

Straipsniai

CONCEPT OF GENERATION IN THE EARLY GREEK PHILOSOPHY

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The article has two objectives. Firstly, I shall reconstruct the change of conceptualization of genesis from the Ionian philosophy till the early atomists in order to explain how the idea of transformation and regularity of genesis was shaped in the early Greek philosophy. Secondly, I shall analyse the conception of regularity of generation in the fragments of Anaxagoras and the early atomists in order to reject F. Solmsen's thesis that Epicurus' negation of spontaneous genesis was not related with the early atomists.

The methodology of the study is based on the semantic analysis of the philosophical texts. The linguistic method is applied to contextualize the philosophical concepts in the literary tradition and language use.

In the reconstruction of development of conception of genesis I will try to prove that there has been an important shift in the meaning of genesis from the Ionian philosophers to Parmenides. The Ionian philosophers used parental scheme of genesis. The structure of the scheme was:

Stage I: P[arent]

Stage II: P and O[originated]

Properties of the objects: P and O have dif-

ferent identities, they exist independently, each O can refer to his P.

Parallel to the parental scheme of genesis, a new transformational scheme developed. The structure of it was:

Stage I: O[original object]

Stage II: T[transformed object]

Properties of the objects: O and T have the same identity, T can refer to O only logically.

In the analysis to follow I will show that in the semantic structure, the change of scheme of generation was reflected in the meaning of construction $\gamma\acute{\iota}\gamma\nu\epsilon\sigma\theta\alpha\iota\ \acute{\epsilon}\kappa$: in the parental scheme $\acute{\epsilon}\kappa$ referred to the originator; in the transformational scheme $\acute{\epsilon}\kappa$ referred to a previous stage of the object. The semantic shift certainly reflected the development of the Greek language, yet the philosophical language changed more slowly due to the inheritance of the conceptual schemes. Heraclitus and the Pythagoreans already spoke about transformation, yet they did not use the verb $\gamma\acute{\iota}\gamma\nu\epsilon\sigma\theta\alpha\iota$ to designate it. The crucial point in the development of philosophical usage of $\gamma\acute{\iota}\gamma\nu\epsilon\sigma\theta\alpha\iota$ was Parmenides' ontological investigation. His semantic innovation consisted in the new usage of preposition $\pi\alpha\rho\acute{\alpha}$, which implied not only

spatial, but also logical relationship. Thus *γίγνεσθαι τι παρ' αὐτό* meant “to be born something different from itself” rather than “to be born something besides itself”. By this usage Parmenides introduced the transformational scheme in the semantics of *γίγνεσθαι*. The Parmenidean conception of *genesis* was accepted by Melissus, although he did not use the verb *γίγνεσθαι* to denote transformation. Later there were two main responses to the Eleatic critique of *genesis*. Empedocles tried to relate *γίγνεσθαι* with *φύειν* and its derivatives, therefore, to him *genesis* was accretion and separation of elements. On the other hand, Anaxagoras adopted a similar scheme of *genesis*, yet to him every transformation was predetermined by the material to be transformed. Thus Anaxagoras introduced principle of regularity in *genesis*.

The regularity of generation was a key assumption of the atomists in their treatment of the question of generation from non-being. Both earlier atomists and Epicurus held that generation is impossible, unless certain conditions are fulfilled. According to Leucippus, “οὐδὲν χρῆμα μάτην γίνεταί, ἀλλὰ πάντα ἐκ λόγου τε καὶ ὑπ' ἀνάγκης” (67 DK B 2). Epicurus put his views in a following way: “οὐδὲν γίνεσθαι ἐκ τοῦ μὴ ὄντος. πᾶν γὰρ ἐκ παντὸς ἐγίνετ' ἂν σπερμάτων γε οὐδὲν προσδεόμενον” (Epicur. *Ep.* 38, 9–10). The Epicurean sentence was echoed and elaborated by Lucretius (I, 150–214), who vividly described the consequences, if the Epicurean statement were rejected. Although we can state that Epicurus and Lucretius shared very similar views about generation, the same does not apply to Epicurus and Presocratic atomists. Solmsen has pointed out that the Epicurean conception of *genesis* is quite different from that of Presocratics: “For

them *genesis* was something impossible, *genesis* from non-being (or nothing) patently absurd and inconceivable” (Solmsen, 274–275). In the case of Epicurus only spontaneous *genesis* was rejected, therefore, Solmsen related the Epicurean concept of *genesis* with Plato’s and Aristotle’s conception of *τάξις*, in particular *τάξις* of heavenly and meteorological processes. On the other hand, Epicurus used a vaguely attested term in Presocratic atomists *σπέρμα* to denote atoms, therefore, Solmsen suggested that at least “Epicurus’ innovation would be his insistence that a ‘seed’ is seed of something” (Solmsen, 278).

Solmsen’s thesis has not been much disputed. For example, E. Asmis compared the conception of *genesis* in Epicurus’ and Parmenides’ philosophy (Asmis, 227–237), yet she did not compare Epicurus’ view either with the early atomists or with Aristotle and Plato. A. Mourelatos analysed the formulation of the principle *ex nihilo nihil* in Parmenides, Melissus and Empedocles, but his aim was to relate it to the Ionian philosophy rather than to explain the development of atomism (Mourelatos, 1981, 649–665). In my investigation I would like to revise Solmsen’s statement about the scarce relationship between Epicurus’ and Presocratics’ (especially atomists’) conception of *genesis*. I shall try to prove that the early atomists followed Anaxagoras’ conception of regularity of *genesis* and Leucippus’ B 2 fragment revealed his discussion with Anaxagoras. I suppose that if we accept the teleological reading of this fragment, we have to conclude that the regularity in *genesis* was very important to the early atomists. Therefore, we can say that Epicurus’ rejection of spontaneous *genesis* is more related to the early atomists, than Solmsen supposed.

I. The Development of Concept of Transformation

Greeks had two images of origin: one from human and animal world, the other from the vegetable world; and this was reflected in the meanings of verbs γίγεσθαι and φύειν.

In contrast to the Sanskrit verb jan-/janati, the Greek γίγεσθαι had only medial and passive voice. The Homeric form γείνομαι with the causal meaning “to beget” was not so popular as γίγνομαι without the causal meaning. The causal meaning was left to τίκτω and to a latter coined verb γεννάω. The loss of causal meaning in γίγνομαι had to do with the changes in semantics of the word. It can be noticed that in the epics γίγνομαι refers not to the closest begetter mother, but rather to father¹ or kin.² Homer used a form γείνομαι with the causal meaning to refer to a mother.³ The derivative word γένεσις was closer to γίγνομαι than to γείνομαι, as it is evident from Homeric lines: Ὠκεανόν τε θεῶν γένεσιν καὶ μητέρα Τηθύν, “and Oceanus, first parent of the gods, and their mother Tethys“ (*Il.* 5, 201). In the later texts the slight difference between γίγνομαι and γείνομαι disappeared and γίγνομαι could mean both the closest begetter and a more remote background of an offspring. This background was important for the identification of a person and in the epics we find many places where a person declares his

¹ ἐκ δὲ Διοκλῆος διδυμάονε παῖδε γενέσθην “And of Diocles were born twin sons” (*Il.* 5, 548); Ἴππόλοχος δὲ μὲν ἔτικτε, καὶ ἐκ τοῦ φημι γενέσθαι “But Hippolochus begat me and of him do I declare that I am sprung” (*Il.* 6, 206).

² οἱ καὶ Μήονας ἤγον ὑπὸ Τμώλῳ γεγαῶτας “They led the Maeonians, whose birth was beneath Tmolus” (*Il.* 2, 866).

³ Cf. LSJ, s.v. γείνομαι: θεὰ δὲ σε γείνατο μήτηρ “Goddess mother bore you” (*Il.* 1, 280). Also *Il.* 6, 26; *Od.* 6, 25.

genesis in order to supply the information about his identity. This use of verb γίγνομαι created a frame in Greek thought that in order to understand what a person or an object is, we have to find his or its origin. R. Kühner noticed that the verb γίγεσθαι refers to the past even though it is used in present form.⁴

The Greek word φύειν preserved both active and passive voice. Φύω clearly indicated agent who brings forth, produces something. Therefore it was conceived that processes of natural growing have an agent causing them. As the processes of φύναι reflected the growing of vegetable world, the agent was conceived as being constantly close to the growing object.⁵

The different relationship of the originator and the originated in the words γίγεσθαι and φύεσθαι is reflected in the usage of prepositions. According to Liddell’s and Scott’s dictionary, γίγεσθαι is more frequently used with preposition ἐκ than with preposition ἀπό or directly with genitive.⁶ The preposition ἐκ means that the originated object appears from interior of originator, meanwhile the preposition ἀπό shows that the originated object appears as a part of the body of originator. This preposition can also imply that the originated object remains in close contact the originator; the

⁴ Kühner ascribed γίγνομαι to a group of verbs with the following feature: “Als eine gegenwärtige Handlung, wird von der Sprache oft auch eine solche betrachtet, welche zwar der Vergangenheit angehört, zugleich aber in der Gegenwart hinüberreicht oder in ihren Folgen in der Gegenwart forbesteht. [...] [z. B.] φεύγω (habe mich auf die Flucht begeben und bin jetzt flüchtig, daher auch lebe in Verbannung)” (Kühner, Bd. 2, 117–118). Examples of such usage of γίγνομαι in present tense with the meaning of past are X. *Cyr.* 1, 1; Pl. *R.* 611c 3.

⁵ φύλλα [...] ὕλη τηλεθόωσα φύει (*Il.* 6, 148); τοῖσι δ’ ὑπὸ χθῶν δῖα φύεν νεοθηλέα ποίην (*Il.* 14, 347); ὅσα γῆ φύει (Pl. *R.* 621a).

⁶ LSJ, s.v. γίγνομαι.

preposition ἐκ, on the contrary, implies separation between the originator and the originated object. These implications had a consequence that in the process of γενέσθαι the evident difference between the identities of the originator and the originated was sensed, while the process of φύεσθαι did not posit a sharp difference between originator and the originated.

In the philosophical discourse the processes of γίγνεσθαι and φύεσθαι were transformed and fitted to a more abstract explication of natural world. In the early non-philosophical language the verb γίγνομαι with preposition ἐκ primarily indicated parents to whom somebody was born. The main features of such process were retained in the cosmogonies of the Ionian philosophers. As Aristotle noticed, it was common to first philosophers to posit one or several principles, which generate all other things, yet never transform fully into them.⁷ When analysing Thales' cosmogony, Aristotle clearly related Thales' primary element water with Oceanus and Tethys,⁸ therefore, it can be said that he recognized the correspondence between the parental generation and the cosmogony out of water. The main difference between parental generation and such cosmogony consisted in the fact that the generated universe finally dissolves back into it.⁹ In order to describe this kind of relationship, the early philosophers called their primary principal ἀρχή.¹⁰ This

⁷ ἀεὶ γὰρ εἶναι τινα φύσιν ἢ μίαν ἢ πλείους μιᾶς ἐξ ᾧν γίγνεται τὰλλα σωζομένης ἐκείνης “for there is always some one entity (or more than one) which persists and from which all other things are generated” (Arist. *Met.* 983b 17–18).

⁸ Arist. *Met.* 983b 20–984a 3.

⁹ Arist. *Met.* 983b 5.

¹⁰ According to Simplicius, Anaximander was the first to call the primary element ἀρχή (Simp. *in Ph.* 150, 23).

term was fit to express two (of three) main aspects of the principle: (i) it generates something different to it; (ii) it subsists after something has been generated; (iii) but it does not imply that what was generated dissolves back to it, for as “beginning” ἀρχή was opposite to “end” or “final state”.¹¹ However, this term fitted well to the parental scheme of the development of cosmos and focused on the generation rather than on the destruction. From the testimonies there can be noticed that Anaximander described the generation of cosmos according to scheme of parental birth: “He says that at the birth of cosmos a germ of hot and cold was separated off from the eternal substance”.¹² At least one word in this testimony, namely, “separate off” (ἀποκριθῆναι) is genuine Anaximander's cosmogonical term.¹³ The word “germ” (γόνιμον) probably belongs to Theophrastus, and as his usage shows, it is applicable both to generation of animals and plants. H. C. Baldry suggested that the Anaximandrian cosmogony corresponded to a Greek scheme of generation which is equally applicable to generation from seed, egg or embryo.¹⁴ The more developed relationship between generation and destruction is found in the much-disputed Anaximander's fragment from Simplicius who quoted Theophrastus. The first part of this fragment is more relevant

¹¹ ἀρχή is used in opposition to τέλος (Hdt. 7, 51) and τελευτή (Thgn. 607).

¹² φησὶ δὲ τὸ ἐκ τοῦ ἀιδίου γόνιμον θερμοῦ τε καὶ ψυχροῦ κατὰ τὴν γένεσιν τοῦδε τοῦ κόσμου ἀποκριθῆναι ([PLUT.] *Strom.* 2 (D. 579) = 12 DK 10).

¹³ Cf. τὴν γένεσιν ποιεῖ [...] ἀποκρινομένων (Simplic. *Phys.* 24, 13 = 12 DK A 9); ἀνέμους δὲ γίνεσθαι τῶν λεπτοτάτων ἀτμῶν τοῦ ἀέρος ἀποκρινομένων (Hippol. *Ref.* I, 6, 7 = 12 DK A 11).

¹⁴ Baldry, 29. Kahn noticed that “the word for ‘separating-off’, ἀποκρίνεσθαι, is the normal term for secretion and ejection of seed. The first products of the Boundless must be its ‘children’” (Kahn, 156).

to the analysis of Anaximandrian generation: “Things perish into those things out of which they have their being, as is due”.¹⁵ It is difficult to argue for complete authenticity of the fragment,¹⁶ nevertheless, it renders most probably a genuine Anaximander’s idea that generation and destruction are reciprocal processes. This idea was not reflected in generation from *apeiron*, therefore I would partly support Ch. Kahn’s and W. K. C. Guthrie’s¹⁷ interpretation that this fragment refers not to cosmogony out of *apeiron*, but the present transformations of elements. A similar fragment of Heraclitus supports this interpretation:¹⁸ both Anaximander and Heraclitus spoke about generation and death of elements as reciprocal processes, yet I do not think that they wholly abandoned parental frame of generation and spoke about the transformations of elements, i.e., when one element or object wholly becomes (or transforms into) another element or object. Firstly, we should not treat the elements in strictly physical sense but rather in a vital sense. It was a common belief of Greek that water, earth and air possess certain generative powers.¹⁹

¹⁵ ἐξ ὧν δὲ ἡ γένεσις ἐστὶ τοῖς οὐσι, καὶ τὴν φθορὰν εἰς ταῦτα γίνεσθαι κατὰ τὸ χρεῶν (Simpl. Phys. 24, 13 = 12 DK B 1). This first part of fragment was accepted as genuine by Diels and Kranz. Burnet recognized quotation only from κατὰ τὸ χρεῶν on (Burnet; 52).

¹⁶ At least, it can be noticed that Theophrastus does not use such construction as ἡ γένεσις ἐστὶ τοῖς οὐσι.

¹⁷ Kahn, 167; Guthrie, Vol. I, 81. This interpretation is strongly supported by plural form ἐξ ὧν in the fragment.

¹⁸ ψυχῆισιν θάνατος ὕδωρ γενέσθαι, ὕδατι δὲ θάνατος γῆν γενέσθαι, ἐκ γῆς δὲ ὕδωρ γίνεται, ἐξ ὕδατος δὲ ψυχῆ (Clem. Strom. VI 17, 1–2 = 22 DK B 36).

¹⁹ Cf. Aristotle’s explanation of Thales’ choice of water as a generative principle (Arist. Met. 983b 20–27). It was assumed, that air can originate a new life (Il. XVI, 150; Ar. H. A. 559a 20–560a 6). The importance of air to preserve life is evident from identification of breathing and soul.

According to Anaximander, a new element is generated from the parental element, which remains intact until the new element perishes into it. Heraclitus more elaborated the relationship between generation and destruction. I suppose, in his philosophy the generation of a new element requires a *partial* destruction and transformation of parental body. The examples of such partial transformations might be the rise of a spring out of the earth; the evaporation of water into air. Such transformations do not require complete destruction of a parental body. I would prefer to interpret the γένεσις of Heraclitus as partial transformation also because of the fact, that he uses different words to describe a complete transformation: “πυρός τε ἀνταμοιβή τὰ πάντα καὶ πῦρ ἀπάντων ὅκωσπερ χρυσοῦ χρήματα καὶ χρημάτων χρυσός” (22 DK B 90). The word ἀνταμοιβή shows that transformation of fire is (i) complete; (ii) both the changing and the resultant are of equal value (as it is implied by the prefix ἀντ(ι)-), therefore, (iii) the transformation is reversible. He also used the verb μεταπίπτειν to denote the complete and reversible transformation: ταῦτό τ’ ἐνὶ ζῶν καὶ τεθνηκός καὶ τὸ ἐγρηγορός καὶ καθεῦδον καὶ νέον καὶ γηραιόν· τάδε γὰρ μεταπεσόντα ἐκεῖνά ἐστὶ καὶ κεῖνα πάλιν μεταπεσόντα ταῦτα (22 DK B 88). The usage of different terms to denote complete change²⁰ shows that the verb γίνεσθαι in the philosophical meaning (as we have it in DK B 36) did not fit completely to render the idea of transformation, although the

²⁰ Heraclitus also used τροπαί (B 31) and μεταβάλλειν (B 78). In Mourelatos’s opinion the novelty of Heraclitus’ conception of change consisted in the fact that he abolished the thinghood to preserve the polarity of the structure of the world (Mourelatos, 1973, 35–37). Heraclitus used new philosophical terms to underline the difference of his conception of change from the traditional *genesis* of the parental scheme.

verb could render the qualitative change, usually in non-thematic meaning.²¹

Similarly, the Pythagoreans also encountered a problem how to call the relationship between their ἀρχή number and the existing things. According to Aristotle, the Pythagoreans “assumed existing things to be numbers” (Arist. *Met.* 987b 28–29). This relationship of identity was called imitation (μίμησις).²² According to Guthrie’s interpretation, the conception of μίμησις, as it is attested in drama and in religious rites, meant not a mere imitation, but rather becoming the other.²³ Both cases of Heraclitus and the Pythagoreans show that the word γένεσις did not fit at that time to render the idea of complete transformation, therefore, the philosophers borrowed commercial or religious terms to express such an idea.

Up to Parmenides the Greek philosophers did not use γίγνεσθαι as the term denoting a process in which an object generates another object by transforming into it. As Liddell and Scott suggested, it was Parmenides who for the first time used construction γίγνεται τι ἐκ τινος in the sense of origination out of “[m]aterial, out of or of which things are made”.²⁴ Parmenides certainly did an impact to the development of semantics of γίγνεσθαι and mainly it was due to his ontological investigation that this word got a new meaning in the later philosophy.

²¹ Cf. 22 DK B 1; B 63; B 110.

²² οἱ μὲν γὰρ Πυθαγόρειοι μιμήσει τὰ ὄντα φασὶν εἶναι τῶν ἀριθμῶν. “Pythagoreans say that existing things owe their being to imitation of numbers” (Arist. *Met.* 987b 10–11).

²³ Guthrie, vol. 1, 230–231. He suggests that the Pythagoreans could not be unaware about the ecstatic rites of Dionysus, where god entered to a man (ἐνθεος) or a man stood out of himself (ἐκστατικός) and became god.

²⁴ LSJ, s.v. ἐκ.

Parmenides inherited from the ‘parental’ conception of γίγνεσθαι the idea that a generated object must have its originator which is different from the originated object, yet they are similar because they belong to same kin or class. Parmenides more radically understood the difference between the originator and the originated. He excluded the element of the similarity, which was essential to the parental scheme of generation. According to Parmenides, the originator and the originated could not belong to the same class and the generation involved the negation (or destruction) of the originator. Thus Parmenides substituted the parental scheme of generation for the scheme of transformation. This idea of transformation was anticipated by Heraclitus and the Pythagoreans, yet Parmenides was the first to apply it to the process of γένεσις.

Parmenides tried to find the originator of τὸ ἐόν, however, he found this task to be impossible: τίνα γὰρ γένναν διζήσεται αὐτοῦ; πῆι πόθεν ἀξιεθέν; οὐδ’ ἐκ μὴ ἐόντος ἐάσσω φάσθαι σ’ οὐδὲ νοεῖν “For what origin²⁵ of him will you seek? How and from what did it grow? I shall not allow you to say or think ‘from what is not’” (28 DK B 8, 6–8). According to Parmenides’ reasoning, the originator had to be radically different from the originated object. The only possible candidate which differed from τὸ ἐόν was τὸ μὴ ἐόν. By this choice Parmenides rejected the supposition of the earlier philosophers that a certain ἐόν (e.g. element) can generate another ἐόν. However, τὸ μὴ ἐόν also did not match for the purpose,

²⁵ It is difficult to determine the exact meaning of γέννα: it could mean either “origin” or “kin” from which τὸ ἐόν is originated. In Presocratic texts the word γέννα occurs in Empedocles with three meanings: “(day of) birth” (31 DK B 17, 27), “origin” (31 DK B 22, 7; B 22, 9) and “kin” (31 DK B 110, 9).

for it could not originate anything besides itself: οὐδέ ποτ' ἐκ μὴ ἐόντος ἐφήσει πίστιος ἰσχὺς γίγνεσθαι τι παρ' αὐτό “Nor will the force of evidence suffer anything besides itself to arise (γίγνεσθαι) from what is not” (28 DK B 8, 12–13). A difficult and interesting place in the lines is παρ' αὐτό. In my translation of αὐτό as “itself” I followed Guthrie, who criticized the alternative reading of αὐτό as “what is”, suggested by Cornford.²⁶ Guthrie argued that according to the alternative reading Parmenides gave an argument for the uniqueness of one being, but it is not quite compatible with the main arguments of the section against the birth and destruction of the being.²⁷ Accepting this reading of αὐτό, I would suggest that the preposition παρά reveals an interesting case of the semantic development of the Greek language in Parmenides’ philosophy. If we take a more literal reading of γίγνεσθαι τι παρ' αὐτό, it means that the non-being can’t generate anything besides itself. According to this reading the scheme of parental generation is preserved: the generator bears his offspring besides himself. However, another interpretation is also possible. Diels and Kranz suggested that γίγνεσθαι τι παρ' αὐτό is equivalent to γίγνεσθαι τι ἄλλο ἢ αὐτό²⁸ and we have to take τὸ παρ' αὐτό in the concreted meaning “anything which is different from itself”. According to this reading, the non-being can’t transform into anything which is different from itself. If we adopt this interpretation, it

²⁶ Guthrie, vol. 2, 24. A. H. Coxon supported Cornford’s reading, since “to refer αὐτό to μὴ ἐόν would lend Not-being an identity foreign to P.’s view” (Coxon, 200). I think that this reading misses the main argument of Parmenides: non-being is on the whole unable to generate anything besides itself (not only anything besides being).

²⁷ Guthrie, vol. 2, 27.

²⁸ Diels and Kranz, Bd. 3, 464.

can be stated that Parmenides abandoned the parental scheme of generation and spoke about transformation. Yet I do not think that one can doubtless decide which interpretation is right.²⁹ Parmenides developed a new conception of γένεσις as transformation and this development was a gradual process. The Eleatic philosopher reflected the semantics of παρά and discovered that “being besides” implies difference and difference implies negation. Such transitional usage of παρά is found in the Simplicius’ testimony on Parmenides, where he cites Theophrastus, who on his turn probably renders genuine Parmenides’ reasoning: τὸ παρὰ τὸ ὄν οὐκ ὄν τὸ οὐκ ὄν οὐδέν· ἐν ἄρα τὸ ὄν “that which is besides (or *is different from*) the being is non-being; the non-being is nothing; therefore the being is one” (Simpl. *Phys.* 115, 12–13). It is very difficult to decide, how to translate παρά in this sentence, whether it denotes logical difference or spatial relation. The first part of reasoning concerns the logical difference between being and non-being, however, the conclusion is drawn that the being is one, i.e., there is nothing *besides* the being. It is quite probable that Parmenides himself sensed the ambiguity of language to express logical relationship in spatial terms and he tried to escape it. His endeavour to substitute the spatial relationship for the logical is reflected in his reasoning on generation from ἀρχή: “And what need would have prompted it to grow later or sooner, having started nothing? (τοῦ μηδενὸς ἀρξάμενον)” (28 DK 8, 9–10). The verb ἀρχειν

²⁹ S. Austin also concluded that the meaning of παρά comprised both physical alongsideness and logical difference. He noticed that to describe spatial change Parmenides used κινήσις rather than γένεσις: “οὐδὲν γὰρ ἔστιν ἢ ἔσται ἄλλο πάρεξ τοῦ ἐόντος, ἐπεὶ τό γε Μοῖρ' ἐπέδησεν οὐλον ἀκίνητόν τ' ἔμειναι” (28 DK B 8, 36–38) (Austin, 165).

and ἀρχεσθαι in the meaning ‘to begin, to start’ are usually used with *genitivus obiecti* ‘to make a beginning of something’. In order to denote the origin ‘to begin from something’ the prepositions ἐκ and ἀπό are used.³⁰ Why Parmenides used the genitive form without a preposition? It is probable that the preposition referred to the originator (ἀρχή) in a similar way as it referred in the construction γίνεσθαι ἐκ τινός. Although I could not find an example in the Presocratic texts of the philosophical usage ἀρχεσθαι ἐκ ‘to begin from something’, this construction is not rare in Plato both in thematic and non-thematic usage. To Plato ἀρχεσθαι ἐκ referred to a certain starting point, similarly as γίνεσθαι ἐκ referred to a generator.³¹ He also used the pleonastic construction ἀρχεσθαι (part. med.) ἐκ ἀρχῆς.³² Although ἀρχεσθαι ἐκ can refer to the starting stage (e.g., childhood of a man³³), it implies the distance between the starting and the present state. When ἀρχεσθαι is used directly with genitive, it implies that the started process is continuous and it starts without any external point of reference.³⁴ The Parmenidean cons-

truction τοῦ μηδενὸς ἀρξάμενον literally means “having started nothing” which renders the idea that the non-being can’t begin to grow as nothing. The usage of ἀρχεσθαι without a preposition underlines that it is the same object which would start to grow. This conception is closer to the scheme of transformation rather than to the scheme of the parental generation.

The Parmenidean conception of γένεσις gave an important assumption that γίνεσθαι involves logical negation rather than spatial difference between the originator and the originated, therefore, γένεσις got the meaning of transformation. Parmenides’ interpretation was supported and developed by Melissus who also insisted that γένεσις implies negation: “Always there was the one that was and always it will be. If it came into being, before it came into being there must have been nothing” (30 DK B 1). But Melissus differed from Parmenides in his conception of γίνεσθαι: instead of using ambiguously this verb to denote generation or transformation, Melissus clearly differed both meanings of γίνεσθαι. The old meaning of γίνεσθαι was preserved when the verb was used alone. In this case he understood the process of γίνεσθαι as generation from a certain ἀρχή: εἰ μὲν γὰρ ἐγένετο, ἀρχὴν ἄν εἶχεν, “if it came into being, it would have had the beginning” (30 DK B 2). To denote the qualitative and other kinds of changes he used either (I) compound expressions (γίνεσθαι + adjective), e.g. μεῖζον γίνεσθαι (30 DK B 7, 2), ἕτεροῦ γίνεσθαι (30 DK B 7,3; 30 DK B 8,2) or (II) used γίνεσθαι with preposition, e.g. προσγίνεσθαι (30 DK B 7, 3; B 7, 4), ἀπογίνεσθαι (30 DK B 7, 4) or (III) introduced new words into the philosophical vocabulary: μετακοσμεῖν “rearrange; reconfigure” (30 DK B 7, 2; B 7, 3. Cf. μετακοσμούμενον θέσει (30 DK A 5 (974a 20)) and ἐτεροιοῦσθαι

³⁰ LSJ, s.v. ἀρχω.

³¹ ὁ βουλευθεὶς ἐπὶ τὸν αὐτοῦ τόπον ἄγειν ὕδωρ ἀγέτω μὲν ἀρχόμενος ἐκ τῶν κοινῶν ναμάτων “He that desires to bring water to his own land may do so, commencing at the public cisterns” (Pl. *Lg.* 844a 3–4). ἐκ τούτων δ’ ἀρχόμενοι τὰ λοιπὰ ἤδη διεξιόντες τελευτῶσιν ὁμολογουμένως “They take their start from these, and pursuing the inquiry from this point on consistently” (Pl. *R.* 510d 1–2). τὰ δὲ τρίγωνα πάντα ἐκ δυοῖν ἀρχεται τριγώνοις “Now all triangles derive their origin from two triangles” (Pl. *Tim.* 53c 8).

³² ἐκ τοιαύτης ἀρχῆς ἀρξάμεν (Pl. *Euth.* 3a 5–6).

³³ ἐμοὶ δὲ τοῦτ’ ἔστιν ἐκ παιδὸς ἀρξάμενον (Pl. *Ap.* 31d 3). Also Pl. *Lach.* 186c 2; Pl. *Prot.* 325c 5; Pl. *R.* 408d 11.

³⁴ Examples from Presocratic thinkers are: ἤρξε γάμοιο (1 DK B 2 (Orph.)), λόγου παντὸς ἀρχόμενον (64 DK B 1 (Diog.)), τόκου καὶ μίξιος ἄρχει (28 DK B12,4 (Parm.)).

“to undergo a change (in kind)” (30 DK B 7, 2; 8, 3; 8, 4. Cf. ἐτροιούμενον εἶδει (30 DK A 5 (974a 20)). Melissus also used a synonym of ἐτεροιοῦσθαι the verb μεταπίπτειν (30 DK B 8, 4; 8, 5; 8, 6) which was introduced into the philosophical language by Heraclitus in the meaning of transformation. Melissus’ terminology shows that he far better thematised the meaning of generation and transformation than Parmenides.

Empedocles inherited the Parmenidean assumption that γένεσις is impossible. This position was explained in his two fragments which are important to understand the semantics of the verb γίγνεσθαι in the Empedoclean usage. Attacking the opponents, he called them: οἱ δὲ γίγνεσθαι πάρος οὐκ ἔδον ἐλπίζουσιν, “who believe that the one which previously was non-being can come into being” (31 DK B 11, 2). In this fragment γίγνεσθαι describes the transformation of the same entity from its previous state. I think it is on the basis of this fragment that we should interpret the next fragment where Empedocles used γενέσθαι with ἐκ: ἔκ τε γὰρ οὐδάμ’ ἐόντος ἀμήχανόν ἐστι γενέσθαι “it is impossible to come into being from the totally non-existent” (31 DK B 12, 1). Although in this fragment Empedocles used preposition ἐκ, he did not name the generated, therefore, in this case γενέσθαι ἐκ refers not to the generator in the parental scheme, but rather to the previous stage of the same substrate (οὐδάμ’ ἐόντος). In this interpretation both the arguments supporting the Parmenidean thesis contain the same transformational conception of γένεσις.

As in the transformational scheme of γένεσις the same substrate undergoes certain changes, this transformation is close to the φύσις which Empedocles prefers to use in the meaning of “becoming”. In several fragments

Empedocles used φύειν and φύσις as synonyms to γενέσθαι.³⁵ In these cases we have to translate φύειν and φύσις as “becoming, coming into being”, although Empedocles also used φύσις twice in the meaning “nature, origin”.³⁶ The verb φύειν in the meaning “to become” was well integrated into the philosophical doctrine of Empedocles by adding prefixes δια- and συν-. Empedocles denied that φύσις and γένεσις were real and suggested that there existed only μίξις τε διάλλαξις τε μυγέντων “mingling and separation of mixing [elements]” (31 DK B 8, 3). The verbs with prefixes συμφύειν and διαφύειν were used by Empedocles to denote the processes of mingling: “to become one out of the many”³⁷ and “to become many out of the one”.³⁸ The usage of the verb φύειν for Empedocles did not mean literally “becoming”, but it was only a *terminus technicus* to denote the philosophic explanation of becoming.

A similar metaphoric usage can be found in the semantics of γίγνεσθαι. In the doctrine of Empedocles, γένεσις is caused by the mingling of elements: “how from water and earth and air and sun (fire) when they are mixed (κίρναμένων), arose (γενοίατο) such colours and forms of mortal things” (31 DK B 71, 2–3).³⁹ Although Empedocles had this particular conception of γένεσις, he still used this word as a metaphor to denote the mingling of the elements. This also evident in the cases

³⁵ Cf. φύειν (31 DK 22, 3; 26, 8; 35, 11), φύσις (31 DK B 8, 1; 8, 4).

³⁶ 31 DK 63; 110,5.

³⁷ ἔν συμφύοντα τὸ πᾶν (31 DK B 26, 5). Also 31 DK B 95, 1.

³⁸ διέφου πλέον’ ἐξ ἐνός εἶναι (31 DK B 17, 2 = 17, 17). Other cases of διαφύειν in the same meaning are 31 DK B 17, 5; 17, 10.

³⁹ A similar explanation of γένεσις is found in 31 DK B 3–4.

where Empedocles used γίγνεσθαι with ἐκ. For example, in fragment B 98 he poetically describes the generation of mortal forms: “And the earth met with these in almost equal amounts, with Hephaistos and Ombros and bright-shining Aether, being anchored in the perfect harbours of Kypris; either a little more earth, or a little less with more of the others. From these arose blood (ἐκ τῶν αἵμα τε γέντο) and various kinds of flesh” (31 DK B 98). The elements in the poetical language are personified and the conception of birth of the mortal forms is close to the parental conception of birth. But this parental generation is only a poetical metaphor which covers the philosophical explanation of generation. A similar metaphoric usage of γίγνεσθαι ἐκ can be seen in the fragment B 38 on generation of visible things and in the fragment B 124 on the generation of the mortal kind.

Empedocles’ conception of γένεσις was further developed in the philosophy of Anaxagoras. He also admitted that the generation is mingling (συμμίγεσθαι) and the corruption is separation (διακρίνεσθαι) (39 DK B 17). But Anaxagoras laid a stronger stress on the identity of the generator and the generated: “For how could hair come from (γένοιτο) what is not hair? Or flesh from what is not flesh?” (59 DK B 10). This idea of identity goes back to the Parmenides’ reflection on γίγνεσθαι τι παρ’ αὐτό (28 DK B 8, 13) and grounds the conception of transformation. Anaxagoras fully developed the principle of identity and influenced atomists in creation of regularity of γένεσις.

II. The Early Atomists on the Regularity of Generation

The main statement of atomists about γένεσις rejects the irregularity of generation: οὐδὲν

χρῆμα μάτην γίνεταί, ἀλλὰ πάντα ἐκ λόγου τε καὶ ὑπ’ ἀνάγκης (67 DK B 2). This declaration is close to Anaxagoras’ saying: οὐδὲν γὰρ χρῆμα γίνεταί οὐδὲ ἀπόλλυται, ἀλλ’ ἀπὸ ἐόντων χρημάτων συμμίσγεταί τε καὶ διακρίνεται (59 DK B 17). S. Luria suggested that this atomists’ statement was a response to Anaxagoras’ treatise περὶ νοῦ and atomists substituted ἀνάγκη for νοῦς.⁴⁰

Although atomists rejected Anaxagoras’ conception of νοῦς, they also maintained that there is regularity in generation. In the following I will interpret Leucippus’ fragment B 2, trying to contextualize it in the Greek philosophical discourse as well as in the language usage.

The main problem in the analysis of the fragment is the semantic connection between words μάτην, γίνεταί and ἐκ λόγου which may render different meaning to the statement.

The adverb μάτην is derived from the accusative form of noun μάτη “folly, fault”.⁴¹ The etymology of this word is not clear,⁴² but it can be conjectured that Greeks understood a folly or a fault as an act which lacks proper purpose or proper reason (ground). Therefore, the derivative μάτην has two different meanings which are relevant to the analysed saying: “vain” and “random”. Therefore, this saying of Leucippus can be interpreted teleologically or etiologically. When translated as “vain”, this word underlines that nothing originates for no proper end or purposelessly. As translated “random”, this word suggests

⁴⁰ Luria, 418. P. Curd pointed out that Anaxagoras’ physical theory could not explain repeatability (or teleological regularity) without *nous*. But she doubted whether Anaxagoras had availed himself of this opportunity of explanation (Curd, 156).

⁴¹ LSJ, s.v. μάτη. Cf. also μάταιος “vain, empty, idle (of words and acts); empty, foolish (of persons)”.

⁴² Frisk, s.v. μάτη. Chantraine, s.v. μάτη.

that nothing originates without reason. The first teleological interpretation informs about the end or purpose of becoming, the second is etiological: it underlines the necessity of cause or ground for becoming. The etiological interpretation was adopted by J. Salem,⁴³ while the teleological interpretation was adopted by S. Luria, V. Alfieri and partly by J. Barnes.⁴⁴

In my opinion, the etiological interpretation of this sentence is more superficial and less correct than the teleological one. The etiological interpretation arises when the connection of γίνεταί with ἐκ is underlined. This connection gives meaning of “origination from” and clearly presupposes a certain cause out of which the origination arises. In the Greek usage up to the 4th century BC the connection of γίνεταί and ἐκ is well attested, and even ἐκ λόγου can be reasonably understood as “out of certain ground”,⁴⁵ although such meaning is not frequent.⁴⁶

However, this interpretation seems not so well founded when we try to connect γίνεταί

with μάτην. Up to the middle of the 4th century there are three cases where μάτην is connected with γίνεσθαι and in all the cases we have to translate μάτην “vain, without end or purpose”.⁴⁷ These cases indirectly support the teleological interpretation of Leucippus’ fragment B 2.

The interpretation of the fragment much depends on the translation of ἐκ λόγου τε καὶ ὑπ’ ἀνάγκης. Shall we translate λόγος as “cause” or “reason”, as some translators suggested?⁴⁸ In the Democritean language the word λόγος has a wide range of meaning, yet I could not find any case of usage in the meaning of “cause”. In my opinion, a close meaning to the usage of fragment B2 would be “logical argument” as we have it in 68 DK B 7: δηλοῖ μὲν δὲ καὶ οὗτος ὁ λόγος “this demonstration also reveals...” and probably in 67 DK A 7: Λεύκιππος δ’ ἔχειν ὠτήθη λόγους “Leucippus thought he had arguments...”. Democritus also used λόγος in a wider meaning “reason, intellect, mental activity”, for example, 68 DK B 146: τὸν λόγον αὐτὸν ἐξ ἑαυτοῦ τὰς τέρψιας ἐπιζόμενον λαμβάνειν “intellect is used to get

⁴³ “Nulle chose ne se produit fortuitement, mais toutes choses procèdent de la raison et de la nécessité” (Salem, 86).

⁴⁴ “Ни одна вещь не происходит попусту, но все в силу причинной связи и необходимости” (Luria, 213). “Nulla si produce invano, ma tutto con una ragione e necessariamente” (Alfieri, 100). Barnes thought that Leucippus’ aim was to reject teleology and he paraphrased Leucippus’ statement in the following way: “There is no purpose or plan in the world. Yet things do not therefore occur aimlessly or haphazard. Rather, everything is rationally explicable inasmuch as everything happens by necessity” (Barnes, 142).

⁴⁵ This translation with hesitancy was suggested by Kranz in the 4th edition of H. Diels’ *Die Fragmente der Vorsokratiker*: “aus einem bestimmten Grunde?” (Diels, 1922⁴, Bd. 3, 358).

⁴⁶ The construction ἐκ λόγου with meaning “from a cause” occurs only once before atomists in Sophocles: τὰ νῦν ξύμφωνα δεξιῶματα δόρει διασκεδῶσιν ἐκ μικροῦ λόγου “from a small cause they will scatter with the spear today’s pledges of concord” (*S. OC* 619–620).

⁴⁷ τὰ γὰρ ἀντίπαλα αὐτῶν ὑπὲρ τῆς ψυχῆς ἀγωνιζόμενα καὶ ἐν τῇ αὐτῶν οἰκίῃ ἐν ἰσχύι πολλῇ ἐστίν· ὥστε τῷ κυνηγέτῃ μάτην οἱ πόνοι γίνονται, ἐὰν μὴ μείζονι φιλοπονίᾳ καὶ πολλῇ συνέσει κρατήσῃ αὐτῶν “Their adversaries fighting for the life are very strong in their domain, therefore, the efforts of the hunter are vain if he does not overcome them by greater diligence and good intelligence” (*X. Cyn* 13, 14, 3–6); καὶ τάληθι ἀποκρίνου, ἵνα μὴ μάτην οἱ διάλογοι γίνωνται “Please answer truly, that our debates may not be futile” (*Pl. Alc.* 110a 3); παύσασθαι δὲ τῶν πολέμων τῶν μάτην γιγνομένων “To cease from the wars which are waged to no purpose” (*Isoc. De pace* (orat. 8) 142, 5).

⁴⁸ Diels, 1922⁴, Bd. 3, 358; Luria, 213. Also Alfieri suggests that “λόγος indica né un principio ordinatore né una forza divina ma semplicemente una condizione o causa meccanica, da cui ciò che avviene è necessariamente condizionato” (Alfieri, 101).

joy from itself”. Although Democritus did not use ἐκ λόγου anywhere else, I think the meaning of the construction can be related with κατὰ λόγον as we find it in 68 DK B 53: πολλοὶ λόγον μὴ μαθόντες ζῶσι κατὰ λόγον. In this case the meaning of λόγος is close to Heraclitus’ conception of λόγος as both human and world reason. The construction κατὰ λόγον “according to the reason” is also found in Simplicius’ testimony on atomists’ theory and it may refer to Democritus’ original teaching.⁴⁹

What is the relationship between λόγος and ἀνάγκη in this fragment? I think that in contradistinction to ἐκ λόγου as “according to the rational order”, ὑπ’ ἀνάγκης probably refers to the physical order. Aetius testifies that Democritus described ἀνάγκη as “resistance, motion and strike of matter (τὴν ἀντιτυπίαν καὶ φορὰν καὶ πληγὴν τῆς ὕλης)” (68 DK A 66). Due to ἀνάγκη these physical processes take place. The meaning of ἀνάγκη can be related with the Parmenidean χρέος in τί δ’ ἄν μιν καὶ χρέος ὄρσεν ὕστερον ἢ πρόσθεν, τοῦ μηδενὸς ἀρξάμενον, φῶν; (28 DK 8, 9–10). Mourelatos suggested that in this sentence Parmenides expressed the principle of sufficient reason⁵⁰ and this idea could influence atomists.

There is also an ethical fragment where Democritus used λόγος and ἀνάγκη as opposites and related λόγος with persuasion (προτροπή) while ἀνάγκη with law (νόμος).⁵¹ In this case ἀνάγκη is also described as physical coercion in contrast to λόγος as rational persuasion.

⁴⁹ διὸ καὶ φασὶ μόνοις τοῖς ἄπειρα ποιῶσι τὰ στοιχεῖα πάντα συμβαίνειν κατὰ λόγον “therefore they affirm that everything becomes reasonable only to those, who posit infinite elements” (Simpl. *Phys.* 28, 23 = 68 DK A 38).

⁵⁰ Mourelatos, 1981, 652.

⁵¹ κρείσσων ἐπ’ ἀρετὴν φανέται προτροπῇ χρώμενος καὶ λόγῳ πειθοὶ ἤπερ νόμῳ καὶ ἀνάγκῃ (68 DK B 181).

The idea of natural regularity is also expressed in atomists’ concept of φύσις. Aetius declared that according to atomists the world is ruled by nature without reason (φύσει δέ τι ἀλόγῳ) (67 DK A 22). Although this may be Aetius’ own reasoning, Democritus did endue φύσις with regularity. He described φύσις as ἀτάρκης and opposed it to τύχη.⁵² The human life is conceived as ruled by φύσις. Democritus found a similarity between φύσις and education (διδαχὴ) because they both reform (μεταρυσμοῖ) a man.⁵³

Therefore, it is more likely to interpret Leucippus’ B 2 fragment as declaring general regularity of generation and not as declaring the prerequisite of a certain first ground for the generation. This interpretation reveals that the early atomists shared with other post-Parmenidean thinkers the conception of γένεσις as transformation and added the element of regularity to it. In this conception of γένεσις one can evidently see the origin of Epicurus’ negation of spontaneous generation.

Conclusions

The semantics of the verb γίγνεσθαι comprised two schemes of *genesis*: parental and transformational. The Presocratic philosophers only gradually adopted the transformational scheme of *genesis*. Heraclitus and the Pythagoreans already spoke about transformation, yet they did not use the verb γίγνεσθαι to designate it. The crucial point in the development of philosophical usage of γίγνεσθαι was Parmenides’ investigation on the logico-spatial differentiation that grounded the transformational scheme in the semantics of γίγνεσθαι. The Parmenidean conception of *genesis* was accepted by Melissus, although he did not use

⁵² 68 DK B 176.

⁵³ 68 DK B 32.

the verb *γίγνεσθαι* to denote transformation. Later there were two main responses to the Eleatic critique of *genesis*. Empedocles tried to relate *γίγνεσθαι* with *φύειν* and its derivatives, therefore, to him *genesis* was accretion and separation of elements. On the other hand, Anaxagoras adopted the similar scheme of *genesis*, yet to him every transformation was predetermined by the material to be trans-

formed. Thus Anaxagoras introduced principle of regularity in *genesis*. Atomists followed Anaxagoras in this and Leucippus' B 2 fragment revealed his discussion with Anaxagoras. According to the teleological reading of this fragment, we have to conclude that the regularity in *genesis* was very important to the early atomists. This assumption also grounded Epicurus' rejection of spontaneous *genesis*.

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Abbreviations

DK – Diels Hermann and Walther Kranz, 1951⁶: *Die Fragmente der Vorsokratiker*, Bd. 1–3, Berlin: Weidmannische Buchhandlung.

LSJ – *Greek-English Lexicon*, 1940: ed. H. G. Liddell, R. Scott, rev. and augmented by Sir H. S. Jones. With a Supplement 1968, Oxford: The Clarendon Press.

LU – Лурье, Соломон Яковлевич, 1970: *Демокрит: Тексты. Перевод. Исследования*, Ленинград: Наука.

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ATSIRADIMO SAMPRATA ANKSTYVOJOJE GRAIKŲ FILOSOFIJOJE

Saulius Šileikis

Santrauka

Šiame straipsnyje yra analizuojamas atsiradimo sampratos kitimas ankstyvųjų filosofų fragmentuose, be to, šiuo tyrimu bandoma paneigti Solmseno tezė, kad Epikūro spontaniško *genesis* atmetimas nėra susijęs su ikisokratine filosofija. Analizuojant parodoma, kad graikų kalboje veiksmažodis *γίγνεσθαι* apėmė dvi *genesis* schemas: parentalinę ir transformacinę. Ikisokratiniai filosofai tik pamažu perėmė transformacinę *genesis* schemą. Herakleitas ir pitagorininkai naudojo savo filosofijoje transformacinę schemą, bet nevartojo veiksmažodžio *γίγνεσθαι* šiai schemai išreikšti. Filosofinės *γίγνεσθαι* vartosenos lūžio taškas buvo Parmenido atliktas loginės-erdvinės diferenciacijos tyrimas. Parmenido semantinė inovacija slypėjo naujoje prielinksnio *παρά* reikšmėje, kuri nurodė ne vien erdvinius, bet ir loginius santykius. Todėl Parmenido kalboje pasakymas *γίγνεσθαί τι παρ' αὐτό* reiškė greičiau „gimti kažkam, skirtingam nuo paties“ nei „gimti kažkam šalia paties“. Parmenido tezė, kad *genesis* implikuoja neigimą, buvo perimta Meliso, tačiau pastarasis nevartojo veiksmažodžio *γίγνεσθαι* išreikšti transformaciją. Norėdamas perteikti transformacinius arba kokybinius kitimus, jis vartojo (I) sudėti-

nus pasakymus (*γίγνεσθαι* + būdvardis) arba (II) vartojo *γίγνεσθαι* su priešdėliu, arba (III) rinkosi kitus žodžius: *μετακοσμεῖν* „pertvarkyti“, *ἕτεροιοῦσθαι* „pasikeisti (rūšies atžvilgiu)“, *μεταπίπτειν* „pasikeisti“. Meliso vartosena rodo, kad jis kur kas tiksliau tematizavo atsiradimo ir transformacijos reikšmes nei Parmenidas. Vėliau ėjo du filosofiniai atsakymai į eleatų *genesis* kritiką. Empedoklis bandė sieti *γίγνεσθαι* su *φύειν* ir jo vediniais, todėl jam *genesis* reiškė elementų susijungimą ir išsiskyrimą. Anaksagoras perėmė panašią *genesis* schemą, bet jam kiekviena transformacija privalėjo būti sąlygojama pirminės medžiagos. Šitaip Anaksagoras pradėjo taikyti *genesis* schemoje reguliarumo principą. Atomistai perėmė iš Anaksagoro reguliarumo principą; jų diskusija su Anaksagoru matyti Leukipo B 2 fragmente. Yra galimi du šio fragmento perskaitymo būdai: aitiologinis ir teleologinis. Šiame straipsnyje pateikiamos interpretacijos išvados remia teleologinį šio fragmento perskaitymo būdą, todėl laikytina, kad šis fragmentas parodo reguliarumo svarbą ankstyvųjų atomistų *genesis* sampratoje. Taigi Epikūro suformuluotas savaiminės genezės atmetimas rėmėsi ankstyvųjų atomistų genezės samprata.

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