seem to be inaccurate (see Phillips 1997).

²⁸ See Niehoff (2007: 178–91).

²⁹ Note, however, that Atticus' exegesis of *Timaeus* 28b–d is quoted approvingly by Aeneas of Gaza in *Theoph.* 46.16–23.

have defended creationism had he not been a Christian. That is tantamount to saying that his refutation of Proclus was most probably motivated by his Christianity.

Indeed, as Michael Share has shown (2004: 4–6), there are passages in *Contra Proclum* that clearly imply that Philoponus saw himself in this work as the defender of the Christian truth. Moreover, as Share points out, some of these passages also show that Philoponus addressed himself at least partly to a Christian audience. This leads us straight to the question regarding the more specific purpose of *Contra Proclum* and the two other works. Why would Philoponus take the trouble to write detailed refutations of Proclus and Aristotle as well as a demonstration of the creationist thesis for the benefit of a Christian audience? After all, this audience would have precious little need for the ‘perfect knowledge’ described in the preface to *De contingentia mundi*, since it had already found the truth in the Bible. What, in short, may have compelled Philoponus to launch his rationalistic programme, and thus, accidentally, to shape the future of cosmology in the Middle Ages?

*Creationist works before Philoponus:
Aeneas, Procopius and Zacharias*

Some light on this problem might be shed by a few flashbacks to those works that were written in defence of creationism in the preceding couple of generations. For Philoponus’ arguments themselves have ancestors in a small corpus of works from around the turn of the fifth century, which bear testimony to the Christian preoccupation with the question of the eternity of the world in the period between Proclus and Philoponus. Three of these works were written by three different authors associated with the flourishing city of Gaza. A fourth work that should probably be assigned to this period is a treatise known as Ps.-Justin, *Confutatio dogmatum quorundam Aristotelis*.³⁰

Of the three Gazan authors the eldest was Aeneas of Gaza (c. 430–post 518), professor of rhetoric in his hometown and the author of a Plato-style philosophical dialogue called *Theophrastus* (after 484).³¹ This work is

³⁰ On the *Confutatio*, see Boeri (2009). Note that while Ps.-Justin expressly rejects the rationalistic approach to creationism in his preface (col. 110C–E), Boeri makes a convincing case for regarding his programme as in effect rationalistic in spite of this (2009: 100–113; 131–35).

³¹ On the *Theophrastus*, see Champion (2011); Krausmüller (2009: 54–58); Wacht (1969). An English translation for Duckworth’s Ancient Commentators on Aristotle series by Sebastian Gertz, John Dillon and Donald Russell has been announced (2012).

primarily concerned with questions pertaining to the individual human soul, its pre-existence (which is denied) and its immortality (which is affirmed). It also enters into details on matters of eschatology, but deals with the eternity a parte ante of both matter and the present cosmic structure in a more perfunctory way (43.22–48.17). The two characters of the frame dialogue are said to have been students of Hierocles at the Platonic school of Alexandria, and even if this does not prove anything about Aeneas' own education, it is clear that he was conversant with some of Hierocles' works.³²

The second Gazan creationist is Procopius of Gaza (c. 465–529), who also became a professor of rhetoric in his hometown after studying in Alexandria. Procopius was not, as some scholars have believed, the author of a refutation of Proclus' *Elements of Theology*, which has been shown to be a work of the twelfth century.³³ But he was the author of a commentary on Genesis (*PG* 87a, coll. 21–512), and the reason for mentioning him here is that he devoted a section of the introduction to this commentary (coll. 29A–33B) to deducing a number of allegedly absurd or impossible consequences from the view that the creation is coeternal (συνᾶιδιος) with the creator, which he ascribed to the Greek philosophers.

As we shall see, the view that the creation is coeternal with the creator is in fact not found in any ancient pagan philosophers. But it is ascribed to them not only by Procopius, but also by many other Christians, including Procopius' contemporary fellow Gazan Zacharias (465/6–post 536), who earned his epithet Scholasticus by writing an ecclesiastical history covering most of the latter half of the fifth century. Some scholars think he was in fact Procopius' brother.³⁴

Like his older compatriot Aeneas, Zacharias composed a dialogue, the *Ammonius*.³⁵ In this dialogue the question of the eternity of the world is discussed at length. The action is partly set in the lecture room of Ammonius Hermiae, the former student of Proclus and future teacher of Philoponus, at the Platonic school of Alexandria. To all appearances it draws on personal experience, even though it borrows a couple of arguments from Aeneas, and others, as we shall see, from other literary sources. In his early student years

³² Cf. Schibli (2002: 12 and n. 43).

³³ The author's name is Nicholas, Bishop of Methone. On his refutation of Proclus, see Angelou (1984).

³⁴ Summary of the debate in Minniti Colonna (1973: 18–20).

³⁵ The standard work on the *Ammonius* is still Minniti Colonna's edition with introduction, commentary and Italian translation (1973). An English translation for Duckworth's Ancient Commentators on Aristotle series by Sebastian Gertz, John Dillon and Donald Russell has been announced (2012).

Zacharias belonged to the *philoponoι* of Alexandria, a brotherhood of zealous laymen, whose ‘favorite task’, in the words of Frank Trombley (1993–94: 2:1), ‘was monitoring the activities of the pagan professors for sacrifice and other cult practices’. He later studied law at Beirut and practised it in Constantinople, until he was appointed bishop of Mytilene sometime before 536.

The thesis argued in the *Ammonius* is stated in the subheading:

The world is not coeternal with God but is in fact His creation, which, having begun from a temporal starting-point, is also destroyed whenever it occurs to the Creator to transform it, and the principle of the goodness of God is in no way vitiated by this thesis (*Amm.* 1–5).³⁶

Before I go on to discuss the arguments presented pro and contra this thesis, let me say a few words about the overall structure of the work. The frame dialogue is set in Beirut. A former student of Ammonius has just arrived from Alexandria to study law. Another former student of Ammonius, who is a Christian (and is identified in the preamble, *Amm.* 11–12, as the author himself), recounts to him two conversations between himself and their common teacher on the question of the eternity of the world. The first is said to have taken place during a class on Aristotle’s *Physics* (Book 8, apparently) and the second a couple of days later during a class on the *Ethics* (Book 1, chapter 6, apparently). Sandwiched between these conversations is a report of a discussion in the Temple of the Muses between the Christian and Ammonius’ brightest student, the aspiring physician Gesius. Gesius too is a historical figure, in fact a friend and correspondent of Aeneas and Procopius, who indeed lived to become one of the most celebrated medical teachers of his day.³⁷ In the final part of the frame dialogue the Christian’s interlocutor raises the interesting question as to why the world was not created indestructible from the outset and the pagan and Christian positions are then summarized.

Zacharias was apparently as convinced as Philoponus about the demonstrability of Christian creationism. At one point his alter ego completely loses patience with the pagan philosophers who

assume that Christianity is only protected by the faith, and does not in addition take joy and pride in incontrovertible arguments and demonstrative necessities, on account of

³⁶ ὅτι οὐ συναΐδιος τῷ θεῷ ὁ κόσμος, ἀλλὰ δημιούργημα αὐτοῦ τυγχάνει, ὃ ἀπ’ ἀρχῆς χρονικῆς ἀρξάμενον καὶ φθείρεται, ὅταν παραστῆ τῷ δημιουργήσαντι τοῦτο μεταποιῆσαι· καὶ οὐδὲν ἐκ τούτου ὁ τῆς ἀγαθότητος τοῦ θεοῦ βλάπτεται λόγος ...

³⁷ On Gesius, see Watts (2009).

being the only religion that expresses and clothes itself in true belief, pure ratiocination and demonstration based on the laws of reason and the actual facts (*Amm.* 148–53).³⁸

In the main part of the dialogue there are basically two arguments against creationism advanced by ‘Ammonius’ and five by ‘Gesius’. One of ‘Gesius’ arguments is in effect identical to one of ‘Ammonius’. So in total we are offered six arguments against creationism. With a bit of good will I think it is possible to identify five of these as variants of arguments found also in Proclus’ defence of eternalism, as quoted by Philoponus.³⁹ ‘The Christian’ attempts to refute all of them; his refutations sometimes prompt defences from ‘Ammonius’ and ‘Gesius’, which are then in turn responded to. In addition, four positive arguments in favour of creationism are offered by ‘the Christian’.⁴⁰ Two of these, to which I shall come back, turn partly on the notion of coeternity mentioned above.

The historicity of the Ammonius

Some scholars have suggested that Zacharias’ dialogue may serve as a complementary source for the philosophy of the historical Ammonius. One of the earliest and most assertive of these scholars was Pierre Courcelle, who believed that the discussions reported by Zacharias actually took place in the summer of 486 or 487.⁴¹ In a somewhat more reflective vein, Philip Merlan

³⁸ ... οἰόμενοι τὸν Χριστιανισμόν μόνῳ τῷ πιστεύειν τειχίζεσθαι, καὶ μὴ πρὸς τούτῳ λόγοις ἀφύκτοις καὶ ἀποδεικτικαῖς ἀνάγκαις ἐπιγανύσκεσθαι τε καὶ ἀβρύνεσθαι, ὡς μόνην εἶναι ταύτην εὐσέβειαν τὴν πιστεῖ ἀγαθῇ καὶ λογισμοῖς ἀκιβδηλοῖς καὶ ἀποδείξει ταῖς διὰ τῶν λόγων καὶ ταῖς δι’ αὐτῶν τῶν πραγμάτων ἐπανθοῦσάν τε καὶ καλλυνομένην.

³⁹ With ‘Ammonius’ 1 (*Amm.* 106–13; 131–43) cf. Proclus 1 and 6 (see below); with ‘Ammonius’ 2 (*Amm.* 117–26; 1078–83) cf. Proclus 3 and 16; with ‘Gesius’ 1 (*Amm.* 368–460) cf. Proclus 3 (and Aeneas, *Theophrastus* 43.23–24); with ‘Gesius’ 2 (*Amm.* 553–61) cf. Proclus 5; with ‘Gesius’ 3 (*Amm.* 576–82) cf. Proclus 1 and 6; with ‘Gesius’ 4 (*Amm.* 730–34) cf. Proclus 1 and especially Augustine, *Civ. Dei* 12.15.1 and *Trin.* 5.16; with ‘Gesius’ 5 (*Amm.* 896–902) cf. Basil, *In Hex.* 1.3.9–11.

⁴⁰ (1) Argument from the nature of the world: the world consists of destructible parts (*Amm.* 203–7; 658–67; 931–36; see also the appeal at 1290–92 to the principle that what is composite must be dissolved, found in Plato, *Phaedo* 78c and Aristotle, *Metaph.* 14.2, not entered in Minniti Colonna’s apparatus fontium). Cf. Aeneas, *Theophr.* 48.12–17 and Basil, *In Hex.* 1.3.25–32; (2) Argument from the nature of god: axiological priority entails temporal priority (*Amm.* 516–20; 958–68); (3) Argument from the nature of god: productively causal priority entails temporal priority (since productive causation involves volition and the will to create must be temporally prior to the act of creation) (*Amm.* 754–58; 778–89; 1028–74); (4) Argument from the nature of god: unique attributes (*Amm.* 1005–23).

⁴¹ Although he qualified his position: ‘Il ne faudrait pas croire que tout est historique dans ce récit; l’intention apologétique y est trop évidente ...’ (1935: 216). Arguably Siniossoglou (2005) goes even further than Courcelle, relying as he does on Zacharias as a direct source for Ammonius’ views (repeatedly cited as ‘Ammonius *ap.* Zacharias’) without

assumed that Zacharias' dialogue was 'essentially historic' and that 'Ammonius ... actually and in essence professed the doctrines ascribed to [him] by Zacharias' (1968: 194). On the strength of this assumption he went on to draw some fairly far-reaching inferences, as for instance that Ammonius had not recognized the first absolutely transcendent hypostasis of orthodox Neoplatonism (the One), but regarded the second hypostasis, which he identified with both the Aristotelian Intellect and the Platonic Demiurge, as the supreme deity, the productive as well as final cause of the perceptible world.⁴² These inferences were in turn taken by Merlan to corroborate Karl Praechter's thesis that the Alexandrian school of Neoplatonism differed markedly from the Athenian school in emphasizing its Aristotelian elements and even accommodating itself to Christianity (1968: 199–201).

Many objections have been raised to Praechter's thesis in recent years. Concerning Ammonius it was pointed out by Koenrad Verrycken that the subject matter of Zacharias' dialogue is natural philosophy rather than theology, and that for this reason we should not expect to find any internal articulation of the divine creative principle in it. As Verrycken said, even Proclus nowhere in his eighteen arguments in favour of eternalism speaks of the first hypostasis, but this has not led anyone to conclude that he did not recognize it. Ammonius' adherence to the orthodox Neoplatonic account of three hypostases, the One, Intellect and Soul, is well attested in other sources. The moral is that Zacharias' dialogue should not be used as evidence for Ammonius' theology (1990: 210–12).

Verrycken did not, however, question the historicity of Zacharias' dialogue.^{42bis} Now, if Merlan's and others' assumption that the dialogue is 'essentially historic' stands up to scrutiny, this means that we will still be entitled to draw inferences concerning Ammonius' natural philosophy from it, even if not concerning his theology. But if the assumption proves unfounded, any inferences concerning Ammonius' natural philosophy are of course equally unwarranted. And since such inferences have in fact been drawn, I think it would be useful to subject the assumption to scrutiny.

any hint that this may be methodologically problematic.

⁴² Ammonius' identification of the productive and the final cause of the world is evidenced in other sources (Simplicius, *In Cael.* 271.18–21; *In Phys.* 1363.8–12). See below, n. 44.

^{42bis} This paper was already prepared for print when I was made aware of Verrycken (2001), in which the historicity of the *Ammonius* is indeed questioned. Some of the arguments and many of the conclusions in that paper have their counterparts in this one. My heartfelt thanks to Sebastian Gertz for the reference.

The arguments of the Ammonius

Let us first try to see to what extent the testimony of other sources lends support to Merlan's assumption. It will be found, I think, that some of the statements attributed to 'Ammonius' and 'Gesius' in Zacharias' dialogue may well correspond more or less accurately to the views of their historical namesakes. 'Ammonius'' insistence that Plato and Aristotle are in agreement on everything, even on the theory of Forms, is a case in point.⁴³ Similarly, the repeated assertion that God is a productive cause may reflect the historical Ammonius' preoccupation with showing that Aristotle's unmoved mover, despite appearances, is a productive cause.⁴⁴ Much the same can be said of 'Ammonius'' first argument against creationism. It combines elements from Proclus' first and sixth arguments in favour of eternalism with some other material in a rather interesting way.

Let me first recapitulate Proclus' first argument. It is based on assumptions about the nature of the creator as well as that of his creation, the world. Both the creator and the world are good. If the creator is eternally so and in addition omnipotent, it follows that he has always been both willing and able to ensure that the world exist. If he had not, he would also have been subject to change. But he cannot have been subject to change, so the world must always have existed.⁴⁵

In his sixth argument, Proclus assumes, on the authority of the *Timaeus* (41a–b), that only the creator can dissolve the world. On the other hand, only an evil power will dissolve something good. The world is good. And the creator is also good. Therefore the world will not be dissolved by anyone. What will not be dissolved is indestructible. Therefore the world is indestructible. But by the axiom stated by Plato at *Rep.* VIII 546a2 and argued

⁴³ *Amm.* 946–52. Cf. Asclepius, *In Metaph.* 69.17–27.

⁴⁴ See especially *Amm.* 958–1056. Cf. Ammonius apud Simpl. *In Phys.* 1363.8–13; cf. *In Cael.* 271.18–21. However, in the discussion with 'Gesius' (*Amm.* 490–504), Zacharias makes it clear that he considers the pagan concepts of 'creation' and 'production' as being concerned with the imposition of form and order on preexisting matter rather than with the bringing forth of substances, contrary to the historical Ammonius' view as reported by Simplicius (*In Phys.* 1363.2–8). In the same vein, Zacharias depicts 'Ammonius' as being ignorant of the Neoplatonic distinction between proper, cooperative and instrumental causes at *Amm.* 209–30 (cf. Sorabji 1983: 305–6).

⁴⁵ Proclus' first argument and part of Philoponus' reply to it went missing from the archetype (Marc. gr. 236, 9th–10th cent.) before the oldest extant descendant (Par. gr. 2058, 15th/16th cent.) was copied, but an Arabic translation of precisely this part of the text survives. An English translation by Peter Adamson will be found in Share (2004); another, by John McGinnis, in Lang & Macro (2001).

by Aristotle in *De caelo* 1.12, what is indestructible must also be uncreated. Therefore the world is eternal, a parte post as well as a parte ante.⁴⁶

Let us now compare this with ‘Ammonius’ first argument in Zacharias’ dialogue, which is as follows (*Amm.* 102–13; 127–43): Assuming that the world is good and the creator is good, how could the world come to an end? Would it be (a) contrary to the creator’s wish or (b) in accordance with it? If (a), then god is impotent. But if (b), then why would the creator wish to destroy something good? Three possibilities are considered. (i) Perhaps it is in order to create something better? Impossible ex hypothesi (the world is the best of created things). (ii) Perhaps it is in order to create something worse? Blasphemy! (iii) Perhaps, then, to create something equally good? That would be otiose. So if god is not impotent, evil, or simply frivolous, the world cannot come to an end. And if it cannot come to an end, then by the Platonic and Aristotelian axiom it cannot have come into being either.

Like Proclus’ sixth argument, then, ‘Ammonius’ first argument sets out first to establish the impossibility of an end to the world and then infers the impossibility of a beginning by the Platonic and Aristotelian axiom. Like Proclus’ first argument, it is based on the divine attributes of goodness and omnipotence (to which ‘Ammonius’ adds seriousness). Since it seeks to establish the impossibility of a beginning of the world only indirectly (via the Platonic and Aristotelian axiom) it can dispense with the attribute of changelessness added for good measure by Proclus. In his second argument (*Amm.* 115–26; 1078–83), ‘Ammonius’ in fact proceeds to argue directly from the changelessness of the creator to the impossibility of a beginning, noting in addition that if the creation of something good requires a change of mind on the part of the omnipotent creator, the creator must previously have been either ignorant of what is good or unwilling to promote it. ‘The Christian’s’ reply to this is the classic reply found in (e.g.) Augustine: willing a change is not the same thing as changing one’s will.⁴⁷ So the changelessness of the creator is not imperilled by creationism.

So far, ‘Ammonius’ first and second arguments seem, on the whole, historically plausible. The three possible explanations for the creator’s wish to destroy the world that he examines (i–iii above) may however be a cause for suspicion. This trilemma seems to have no parallel in any of Proclus’ arguments; on the other hand, it follows rather closely an argument reported

⁴⁶ Apud Philoponum, *Aet.* 119.13–120.14.

⁴⁷ ‘... aliud est mutare voluntatem; et aliud est velle aliquarum rerum mutationem’, Thomas Aquinas, *Summa theol.* 1a, q. 19, a. 7 co. Cf. Augustine, *Conf.* 11.10; 11.30; 12.15; 12.28; *De civ. Dei* 11.4; 12.15; 12.18.

by ?Philo of Alexandria (*Aet.* 39–44).⁴⁸ As it turns out ‘the Christian’ actually attempts to disarm ‘Ammonius’ first argument by insisting that the creator can and will create something better (that is to say, by embracing the first horn of the trilemma).

The assertion that the best of created things cannot be bettered might look a bit too mindless to be fathered on a famous philosopher. But perhaps Zacharias is only a trifle unfair. Perhaps the historical Ammonius based his argument on the less vulnerable premise that the world is not only the best thing there actually is but the best there can possibly be. Or he might have pointed out, with ?Philo’s source (*Aet.* 43), and in the spirit of Proclus’ first argument, that the possibility now to create something better would imply a previous lack of either goodness or ability on the creator’s part. Be that as it may: there are other arguments in the dialogue which are unlikely to have been put forward by any Platonists in Zacharias’ time, and which appear to serve the primary purpose of providing cues for Christian catch-phrases. I will give a few more examples below.

Coeternity

But for the time being, let us move on to have a look at some of the inferences that have been drawn specifically about Ammonius’ natural philosophy. One of these is, not unexpectedly, that Ammonius believed in the coeternity of the world and its creator. As we saw, this thesis, stated in the subheading of the dialogue, is the primary target of Zacharias’ attack. Indeed, it is either expressed by the character ‘Ammonius’ himself or ascribed to him by his Christian interlocutor more than a dozen times in the dialogue.⁴⁹

It should be noted to begin with that there is no independent evidence of such a belief on the part of the historical Ammonius. And on the face of it, it does not seem very likely that the coeternity thesis would have recommended itself to any Neoplatonist. One reason is that it would probably appear to them to have exactly the sort of implications that it seemed to Zacharias to have: if the world and its creator share in the same eternity, they must also be equal in honour (ὁμότιμοι).⁵⁰ If not in any other respect,

⁴⁸ On the question of the authenticity of this dialogue, see Runia (1981), who is in favour, and Skarsten (1987), who is against.

⁴⁹ It is stated by ‘Ammonius’ at *Amm.* 955; 1033–34; 1062–63; 1078–79; and by ‘Gesius’ at *Amm.* 525–26.

⁵⁰ *Amm.* 516–17; cf. *Amm.* 991; 1286–90; 1360–62.

then at least in terms of seniority. But God must be superior to the world in every respect (*Amm.* 953–94). Any Neoplatonist would readily admit that.⁵¹

The Neoplatonists, at least from Proclus onwards, made a clear-cut and explicit distinction between sempiternity (or perpetuity), ἀιδιότης κατὰ χρόνον, which is the infinite progression in time of the sensible world, and what we may call eternity proper, αἰώνιος ἀιδιότης, which is the timeless *now* characteristic of the intelligible world.⁵² This distinction is ubiquitous in the medieval Latin tradition thanks to Boethius, who famously employed it in the last book of the *Consolation of Philosophy* to resolve the apparent contradiction between divine omniscience and human free will.

We know from Ammonius' commentary on *De interpretatione* 9 that his position on omniscience and free will was fairly close to that of Boethius.⁵³ Therefore, it is tempting to quote the last book of the *Consolation* on his behalf:⁵⁴

When some people hear that Plato thought this world neither had a beginning in time nor will ever have an end, they mistakenly conclude that the created world is coeternal (*coaeternus*) with the Creator. However, to be led through the endless life Plato attributes to the world is one thing; to embrace simultaneously the whole presence of endless life is quite another, and it is this latter that is proper to the divine mind (*Cons.* 5, *prosa* 6, *sects* 9–10; *trans.* R. T. Miller).

But this is not how the literary character 'Ammonius' responds. On the contrary, he is reduced to silence and finally seems to acknowledge that he has been refuted by 'the Christian' (*Amm.* 995–1002; 1092; 1126–27).

Evidently, then, the ascription of the coeternity thesis to Ammonius is suspicious. On closer inspection, the term συναίδιος and its cognates (returning more than 900 results in TLG) turn out to be exclusively restricted to Christian authors.⁵⁵ It seems likely that they were coined for a theological

⁵¹ Even in Zacharias' dialogue, 'Ammonius' as well as 'Gesius' deny that the world is equal in honour to God (*Amm.* 122–23; 524–26).

⁵² For Proclus, see especially *Inst. Theol.* 55.16–21. The distinction is prefigured in several earlier philosophers, most notably Plotinus (*Enn.* 3.7.5; cf. also Porphyry, *In Tim.* fr. 46.10–15 Sodano). In more inchoate forms it is found even in Aristotle (*Cael.* 1.9, 279a18–b3) and Plato (*Tim.* 38c1–3), on whom it is fathered by Boethius (*Cons.* liber 5, *prosa* 6, *sect.* 14).

⁵³ *In Int.* 132.8–137.11, esp. 136.1–25 on the gods' unitary, definite and immutable knowledge of things past and future.

⁵⁴ For another defence of the eternalist position in similar terms, see Simplicius' reply to 'John the Grammarian's argument' at *In Phys.* 1327.29–1328.35. Cf. also Thomas Aquinas, *Aet. mund.*

⁵⁵ Calcidius' report of Numenius, printed by des Places as fragment 52, is usually taken to be more or less literal, but the inference about the coeternity of uncreated matter with God may well be Calcidius' own: 'atque ita, quia generationis sit fortuna posterior, inornatum

context (the Son being coeternal with the Father). At any rate this is how they are used by the vast majority of authors. The first times they are used with reference to the coeternity between the world and its creator seem to be in a passage in Gregory of Nyssa (*Contra Eun.* 1.1.359.7) and, more importantly, in chapter three of Basil of Caesarea's first homily on the *Hexaemeron*.

There is every reason to think that Basil's first homily is in fact the source of the term in Zacharias (as it undoubtedly is in Procopius of Gaza's *Genesis* commentary). First and foremost, there are a number of other arguments in the *Ammonius* that are identical or at least very similar to arguments in this homily; in a few instances they are expressly credited to Basil (*Amm.* 662; 906; 1290). For instance, one of the four positive arguments in favour of creationism put forward by 'the Christian' (repeatedly: *Amm.* 203–7; 658–67; 931–36) is the following: everything composed of destructible parts is destructible as a whole; the world is composed of destructible parts; hence it is destructible as a whole; by the Platonic and Aristotelian axiom that what is destructible has also been created, then, the world has been created.

For all 'the Christian's' claims of irrefutability (*Amm.* 663–67), the argument is not strikingly cogent. Its first premise was denied in antiquity by Theophrastus (apud ?Philonem, *Aet. mund.* 143) as well as Galen (apud Philoponum, *Aet.* 592.5–7; 599.17–601.20), and its second premise would undoubtedly have been denied by the historical Ammonius, as it was by Proclus, who indeed based an argument in favour of the indestructibility of the world as a whole on the indestructibility of the heavens (apud Philoponum, *Aet.* 477.14–479.10). It is also, from a Neoplatonic as well as a Christian point of view, of dubious parentage, since it was probably first used by Epicurus (it plays a role in Lucretius, *De rerum natura* 5, 236–323). Still, as the Christian points out, it rests on patristic authority, for it is showcased in Basil's first homily on the *Hexaemeron*, chapter three.⁵⁶

The same is true of 'the Christian's' reply to 'Gesius'' final argument in Zacharias' dialogue. As 'Gesius' maintains, rather absurdly, that the spherical shape of the world itself precludes a beginning and an end, 'the Christian' sees his chance to quote Basil (*In Hex.* 1.3.9–11) to the effect that

illud minime generatum aequaeuum deo, a quo est ordinatum, intelligi debeat.'

⁵⁶ *In Hex.* 1.3.30–32. Cf. Lactantius, *Div. inst.* 7.1, col. 736A. The argument is reported by ?Philo, *Aet. mund.* 124. According to McDiarmid (1940: 243) it is 'undoubtedly Stoic or Epicurean'. Sedley (1998) thinks it is Epicurean (*On Nature* 10 or 11), the refutation reported at *Aet. mund.* 143 being by Theophrastus. Sharples (1998: 131–42) agrees with Sedley.

even a circle has a beginning, at the points, namely, where the geometrician's compasses are placed (*Amm.* 896–907).⁵⁷

In her edition of Zacharias' dialogue, Maria Minniti Colonna, who was well aware of the clear and express distinction between worldly sempiternity and divine eternity in Proclus, concluded that the thesis of the world's coeternity with its creator must probably have been original with the historical Ammonius (1973: 52). It should be said in all fairness that Minniti Colonna elsewhere wisely cautioned against taking all the arguments attributed by Zacharias to his teacher to reflect Ammonius' real views. But in this particular case she thought she had a good reason for relying on Zacharias. The reason was that the coeternity thesis also figures in Philoponus' *Contra Proclum*. And Philoponus, as we know, was also a student of Ammonius. Thus we would seem to have two independent witnesses in agreement.

Minniti Colonna's conclusion is, however, severely undermined by the uncertainty that surrounds the scope of the agreement as well as the degree of independence between Philoponus and Zacharias. To begin with, it should be noted that Philoponus never attributes the thesis to Ammonius. Indeed, Ammonius is never even mentioned in *Contra Proclum*. It is true that, when he first introduces the thesis, Philoponus does attribute it to some anonymous opponents (in the plural, like in the Boethius passage quoted earlier), and it may seem a natural inference that these are contemporary Neoplatonists, but the context suggests otherwise.

This context is related to those passages in the *Ammonius* in which Zacharias advances two positive arguments in favour of creationism turning on the notion of coeternity. So let us have a quick glance at these. The first argument comes in the conversation with 'Gesius' (*Amm.* 516–34). I have already alluded to it. If we grant that the world is coeternal with God, 'the Christian' says, then by the same token it will also be equal to Him in honour (ὁμότιμος). But equating the glory of the finite and perceptible world with that of the boundless and invisible nature would certainly be impious.⁵⁸ 'Gesius'' reply takes the form of a counterexample to the underlying assumption that all things contemporaneous (or coeternal) are also equal in honour: shadows are contemporaneous with the bodies that cast them, but

⁵⁷ For this argument, see also Wolfson (1966: 352–54).

⁵⁸ This argument seems to develop a train of thought in Basil, *In Hex.* 2.2: if uncreated matter existed it would be equal in honour (ὁμότιμος) to God, the thought of which is abhorrent. The description of the finite world and the boundless nature closely follows Basil's wording in *In Hex.* 1.3.25–29 (the very same passage in which the coeternity thesis is mentioned).

are also caused by them and on that account inferior in honour.⁵⁹ ‘The Christian’ retorts that a body may indeed be a cause of the shadow, but not the only cause—since there also has to be light—and, more importantly, not a volitional cause.

The assumption that God is a (productive and thus) volitional cause comes into play in the second argument. This argument is repeated with some variations a number of times (see above, n. 40), but I think the following (abridged) example, from the second conversation with ‘Ammonius’ (*Amm.* 1028–55), is sufficiently representative.

Chr. Do you think it is possible for simultaneously existing things to be each others’ productive causes?

Amm. Not at all.

Chr. Would you say that coeternal things are simultaneous?

Amm. Of necessity.

Chr. And the world is coeternal with God?

Amm. Indeed.

Chr. And God, you say, is the productive cause of the world?

Amm. Of course he is.

Chr. Well, can’t you see that this is impossible on your views, provided the world is not some sort of a shadow, or else is the effect of its cause either in the sense of a complement of a substance (like the sun’s radiance) or in the sense of being consubstantial with it (like the Son with the Father). But this cause is *productive*, and furthermore *conscious and volitional* (ἐμφρῶν καὶ προαιρετική). So one premise has to be rejected: either God and the world are not coeternal, or God is not the productive cause of the world.

Both of Zacharias’ positive arguments are clearly developments of Basil’s exegesis of the word ἐποίησεν in Genesis 1:1, in chapter seven of his first homily on the *Hexaemeron*. Basil’s point is precisely that this word is used in order to make clear that the world is in the strict sense a *product*, that is to say, a separate artifact brought forth by an act of will on the part of the artificer, wherefore it is also necessary for it to be posterior in time to the productive cause, since any effect simultaneous with its cause must necessarily be an involuntary effect, like a shadow or a shaft of light (*In Hex.* 1.7.12–26). Basil’s analogies (ὡσπερ τῆς σκιᾶς τὸ σῶμα καὶ τῆς λαμπηδόνος τὸ ἀπαυγάζον) are quoted word by word at *Amm.* 757–58.

If we now turn to the passage in which the coeternity thesis is first introduced in Philoponus’ *Contra Proclum* (*Aet.* 14.18–17.14), we shall find that

⁵⁹ ‘Gesius’ indicates that he has borrowed his counterexample (φασί, l. 522). Minniti Colonna in her apparatus fontium draws attention to Plotinus, *Enn.* 4.3.9; *ibid.* 6.3.7; Sallustius, *De deis et mundo* 7.2. See below, p. 102. Cf. also Aeneas, *Theophrastus* 45.21–46.16, part of which (46.2–5) is quoted verbatim in ‘the Christian’s’ reply.

Philoponus, too, is arguing that the analogies with shadows and light adduced by the proponents of the thesis fail conspicuously to show that the thesis is true. The difference between him on the one hand and Basil and Zacharias on the other is that Philoponus is not using the premise that volitional causes must be temporally prior to their effects, but the more general one that all positive effects, in so far as they are not part of the substance of their causes, must be temporally posterior to their cause. As for the analogies, he quickly dismisses the shadow as a merely negative effect, but argues at length that there are two kinds of light: that which coexists with the sun is part of the substance of its cause, the sun; whereas the kind of light that flows from the sun into the air can evidently be destroyed before the sun is, and thus it is also (temporally) pre-existed by the sun.⁶⁰

Apart from this, there are also certain features shared by the passages in Zacharias and Philoponus as against that in Basil. The immediate connection of the coeternity thesis with the two analogies is one such feature: in Basil (*In Hex.* 1.7.18–26.) the analogies are simply ascribed to ‘some of those who imagine that the world has co-existed with God from eternity’ (and if we are to take him strictly at his word these thinkers must have existed before Moses, since he is the one supposed to have chosen the word ἐποίησεν in order to correct their mistake). In addition, while Basil’s version of the analogy with the shaft of light speaks generally of its cause as ‘the source of radiation’ (τὸ ἀπαιγάζον, *In Hex.* 1.7.23), Zacharias identifies this source as the sun (*Amm.* 1042), whereas Philoponus speaks alternately of the sun and ‘the fire in our place’ (i.e. the terrestrial region), and completely avoids the Basileian terminology of ‘shaft of light’ (λαμπηδών) and ‘radiate’ (ἀπαιγάζω). More importantly, the distinction between the two kinds of simultaneous effects (negative ones and ones inherent in the cause) spelt out clearly by Philoponus is hinted at by Zacharias but completely absent in Basil.

Anyway: since the coeternity thesis is mentioned in another chapter of Basil’s first homily on the *Hexaemeron* and several of the arguments put forward by Zacharias’ characters are borrowed from this text, it seems plausible to think that the same text is also the source of the coeternity thesis in the *Ammonius*. Since Philoponus introduces the thesis without any mention of Ammonius, even though he connects it with the same analogies as does Zacharias, the assumption that his anonymous opponents are identical with

⁶⁰ In a decidedly more Neoplatonic spirit, ?Elias, *In Cat.* 120.16–19, refers to the analogy of the sun and its light in illustration of God’s non-temporal and causal pre-existence to the world (allegedly reporting Aristotle in the *Metaphysics*).

Ammonius is unnecessary and gratuitous. And since the thesis was never defended by any Neoplatonists, and furthermore conflicts with fundamental Neoplatonic views shared also by Ammonius, there is, in conclusion, no reason apart from Zacharias' attribution for thinking that Ammonius subscribed to it, and several reasons for thinking that he did not.

The mysterious proponents of the coeternity thesis referred to by Philoponus, if they have ever existed, are very probably older than Basil. Matthias Baltes claimed (1976: 163–69) that all three passages discussed above (and three others making use of the same or similar analogies) derived 'with certainty' from a lost work by Porphyry, perhaps his commentary on the *Timaeus*.⁶¹ I will not dispute the possibility that the examples of the shaft of light and the shadow were taken by Basil from a context in which Porphyry was trying to show that there is nothing to prevent a cause and its effect being simultaneous (like ?Elias in the passage cited above, n. 60, which is not discussed by Baltes), even if I doubt very much that Porphyry would have refused to admit that the world's coming-into-being issues from God (a refusal which Basil attributes to his source, *In Hex.* 1.7.19–20), or indeed that he would have conceived of the eternity of the world and that of God as being one and the same thing (a view which Basil, as we have seen, does not expressly attribute to his source, but Zacharias and Philoponus do).⁶² I do think, however, that it is beyond reasonable doubt that Zacharias took these examples, as he took the argument from the destructibility of the parts (and the refutation of the argument from the spherical shape of the world, and very probably many other things), from Basil. After all, he quotes his *ipsissima verba*. Thus, in so far as Philoponus agrees with Zacharias against Basil, this cannot be used, as Baltes seems to have thought, as evidence for the content of a common source, but rather indicates Philoponus' dependence on Zacharias.

The aim of Zacharias' and Philoponus' anti-eternalist works

Some degree of acquaintance with the work of Zacharias on the part of Philoponus is likely anyway. Edward Watts has suggested (2005) that the *Ammonius* was written especially for the needs of Christian philosophy stu-

⁶¹ The other passages discussed by Baltes are from Augustine, *De civ. Dei* 10.31, and Sallustius, *De deis et mundo* 7.2, in addition to Aeneas, *Theophr.* 45.21–46.16, mentioned above, n. 59. An interesting variation, not discussed by Baltes, is provided by Theophanes of Nicaea (d. c. 1381), who, while retaining some of Basil's (or rather Zacharias') language (ἀπασυγασμάτων), substitutes an analogy with reflections from lustrous bodies for that of shadows (*Apodeixis* 3; see Polemis 2000: 35*).

⁶² For the distinction in Porphyry, see *In Tim.* fr. 46.10–15 Sodano.

dents in Alexandria, who might have been so impressed by the personal authority of their Neoplatonic teachers that they were tempted to experiment with pagan worship. In order to forestall this, Zacharias is supposed to have tried to subvert the teachers' authority by portraying them in an unflattering way.

To my mind, this is in part, but only in part, a plausible suggestion. The plausible part is the idea that the dialogue was written for the needs of Christian philosophy students in Alexandria. My reservations have to do (1) with the fact that the stated purpose of the *Ammonius* is to counter eternalism, not pagan worship; and (2) with the possibility that Watts is underestimating the degree to which at least some of the arguments are seriously intended. For as we have seen, there are many details in Zacharias' portrayal of Ammonius' and Gesius' views that correspond perfectly well with what we can infer from other sources, despite the fact that there are others that cannot possibly be true to life. After all, most of the arguments attributed to Ammonius and Gesius have parallels in Proclus apud Philoponum. Besides, if, as seems reasonable to think, Zacharias was trying to reinforce the Christian philosophy students' belief in Christian creationism, it is difficult to see why he would have thought that denigrating their eternalist teachers should be a particularly effective strategy, when, arguably, it was more likely to be counterproductive. Eternalism was spread through arguments. Accordingly, it had to be countered with arguments. I cannot see any reason to doubt the sincerity of Zacharias' conviction (expressed in *Amm.* 148–53) that creationism could be philosophically defended. This is, after all, a conviction he shared with Philoponus and many mediaeval philosophical authors.

Still, if Zacharias' aim really was to provide an antidote to the pernicious doctrine of eternalism, spread among his Christian brethren by the Neoplatonic teachers, one probably has to conclude that he was not entirely successful. Not so much, perhaps, by reason of the occasional misrepresentations of his opponent's views, whether these were motivated by polemical purposes or simply the result of a lack of understanding,⁶³ as because his positive arguments in favour of creationism are less than philosophically satisfactory. One can only presume that there were Christian students of Ammonius who felt that something more compelling than this was needed,

⁶³ I note with interest that Krausmüller suspects Aeneas of Gaza of exactly the failure to understand 'the distinction between "supra-temporal" and "temporal" ... one rather gets the sense that he sees eternity simply as a never-ending time-span' (2009: 56).

if the eternalists' challenge were to be met. On second thought, one can do better than presume. We know there was at least one such student.

If it is true that the *Ammonius* was composed for an audience of Christian philosophy students in Alexandria, Philoponus certainly belonged to the intended readership. According to Minniti Colonna (1973: 44–45) the *Ammonius* should be dated certainly after 491, probably after 512 and possibly even after 518. In 512 Philoponus was twenty-something, a brilliant student in Ammonius' seminar, entrusted with preparing his teacher's lecture-notes for publication.⁶⁴

Obviously, Philoponus' three works on the eternity of the world are not immaculately free from malicious artifice. As we have seen, for instance, he too ascribes the coeternity thesis to his opponents, even once suggesting that the main thrust of Proclus' sixth argument is to convince us that Plato considered the existence of the heavens to be coeternal with the Creator.⁶⁵ Nonetheless they constitute an undeniable advance on the works of Aeneas, Procopius and Zacharias. They are basically serious full-scale philosophical treatises proceeding on the assumption that the Christian creationist doctrine can be satisfactorily defended by rational argument. The first work, *Contra Proclum*, quotes in full Proclus' arguments before setting out to refute them. After all, that is how Proclus' arguments have survived. Likewise, the sec-

⁶⁴ If Watts (2005: 219) is right in assuming that the *Ammonius* was first composed in the 490s and revised in the 520s, the second edition would have appeared just in time for being taken into account in the *Contra Proclum*. However, the only argument he presents in favour of his assumption, namely that since the discussions with Ammonius pick up on ideas in Aeneas' *Theophrastus*, supposedly composed in the late 480s, whereas the discussions with Gesius do not, the Gesius episode was probably written later (2005: 229 n. 51), fails to convince, partly because it seems to rest on false premises. As far as the subject of the eternity of the world is concerned I have been able to find three ideas common to the *Theophrastus* and the *Ammonius*. One of them is the idea that there is no need to suppose that the creator was inactive before the creation of the perceptible world, since he was busy creating the intelligible world (*Theophr.* 44.19–45.4). In the *Ammonius*, this idea is expressed in the Gesius episode (*Amm.* 650–52). Another is Basil's idea that the destructibility of the parts entails the destructibility of the whole (*Theophr.* 48.12–15). In the *Ammonius*, this idea is expressed both in the Gesius episode and in the first conversation with Ammonius (*Amm.* 203–7; 658–67; 931–36). A third is Basil's idea that the shadow simile employed by the Platonists to illustrate the doctrine of eternal creation is irrelevant to the relationship between a voluntary creator and his creation. In the *Ammonius*, this idea is expressed both in the Gesius episode and in the second conversation with Ammonius; however, the point that an auxiliary cause besides the body is needed to produce a shadow, namely light, is common to the *Theophrastus* (46.2–5) and the Gesius episode (*Amm.* 536–45, where indeed the *Theophrastus* passage is quoted verbatim) but is not found in the conversation with Ammonius (*Amm.* 1028–55).

⁶⁵ *Aet.* 126.3–11. At *Aet.* 272.27–273.3 he ascribes to Proclus the view that the soul's self-movement entails the coeternity of the body and the soul.

ond work, *Contra Aristotelem*, followed the exposition in *Physics* 8.1 and *De caelo* 1.2–4 more or less point by point.

And on the whole, Philoponus' positive arguments in favour of creationism are more compelling than those of Zacharias. That is probably also the reason why they went on to have such a spectacular career, and Zacharias' did not. The only Byzantine author on cosmology I know of who does not seem to draw at all on Philoponus but instead on Zacharias is Gregory Palamas, who bases his own case for creationism, in the first two chapters of the *Capita philosophica* (1347/48), on two bits of evidence: the unimpressive argument, originally deriving from Basil, that the world, being composed of destructible parts, must be destructible as a whole; and the testimony of Moses and Christ, which is qualified by Palamas as 'certain and irrefutable proof' (C. 1–2).⁶⁶ It may not be fortuitous that the (rare) absence of Philoponean arguments here coincides with a (likewise rare) repudiation of any sort of rationalistic programme: according to Palamas (C. 21), facts about the World as a whole, including the fact that it has been created, belong in the same epistemological category as facts about God and Man, which are only knowable through the teaching of the spirit.

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⁶⁶ Palamas' dependence on Zacharias was shown by Demetrakopoulos (2000: 316).

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