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## Selected Bibliography on the Megarians and the Dialectical School: Second Part

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### Studies in English G- Z

1. Gillespie, Charles Melville. 1911. "On the Megarians." *Archiv für Geschichte der Philosophie* no. 24:218-241.  
 "The object of this paper is to investigate the view entertained by Zeller(1) with the support of many other critics and historians, that the Megarians held a theory of εἶδη closely resembling that of Plato. The evidence for this view is entirely indirect. Nowhere in the ancient authorities is such a doctrine attributed to them by name. Stilpo is said to have attacked the εἶδη of the Academy (Diog. Laert. ii. 119); even though he seems to have incorporated much of the Cynic doctrine in his teaching, so great a change from the supposed earlier attitude of the school is difficult to believe; the suggestion of Zeller(2) that our authority interprets as an argument against the Ideas one that was intended to support them only weakens his case. In fact, Zeller has no evidence at all except the passage in the *Sophist* which gives an account of the εἶδων φίλοι (246B ff.), whom Zeller identifies with the Megarians. The "friends of the Ideas" must stand for some contemporary school or allied schools; in many details their doctrines agree with what is elsewhere known of Megarian theory; the complete opposition between unchangeable noetic reality and the changing corporeal world, treated as an illusion; the Eleatic doctrine of the complete mutual exclusion of Being and Not-being; the denial of δυνάμις — all these points, as Zeller urges with force, bear out what is known from other sources of the Megarian doctrines. In one point, however, the theory of the εἶδων φίλοι seems to disagree with Megarianism as otherwise known; it apparently allows a plurality of reals, whereas we have some authority for the fact that the Megarians taught the absolute

unity of ultimate Being. (Aristocles ap. Euseb. *Pr. Ev.* XIV. 17, p. 756; DL II. 106). Zeller meets this difficulty by the hypothesis that in the *Sophist* we have an earlier form of the Megarian doctrine, in which a partial plurality of reals was recognised. He supposes that the Megarians were led to posit the reality of "intelligible species" by considerations similar to those which influenced Plato, but that afterwards Eleatic influence made them deny reality to all but the supreme εἶδος. As Apelt points out (*Beiträge zur Gesch. der Gr. Phil.* 96), this implies a view as to the relations between the Socratic and the Eleatic elements in Megarianism which requires examination.

(...)

The points which require investigation are easily stated. We must first of all examine the internal evidence of the passage in the *Sophist*. We must then inquire whether the metaphysic and logic of the Megarians, as known to us from independent sources, are so closely akin to the Platonic as demanded by Zeller's theory.

We shall find their spirit, their aims, their presuppositions so opposed to the Platonic in fundamental respects, that we cannot seriously entertain the view that Megarianism and Platonism travelled on the same road for a time, and subsequently diverged in opposite directions." (pp. 218-219)

2. Goldblatt, Robert. 1980. "Diodorean Modality in Minkowski Spacetime." *Studia Logica* no. 39:219-236.  
Abstract: "The Diodorean interpretation of modality reads the operator  $\Box$  as "it is now and always will be the case that". In this paper time is modelled by the four-dimensional Minkowskian geometry that forms the basis of Einstein's special theory of relativity, with "event"  $y$  coming after event  $x$  just in case a signal can be sent from  $x$  to  $y$  at a speed at most that of the speed of light (so that  $y$  is in the causal future of  $x$ ).  
It is shown that the modal sentences valid in this structure are precisely the theorems of the well-known logic S4.2, and that this system axiomatises the logics of two and three dimensional spacetimes as well.  
Requiring signals to travel slower than light makes no difference to what is valid under the Diodorean interpretation. However if the "is now" part is deleted, so that the temporal ordering becomes irreflexive, then there are sentences that distinguish two and three dimensions, and sentences that can be falsified by approaching the future at the speed of light, but not otherwise."
3. Gomperz, Theodor. 1905. *Greek Thinkers. A History of Ancient Philosophy. Vol. II.* London: John Murray.  
Chapter VIII. *The Megarians and kindred Movements*, pp. 170-208.  
"The founder of the Megarian school was Euclides.  
He appears to have belonged to the older generation of the pupils of Socrates. But it was not by Socrates alone that he was influenced. Among the scanty records of his teaching we find no statement more full of significance than the one which ascribes to him a blending of Socratic doctrine with Eleatic. Socrates had taught the unity of virtue, and its absolute identity with Good. The Eleatics had asserted the unity of Being. In the mind of Euclides the two doctrines were fused together. He held that the unity of Being was identical with the Good. According to trustworthy accounts, he "designated the One Good by many names, sometimes speaking of it as Wisdom, sometimes as Deity." And the Good constituted for him the whole of Being; to its opposite, the Not-Good, he denied all existence. These curt notices require some explanation, and supply abundant food for reflexion. First of all, we have here the earliest instance of a tendency which left its impress on several successive periods of philosophy - the tendency to retain the teaching of Socrates, but not to rest satisfied with it. Socratism was haunted by a sense of its own incompleteness. Socrates himself had brushed aside the physical and metaphysical speculations of his predecessors.  
But his disciples, both of the first and of the second generation, resumed the discarded studies, and endeavoured to combine them with their master's ethical

- teaching." (pp. 173-174)
4. Grote, George. 1885. *Plato and the Other Companions of Sokrates*. London: John Murray.  
Vol. 1, Chapter III. *Other companions of Sokrates: Diodorus Kronus*, pp. 140-146. From the pains which Aristotle takes (in the "treatise 'De Interpretatione' and elsewhere) to explain and vindicate his own doctrine about the Potential and the Actual, we may see that it was a theme much debated among the dialecticians of the day. And we read of another Megaric, Diodorus Kronus, perhaps contemporary (yet probably a little later than Aristotle), as advancing a position substantially the same as that of Eubulides. That alone is possible (Diodorus affirmed) which either is happening now, or will happen at some future time. As in speaking about facts of an unrecorded past, we know well that a given fact either occurred or did not occur, yet without knowing which of the two is true - and therefore we affirm only that the fact may have occurred: so also about the future, either the assertion that a given fact will at some time occur, is positively true, or the assertion that it will never occur, is positively true: the assertion that it may or may not occur some time or other, represents only our ignorance, which of the two is true. That which will never at any time occur, is impossible." (pp. 140-141)  
(...)  
"In what manner Diodorus stated and defended his opinion upon this point, we have no information. We know conclusion only that he placed affirmations respecting the future on the same footing as affirmations respecting the past: maintaining that our potential affirmation - *May or May not be* - respecting some future event, meant no more than it means respecting some past event, viz.: no inherent indeterminateness in the future sequence, but our ignorance of the determining conditions, and our inability to calculate their combined working." (pp. 143-144)
5. Guthrie, W. K. C. 1971. *A History of Greek Philosophy, Vol. 2: Socrates*. Cambridge: Cambridge University Press.  
Chapter III. *Philosophical significance*, § 12: The immediate followers of Socrates: (Aristippus and Euclides); *Euclides*, pp. 179-187.  
"Only one positive doctrine can be safely credited to Euclides, namely the unity of the good. The testimonies are:  
(i) Cicero, *Ac. pr.* 2.42. 129. Cicero begins somewhat oddly by saying that, 'as I have read', the *princeps* of the Megaricorum *nobilis disciplina* was Xenophanes, followed by Parmenides and Zeno. 'Then', he continues, 'came Euclides, a disciple of Socrates from Megara, after whom they were called Megarians. He said that that alone was good which was one, all alike, and always the same.'  
(ii) D.L. 2. 106: 'He declared that the good was one, though called by many names, sometimes wisdom, sometimes God, and again mind (*nous*) and so on. Things opposed to the good he rejected, saying that they did not exist.'  
(iii) With these one may compare a passage from the history of philosophy of Aristocles quoted by Eusebius (*P.E.* 14. 17), which speaks only of the Megarians without mentioning Euclides by name.  
He ranks them with those who condemned the senses and claimed that only reason was to be trusted. 'So said, in earlier times, Xenophanes, Parmenides, Zeno and Melissus, and later the followers of Stilpo and the Megarians. For this reason the last-named said that what is is one and anything else does not exist,<sup>3</sup> and that nothing comes into being or is destroyed or undergoes any movement whatever.'" (p. 180, a note omitted)
6. Haake, Matthias. 2018. "Megara and 'the Megarians': a City and its Philosophical School." In *Megarian Moments. The Local World of an Ancient Greek City-State*, edited by Beck, Hans and Smith, Philip J., 237-256. Montreal: McGill University. Teiresias Supplements Online, Vol. 1.

"..., this contribution elaborates on the idea that a philosophical school existed in Megara that was identified through association with its place – a school of thinkers who took their name from the city and thus were known as Megarians.(6) It is also not my intention to outline a history of the Megarian school. Rather, I seek to locate it in the local (discourse) environment of the city; to ask for interactions between the city of Megara, its citizens and inhabitants respectively, and the school and its members;(8) and, as far as possible, to embed the Megarian school in the Megarian localscape.(9) To achieve this goal, I will examine the presence of Megarian philosophers in Megara as well as their visibility, and engagement, in the local cosmos of the city. The first step, however, will be to address some general problems in respect to the Megarian school that make things even more difficult than the outlined approach would suggest. In the concluding observations, a remarkable piece of evidence, dating to the second century CE, will be introduced in order to demonstrate that, at a time when the Megarian school was long gone, its founder continued to be remembered as an icon of local pride." (pp. 238-239, a note omitted)

(6) In a largely unnoticed passage of the prologue to his *Lives and Opinions of Eminent Philosophers*, Diogenes Laertius mentions the various possibilities to name a philosophical school, among them the designation ἀπὸ πόλεων (1.17). Even if it is, in general, possible to explain the origins of a name of a philosophical school, it is an unsolved question as to how and by whom philosophical schools were named and for which reason(s) a specific name was chosen. The remarks by Gigon (1960: 60) on Diog. Laert. 1.17 are anything but exhaustive; cf. also Cambiano 1977: 27-35.

(8) It is worth noting that, in order to avoid misconceptions, in Ancient Greek the ethnicity of the inhabitants of Megara is Μεγαρεύς, pl. Μεγαρεῖς (Legon 2004: 463), whereas the name of the members of the school is Μεγαρικός, pl. Μεγαρικοί, a term rarely attested; see Döring 1989: 296. In English the form "Megarician(s)" is uncommon (a rare exception is Bocheński 1951: 77-102); both the inhabitants of the city and the members of the school are therefore mostly called Megarians.

(9) The term '-scape' is in part borrowed from the title of a workshop organized by Anja Slawisch and Michael Loy in Cambridge, March 22-23, 2018: *Shedding Light on the Matter: Ideascapes and Material Worlds in the Land of Thales*.

#### References

Bocheński, I.M. 1951. *Studies in Logic and the Foundations of Mathematics*. Amsterdam.

Cambiano, G. 1977. "Il problema dell'esistenza di una scuola Megarica." In: G. Giannantoni (ed.), *Scuole socratiche minori e filosofia ellenistica*. Bologna: 25-53.

Döring, K. 1972. *Die Megariker. Kommentierte Sammlung der Testimonien*. Amsterdam.

Gigon O. 1960. "Das Prooemium des Diogenes Laertios. Struktur und Probleme." In: G. Luck (ed.), *Horizonte der Humanitas. Eine Freundesgabe für Prof. Dr. Walter Wili zu seinem 60. Geburtstag*. Bern and Stuttgart: 37-64

7. Hartmann, Nicolai. 2017. "The Megarian and the Aristotelian Concept of Possibility: A Contribution to the History of the Ontological Problem of Modality." *Axiomathes*.

Translated by Frédéric Tremblay and Keith Peterson.

Abstract: "This is a translation of Nicolai Hartmann's article "Der Megarische und der Aristotelische Möglichkeitsbegriff: ein Beitrag zur Geschichte des ontologischen Modalitätsproblems," first published in 1937. In this article, Hartmann defends an interpretation of the Megarian conception of possibility, which found its clearest form in Diodorus Cronus' expression of it and according to which "only what is actual is possible" or "something is possible only if it is actual." Hartmann defends this interpretation against the then dominant Aristotelian conception of possibility, based on the opposition between *dynamis* and *energeia*, and according to which there is always an open multiplicity of simultaneous "possibilities," the outcome of

which remains undetermined. Since, according to Hartmann, reality suffers no indetermination, the Megarian conception of possibility is an account of *real possibility*, whereas the Aristotelian one is merely an account of *epistemic possibility* (Frédéric Tremblay)."

8. Hurst, Martha. 1935. "Implication in the Fourth Century." *Mind* no. 44:484-495. "Modern analyses of the nature of necessary connection have given rise to more paradoxes than they have solved. A familiarity with the controversy between Diodorus and Philo which took place in the Fourth Century B.C. might perhaps have made unnecessary the anguish which modern logicians have suffered." (p. 484) (...)
- "The problem with which Diodorus and Philo were concerned was the definition of the " if . . . then " relation, or the discovery, as Sextus puts it, of the " criterion of following " (τῆς ακολουθίας εκτίθενται κριτήρια).(1) Philo's(2) definition is this: "there is a case of true fastening together when we have not a true antecedent and a false consequent ".(3) This corresponds to the symbolic form - (p. - q), and is equivalent to the definition of material implication.(4) The definition of Diodorus is: "that is a case of true fastening together which did not and does not admit the possibility of the antecedent being true and the consequent false ".(6) This is practically equivalent to Lewis's definition of strict implication.(6)
- (1) *Adv. Math.*, VIII, 113.  
 (2) Sextus gives Philo's views first and this is the natural order of exposition, as Diodorus succeeded in refuting Philo, while, as far as we know, Philo did not refute Diodorus. It may also be the chronological order of development, in spite of what was said above as to the relation of the two men; for Diodorus may have made his views explicit only in answer to the criticisms of his pupil.  
 (3) Sextus, *Adv. Math.*, VIII, 113: οἷον ἂν μὲν Φίλων ελεγεν ἀληθές γίνεσθαι τὸ συνημμένον ὅταν μὴ ἀρχηται ἀπ' ἀληθοῦς καὶ λήγη ἐπὶ ψεύδος [Thus Philo declared that " the hypothetical is true whenever it does not begin with what is true and end with what is false" (tr. Bury, vol. II, p. 297)]  
 (4) Peirce, *Collected Papers*, 3, 374; Russell, *Principles of Mathematics*, 16, p. 14; Russell, *Introduction to Mathematical Philosophy*, p. 147, *Principia Mathematica*, I, p. 94.  
 (5) Sextus, *Adversus Mathematicos*, VIII, 115: Διόδωρος δε ἀληθές εἶναι φησι συνημμένον ὅπερ μήτε ἐνεδέχετο μήτε ἐνδέχεται ἀρχόμενον ἀπ ἀληθοῦς λήγειν ἐπὶ ψεύδος. [But Diodorus asserts that " the hypothetical proposition is true which neither admitted nor admits of beginning with truth and ending in falsehood." (tr. Bury, vol. II, p. 299)]  
 (6) Lewis, *Survey of Symbolic Logic*, p. 239: impossible that p is true and q false.
- References  
 R. G. Bury, *Sextus Empiricus in four volumes*, Cambridge, Harvard University Press, 1933.
9. Johnston, Rebekah. 2008. "The Existence of Power." *Apeiron* no. 41:171-191. "Introduction  
 Aristotle relies on and uses the concept of 'δύναμις', which I will translate throughout this paper as 'power', in a wide variety of philosophical discussions. In *Metaphysics* IX 1-5, Aristotle provides a detailed account of powers. (...)  
 In addition to explaining what powers are and delineating the different sorts of powers, Aristotle argues in *Metaphysics* IX 3 for the existence of powers. Here, through a series of four arguments against the Megarics, Aristotle establishes that inactive powers must exist." (p. 171)
10. Kneale, William, and Kneale, Martha. 1962. *The Development of Logic*. Oxford: Clarendon Press.  
 Reprinted 1975 with corrections.  
 Chapter III: *The Megarians and the Stoics*, pp. 113-176.



"Throughout later antiquity two great schools of logic were distinguished, the Peripatetic which was derived from Aristotle, and the Stoic which was developed by Chrysippus from the teaching of the Megarians. It is tantalizing that tradition has preserved so little of the work of these latter philosophers; for what remains suggests that they were highly intelligent and deserving of better treatment than they have received from historians." (p. 113)

(...)

"The Megarians made three important contributions to the development of logic, the invention of a number of interesting paradoxes, the re-examination of the modal notions, and the initiation of an important debate on the nature of conditional statements." (p. 114)

(...)

"The most original theory is that of Diodorus Cronus. The only authority who gives us a complete account of it is Boethius, but what he says agrees with earlier incomplete accounts, in particular that of Cicero, and we may regard him as trustworthy. He tells us:

'Diodorus defines the possible as that which either is or will be (*quod aut erit aut erit*), the impossible as that which, being false, will not be true (*quod cum falsum sit, non erit verum*), the necessary as that which, being true, will not be false (*quod cum verum sit, non erit falsum*), and the nonnecessary as that which either is already or will be false (*aut jam est aut erit falsum*).'(2)" (p. 117)

(2) *Commentarii in Librum Aristotelis Περὶ Ἐρμηνείας* Secunda Editio, ed. Meiser, p. 234-

11. Kurzová, Helena. 2009. "What worried the crows in Callimachus' epigram." *Studia minora Facultatis Philosophicae Universitatis Brunensis. Series archaeologica et classica* no. 14:125-129.

Abstract: This paper deals with the Callimachus' epigram devoted to Diodorus Cronus and attesting his great popularity as dialectician. New interpretation of the second croak of crows is proposed, according to which the crows worry about their future: "what will be with us further?". Thus both croaks of the crows are connected with the most important part of Diodorus' teaching, i. e. his theory of modality expressed in the so called "Master Argument". "The following fragment of Callimachus' epigram Fr. 393 Pfeiffer relates to Diodorus Cronus, the prominent representative of the Megarian School, whose main centre of interest was dialectics, the discipline corresponding to the contemporary logic and philosophy of language. The epigram was probably written during Diodorus' stay in Alexandria, which is supposed to have occurred during the 80s of the 3rd century B.C.:

ἀντὸς ὁ Μῶμος

ἔγραφεν ἐν τοίχοις ὁ Κρόνος ἐστὶ σοφός'. [Blame (*Momus*) himself wrote on the walls "Cronus is wise]

ἦνίδε κοὶ κόρακες τεγέων ἔπι "κοῖα συνήπται"

κρῶζουσιν καὶ "κῶς αἴθι γενησόμεθα". [And here the crows are, squawking from the rooftops "what conclusions follow?" or "how will we become again?]

Surely, the epigram is one of the testimonies of Diodorus' popularity. The fragment 393 consists in fact of two fragments, which were connected together by Bentley. The first two lines are quoted by Diog. Laert. II, 10, 7. The sense and interpretation of this part is quite obvious. "Momus himself used to write on the walls 'Cronus is wise.'" *Kronos* is the nickname of Diodoros, inherited probably from his teacher Apollonius Cronus." (p. 125, English translation added)

(...)

"The third and fourth lines come from Sextus Empiricus' book for Grammarians (*Adversus Mathematicos* I, 309–312)." (p. 126)

(...)

"Sextus admits that even the grammarians are able to understand the first part of what the crows are croaking on the rooftops: 'κοῖα συνῆπται;' "what follows from what?" This is an allusion to the ability of the great dialectician to judge the validity of implication." (p. 126)

(...)

"I argue that the second croak of the worrying crows, like the first one, relates to the most prominent activity of Diodorus in dialectics. It is his view on the possible and the necessary which is in play here and which was formulated in his "Master Argument"." (p. 127)

References

Rudolfus Pfeiffer (ed.), *Callimachus. Volumen I. Fragmenta*, Oxford: Clarendon Press 1949.

12. Leith, David. 2014. "Causing doubts: Diodorus Cronus and Herophilus of Chalcedon on causality." *The Classical Quarterly* no. 64:592-608.  
 "My aim in this paper is to move this discussion on by filling out some of the historical and philosophical background to Herophilus' doubts about the existence of causes, and to re-evaluate the significance of these doubts in the context of his scientific project.  
 I shall try to show that the arguments which Galen records in connection with Herophilus' doubts were in fact propounded by the philosopher Diodorus Cronus, and that Herophilus must have encountered them through personal contact with Diodorus in Alexandria before the latter's death c. 284 B.C. Hence Herophilus' sceptical views on the existence of causes are very much tied to these particular arguments and to the personality of Diodorus. This allows us to reassess Herophilus' attitude to causes to an extent, and I shall offer some observations on the nature of his reaction, maintaining that it need not be indicative of a more wide-ranging sceptical attitude. It is hoped that this analysis will help first to locate Herophilus' medicine more firmly within the context of early Alexandrian intellectual currents, and secondly to expand our knowledge of Diodorus' dialectical challenges and their influence in particular upon contemporary science." (p. 593)
13. López-Astorga, Miguel. 2015. "Diodorus Cronus and Philo of Megara: Two Accounts of the Conditional." *Rupkatha. Journal On Interdisciplinary Studies in Humanities* no. 7:9-16.  
 Abstract: "Diodorus Cronus and Philo of Megara presented criteria for identifying true conditionals. Diodorus' criterion has been said to be a version of that of Philo requiring that the conditional is always true.  
 However, in this paper, based on the mental models theory and its analysis of possibilities, I try to show that those two interpretations are very different and that they do not refer to the same combinations of possibilities. In my view, Philo's account can be linked to the material interpretation of the conditional.  
 Nevertheless, Diodorus' explanation can be related to that very interpretation and, in addition, to three different combinations of possibilities, none of them being that corresponding to the material interpretation."
14. ———. 2019. "The semantic method of extension and intension and the four criteria of the conditional described by Sextus Empiricus." *Revista de Filosofía* no. 44:253-261.  
 Abstract: "In this paper an analysis is conducted of the debate about the most suitable way to understand the conditional, which took place in the 4th century B.C. This is done using the extension and intension method provided by Rudolf Carnap to study the meaning of expressions. The results seem to show that, according to Sextus Empiricus, although the debate was about four different criteria to understand the conditional, three of those criteria actually appear to be the same and have a very clear common logical form under Carnap's framework."

15. Makin, Stephen. 1996. "Megarian Possibilities." *Philosophical Studies* no. 83:253-276.  
 "There are some - such as the Megarians - who say that something is only capable when it is acting, and whenever it is not acting it is not capable; for example, someone not building is not capable of building, but someone who is building is, when he is building; it is the same too in other cases." Aristotle, *Metaphysics* 9.3, 1046b29-32  
 "The Megarian position which Aristotle describes has had a bad press. Aristotle himself says that it is not difficult to see the absurdities to which it gives rise. He does not, however spend any time considering why someone might have adopted such an apparently absurd view.  
 The same brisk treatment is found in a contemporary discussion, in which Elizabeth Prior disposes of Megarianism (or radical actualism) in two pages, as a preliminary to an analysis of dispositions.(1) Specialists in ancient thought typically spend more time on exegesis of the Megarian view, but the tendency is for the Megarian account to come out as either true but trivial, or false but ludicrous.(2) My intention is to rehabilitate the Megarians. The claim Aristotle reports is indeed false. But there is underlying it a striking and extremely plausible basic intuition about capacities (and, by extension, possibilities more generally). Much that is of substance remains even when the Megarians' error in arguing from that intuition is excised. In particular there is a valid argument from that intuition to a remarkable thesis about capacities, on the basis of which a novel and revisionary account of capacities could be constructed - although full development of that account would raise questions which are beyond the range of this paper." (p. 253)
16. Marko, Vladimir. 1995. "Callimachus' puzzle about Diodorus." *Organon F* no. 2:342-367.  
 Abstract: "The author tends to emphasize that there are almost the three reasons to analyse Callimachus' epigram about Diodorus (Pfeiffer fr.393, 14): *First of all, the date of this epigram* shows us that it represents the earliest information about Diodorus doctrine. *Second*, another support of its authenticity could be found in fact that this epigram *expressing part of the atmosphere* following, and also remaining after, discussing the Diodorian topics. *Third*, its *philosophical relevance*, usually minimised in classical literature, could be found in those facts that it could show the way out in many today dilemmas about his philosophical claims and support some of our contemporary assumptions about its logical conception, as well as that of space, time, and meaning of statements. The author defends a position that it is necessary to develop *well-grounded* and *methodologically relevant base* covering the historical reconstruction and the interpretation of ancient logical theories."  
 "In fact, this is not a story about M.A. [Master Argument] Possibly, just partly. We would like to introduce one Callimachus' epigram that could have a reference to Diodorus' logical and temporal conception, and to form its adequate interpretation. It follows:(3)  
 (Even) Momos (himself) used to write on the walls: "Cronos is wise."  
 Look, even the ravens on the rooftops are craving: "What follows (from what)?" and "How shall we come to be hereafter?" (p. 344)  
 (3) Döring [(1972): *Die Megariker Kommentierte Sammlung der Testimonien. Amsterdam*], frs. 96, 128; D.L., ii 111; S.E. *M* i 309, p. 672 Bekk.; Pfeiffer [(1949): *Callimachus. Oxford*]: fr. 393, 1-4, Epigrammatum fragmenta, i.
17. Marko, Vladimir. 2011. "Looking for the Lazy Argument Candidates (1)." *Organon F* no. 18:363-383.  
 Abstract: "The Lazy Argument, as it is preserved in historical testimonies, is not logically conclusive. In this form, it appears to have been proposed in favor of part-time fatalism (including past time fatalism). The



argument assumes that free will assumption is unacceptable from the standpoint of the logical fatalists but plausible for some of the nonuniversal or part-time fatalists. There are indications that the layout of argument is not genuine, but taken over from a Megarian source and later transformed. The genuine form of the argument seems to be given in different form and far closer to logical fatalism and whose purpose is not to defend laziness. If the historical argument has to lead to the logically satisfactory solution, some additional assumptions and its additional tuning are needed."

[The oldest form of the Lazy Argument]: "These and others like them are the absurdities that follow if it is necessary for every affirmation and negation (either about universals spoken of universally or about particulars) that one of the opposites be true and the other false, and that nothing of what happens is as chance has it, but everything is and happens of necessity. So there would be no need to deliberate or to take trouble, thinking that if we do this, this will happen, but if we do not, it will not." (Aristotle, *de interpretatione* 18b26-33)"

[See also Cicero, *De fato*, XII, 28-29]

18. Mársico, Claudia. 2011. "Megaric Philosophy Between Socrates' Influence and Parmenides' Ghost." In *Parmenides, Venerable and Awesome (Plato, Theaetetus 183e). Proceedings of the international symposium (Buenos Aires, October 29-November 2, 2007)*, edited by Cordero, Nestor-Luis. Las Vegas: Parmenides Publications.

Summary: "The theoretical origins of Megaric philosophy have been discussed at length. The ancient sources refer to the influence of Socratism and Eleatism on Euclid, but some more recent studies deny that his last current of thought had any importance in the formation of the Megaric theses.

This article studies the disadvantages of this proposal and sets out to show that it is necessary to consider the Eleatic influence. In order to support this point, it examines some aspects of Euclid's position and their connections with Parmenidean philosophy. Then, three doctrines of later authors associated with the Megaric line (Ebulides, Diodorus Cronus, and Stilpo) are examined in order to show the presence of Eleatic approaches and its persistence and relevance for the theoretical identity of the group."

19. Mates, Benson. 1949. "Diodorean Implication." *The Philosophical Review* no. 58:234-242.

"Diodorus Cronus a Megarian logician greatly renowned in antiquity, is known to students of the history of logic chiefly for his part in the ancient controversy over the truth-conditions for hypothetical propositions." (p. 234)

(...)

"The present paper(5) attempts to give as clear and correct an account as possible of Diodorean implication(6) and of its relation to the other types of implication which were advocated by the several participants in the ancient controversy. Perhaps this account will not be uninteresting to students of modern logic, for Diodorus managed to define a plausible sense of "implication" that is stronger than Material implication and weaker than Strict implication—a feat requiring no little skill."

(5) This paper is based on a portion of the author's doctoral dissertation, *The Logic of the Old Stoa* (1948, typescript, University of California Library). [published as *Stoic Logic*, Berkeley: University of California Press, 1953 (second revised edition 1961).]

(6) The term "Diodoran" was coined by C. S. Peirce; I prefer "Diodorean."

20. ———. 1961. *Stoic Logic*. Berkeley: University of California Press. Second revised edition; first edition 1953.

"In this section we shall investigate what remains of the ancient treatment of the problem just mentioned [*the problem of implication*]. We know that the controversy was begun by Diodorus and Philo in the Megarian school and was taken up and

enlarged by the Stoics. Most of the latter seem to have adopted the position of Philo, (4) although at least three other views were represented.

In modern times, C. S. Peirce was the first competent logician to comment on the ancient dispute.(5) He was struck by the fact that Philo's notion of implication was exactly the same as the modern so-called "material implication," which also has provoked much debate. Other authors have mentioned this same point of similarity, (6) and today it is probably the best-known fact about Stoic logic." (p. 43)

(4) *Hyp. Pyrrh.* 11,104; *Adv. Math.* VIII, 245.

(5) *Collected Papers*, vol. 2, p. 199; vol. 3, pp. 279-280.

(6) See, for example, the articles by Hurst, Chisholm, Lukasiewicz ("*Zur Geschichte der Aussagenlogik*"), Bochenski (*De Consequentibus*, p. 3), and Reymond. See also De Lacy, *Philodemus: On Methods of Inference*, p. 159, note 8; Stock, *Stoicism*, pp. 22-23;

A. Tarski, *Introduction to Logic* (New York, Oxford, 1941), p. 27, note 3; W. V. Quine, *Mathematical Logic* (New York, Norton, 1940), p. 18.

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Stock, St. George. *Stoicism*. London, Constable, 1908.

21. Moline, Jon. 1969. "Aristotle, Eubulides and the Sorites." *Mind* no. 78:393-407. "In this paper I should like to inquire about the probable historical origin, target and solution to perhaps the most perplexing of the ancient paradoxes, the Sorites.(1) The evidence which remains on these points is neither copious nor quite conclusive, but it does support reasonably compelling hypotheses which serve to illuminate further our picture of the period. And such hypotheses should be formulated, for, as W. and M. Kneale noted, it is incredible that the ancient paradoxes were produced in the entirely pointless way the tradition appears to suggest.(2)"
- (1) "That this argument is still perplexing is indicated by Max Black's article, "Reasoning With Loose Concepts", *Dialogue*, II (1963), no. 1, pp. 1-12. An additional indication of the perplexity it generates is provided by Evert Beth, who saw the argument as leading to paradoxical results in set theory. *Foundations of Mathematics* (Amsterdam, 1959), p. 22.
- (2) W. and M. Kneale, *The Development of Logic* (Oxford, 1962), p. 114. This point has also been recognized by Beth (see n. 1). The traditional view is found in Kurt von Fritz's article, "Megariker", in Pauly-Wissowa's *Realencyclopädie der Classischen Altertumswissenschaft* (Stuttgart, 1931), Supplement V, p. 710. It also appears in E. Zeller's *Outlines of the History of Greek Philosophy*, 13th edition, transl. by L. R. Palmer (London, 1931), p. 107. Zeller viewed Eubulides' paradoxes as "clever but worthless fallacies". This view dates back at least to Cicero, who considered the Sorites to be a "very vicious and captious style of arguing", and the other Megarian paradoxes to be "far-fetched and pointed sophisms". *Academic Questions*, transl. by C. D. Yonge (London, 1853), pp. 46, 58.

22. O'Toole, Robert R., and Jennings, Raymond E. 2004. "The Megarians and the Stoics." In *Handbook of the History of Logic, Vol. 1: Greek, Indian and Arabic Logic*, edited by Gabbay, Dov and Woods, John, 397-522. Amsterdam: Elsevier. "The Megarian School was founded by Euclides, a pupil of Socrates (DL 2.47) and a native of Megara on the Isthmus (DL 2.106). He was succeeded as head of the school first by Ichthyas and later by Stilpo, also a native of Megara in Greece (DL 2.113). Evidently, since Diodorus can trace his philosophical lineage back to Euclides through Apollonius Cronus and Eubulides (DL 2.110-11), it has been generally thought that he also was a member of the Megarian school; hence, the Megarian connection with respect to the source of Zeno's logical doctrines would seem assured. Sedley, however, has presented what seems to us a convincing argument to the effect that Diodorus belonged rather to a rival school which was called the Dialectical School (Sedley, [1977, pp. 74-75]; cf. Sandbach, [1985, p. 18]).
- At 2.106 Diogenes reports that the followers of Euclides were called Megarians after his birthplace. Later they were called Eristics, and later still, Dialecticians. Sedley argues for the possibility that these remarks should not be interpreted, as they usually are, to mean that this was one and the same school known at different times by different names, but rather that these names designated splinter groups whose *raison d'être* were different enough from that of the Megarian School to warrant viewing them as distinct schools [Sedley, 1977, p. 75]. According to Sedley, several sources inform us that the Dialecticians recognised Clinomachus of Thurii, a pupil of Euclides, as the founder of their school [Sedley, 1977, p. 76]. However, since the name 'Dialectician' was first coined for the school by Dionysius of Chalcedon (DL 2.106), an "approximate" contemporary of Diodorus (Sedley [1977, p. 76]), it seems more likely not that Clinomachus actually founded the school, but rather that he was recognised by its members as the source of the ideas foremost in their teachings [Sedley, 1977, p. 76]." (p. 406)
- References  
DL = Diogenes Laërtius, *Lives of Eminent Philosophers*  
[Sandbach, 1985] F.H. Sandbach. *Aristotle and the stoics*. In Supplementary volume 10 of The Cambridge Philological Society. Cambridge UP, 1985.  
[Sedley, 1977] David Sedley. *Diodorus Cronus and hellenistic philosophy*. In Proceedings of the Cambridge Philological Society, volume 23, pages 74-120, 1977.
23. Opsomer, Jan. 2013. "The lives and opinions of Socrates and Stilpo as defended by Plutarch against the insidious yet ignorant attacks of Colotes." *Aitia*:1-23.  
Abstract: "In chapters 17 to 23 of the *Adversus Colotem* Plutarch defends Socrates and Stilpo against Colotes' criticism. I examine the embedding of this section in the larger context of the work, the links between the sections on Socrates and Stilpo, Colotes' criticisms and Plutarch's counter-arguments and polemical strategies. In doing so, I attempt to disentangle the different layers of this complex text. Socrates is portrayed as an imposter and a sceptic by Colotes. Plutarch argues that Socrates' philosophy indeed implies a radical distrust of the senses, but that this does not make it impossible for him and his followers to live their daily lives. Socratic philosophy is much to be preferred to Epicureanism. Stilpo, a Megarian, also belongs to the Socratic tradition. Plutarch upholds the high moral reputation of this sharp-witted philosopher against the abuse that he had to suffer from Colotes. The latter also attacked Stilpo's rejection of all predication except identity predication. Plutarch claims that Stilpo's argument is a mere dialectical exercise and poses no threat to our daily lives. Plutarch moreover engages in a counter-attack on the Epicurean philosophy of language, more particularly their abolishment of the intermediate level – that of meanings. As Plutarch presents Stilpo's famous argument, it amounts to a denial of the ontological relation to which ordinary predication corresponds. Plutarch's conclusion – that Stilpo merely urges us to abandon the use of the verb "to be" as a copula – does not fit the argument as it is presented by him. This

mismatch is best explained by the hypothesis that Plutarch copied the argument quite faithfully without analysing it in detail. That would also explain the fact that the argument makes no use of Plato's account of predication in the *Sophist*."

24. Prior, Arthur Norman. 1955. "Diodoran Modalities." *The Philosophical Quarterly* no. 5:205-213.  
 "The Megaric logician Diodorus defined the possible as that which either is or at some time will be true, the impossible as that which neither is nor ever will be true, and the necessary as that which both is and always will be true. These definitions assume—as ancient and medieval logic generally assumes—that the same proposition may be true at one time and false at another; Dr. Benson Mates has accordingly remarked, in his recent study of Stoic logic, that Diodoran 'propositions' are not 'propositions' in the modern sense, but something more like propositional functions, and he represents them as such in his symbolic treatment of the Diodoran definitions of the modal operators.(1)  
 I propose here to do something a little different, namely to employ the ordinary propositional variables 'p', 'q', 'r', etc., for 'propositions' in the Diodoran sense, and to use certain operators which take such propositions as arguments, and which form functions taking such propositions as values." (p. 205)  
 (1) B. Mates, *Stoic Logic*, University of California Press, 1953, pp. 36-37. It has been pointed out to me by Mr. W. W. Sawyer that the Diodoran view that whatever is possible either is or will be true is very like the ergodic hypothesis in the kinetic theory of gases.
25. ———. 1958. "Diodorus and Modal Logic: A Correction." *The Philosophical Quarterly* no. 8:226-230.  
 "In the course of a sketch, published in the *Philosophical Quarterly* for July 1955, of a modal system based on the Diodorean definition of the possible as 'what is or will be true', I showed that this system contains all the laws of the Lewis system S4. Whether it contains further modal theses beside those of S4, I went on to say in the same paper, "is a question which remains to be investigated"; it being clear, nevertheless, that the Diodorean system "does not contain the characteristic theses of the main modal system known to be stronger than S4, namely S5". In my *Time and Modality* this question is again referred to, but unhappily with less caution. The Diodorean definition being translated into a 'matrix', I state on p. 23 that this matrix is 'characteristic' for S4, i.e. verifies all those and only those formulae which are theorems of S4. And this is a mistake. I should like, therefore, to set out such facts as are now clear to me about the actual relation of the Diodorean modal system, which I shall call D, to S4." (p. 226)
26. ———. 1967. *Past, Present, and Future*. Oxford: Clarendon Press.  
 Chapter II: *The search for the Diodorean modal system*, pp. 20-31.
27. Rankin, H. D. 1983. *Sophists, Socratics and Cynics*. Totowa (NJ): Barnes & Noble Books.  
 Chapter 11: *The Socratics*; on the Megarics pp. 191-198.  
 "Euclides and other 'Megarian' pupils of Socrates (and some other non-Megarian Socratics) were influenced by the view that being is one, which originally comes from Parmenides of Elea. A consequence of this view is that it becomes impossible to apply predicates to being apart from 'it is'. You can hardly even say of it that it is one for in doing so you are saying that it is something other than itself, and are denying its pure unity even at the very moment of asserting that unity!  
 Euclides seems to have taken this 'oneness' and applied it to the 'good'. Like Socrates, he was as much, if not more, interested in questions of goodness and moral value as he was in the question of 'being'.  
 Just as the Eleatics maintained that you could not say that the opposite of 'being', that is 'not being', exists — such a statement is in their assumptions self-contradicting — so Euclides states that the opposite of 'good' cannot exist.



As we have seen, the influence of Eleatic 'logic' of this kind was strong in many viewpoints and arguments of the Sophistic movement.

Statements involving the verb 'to be' invariably involved the notion of 'being' in the sense of real, genuine existence, not the mere linking of a predicate to a subject to express what that subject is in part, as in,

for instance, the statements the apple is round, or, the apple is green.

This exhaustive 'existential' meaning of the verb 'to be' allowed no such variations or dilutions of 'being'. Consequently two examples of the kind I mention would be held to be contradictory of each other.

This information about Euclides probably comes from a source book written by a doxographer. Cicero's statements and those of Diogenes Laertius have much in common. Diogenes also tells us how Euclides took over and adapted Parmenides' teachings." (pp. 193-194)

28. Rosen, Stanley. 1980. "Dynamis, Energeia, and the Megarians." *Philosophical Inquiry* no. 1:105-119.  
Reprinted as Chapter Seven in S. Rosen, *Essays in Philosophy: Ancient*, edited by Martin Black, South Bend, St. Augustine Press, 2013.  
"In this paper, I shall summarize a series of arguments taken from a more extensive analysis of Aristotle's treatment of non-being. That analysis is itself intended to serve as a foundation for studying the ostensible resolution of the problem of non-being in contemporary analytical philosophy. My paper will be divided into three parts. I begin with a sketch of a critical aporia in Aristotle's doctrine of predication.  
If my sketch is sound, the implications for contemporary philosophy will be easy to see. In the second part I shall offer some general observations on the senses of *dunamis* and *energeia* in everyday discourse.  
These observations begin from a consideration of the Aristotelian text and the pre-theoretical situation as it was accessible to Aristotle and is still accessible to us. The doctrine of predication is itself based upon an analysis of everyday discourse and, despite the logical revolution of the present century, continues to play a central role in contemporary philosophy. In the third part of my paper I shall discuss Aristotle's criticisms of the Megarian thesis and attempt to formulate in such a way as to show that Aristotle has not refuted it." (p. 105)
29. Santos, Ricardo. 2019. "The Pre-Analytic History of the Sorites Paradox." In *The Sorites Paradox*, edited by Oms, Sergi and Zardini, Elia, 289-306. Cambridge: Cambridge University Press.  
"Most probably, we owe the discovery of the Sorites Paradox to Eubulides of Miletus.  
Eubulides was a philosopher of the Megarian school and a contemporary of Aristotle, who distinguished himself by his outstanding argumentative capacities. Unfortunately, we know very little about him. But Diogenes Laertius(2) attributes to him the formulation of seven arguments 'with interrogative form', among which we find the Liar (*pseudomenon*), the Heaper (*sôritês*) and the Bald Man (*phalakron*). Sextus Empiricus(3) says that logic was the only part of philosophy to which Eubulides dedicated himself and, according to Philodemus, he despised every argument that did not contain syllogisms,(4) thus reinforcing his image of a 'rigorous dialectician'. But Eubulides was also a polemist, frequently accused of using eristic arguments.(5) He was notorious for his great animosity against Aristotle, against whom he wrote a whole book." (p. 289)  
(2) In II 108.  
(3) *Adv. math.* VII 13.  
(4) Cf. Muller (1985, [*Les Mégariques: Fragments et témoignages*. Traduits et commentés. Paris: Librairie Philosophique J. Vrin] frag. 88 ad fine, p. 36).  
(5) An eristic argument, as Plato and Aristotle characterised it, is a bad argument, based upon some tricky fallacy, used for purely competitive purposes, i.e. aiming at



victory rather than knowledge.

30. Sedley, David. 1977. "Diodorus Cronus and Hellenistic Philosophy." *Proceedings of the Cambridge Philological Society* no. 23:74-120.  
Reprinted in: Terence Irwin (ed.), *Hellenistic Philosophy* (Classical Philosophy Collected Papers vol. 8), New York: Routledge, 1995, pp. 270-315.  
"During the last four decades historians of ancient logic have become increasingly aware of the importance of Diodorus Cronus and his pupil Philo as pioneers of the propositional logic which came to flourish in the Stoa. Their direct influence has so far been recognised in two main areas of Hellenistic controversy -- the validity-criteria for conditional propositions, and the definition of the modal terms 'possible' and 'necessary'. But some broader questions have not been satisfactorily answered. What were Diodorus' own philosophical allegiances and antecedents? What is his place in the history of Greek philosophy? How far-reaching was his influence on the post-Aristotelian philosophers?  
There was little chance of tackling these questions confidently until 1972, when Klaus Döring published for the first time the collected fragments of Diodorus, in his important volume *Die Megariker*. Meagre though they are, these fragments confirm my suspicion that Diodorus' philosophical background has not been fully explored, and also that his influence on the three emerging Hellenistic schools -- the Stoics, Epicureans, and Sceptics -- was far wider than has hitherto been recognised. There has been much discussion as to which earlier philosophers played the most decisive part in shaping Hellenistic philosophy, and the respective claims of the Platonists and of Aristotle have never lacked expert advocacy. In all this, the claims of so obscure a figure as Diodorus have been underrated." (p. 74)
31. Senteny, Mark. 2018. "Are Potency and Actuality Compatible in Aristotle?" *Epoché A Journal for the History of Philosophy*:239-270.  
Abstract: "The belief that Aristotle opposes potency (*dunamis*) to actuality (*energeia* or *entelecheia*) has gone untested. This essay defines and distinguishes forms of the Opposition Hypothesis—the Actualization, Privation, and Modal—examining the texts and arguments adduced to support them. Using Aristotle's own account of opposition, the texts appear instead to show that potency and actuality are compatible, while arguments for their opposition produce intractable problems. Notably, Aristotle's refutation of the Megarian Identity Hypothesis applies with equal or greater force to the Opposition Hypothesis. For Aristotle, then, potency and actuality are compatible."
32. Seuren, Pieter A. M. 2005. "Eubulides as a 20th-century semanticist." *Language Sciences* no. 27:75-95.  
Abstract: "It is the purpose of the present paper to highlight the figure of Eubulides, a relatively unknown Greek philosopher who lived ±405–330 BC and taught at Megara, not far from Athens. He is mainly known for his four paradoxes (the Liar, the Sorites, the Electra, and the Horns), and for the mutual animosity between him and his younger contemporary Aristotle.  
The Megarian school of philosophy was one of the main sources of the great Stoic tradition in ancient philosophy. What has never been made explicit in the literature is the importance of the four paradoxes for the study of meaning in natural language: they summarize the whole research programme of 20th century formal or formally oriented semantics, including the problems of vague predicates (Sorites), intensional contexts (Electra), and presuppositions (Horns). One might say that modern formal or formally oriented semantics is essentially an attempt at finding linguistically tenable answers to problems arising in the context of Aristotelian thought. It is a surprising and highly significant fact that a contemporary of Aristotle already spotted the main weaknesses of the Aristotelian paradigm."
33. Sorabji, Richard. 1983. *Time, Creation and the Continuum: Theories in Antiquity and the Early Middle Ages*. London: Duckworth.  
Chapter 2: *Solutions from Diodorus to Augustine*, pp. 17-32.  
"Diodorus delighted in paradoxes, many of which he took from Aristotle."

Several will be discussed in later chapters, and it will be seen that he sometimes used atomist theory in order to deal with them. It is not certain whether he tried to solve Aristotle's paradoxes of time. But there is a certain likelihood that he did, since many of the paradoxes he is known to have tackled are related to Aristotle's. For example, there is a connexion between Aristotle's paradox of the ceasing instant and Diodorus' question when a wall ceases to exist - while it is intact, or after it has disintegrated. (2) I shall only claim, however, that Diodorus' atomism gave him the *materials* for solving the paradoxes of time. And in this chapter I shall discuss his atomism only so far as is necessary for showing that it supplied these materials. Diodorus' ideas on atomism are recorded by Sextus Empiricus. An atom, in Greek thought, differs from a geometrical point in that, although it is indivisible is supposed to have a positive size. (We shall see eventually that some Islamic and fourteenth-century Western thought differed in this regard)." (p. 17)

(2) ap. Sextum, *M* 10.347-9.

34. Temple, George. 1977. "Inference without Axiom of Paradoxes." In *Logic Colloquium 76*, edited by Gandy, Rob Oliver and Hyland, John Martin Elliott, 221-233. Amsterdam: North-Holland.
- "The study of formal, propositional logic has known three great periods - the Greek, the Mediaeval Scholastic and the Modern, which are, respectively, commonly associated with the names of their reputed founders: Philo of Megara, Abelard and Frege.
- In each period a number of different theories of implication have been advanced of which the most important are
- (1) the theory of material implication;
  - (2) the theory of incompatibility, and
  - (3) the theory of inclusion.
- All three of these theories are attributed to the logicians of the Greek school of Megara in the treatise by Sextus Empiricus ("Outlines of Pyrrhonism", Book ii, 110-112, ca. A.D. 200). Philo is credited with the theory of material implication, according to which, a proposition  $p$  always implies a proposition  $q$  unless  $p$  is true and  $q$  is false. An unnamed Stoic, perhaps Chrysippus, is said to have introduced the notion that  $p$  implies  $q$  if  $p$  is incompatible with the negation of  $q$ . And some who have not been identified are said to define the implication  $p \rightarrow q$  to mean that  $q$  is virtually included in  $p$ ." (p. 221)
- (...)
- "The purpose of this note is to show that a careful analysis of these three theories shows that they are not merely mutually compatible, but essentially the same, the superficial differences exhibiting only a shift of emphasis.
- Philonian Implication*
- We do not possess any of the original works of the Megarian logicians and therefore do not know for certain how they formulated the theory of material implication, but it seems indubitable that they initiated the study of unanalyzed propositions, which were classified as either "True" or "False" accordingly as they corresponded or did not correspond with reality.
- This unique scheme of valuation was fatal to their theory of inference. Philo of Megara (ca. 300 B.C.) recognised three varieties of valid inference, *viz.* from a true antecedent to a true consequent, from a false antecedent to a false consequent, and from a false antecedent to a true consequent. This is undoubtedly a complete classification, but it is difficult to believe that it was accepted as a definition of inference.
- I cannot believe that any Greek politician, barrister or tradesman can ever have sought to persuade his adversary, his judge or his client that a false proposition implies any proposition (true or false), and that a true proposition is implied by any proposition (true or false).
- In fact what is called "Philonian" implication is completely ineffective as a definition, and the Megarian logicians used in its place various schemes of

- inference. Which we should undoubtedly recognise today as completely satisfactory and sometimes of surprising subtlety.  
They also used the unique valuation of propositions as true or false to characterise disjunction and conjunction, but there is no evidence that they were under the illusion that they had provided formal definitions of these connectives." (p. 222)
35. Uckelman, Sara, and Uckelman, Joel. 2007. "Modal and temporal logics for abstract space–time structures." *Studies in History and Philosophy of Science Part B: Studies in History and Philosophy of Modern Physics* no. 38:673-681.  
Abstract: "In the 4th century BC, the Greek philosopher Diodoros Chronos gave a temporal definition of necessity. Because it connects modality and temporality, this definition is of interest to philosophers working within branching time or branching spacetime models. This definition of necessity can be formalized and treated within a logical framework. We give a survey of the several known modal and temporal logics of abstract space-time structures based on the real numbers and the integers, considering three different accessibility relations between spatio-temporal points."
36. Unlu, Hikmet. 2020. "Aristotle, Heidegger, and the Megarians." *Revue Roumaine de Philosophie* no. 64:125-139.  
Abstract: "This paper examines Aristotle's analysis of unenacted capacities to show the role they play in his discovery of the concept of actuality. I first argue that Aristotle begins *Metaphysics IX* by focusing on active and passive capacities, after which I discuss Aristotle's confrontation with the Megarians, the philosophers who maintain that a capacity is present only insofar as it is being enacted. Using Heidegger's interpretation as a guide, I show that Aristotle's rejection of the Megarian position leads him to propose that presence cannot be confined to activity. I also argue that this provides the context for Aristotle to realize that the relation between capacity and activity can be generalized as the relation between two ways of being."
37. Verde, Francesco. 2013. *Elachista. La dottrina dei minimi nell'Epicureismo*. Leuven: Leuven University Press.  
"The three chapters of this work provide a philological analysis of the primary sources (Epicurus, *Epistle to Herodotus*, 56-59 / Lucretius, *De rerum natura* I 599-634; II 481-499) concerning the theory of minima (Ch. 1); an analysis of the likely historical background to this theory (Xenocrates, Aristotle and Diodorus Cronus – Ch. 2); and a study of the development of this doctrine within the Garden, based on an examination of the question whether it is legitimate to speak of an "Epicurean geometry" (Ch. 3). The research thus seeks to provide a broad, detailed and comprehensive overview of the Epicurean theory of minima." (English summaries, p. 329)  
"Al di là del dibattito sulla sua appartenenza filosofica, a Diodoro Crono vengono attribuite alcune argomentazioni nella forma di veri e propri "paradossi" concernenti *stricto sensu* non tanto l'esistenza del movimento (tema specifico, invece, dei paradossi di Zenone), quanto la sua "attualità". La fonte privilegiata per la ricostruzione di questi argomenti è il II libro del *Contro i fisici* di Sesto Empirico (*M X* 85-118)441. La comprensione di due di tali argomentazioni si fonda necessariamente su una dottrina che alcune fonti attribuiscono a Diodoro, ossia l'esistenza di "enti" minimi e indivisibili che, in quanto principi, costituirebbero la materia, lo spazio e (forse) il tempo. La questione se Diodoro abbia teorizzato questi minimi come una propria dottrina oppure solo a fini dialettici (considerata anche la sua affiliazione filosofica, dialettica o megarica che sia) è stata al centro del dibattito moderno(442). La maggior parte della critica ha ritenuto che l'ammissione di minimi privi di parti sia essenzialmente a scopo dialettico, disserendi causa, dunque: Diodoro avrebbe concesso l'esistenza di minimi per confutare dottrine (fisiche) avversarie che evidentemente si basavano su quell'attualità del movimento che le argomentazioni diodoree andavano, per l'appunto, a negare." (p. 214)  
(442) Per un'agile ricostruzione dei principali contributi a tale dibattito, cfr. Montoneri 1984, pp. 126-8; si consulti anche Döring 1998, pp. 224-5.

## Riferimenti

K. Döring, *Sokrates, die Sokratiker und die von ihnen begründeten Traditionen*, in H. Flashar (Hrsg.), *Grundriss der Geschichte der Philosophie*, Begründet von F. Ueberweg, völlig neubearbeitete Ausgabe, *Die Philosophie der Antike*, Band 2/1: *Sophistik-Sokrates-Sokratik-Mathematik-Medizin*, Basel 1998, pp. 139-364.  
L. Montoneri, *I Megarici: Studio storico-critico e traduzione delle testimonianze antiche*, Catania 1984.

38. ———. 2015. "Diodorus Cronus on Perceptible Minima." In *From the Socratics to the Socratic Schools: Classical Ethics, Metaphysics and Epistemology*, edited by Zilioli, Ugo, 134-148. New York: Routledge.  
"The main textual evidence illustrating Diodorus' interest in perceptible minima is constituted by two passages from Alexander of Aphrodisias' commentary on Aristotle's *On Sense and Sensibilia*." (p. 134)  
"Although they have not, to my knowledge, been the subject of any specific scholarly treatment, Diodorus' perceptible minima have been variously interpreted. As Alan Towey(19) suggests, the range of interpretations may usefully be divided into two. On the one hand, some interpreters (Mau, Denyer, Sedley) have thought of perceptible minima as an idea used by Diodorus in order to "draw an analogy between perceiving something and conceiving of it." On this view, Diodorus will have accepted that something that can be perceived as lacking parts, although actually divisible, cannot be conceived of as having parts. On the alternative view (Sorabji's), Diodorus used the idea in connection with the problem "that a smallest visible size and a largest invisible size differ from each other by an atomic magnitude."(20)" (p. 140)  
[I: Alexander of Aphrodisias, *On Aristotle's De sensu* 122 16–23 Wendland (= SSR II F 9, part); II: n Aristotle's *De sensu* 172 28–173 10 Wendland (= SSR II F 9). English translation: Towey, A. (ed.) (2000), *Alexander of Aphrodisias: On Aristotle's "On Sense Perception,"* Ithaca/New York, Cornell University Press.]  
(19) Towey (2000), *Alexander of Aphrodisias: On Aristotle's "On Sense Perception,"* Ithaca/New York, Cornell University Press. 188 n. 523.  
(20) Sorabji (1983), *Time, Creation and the Continuum: Theories in Antiquity and the Early Middle Ages*, Ithaca/New York, Cornell University Press, 345–348.
39. Weidemann, Hermann. 2008. "Aristotle, the Megarics, and Diodorus Cronus on the Notion of Possibility." *American Philosophical Quarterly* no. 45:131-148.  
"One of the most remarkable traits of the fragmentary picture which our sources allow us to draw of the philosophy of the Megarics is the conception of possibility ascribed to them by Aristotle. The well-known passage in Aristotle's *Metaphysics* in which this ascription is made, namely the beginning of the third chapter of book IX (Θ), is, if we leave aside the commentary on this passage which has falsely been attributed to Alexander of Aphrodisias, our only evidence for the Megaric doctrine in question. Aristotle does not content himself with giving an account of this doctrine, but subjects it to a severe criticism, which he underpins by an exact definition of what, in his opinion, it is for something to have a certain possibility. This definition is fundamental not only to his criticism of the Megaric position, but also to his rejection of a view which is opposed to it in the extreme. He criticizes this extreme anti-Megaric conception of possibility in the first half of chapter 4 of *Met. Θ*. In my essay I shall first concentrate on this chapter and the chapter preceding it, in order to show that by means of his definition of the notion of possibility Aristotle is able to strike a happy medium between the Megaric position which he attacks in chapter 3 and the extreme anti-Megaric position which the target of his criticism in chapter 4. Then I shall try to show that even in chapter 5, in which at first sight he seems to adopt the view of his Megaric opponents himself, Aristotle firmly sticks to his own conception of possibility. Since this conception is seriously challenged by the famous Master Argument of Diodorus Cronus, who modified the Megaric conception of possibility, I shall finally try to show that this argument is not damaging to Aristotle's position at all, because it fails to be sound." (p. 131)



40. Wheeler, Samuel C. III. 1983. "Megarian Paradoxes as Eleatic Arguments." *American Philosophical Quarterly* no. 20:287-295.  
 "The main result reached in the paper is that the Megarians were serious and brilliant philosophers, who in the course of defending views of Parmenides, raised powerful objections via the paradoxes attributed to Eubulides to standard views of the world. In the case of at least two paradoxes, the Electra and the Sorites, I think the Megarian solutions can teach us a lot. I will briefly defend the Megarian's solution to the Electra and will refer the reader to recent papers by Peter Unger(9) and the author(10) for a defense of the Megarian solution to the Sorites.  
 (...)  
 "That even Euclid, let alone Eubulides, was an advocate of Parmenides' ideas at all is not conclusively supported by Diogenes' claim that he read Parmenides' works. Ancient sources besides Diogenes do regard the Megarians as successors of the Eleatics, but are divided as to what Parmenidean doctrines they might be committed to.(14) The main argument I have that the paradoxes are designed to support Parmenidean conclusions is that such a hypothesis gives them a coherent focus and makes them into serious problems with metaphysical consequences. If the ascription of Parmenidean views to the Megarians turns what the tradition treats as a melange of verbal tricks into a unified and serious program, that is strong evidence in favor of the ascription." (pp. 287-288)  
 (9) Peter Unger, "There Are No Ordinary Things," *Synthese*, Vol. 41 (1979).  
 (10) Samuel Wheeler, "Reference and Vagueness," *Synthese*, Vol. 36 (1975), pp. 367-79, and "On That Which Is Not," *Synthese*, Vol. 41 (1979), pp. 155-73.  
 (14) See W. K. C. Guthrie, *History of Greek Philosophy*, Volume III, (Cambridge University Press: London, 1969), pp. 499-507.
41. White, Michael J. 1979. "An S5 Diodorean Modal System." *Logique et Analyse* no. 88:477-487.  
 "As is now well known, the alethic modalities were normally conceived in temporal terms by the ancients (1). In particular the Megarian logician Diodorus Cronos defined a possible proposition as one that either is now or will be true, an impossible proposition as one that is now false and will always be false, a necessary proposition as one that is now true and will always be true, and a nonnecessary proposition as one that either is now false or will be false (2).  
 The research — both historical and logical — of Arthur Prior has proven especially fruitful in the contemporary analytical study of «Diodorean modalities.»" (p. 477)
42. ———. 1980. "Facets of Megarian Fatalism: Aristotelian Criticisms and the Stoic Doctrine of Eternal Recurrence." *Canadian Journal of Philosophy* no. 10:189-206.  
 "The Megarians, as well as their Stoic heirs, are known to have been fatalists or logical determinists in the following, very broad sense of these terms: with respect to at least certain classes or kinds of nontautologous propositions, they held that the mere truth of a proposition entails its necessity.(1) This paper explores, in a very tentative fashion, the relation between several versions of logical determinism and two passages in the Aristotelian corpus [\*], one of which is specifically directed against Megarian doctrine and the other of which is an argument purporting to establish a thesis concerning the necessity of future events which Aristotle wished to reject but which the Megarian logician Diodorus Cronos apparently accepted."  
 (1) This characterization of logical determinism is broad enough to include even Aristotle: he apparently held that all propositions 'about' the past and present are necessary. *Rhet.* III, 17, 1418a3-5; *De Int.* 9, 19a23-25; *Eth. Nic.* 2, 1 139b7-9; and *De Caelo* I, 12, 283b13 are cited by Jaakko Hintikka, "Aristotle and the 'Master Argument' of Diodorus," *American Philosophical Quarterly*, I (April 1964), pp. 101-2. However, Aristotle apparently wished to deny that 'future contingent' propositions are necessary. In order to do so, he at least toyed with the idea of withholding a truth value from such propositions. Vid. *De Int.* 9.  
 [\*] *Metaphysics*, Θ, 3, *De interpretatione* 9.



43. ———. 1985. *Agency and Integrality: Philosophical Themes in the Ancient Discussions of Determinism and Responsibility*. Dordrecht: Reidel. Chapter Three: *Diodorean Fatalism*, pp. 69-96.  
 "The basic elements of Diodorus' view are not difficult to ascertain. He retains a "positivistic" or "extensional" conception of the modalities but modifies slightly the conception attributed to the "Megarians" by Aristotle. According to Aristotle's account, the Megarian doctrine apparently is that "what is possible," from the present temporal perspective, is equivalent to "what is *now* actually the case." There is, however, what I believe is a natural tendency to interpret "what is, at present, possible" in such a way that "present" has "widest scope": and, as a consequence, we tend to apply the phrase "what is, at present, possible" not only to what might be happening at the *present moment*, but also to what might happen in the future relative to the present time. There is, in other words, a temporally *prospective* aspect to the modality of possibility, or at least to some ordinary conceptions of possibility. (27) It is this temporal prospectivity that lends credibility to the premise Aristotle invokes against the Megarians in *Metaphysics* 9.3. Note that without the implicit assumption of the temporal prospectivity of possibility, the fact that the occurrence of an event is impossible now, at the present moment, is apparently irrelevant to the question of whether that event shall occur or fail to occur at some *future time*." (p. 73)  
 (2/) Hintikka makes essentially the same point in his discussion of the passage (*Time and Necessity*. pp. 197-199). However, far from being a "rather peculiar concept of possibility" (*ibid.* p. 197), the concept being exploited in the passage by Aristotle strikes me as a very commonly encountered concept."
44. ———. 1986. "What Worried the Crows?" *The Classical Quarterly* no. 36:534-537. "A well-known epigram by Callimachus on the philosopher Diodorus Cronus (fr. 393 Pfeiffer) reads as follows:  
 αὐτὸς ὁ Μῶμος  
 ἔγραφεν ἐν τοίχοις ὁ Κρόνος ἐστὶ σοφός'. [Blame (*Momus*) himself wrote on the walls "Cronus is wise]  
 ἦνίδε κοὶ κόρακες τεγέων ἐπι "κοῖα συνῆπται"  
 κρώζουσιν καὶ "κῶς αὖθι γενησόμεθα'. [And here the crows are, squawking from the rooftops "what conclusions follow?" or "how will we become again?]  
 The question of the third line, while perhaps recondite from a contemporary perspective, was clear in antiquity. The crows are asking 'What follows (from what)?', in allusion to the Hellenistic disputes concerning the truth conditions of conditional propositions (συνημμένα), disputes in which the views of Diodorus figured prominently.(1)  
 I agree with Sedley that the question of the last line is 'much more problematic'.(2)  
 The common interpretation has been to read the αὖθι as a form of αὖθις and to interpret it temporally. The result, in Pfeiffer's estimation, is 'quomodo posthac erimus?'.(3)" (p. 534)  
 (...)  
 "The crows' how-question is particularly apposite, then. Because of Diodorus' doctrine of temporal and spatial minima, the 'natural' answer cannot be given to their question how they will come to be at that very place they will later occupy. That is, Diodorus cannot admit that the crows get from one place to an adjacent minimal place by means of a continuous process or κίνησις moving (κινεῖσθαι) that results  
 in the crows' gradually occupying less and less of the first place while occupying more and more of an adjacent minimal place. Rather, the crows simply are at rest in the first place during one time atom and, during the next time atom, they find themselves at rest at the adjacent minimal place. The crows' question, natural though it may be, is a question that Diodorus cannot answer." (p. 537)  
 (1) Sextus Empiricus, *PH* 2.110-12 and the discussion in B. Mates, *Stoic Logic* (Berkeley and Los Angeles, 1961), pp. 45-7.

- (2) Sedley, 'Diodorus Cronus and Hellenistic Philosophy', *Proceedings of the Cambridge Philological Society* 20 (1977), 108 n. 35.
- (3) Pfeiffer, *Callimachus* (Oxford, 1949), i.35.
45. Witt, Charlotte. 1995. "Powers and Possibilities: Aristotle vs. the Megarians." *Proceedings of the Boston Area Colloquium in Ancient Philosophy* no. 11:249-266. "Book IX of the *Metaphysics* explores Aristotle's complex notion of *dunamis*, a term that its translators have rendered as power, capacity, and potentiality. (1) I Book IX Aristotle uses words in the same family to express the notion of possibility (*δυνατός*) and impossibility (*ἀδύνατος*) as well. These concepts—powers, potentialities and possibilities—differ markedly from one another. Powers and capacities are abilities that an object has at present (given certain conditions) to enact or to suffer a change." (p. 249)
- (...)
- "My paper examines this difficult, but crucial, text in order to tease out the systematic connections, and differences, that Aristotle saw among the powers, potentialities and possibilities of substances." (p. 250)
- (...)
- "We find Aristotle's only direct argument concerning what is at stake philosophically in the notion of *dunamis* in his criticisms of the Megarians. As Aristotle introduces their position in the first few lines of Book IX, chapter three, the Megarians espoused the doctrine that the only capacities or powers that objects have are those that are manifest or actual. "There are some who say, as the Megaric school does, that a thing can act only when it is acting, and when it is not acting it cannot act" (1046b29-30). A person can build a house, only when she is actually building it; when she has ceased working, she can no longer build. A color can be seen only when it is actually being seen; when no longer being seen the color is no longer visible. Capacities exist only while and as long as they are being actualized. Although we will need to reconsider this point below, Aristotle's initial statement of the Megarian position holds that there exists no *dunamis* that is not being actualized, which is compatible with the idea that what an entity actually is doing, it is capable of doing. That is, capacities exist, but not independently of their being actualized." (p. 252)
- (1) For example, Ross uses all three translations of *dunamis* in his translation of Book IX of the *Metaphysics* (Barnes (ed.) 1984).
46. Zeller, Eduard. 1877. *Socrates and the Socratic Schools*. London: Longmans, Green & Co.
- Translation of the third edition of E. Zeller (1889).
- Chapter XII. *The Megarian and the Elean-Eretrian Schools*, pp. 250-283.
- "The starting-point of the Megarian philosophy must be looked for in Socrates' demand for a knowledge of conceptions. With this demand Euclid combined the Eleatic doctrine of a contrast between sensational and rational knowledge. Distinguishing these two kinds of knowledge by their objects far more than by their form, he arrived at the conviction that the senses show us what is capable of change and becoming, and that thought only can supply us with the knowledge of what is unchangeable and really existing. He stood, therefore, in general, on the same footing as Plato, and it is possible that this view was simultaneously arrived at by both philosophers in their intellectual intercourse, and that owing to Plato Euclid was influenced by Heraclitus' view of the world of sense. Socrates had indeed made the immediate business of thought to be the acquisition of a knowledge of conceptions. Conceptions, accordingly, represent that part of a thing which never changes. Not material things, but only incorporeal species, taught Euclid, admit of true being. The same view Stilpo expressed, when he refused to allow the general conception to apply to individual things, on the ground that a general

conception implies something quite different from every individual thing, and not like these having its origin in time. In this respect the Megarians again agree with Plato. Whilst Plato, however, regarded species as living spiritual forces, Euclid, following in the steps of Parmenides, denied every kind of motion to being. He, therefore, reduced action and passion to the sphere of the becoming. Of being, he asserted, you can neither predicate action, nor passion, nor yet motion." (pp. 261-262, notes omitted)