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The Megaric Possibility Paradox

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Abstract: In *Metaphysics* Theta 3 Aristotle attributes to the Megarics and unknown others a notorious modal thesis: (M) something can φ only if it is φ-ing. Aristotle does not tell us what motivated (M). Almost all scholars take Aristotle's report to indicate that the Megarics defended (M) as a highly counterintuitive doctrine in modal metaphysics. But this reading faces several problems. First: what would motivate the Megarics to hold such a counterintuitive view? The existing literature tries, in various ways, to motivate (M) in a way neither trivial nor absurd. But, as we will argue, the main approaches end up attributing an unsustainable position to the Megarics. Second: most historical evidence for the Megaric lineage presents the group's philosophical practice as dialectical or negative. So why think that the claim reported in Theta 3 presents a positive, and highly controversial, metaphysical claim? This paper addresses these problems by proposing a dialectical (or negative) reading of the Megarics in Theta 3. By 'dialectical' we here mean a mode of philosophizing that neither seeks to establish the truth or falsity of certain theses, nor takes a skeptical stance. There are different reasons why a philosopher might want to take up such a mode; in the case of the Megarics we argue that they might have wanted to put pressure on Aristotle's idea of possibility and the 'test' for possibility that Aristotle mentions in several works. Reading, as we do, (M) as (part of) a paradox about possibility and actuality, we argue that the Megarics' dialectical approach here aims to highlight a shortcoming of an intuitive conception of possibility, which underpins Aristotle's idea of possibility and which features in his test for possibility.

Keywords: possibility; paradox; Aristotle; Megarics; powers

1 Introduction

In *Metaphysics* Theta 3 Aristotle attributes to the Megarics and unknown others a notorious modal thesis: (M) something can φ only if it is φ-ing. Aristotle does not tell

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us what motivated (M). Almost all scholars take Aristotle's report to indicate that the Megarics defended (M) as a highly counterintuitive doctrine in modal metaphysics.

But this reading faces several problems. First: what would motivate the Megarics to hold such a counterintuitive view? The existing literature tries, in various ways, to motivate (M) in a way neither trivial nor absurd. But, as we will argue, the main approaches end up attributing an unsustainable position to the Megarics. Second: most historical evidence for the Megaric lineage presents the group's philosophical practice as dialectical or negative. So why think that the claim reported in Theta 3 presents a positive, and highly controversial, metaphysical claim?

This paper addresses these problems by proposing a dialectical (or negative) reading of the Megarics in Theta 3. By 'dialectical' we here mean a mode of philosophizing that neither seeks to establish the truth or falsity of certain theses, nor takes a skeptical stance. There are different reasons why a philosopher might want to take up such a mode; in the case of the Megarics we argue that they might have wanted to put pressure on Aristotle's idea of possibility and the 'test' for possibility that Aristotle mentions in several works. Reading, as we do, (M) as (part of) a paradox about possibility and actuality, we argue that the Megarics' dialectical approach here aims to highlight a shortcoming of an intuitive conception of possibility, which underpins Aristotle's idea of possibility and which features in his test for possibility.

2 The Megaric Modal Thesis

Aristotle's *Metaphysics* Theta 3 gives a series of arguments against opponents who try to 'deflate' non-actual modalities. In particular, Aristotle targets the Megarics, who reduce the possible to the presently actual. It is unclear what organizational status should be applied to the 'Megarics'[1] that Aristotle refers to here. Later sources sometimes present the Megarics as a school, but there are reasons to think that they are a less institutionalized group (see (Allen 2019; Giannantoni 1993; Döring 1989; Sedley 1977)). Aristotle formulates their point thus:

> There are some, e.g. the Megarics, who say (*phasin*) that when something is actual (*energē*) only then is it possible (*dunasthai*) and when something is not actual it is not possible. For example, someone who is not building cannot build, but someone who is building can when building. Similarly in the other cases.
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> Aristotle, *Metaphysics* Theta 3, 1046b29-32 (our translation).

1 Ancient Greek marks a distinction between '*Megarikos*', plural '*Megarikoi*', a term which refers to a philosopher associated with the group in question, and '*Megareus*', plural '*Megareis*' a geographical eponym for the city of Megara. We mark this distinction in English, using 'Megaric' to translate the former term and 'Megarian' to translate the latter.

It is hard to translate Aristotle's modal vocabulary consistently. One could render the verb *dunasthai* as (a) 'can' or (b) 'to be possible'.[2] The cognate adjective *dunaton* could mean (a) 'can' or (b) 'is possible'. That is, Aristotle's vocabulary does not determine whether he is discussing modal properties or the modalities of states of affairs. The Greek leaves open the question of whether we should interpret Aristotle's target as discussing claims of the form 'It is possible that *p*' or claims of the form '*a* has the power to *φ*'.

Philosophers now use the term 'power' (or 'capacity', which we take as a synonym here for 'power') to mean a property that exists even when it is not manifest. Powers are distinguished into: dispositions, like being fragile; affordances, like being passible; and abilities, like being able to build a house. This latter category are powers that belong to agents and relate to actions (Gibson 1979). Some of Aristotle's examples in Theta 3 are abilities. The builder, an agent, has or lacks an ability to act (in this case to build) (104bb30-31; b34; 1047a3). Aristotle also gives the example of the ability to stand (1047a15). Other cases Aristotle considers, such as being perceptible (1047a6), are not strictly speaking abilities. Abilities are properties only of agents, but being perceptible is a power or capacity, since it is a property something can have while not being perceived.

So what is the Megarics' view? Broadly, the Megaric modal thesis is this:

(M) *x* can *φ* only if *x* is *φ*-ing.

For example, Socrates can stand only if Socrates is standing.[3] (M) is still too broad to be evaluated so we need some specification. First, are the modalities in (M) meant to be powers or possibilities? In the case of possibilities we have:

(M1) it is possible that *p* only if *p*;

for powers we have:

(M2) *x* has the power to *φ* only if *x* is *φ*-ing.

With possibilities, (M1), although Socrates has the capacity to stand (say because he has functioning sinews and bones), it is impossible for him to stand unless he is standing. He might be prevented from standing by the attendant circumstances e.g.

2 *dunasthai* is an infinitive. In English, however, it is not possible to form an infinitive using the word 'can'; one has to resort to 'to be able' which we avoid in order not to introduce a different concept.
3 Cf. *SE* 4, 166a 23–32 on which see (Schiaparelli 2003).

the ceiling being too low.[4] If, on the other hand, the thesis is about powers (M2), whether or not Socrates can stand is dependent on his exercising his capacity to stand.[5]

Second, should we understand the 'only if' as a conditional regarding the circumstances or the time of the event in question? That is, is (M) best understood as:

(M3) *x* can *φ* only if *x* is *φ*-ing;

or as

(M4) *x* can *φ* only when *x* is *φ*-ing?

On the first option, Socrates can stand only under the conditions in which he stands. On the second, Socrates can stand only at the times when he stands. We present these options as exclusive for analytical purposes, because we will show that each of the temporal and conditional interpretations is unsupported. However, there may be conceptual room for an approach that combines the temporal and conditional reading. For example, you might take conditions to be primary, and say that times are simply one condition. Or you make times primary and say that conditions obtain at times. But since we will show that neither the conditional nor temporal approach is satisfactory, any combination approach will also be unsatisfactory.

In the following two subsections we consider how different combinations of these readings of (M) have been defended in the literature.

2.1 The Temporal Defense

One reading takes (M) as expressing a temporal conditional. On this reading, *x* can *φ* only *when* *x* is *φ*-ing. Owen and the seminar participants in (Burnyeat et al. 1984, 61–63) assume a temporal reading of the Megaric conditional. But Makin is the most prominent defender of the temporal reading. Makin philosophically defends the Megaric position, arguing that it is neither trivially true nor obviously false, but declines to offer historical evidence to attribute his temporal reading to the Megarics.[6] Makin thinks that the Megaric view is false, but validly follows from some plausible premises about capacities. He only formulates his position with respect to

4 Scholars who take the view that possibilities are at stake here include: Hartmann (1938), Stallmach (1959), Bärthlein (1963), Weidemann (2008), Bailey (2012), Wolf (2020).

5 Scholars who hold that powers are at stake in (M) include: Makin (1996, 2006), Jansen (2002), Burnyeat et al. (1984), Beere (2008).

6 Makin defends this methodology in (Makin 1996). We will show that it is possible to give additional historical reasons that weigh against Makin's interpretation.

capacities, but does suggest that his view has implications for possibility in general (Makin 1996, 253).[7]

Is Makin correct? If Makin can show that the Megarics have a non-trivial, non-absurd view of capacities, there is *some* reason to attribute the temporal capacities view to the Megarics: a reconstruction of their view as non-trivial and non-absurd would, after all, be charitable. But, we will argue, Makin's reading ends up attributing absurdly strong claims to the Megarics. Makin takes (M) to be the following biconditional:

> Something has a capacity at t iff it is exercising that capacity at t

He argues that this follows from two claims: the present is necessary (NP) and all capacities are synchronic (S) (Makin 1996, 254; Makin 2006, 61).

> (NP): If x does not φ at t, x does not have at t the capacity to φ at t
> (S): For any two times t_n and t_m, a has at t_n the capacity to φ at t_m only if $t_n = t_m$

Roughly, (NP) says that the present is fixed. Presently, there are no unactualized possibilities. It is now too late to be doing something other than what you in fact are doing. If I'm sitting now, then it is no longer possible that I stand right now. (S) is less intuitive, but partly captures the idea that capacities cannot be exercised when not possessed. (S) makes two claims: (1) Capacities are indexed to times, and (2) capacities are possessed only at the times specified in that indexing. Given (1) there is no capacity to sit *simpliciter*. The capacity to sit must be indexed to a time. The capacity to sit is really a capacity to sit at some time, say noon. Given (2), not only must the capacity be indexed, but an agent can possess that capacity only at the time to which the capacity is indexed. Thus, I can only possess the capacity to stand at noon at that very time.

Makin offers a philosophical defense of (M), on the basis of an intuition which (NP) and (S) capture. That intuition is (INT): capacities can be exercised only when possessed (Makin 1996, 254; 2006, 63). If a capacity cannot be (rather than merely is not) exercised at a time, then it seems absurd to claim that the capacity is possessed at that time. For example, I cannot exercise the capacity to eat lunch at dinner time (since any meal I eat at dinner time is necessarily dinner).[8] So it seems absurd to claim that (contrary to possibility) I do have the capacity to eat lunch at dinner time,

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7 Taking the temporal defense to apply to capacities (M1) is dominant amongst temporal interpretations. Apart from Makin, this interpretation can also be found in (Burnyeat 1984; Jansen 2016) and possibly (Bobzien 1993). Only the case of Bobzien is not entirely clear; her approach could also be understood to apply to possibilities (M2).

8 Of course, I can eat the same foods (*de re*) at lunchtime and dinner time: I can have pasta for lunch and pasta for dinner. It's just that the two pasta dishes cannot be, *de dicto*, the same meal.

but simply cannot exercise it. It is clear how (S) follows from (INT), but, Makin claims, (NP) does not and since both (NP) and (S) are needed to derive (M), the Megarics are mistaken that the intuition (INT) motivates (M). Makin thinks the mistake is to hold that (INT) entails (NP).

(Makin 1996, 257) then sketches the reasoning that (NP) and (S) entail (M). Suppose that Socrates stands at noon. It follows that Socrates has the capacity, at noon, to stand at noon. By (S), Socrates lacks the capacity to stand at noon at any other time. So, if Socrates stands at noon, then Socrates has the capacity to stand at noon, only at noon. At dawn Socrates is not standing. Does Socrates have the capacity, at dawn, to stand? Not according to (NP), for, since Socrates is not standing at dawn, Socrates cannot stand at dawn. But what's more, since Socrates is not, at dawn, *standing at noon*, (whatever that might mean) Socrates lacks, at dawn, the capacity to stand at noon. So, Socrates can stand at noon only when he is in fact standing, namely at noon.

Makin holds that the resulting Megaric view is neither trivial nor absurd and so could have seemed plausible. However, we think that Makin's view lacks the hermeneutic virtues he claims for it. First, (NP) is stronger than Makin advertises. Second, we think that (S) is obviously false. Both points push Makin's Megarics towards absurdity.

(NP) is stronger than Makin thinks. Makin supposes that (NP) says the present is necessary. No present possibilities are open. But as Makin formulates (NP), it quantifies not only over the present time, but over all times. (NP) claims that for *every* time, if something acts thus at that time, it must so act at that time. That entails that there are no open possibilities at any time, past, present, and future. So it is easy for Makin to show that something has a capacity only when that capacity is exercised. Given (NP), nothing *can* ever do anything other than what it *is* doing. So nothing ever has the capacity to do anything other than what it is doing. So, if Makin uses (NP) to derive (M), the position does not steer a course between triviality and absurdity, but rather ends up stranded on the rocks of the latter.[9]

Second, (S) seems both false and implausible. We formulated (S) with a particularly amiable example: I lack the capacity to eat lunch at dinner time, because it is not possible to eat lunch at dinner time. But why should we think that all capacities are like the capacity to eat lunch, i.e. that all capacities are indexed to certain times? Many capacities are not indexed to times. I have the capacity to eat at any time: I exercise that same capacity at lunchtime or at dinner time. Makin replies that what appear to be non-time indexed capacities are actually determinables, which are determined into time-indexed capacities. Thus, Makin argues that my capacity to eat *simpliciter* is my capacity to eat at breakfast-time *and* my capacity to eat at lunchtime *and* my capacity to eat at dinner time.

9 Makin's NP rules out present contingents, but not future contingents. However, the discussion of future contingents is, mercifully, beyond our scope.

This seems *ad hoc*. It is plausible to say that the basic capacities are the *simpliciter* capacities while time-indexed capacities are *simpliciter* capacities at certain times. My capacity to eat lunch is not indexed to lunch time, but rather just is my capacity to eat when lunchtime comes around. Makin could appeal to the conditions that obtain at certain times: I don't have the capacity to eat at nighttime, because I'm asleep. (Makin 1996, 267) considers this move. However, this surrenders the temporal reading of (M), relying on the conditional interpretation, which we discuss further below. So, lacking a decisive case that capacities are time-indexed, Makin's Megarics risk basing their argument for the implausible (M), on an equally implausible premise, i.e. (S).[10]

It might be possible to modify the account and make capacities double time-indexed, an option previously entertained by some scholars (Kirwin 1986; Liske 1996; Jansen 2016). So capacity attributions would be of the form: 'x has at t_1 the ability to φ at t_2. For example, Socrates has, at midnight, the capacity to eat lunch at noon. This looks like a plausible account of capacities that, even if NP holds, does not entail (M), since, if it is now 9am, what happens at 9am is fixed, but not what happens at midnight or noon. However, this suggestion does not really help. For now consider what happens if Socrates does turn out to eat lunch at noon. This entails that at noon he actualised his capacity to eat lunch at noon. So, at midnight Socrates was actually eating lunch at noon. Either this makes no sense or it means that what Socrates does at noon is already fixed by midnight, leading to a stronger form of necessitarianism.

To claim that the Megarics hold such a counterintuitive view as (M) as a positive doctrine in modal metaphysics, we would need to attribute to them a strong philosophical case. Makin claims the Megaric position is neither trivial nor absurd, but rather plausible although false. But since Makin's Megarics rely on the false (NP), and the implausible (S), their position is not strong, and hence Makin cannot cash in the hermeneutic advantages he claims for his interpretation.

10 In discussion, Thomas Slabon suggested an interesting, if speculative, motivation for (S). If time is a series of indivisible instants, then indexing capacities to indivisible instants makes sense. Slabon noted that Diodorus Cronus viewed time as indivisible instants (*SE* 10 85) (as argued by (Denyer 1981; Duncombe 2023; Sedley 1977; Sorabij 1983)). What, on this view, could a capacity to eat amount to, other than a capacity to eat at each of a set of indivisible instants? However, this reply on behalf of Makin is not conclusive. First, even if Diodorus were a temporal atomist, it need not follow that the Megarics that Aristotle has in mind here were too. But more importantly, it is unclear that temporal atomism does motivate (S). Someone who rejects (S) in favor of *simpliciter* capacities will simply say that my capacity to eat at some indivisible moment t just is my *simpliciter* capacity to eat when t comes around. Just introducing indivisible time instants will not by itself motivate (S). You would need to add the idea that capacities only exist at the indivisible instants. But this would beg the question in favor of (S).

2.2 The Conditional Defense

The conditional defense is more common.[11] Nicolai Hartmann first developed this reading in his 1938 *Möglichkeit und Wirklichkeit*.[12] He saw the Megarics as forerunners of his ideas of partial and total possibility. A partial possibility, according to Hartmann, describes a situation in which some but not all necessary conditions for a given event are satisfied. A total possibility describes a situation in which all necessary conditions are satisfied (49–50); this, for Hartmann, entails that a sufficient condition for the event is satisfied. Turning to the Megarics, Hartmann agrees that the builder can build only if actually building. According to Hartmann, the builder does not lose his ability to build when not building, but ability is not the only factor that decides whether a builder can build: it is a partial possibility for building; if other necessary conditions are unsatisfied (such as the building site, the materials, the workers, the contract, as well as the decision to take certain risks), the builder cannot build. Hartmann concludes 'Thus, speaking from the perspective of real-ontology, he 'can' only build, when he is actually building, notwithstanding his enduring possession of the art of building' (Hartmann 1938, our translation). Hartmann does not, however, offer a historical engagement with the Megarics – like Makin, Hartmann's defense of (M) remains philosophical.

(Beere 2009) follows the same line as Hartmann, but provides a more involved historical defense. According to Beere (2009, 94–95), the Megarics might have defended their thesis with examples like this: can a piece of wood at the bottom of the ocean burn? Answer: no, because in such conditions wood cannot burn; now imagine the stick is brought on land; can it burn? No, because there is no fire to light it; now imagine fire is brought; can it burn? No, as it is not close enough to ignite the stick. The Megaric can reiterate this move, identifying conditions which prevent the stick from burning, up to the point when the stick is actually burning. According to Beere, the core idea is this: if a sufficient condition for an event is not satisfied, the event will not occur. If we consider a case with only one set of jointly sufficient conditions, all of which are thus necessary conditions, we can see, Beere says (2009, 97), why the event *cannot* occur. It cannot occur because at least one necessary condition for its occurrence is unsatisfied. Thus, only what is actual can occur; and what is not actual cannot occur. Beere (2009) thinks that (M) concerns powers, but (Bailey 2012, 311–12) convincingly shows that the conditional defense generalizes to possibilities.

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11 While (Beere 2009) defends an interpretation relating to capacities or powers, the much more common approach is to understand the modal thesis to apply to possibilities; for this see (Bailey 2012; Bärthlein 1963; Calvert 1976; Hartmann 1938; Stallmach 1959; Weidemann 2008; Wolf 2020).

12 The seeds of this reading go back to (Zeller 1882).

Beere bases his interpretation on ancient sources, but the historical adequacy of the sources he relies on is questionable. Beere borrows his example from Philo the Dialectician, who himself wasn't a Megaric and whose ideas regarding possibility were quite different (see below); in fact, the ancient sources oppose Philo's view to those of Diodorus Cronus, who stands in the Megaric tradition.[13] Beere admits this, but if we reject such evidence as historically inadequate, Beere does not bring us closer to the Megarics' own argument for (M). Beere tries to fortify his interpretation by referring to Plato's *Phaedo* and *Theaetetus*, but these references remain too unspecific to provide independent evidence for the conditional defense; the outcome of Beere's discussion is that these dialogues contain philosophical ideas that are compatible with and reminiscent of the Megaric modal claim.[14] The references to Plato, therefore, support the claim that the Megarics put forward (M); the dialogues do not, however, support the view that they defended their thesis with the conditional defense.

(Bailey 2012) also subscribes to the conditional defense. Bailey argues that (M) stands in relation to another Megaric thesis (D), which Bailey sees primarily defended by Stilpo. (D) says that each and every *logos* has its own object, and each and every object has its own *logos*. As each *logos* is entirely unique, a given object has nothing to do with an object to which a different *logos* applies. The lack of communality is in fact so extreme that Bailey calls these Megaric objects 'monads' (310). Bailey shows that (D) and (M) co-entail each other, which not only could be taken as support for (M) and the conditional defense, but also to show that the Megarics held a more encompassing metaphysical system. However, there are various problems with Bailey's argument, regarding chronology, attribution of the theses, the detailed interpretation of the various texts Bailey relies on, and finally, whether the co-entailment really holds (Bailey himself admits that his interpretation is controversial and has, in part at least, to rely on guesswork; cf. 308, n. 10).

We cannot discuss these problems in detail, but we make two observations. First, Bailey does not offer support for the conditional defense, but only for (M); there is room to argue for (M) differently and still subscribe to Bailey's co-entailment.

13 Cf. Alexander of Aphrodisias, *Commentary on Aristotle's* Prior Analytics, 183.34–184.10.

14 Beere highlights the connection, explored in the *Phaedo*, between necessity and causation, especially the famous passage where Socrates denies that his bones and sinews are the causes of his actions, for instance his (not) fleeing to Megara (98c–99a). Beere speculates that the Megarics derived their views from such considerations (Beere 2009, 98). However, this passage cannot support the conditional defense. For Plato, too, thinks that a necessary condition is not a cause. So unless Beere claims that Plato subscribed to Megaricism, the passage in itself is not explicit enough to support the conditional defense. Beere also points to *Theaetetus* (156a–b and 159a–160c) where powers (*dunameis*) are said to come into being and go out of being together with the events for which they are the powers (Beere 2009, 99). At best, this supports (M), but not the conditional defense of (M).

Secondly, there is a problem for the conditional defense if the co-entailment argument goes through. Take an event (say a carpenter splitting wood) with necessary conditions $N_1, N_2, \ldots, N_n$, (say wood, strong arms, etc.) which are, however, jointly not sufficient for the event to occur. The event has two further conditions F_1 (axe) and F_2 (saw) such that if either is satisfied along with the necessary conditions, the event will occur. Now, in analogy to Beere's explanation, we are forced to include the disjunction $F_1 \vee F_2$ in the set whose items are all necessary and jointly sufficient for the event. While this line of reasoning seems unproblematic on its own, it runs into difficulties in conjunction with the monad thesis, according to which no two things ever have anything in common. In forming the disjunction and putting it into the list of necessary conditions we have gone against this claim, for we have done so on the grounds that the axe and the saw have something in common, namely the ability to split wood. This does not mean that a conjunction of (M) and (D) is self-contradictory, but only that the conditional defense is in contradiction with Megaricism as Bailey understands it. Someone who sees merit in Bailey's co-entailment argument, therefore, cannot subscribe to the conditional defense.

The conditional defense does better in rationalizing (M) than Makin's defense. Makin tried to defend the highly unintuitive (M) by an equally unintuitive thesis about time-indexed potentialities; but the conditional defense appeals to an intuitive understanding of possibility: something can happen if nothing prevents it. But if some necessary condition is not satisfied then something prevents it. We believe, nevertheless, that the conditional defense is not the best way to understand the Megarics. Before we lay out our own interpretation of (M), we need to get one more approach on the table.

2.3 The Eleatic Defense

A third approach differs from Makin and Beere, and is more similar to our own approach. Unlike Makin and Beere, (Calvert 1976) does not take the Megarics as offering a positive metaphysical view, but considers (M) to be part of a paradox. This paradox calls into doubt the possibility of change. Calvert points out that Diogenes Laertius credits the Megaric group, in particular, Eubulides, with various paradoxes. So one might suppose Eubulides to be Aristotle's source for (M).

According to Calvert, the paradox works by moving from the trivially true "that which sits necessarily, sits necessarily" to the problematic "necessarily a thing sits or necessarily a thing does not sit" (in symbols, from the unproblematic $(\Box S \supset \Box S)$, equivalent to $(\Box S \vee \neg\Box S)$, to the problematic $(\Box S \vee \Box\neg S)$). Since, according to the latter statement, everything that sits, sits necessarily, everything that in fact sits, can never not sit, or, in other words, nothing sits contingently. This entails that

everything can only do what it is actually doing, be it sitting or standing, but cannot do what it is not doing. That is, (M).

Calvert defends his reconstruction in two ways. First, he argues that Aristotle reports the premise of the modal argument at 1047a15-20 (Calvert 1976, 35). Aristotle says

> for what stands will always stand and what sits will always sit; for it will not get up if it sits; for what is not able to stand up is incapable of standing up. Therefore, if it is impossible to say these things, it is clear that possibility and actuality are different; but these arguments make possibility and actuality the same, and so it is not a small thing they seek to abolish (our translation).

However, Aristotle does not attribute the premise to the Megarics here, but rather points to consequences of (M), which he thinks are undesirable.[15]

Second, in fragments 2 and 8 of Parmenides' *Way of Truth*, Calvert detects a similar slide from the necessity of a disjunction to the necessity of each disjunct. Parmenides slides from the necessity of 'it is or it is not' (in symbols ($\Box(E \vee \neg E)$)) to 'it is necessarily or it is necessarily not' ($\Box E \vee \Box\neg E$). Calvert argues that the Megarics may have found this slide convincing due to their Eleatic heritage. We think that there is a more charitable reconstruction of the Megaric paradox available, which does not rely on attributing this mistake to them, all else being equal. Furthermore, Calvert's historical argument is based on a contentious reading of Parmenides' argument.[16] It is unclear whether Parmenides himself makes this slide in the *Way of Truth*. If Parmenides does not, then there is little reason to attribute the slide to the Megarics.

But we do agree with Calvert that the Megarics of Theta 3 are offering a paradox. We will next consider the historical evidence regarding the Megarics, which give no reason to construe (M) as a piece of metaphysical doctrine. This will clear the way for our own reconstruction of (M) as part of a paradox.

3 The Megarics in Their Historical Context

Scholars have assumed that the Megarics' motivation to posit (M) must guide our interpretation of (M).[17] Furthermore, scholars have assumed that metaphysical speculation motivated the Megarics (cf. (Allen 2019, 35)), and that the theses Aristotle attributed to the Megarics express Megaric metaphysical convictions. We find these

15 This has also been observed by (Shaikh 2019, 174, n. 68).

16 (Owen 1960) argued that Parmenides committed this logical blunder; but this interpretation has recently been challenged by (Palmer 2009) and especially (Wedin 2014).

17 For example (Beere 2009) both in his own argument and his discussion of the secondary literature.

assumptions, *inter alia*, in (Bailey 2012; Beere 2009; Hartmann 1938; Makin 1996; 2006). In fact, Bailey goes even further, arguing that two views attributed to the Megarics form a coherent metaphysical position.[18] However, the same authors who attribute to the Megarics strong metaphysical convictions often also describe those convictions as absurd.[19]

We agree that motivation should guide any interpretation of the Megarics, but we are skeptical about whether the Megarics of Theta 3 should be seen as 'positive philosophers': positing and defending some philosophical doctrines. Many ancient philosophers did not practice philosophy that way. The other extreme would be philosophical trouble-makers who simply argue against any theory. Perhaps some eristics would fit into this category.[20] Between these extremes lie philosophers who work dialectically, that is, when they present a philosophical view, they need not be defending it, like the positive metaphysician, nor discrediting it for the sake of discrediting it, like the trouble-maker.

Where should we locate the Megarics? Villar, turning to Plato's *Euthydemus*, argues that they were just trouble-makers (Villar 2016). We are not convinced that Villar even succeeds in showing that Euthydemus and Dionysodorus, Socrates' sophist opponents in that dialogue, should be counted as Megarics. But even if that were demonstrated, Villar's conclusion requires the further assumption that the Megarics are a coherent group, and that is very doubtful, given the great diversity on record and the possibility of an even greater unrecorded diversity.

There is also little evidence that they were 'positive philosophers' either from Theta 3 or elsewhere. Aristotle tells us that the Megarics "say" (*phasin*, 1046b19) certain things, but this does not tell us the attitude they took toward what they said. *Phasin*, from *phēmi*, can mean assert, but it can also simply mean say, without the implication that one is committed to what one says. So simply because the Megarics say something, it does not follow that they are committed to it as a positive doctrine. Nor does the fact that the Megarics offer an argument against a common-sense view

18 We have no space here to examine the historiographical tradition in order to establish the starting-point of this assumption regarding the Megarics, but we note that (Grote 1885, 1:118ff) strongly emphasizes what he calls the "negative character" of the Megarics' way of philosophizing, i.e. their interest in creating controversy and in creating problems for philosophical views, rather than putting forward theories by themselves.

19 (Bailey 2012, 305) calls the views "extremely implausible". Other descriptions include "strange" (Kneale and Kneale 1962, 117), "ludicrous" (Makin 1996, 274, n. 2), and "bizarre-sounding" (Beere 2009).

20 It might be worth comparing our scale with the distinction in (Grote 1885, 1:105, 123, 130) of "affirmative" and "negative" ways of philosophizing. Grote sees the Megarics as negative philosophers who were not so much interested in deriving and defending philosophical positions but rather to create controversy around existing positions. Grote also includes the Sophists, Socrates, and Plato among the "negative" philosophers. (388–9)

of modality, or indeed any view of modality, imply that they are committed to (M) as a positive piece of metaphysics.

However, our primary witness to (M), Aristotle himself, apparently takes the Megarics to be offering a positive metaphysical thesis. Aristotle introduces (M) as a first step in distinguishing the actual from the merely possible and the impossible. If Aristotle can refute (M), then he has shown that there are some non-actual modalities. Aristotle disputes (M) with several arguments: the argument from rational powers (1046b33-1047a4), the argument from non-rational powers (1047a4-10), the argument from the impossibility of change (1047a10-17). He distinguishes within the non-actual modalities, separating the merely possible from the impossible with a test for possibility (1047a23-9). Since Aristotle takes the Megarics as a foil, it seems he attributes (M) to them as a positive metaphysical thesis. If Aristotle takes the Megarics to be offering (M) as a positive thesis, surely we should follow his interpretation.

The problem with this argument is that Aristotle's dialectical strategy does not require that the Megarics endorsed (M), only that someone proposed (M). Aristotle rejects (M) to show that there are non-actual modalities, but Aristotle's interlocutors need not be doctrinally committed to (M). Furthermore, Aristotle makes clear that the Megarics are not the only thinkers to entertain (M). When he introduces (M) he uses the expression: 'There are some, for example, the Megarics … ' (1046b29). This conversationally, if not logically, implies that some non-Megarics accepted (M). At least, it leaves open the possibility that not only the Megarics entertained (M). And even if those unnamed others were doctrinally committed to (M), the Megarics need not have been. Aristotle later says that 'absurd consequences' follow (M) (1046b33), namely, (i) that there are no rational, or 'two-way' powers (1046b33-6), (ii) that Protagoreanism follows from (M) (1047a4-5), (iii) and that (M) rules out change (1047a10-15). This may indicate that Aristotle attacks someone who held (M) as a positive doctrine. But again, the Megarics may not have been the only ones who held (M). Moreover, Aristotle may be trying to persuade his audience for Theta that (M) is absurd, rather than persuade those figures attacked in Theta that (M) is absurd. (cf. (Shaikh 2019, 177)) That audience might already accept that impossibility of movement is absurd, but someone else (e.g. a Parmenidean) might not; likewise, philosophers operating in a non-positive mode might actually be content if their theses result in absurdities.

Indirect reports also give no evidence that the Megarics proposed (M) as a positive doctrine. The 17 philosophers of Euclides of Megara's lineage, who may have formed different groups at different times (Diogenes Laertius mentions the Megarics proper, "Dialecticians" and "Eristics") are: Euclides (435–365), Eubulides (fl. 4th c.), Alexinus (339–265), Euphantes of Olynthus (fl. ca. 320), Apollonius Cronus (fl. 4th c.), Diodorus Cronus († 284), Ichtyas (fl. 4th c.), Thrasymachus of Corinth (contemporary of Ichtyas), Clinomachus of Thurii (4th c.), Polyxenos (4th c.), Stilpo (360–280),

Dionysius of Chalcedon (fl. 320), Pasicles of Thebes (4th c.), Nicarete of Megara (fl. 300), Philo the Dialectician (fl. 300), Dioclides the Megarian (contemporary of Panthoides) and Panthoides (fl. 275). We don't have enough information to assess the philosophical practice of seven of these seventeen.[21] The remaining 10 philosophers fall into two groups of five: one group of five for whom there is no evidence of positive philosophizing. The other group comprises philosophers that are at least candidates for positive philosophers. Three of this group post-date Aristotle (Philo, Diodorus Cronus and Stilpo). Only one, Euclides himself, predates Aristotle's *Metaphysics* Theta; the other Eubulides, Aristotle's near-contemporary, arguably practiced a negative philosophical style. We discuss these two in turn.

Euclides lived 435–365. Some have conjectured that the *Metaphysics* was written around 327 BCE (Rist 2019, 286). So Euclides could chronologically be Aristotle's target. At first sight, Euclides seems to work in the positive mode. Diogenes Laertius could give this impression. Euclides "pursued the study of the works of Parmenides" (DL II, 106); and he "declared the good to be one although it is called by many names" (ibid.) The first statement does not imply that Euclides defended Parmenidean metaphysics. After all, Zeno defended Eleaticism using paradoxes. The second statement, however, suggests that Euclides posited and defended some metaphysical claims. So Euclides, it seems, engaged in some positive philosophy.

But there is evidence that suggests that Euclides worked in a non-positive mode. Grote accepts the evidence on Euclides' view on the good, but holds that Euclides did not infer anything from it. Euclides is rather interested in "exposing contradictions and difficulties in the positive doctrines of opponents." (Grote 1885, 1:121). Grote also explains a remark in Diogenes' *Lives* (II, 107) whose significance is otherwise hard to appreciate. Diogenes says that Euclides, when he objected to a demonstration, did not attack its premises but rather its conclusion. Grote relates this to Zeno in Plato's *Parmenides* (128c–d), who tried to show how plurality has implausible consequences. This, Grote suggests, was also Euclides' *modus operandi*: rather than questioning the truth of the premises, he discredited a demonstration by showing how it led to absurdities.

Euclides' habit of attacking conclusions is in fact one of two remarks Diogenes makes in one context. According to Diogenes, Euclides rejected argument from analogy (*parabolēs logos*). If this refers to the Socratic practice Aristotle describes at *Met*. 1078b25–29 (also see Tredennick's note *ad loc.*), Euclides rejected a key part of the Socratic method. Remarkably, one element of Socratic philosophizing that Euclides might have accepted, though, is Socrates' disavowal of knowledge (see *SSR* II a 17 and (Brancacci 2017, 165)). In that case, Diogenes presents a second major element of Euclid's negative philosophizing.

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21 Euphantus of Olynthus, Apollonius Cronus, Ichthyas, Thrasymachus of Corinth, Pasicles of Thebes, Nicarete of Megara, and Dioclides the Megarian.

The strongest evidence for the claim that Euclides was a philosopher working in the non-positive mode, however, can be found in several passages of Diogenes' *Lives*. First, in the chapter on Socrates, Diogenes writes: "Seeing Euclides being serious (*espoudakota*) about eristic arguments (*tous eristikous logous*) he said 'Euclides, you will be able to get along with Sophists, but not at all with men'." (DL II.30) Diogenes explains that Socrates thought this sort of word-trapping (*glischrologian*[22]) useless. Even harsher than Socrates is Timon of Phlius (320–235), whose *Silloi* say this: "But I do not care for these idle talkers (*phledonōn*), and neither for anyone else, not for Phaedo, whoever he is, nor for quarreling Euclides, who put into the Megarics a raging love for contention" (802 SH = 28 D). In sum, the evidence suggests that Euclides worked predominantly in the non-positive mode or at least that he had strong inclinations in that direction.[23] They were at least strong enough for his many successors to continue working in the non-positive mode. We don't claim that no Megaric ever held a positive metaphysical view. All we claim, and all we need, is the weaker, and surely well-evidenced claim that the Megaric philosophical practice was, for the most part, dialectical.

The other chronologically possible Megaric is Euclides' student, Eubulides. Eubulides' exact dates have not survived, but some of his philosophical activity probably took place between 342/1 and 335 (cf. (Döring 1998)). Most importantly, Diogenes (DL II.108) credits Eubulides with the authorship of various "dialectical arguments", which are in fact the paradoxes known as *The Liar*, *The Sorites*, *The Horned One*, *The Bald Head*, *The Veiled Figure*, *The Disguised*, and *Electra*. Aristotle discusses two of them – *The Veiled One* and *The Liar* – in his *Sophistical Refutations* (179a33–b33 and 180b2–7). With such a record, Eubulides was the foremost paradoxical philosopher of antiquity, equaled only by Zeno of Elea. At least two sources (DL II.109 and Eusebius, *Praeparatio Evangelica* 15,2) report that Aristotle and Eubulides engaged in a barely civil controversy. Several scholars speculate that part of that controversy was the modal thesis reported in Theta 3. Whether or not Eubulides originated the modal thesis, the evidence for understanding the Megarics Aristotle mentions in the negative mode is overwhelmingly strong.

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22 Few passages use this interesting word – and the word it is built from, *glischros* (= sticky) – in connection with sophistry; but cf. Philo Judaeus, *De Cherubim* 1.146, where Philo complains about those who pride themselves with *onomatōn glischrotēti kai terthreiais*. Also see Augustine, *Confessions* 3.6.10, where Augustine describes the *viscum* of the Manichaeans, which consists of empty words devoid of truth. The word *viscum* in the *Confessions* passage is regularly translated as 'birdlime' (see also LSJ s.v. γλισχρότης, which speaks of 'the 'birdlime' of verbiage "(as clogging the intelligence)"; likewise Lewis & Short s.v. *viscum*)

23 The picture drawn by (Brancacci 2017) looks quite different. For him, a positive doctrine, namely Eleaticism, determines Euclides' philosophical character. Brancacci, however, ignores testimony such as DL II.30 (see above).

To sum up: the lineage from Euclides to Panthoides is dominated by negative philosophizing. Focusing on those philosophers that chronologically could have been Aristotle's target in *Metaphysics* Theta 3, Euclides and Eubulides, both engaged in negative philosophizing. Even if one is not prepared to identify Eubulides as the author of (M), the historical evidence strongly speaks against the Megarics as positive philosophers.

4 The Contradiction Argument[24]

4.1 Presentation

So is there a way to motivate (M) without assuming that the Megarics are offering a positive doctrine? Recall that according to (M) only what is actual is possible. In order to challenge this, one has to claim the existence of unactualized possibilities. The Megarics can reject this claim by a very simple maneuver. They first ask whether it is possible for x to φ although x is not actually φ-ing. If x were to actually φ, x would actually both φ and not-φ. But this would be a contradictory state-of-affairs. So, the Megarics conclude, it is not possible for x to actually φ. Since the same result holds for all values of φ, it will be possible for x to φ if and only if x is actually φ-ing; but if x does not φ, it is not possible for x to φ, which is what (M) says. To illustrate this argument for (M), we can imagine the Megaric in action:

> *Megaric*: Can you move your hand now,[25] Socrates?
> *Socrates*: Of course.
> *Megaric*: But now you are not moving your hand, so if you were to move it now, you would move it and you would not move it. Surely that's impossible.
> *Socrates*: That's true.
> *Megaric*: But the same will happen to every single example we choose, except for those things that are actually happening. So only those things are possible that are actual.

24 Since we want to suggest that the Megarics did not offer (M) as a piece of positive metaphysics, we do not think it appropriate to call their supporting argument a 'defense', as we did with existing accounts in the literature which do suppose that for the Megarics (M) was a piece of positive metaphysics. We thank an anonymous referee for pressing us on this terminological question.

25 Strictly speaking, the reference of 'now' changes throughout the conversation, referring each time it is mentioned to a different state-of-affairs. The contradiction that the Megaric points out thus strictly speaking applies looking back in time. An anonymous reviewer raised the question whether a conception employing double time-indexed capacities can avoid the contradiction here because it avoids the ambiguity of the differently referring nows. We have said above why we don't believe that such a conception is viable. Here we want to add that, if the interlocutor tries to avoid the contradiction by pointing out that the 'now' each time refers to a different state-of-affairs, and that the state-of-affairs plays a crucial role in determining whether or not a certain action is possible, the Megaric is in fact one step closer to his ultimate aim, as we argue below in 4.2.

We will call this argument the 'contradiction argument'.[26]

This argument consists of three elements: (1) the possibility under consideration, (2) the actual state-of-affairs, and (3) the principle of non-contradiction (PNC). The Megaric extracts the first element from the interlocutor by asking for some non-actual possibility. The Megaric and the interlocutor agree to the second element which is either established by the term 'now' or by stipulation; the relevant context here simply takes account of the non-actual possibility under consideration. Finally, the Megaric combines the first two elements. In virtue of the PNC, the interlocutor's non-actual 'possibility' turns out to be impossible. An opponent of the Megarics' thesis might object that the Megaric's argument employs a scope ambiguity. The sentence 'It is possible for something that is not φ-ing to φ' can be understood to mean either: (i) x is not φ-ing and it is possible: x is φ-ing. (ii) It is possible: x is not φ-ing and x is φ-ing. While (ii) is a contradiction, (i) is not, and so the Megaric's argument can be defused. However, (i) is the starting-point assumption of the Megaric's interlocutor; the Megaric then moves from this point to (ii) and the contradictory conclusion. On the basis of which background assumptions he is or is not entitled to make this move is at issue between the Megarics and their opponents and so a simple reference to scope ambiguities will not do. We will say more about those assumptions later.

This argument lends itself to be used as a paradox: the Megaric asks a simple question, and the answer seems obvious. The relevant state-of-affairs (i.e. the non-actuality of what has been declared possible) is noted by the Megaric but can hardly be disputed; finally, the PNC is as sure as any principle. So it seems that we have moved from apparently true premises by apparently valid inferences to an – to say the least – highly counterintuitive conclusion, which is exactly what a paradox does.[27] Moreover, the argument has the *prima facie* simplicity of ancient paradoxes. Ancient paradoxes, whether Eubulides' or Zeno's, tend to be straightforward.[28] In a dialogical context, the perplexity motivates a search for a fallacy. Thus, a paradox like the contradiction argument for (M) fits the historical evidence of the Megarics as philosophers working in the negative mode.

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26 An anonymous reviewer suggested that the contradiction argument is just the conditional defense in disguise, since $\neg(p \wedge q)$ is equivalent to $p \rightarrow \neg q$. In reply we first want to point out that, since logical equivalence is symmetric, one could equally claim that the conditional defense is the contradiction argument in disguise. But, more importantly, logical equivalence is not what is at stake here. We argue below in 4.2. why and on what grounds we think the contradiction argument is superior to the conditional defense.

27 At least some critics (Allen 2019; Calvert 1976; Grote 1885; Ross 1924) use the term "paradox" to describe the Megaric position.

28 (Ross 1924, 244) likewise notes the straightforward character of what he judges to be a "very simple piece of reasoning".

The closest relative to the contradiction argument appears in a list of possible interpretations in (Burnyeat 1984, 61–62): "X doesn't have the ability to (φ while not φ-ing). (The Law of Contradiction)".[29] But there are important differences between our readings. Burnyeat et al. hold that the Megaric modal thesis is an instance of the PNC, but the contradiction argument does not. Rather, the PNC is one part of the contradiction argument as we said above when we listed its elements. This response may not satisfy Burnyeat et al. because although they do agree that an interpretation along these general lines might be feasible (Burnyeat 1984, 63), they reject it because of its seeming triviality. What rendered this reading unattractive to Burnyeat et al., and the reason why they did not pursue it further, is that the thesis, as they have it, is a "truism" (Burnyeat 1984, 62), and "so obvious that there seems little interest in stating" it. While our own interpretation is more complex – the PNC is just one of three elements in the contradiction argument – we agree that the contradiction argument still could be considered trivial. But triviality is only grounds for dismissal if combined with further assumptions, pertaining to the significance of truisms, or a background philosophical project that would make truisms unwelcome. Assuming that the Megarics were engaged in a positive metaphysical project might indeed make truisms unwelcome. However, we have seen above that there is little evidence for the view that the Megarics were engaged in a positive metaphysical project. If, as we suggest, we understand the Megarics as negative philosophers, there is no need to worry, as Burnyeat et al. did, about invoking truisms in the way the contradiction argument does.

Why does our proposal rely on the Megarics not making genuine metaphysical claims, but only being committed to their view dialectically? Could it not be the case that the Megarics were holding (M) as a genuine metaphysical claim and that they tried to defend it with the contradiction argument? The answer is that if the Megarics were committed to (M) as a genuine metaphysical claim, it would be entirely puzzling why they would try to defend something trivial *at all*, let alone with the contradiction argument. But could the Megarics have been committed to (M) only dialectically, while being committed to the consequences of (M), such as the rejection of change, as positive metaphysical theses? Holding a thesis dialectically in this context entails that the holder believes the thesis to have unwelcome consequences which he plans to marshall against his opponent. So holding (M) dialectically, as we think the Megarics did, is incompatible with thinking that they held the consequences of (M) as genuine metaphysical claims.

One objection to the contradiction argument, which also applies to the conditional defense, is that it rules out present non-actual possibilities but not future non-actual

29 Note that later on (63) the authors observe that this thesis is "most naturally stated in terms of possibility, rather than of potentiality or ability".

possibilities.[30] Thus, while *x* cannot *φ* now because *x* is not actually *φ*-ing, nothing has ruled out *x* being able to *φ* in the future. Since future possibilities are non-actual, the contradiction argument hasn't ruled out all counterexamples to (M). The Megarics, however, can extend their response to block this move. Let the question be whether *x* can *φ* in the future (*tn* + 1) although *x* is not *φ*-ing now (*tn*). At *tn* + 1, therefore, *x* is either *φ*-ing or *x* is not *φ*-ing. If *x* does not *φ* at *tn* + 1, it is not possible for *x* to *φ* at *tn* + 1 (this is just an application of the simple contradiction argument that substitutes reference to the present with reference to any given point in time); but if *x* does *φ* at *tn* + 1, then *x* must have changed from not *φ*-ing at *tn* to *φ*-ing at *tn* + 1. It might be tempting, at this point, to refer to Aristotle's no-change argument to close off this path.[31] However, since Aristotle's no-change argument is based on (M) as a premise, one cannot, on pain of circularity, use it to argue for (M). What the Megarics can do, however, is to ask *when x* changed from not *φ*-ing to *φ*-ing. Call that moment *tc*. It is a general condition of change that, if *a* changes to *F*, *a* is not *F* at the onset of the process of change. Hence, if *x* is supposed to change to *φ*-ing, we have to assume that *x* is not *φ*-ing at *tc*. But if it is not *φ*-ing at *tc* it cannot *φ*, as the Megarics can show by the simple contradiction argument above. Now both paths of the argument are closed off, and the Megarics can reject the objection of future non-actual possibilities. Future possibilities cannot, therefore, harm the Megarics' contradiction argument for (M).[32]

As soon as we give up the idea that the Megarics defended (M) as a metaphysical doctrine the contradiction argument becomes a viable candidate, as it makes an argument for (M) by way of a paradox. However, this does not give the contradiction argument a decisive edge against the conditional defense, which could also be construed as a paradox. So, we will consider one more piece of evidence: Aristotle's modal test, which he formulates in various texts. The test is strikingly similar to the contradiction argument and contains an indeterminacy which could have been the target of the Megaric paradox. Thus, the paradox could be understood as putting pressure on such tests.

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30 See (Beere 2009, 99), who thinks that this is an understanding of the modal thesis itself that comes out of the *Theaetetus*. (Makin 2006, 62) thinks that while this is not the view of Aristotle's Megarics, it would be a natural evolution of their view. (Ross 1924, 244) thinks that Megarics' thesis was meant to be a paradox, which, however, could be easily defused by a simple reference to a non-actual possibility that obtains at a later time.

31 Aristotle, in what immediately follows his formulation of (M) quoted above in section 2, proceeds to show (in what appears to be a valid argument) that the Megarics' modal thesis entails that there is no change.

32 At this point, someone could object that, while the simple contradiction argument is indeed a possible reading of the report in Theta, this extended form of the contradiction argument is nowhere to be found in the text. We reply that the difference between the simple and the extended form is, in our view, really minimal. It consists only of the reapplication of the simple form to various future *t*s plus the comparison of the state-of-affairs at these *t*s with the one at *t*.

4.2 The Test for Possibility

Various conceptions of possibility, including an everyday notion of possibility, share the idea that in order to determine whether something is possible one must check for compatibility with the obtaining actuality. Most people would say that it is not possible for someone to be on time for an appointment if they are 100 miles from the location of the appointment and there are only a few minutes left. The obtaining actuality lacks what is needed to make the appointment on time, so the proposed possibility is rejected.[33]

This idea, that the obtaining actuality is what decides whether something is possible, also figures in Aristotle's official conception of possibility. Three passages contain a "test" for non-actual modalities, including possibility.[34] They agree on the fundamental idea which is at work in the everyday notion of possibility: *p* is possible just in case, if *p* is actual, then nothing impossible follows. Before showing how the test relates to the contradiction argument, there are two issues to discuss.

It's unclear what status the 'test' should have. Aristotle calls it a definition (*horismos*, *Prior Analytics* 33a25). If it is a definition, it is a circular definition, as possibility would be defined in terms of impossibility. Some commentators think that Aristotle would not have been concerned about this circularity; others propose that we should read the term *adunaton* as "contradiction", to avoid circularity.[35] Since our interpretation does not hang on the question whether or not Aristotle is giving a proper definition here, we do not want to engage in this debate. Regarding how *adunaton* should be read, we hesitate to translate with "contradiction", but a contradiction would of course be an exemplary impossibility. Thus, applications of the test which result in contradictions unambiguously decide whether the candidate of the test is possible or not. Since our own interpretation can confine itself to contradictions, as we will show below, we can steer clear of this second issue, too.

Second, how should we apply the test? The basic idea is to assume that *p* is actual and then see if any impossibility comes about. But against which scenario do we

33 Our example happens to involve what is *physically* possible and we chose it because it is intuitive. We don't mean to imply that only physical possibility is at stake in Aristotle's test. For a helpful treatment of modals like 'can', see (Kratzer 1977).

34 *Physics* VII.1, 243a30-1: "when something possible (*endechomenou*) has been posited, nothing impossible (*adunaton*) comes to be because of this"; 243a1-2: "when something possible (*endechomenou*) has been posited, it is necessary that nothing absurd (*atopon*) follows"; *Prior Analytics* I.13, 32a18-20: "I call something possible (*endechesthai*) and the possible (*endechomenon*), which, not being necessary (*anagkaiou*), if it is posited, nothing impossible (*adunaton*) follows because of this"; *Metaphysics* IX.3, 1047a24-6: "This is possible (*dunaton*), that which, when the actuality obtains of that which was said to be a possibility (*dunamin*), nothing (*outhen*) impossible (*adunaton*) follows".

35 As an example of the first group, see (Waterlow 1982, 16); for the second, see (Makin 2006, 75).

check *p*? How far may this scenario deviate from what is actual – how accommodating should we be of *p* – and what criteria can we use to determine the degree of accommodation?[36]

Commentators so far have suggested a scale of deviation. At one end of the scale, we might be minimally accommodating, when we suppose *p* is actual, but hold fixed the truth-values of all other propositions of the obtaining actuality. For example, suppose a situation in which the following two propositions are true: 'Socrates is not sitting'; 'no one is sitting'. To test whether it is possible that Socrates sits we assume 'Socrates is sitting' is true. But 'Socrates is sitting', entails 'someone is sitting', which contradicts 'no one is sitting' ('no one is sitting' is held true in the background against which we test the possibility of 'Socrates is sitting'). But contradictions are impossibilities. So allowing only minimal accommodation entails that it is not possible that Socrates sits. That is, if we allow no further accommodations but assume that *p* is true while it is not, the test will yield a notion of possibility where *p* is possible only if *p* is actual, i.e. (M).

At the other end of the scale, we might apply the test in a maximally accommodating way. In this case, when we suppose that Socrates sits we will also change the truth-value of any attendant propositions, such as that 'no one is sitting'. Since in this way contradictions can be avoided, allowing for maximal accommodation in the scenario against which we test, it is possible that Socrates sits. So all and only self-consistent propositions will be possible. That is, if we allow any accommodations whatsoever in addition to assuming *p* to be true, the test will test for broad logical possibility.

But commentators have overlooked an even stricter application of the test, namely, applying the test to a scenario that does not allow any deviations from the obtaining actuality, i.e. it allows no accommodations whatsoever. In this case, supposing that Socrates sits will immediately result in a contradiction because the scenario against which we test still contains the proposition 'Socrates is not sitting'. With such a strict application of the test, 'Socrates sits' is possible if and only if it is true that Socrates sits. And 'Socrates sits' is impossible if and only if it is false that Socrates sits. So, the strict application of the test also leads to (M). More importantly for our purposes, however, is that this version of the test is close to the contradiction argument. For the contradiction argument does exactly this: ask someone to assume something to be true which is in fact false and test this truth against the obtaining actuality without any deviation.[37]

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36 This distinction issue is also discussed by (Makin 2006, 75–76).

37 The minimally accommodating application will result in a contradiction in cases where the tested proposition, *p,* entails the negation of some other proposition, *q*, which does not change its truth-value (as per the minimally accommodating application of the test). The result is a contradiction: *q* and not-*q*. The unaccommodating application of the test will result in a contradiction when any non-actual proposition is tested for possibility. It does not matter whether that proposition entails the negation of any other. From the standpoint of logic, the minimally accommodating application will result in (M) only in worlds where there is some other proposition that can conflict with what is

The strong similarity between the strict application of the possibility test and the contradiction argument allows us to make the following observation.[38] There is a conception of possibility that relies on a possibility test such as the one Aristotle reports in the *Physics*, the *Metaphysics* and the *Prior Analytics*. Such tests make intuitive sense because when we apply them we implicitly deviate from the obtaining actuality although we think that what we test against is the obtaining actuality.[39] The Megarics, however, can insist on taking the test literally: assume to be true that of which you want to test the possibility and see if that assumption, in the context of the obtaining actuality, leads to an impossibility. If 'obtaining actuality' is taken strictly, i.e. without any deviations, this immediately leads to the paradoxical (M). Are the Megarics entitled to apply the strict version? Proponents of the test don't intend it to be applied in that way. However, the three descriptions of the test that Aristotle offers do not contain any specifications regarding accommodation, and so the accommodation requirement, although crucial, is merely implicit. The Megarics, through the contradiction argument, force this requirement out into the open and thereby put pressure on the test and the conception of possibility relying on the test: how is the requirement to be specified and what criteria can be used to defend a given specification?

Can one avoid the paradoxical (M) but keep the test? The maximal accommodation option gives up on testing against the obtaining actuality and the possibility that results is broad logical possibility. Anything between this option and the unaccommodating application has to name a criterion that non-arbitrarily sets the level of deviation. The fact that Aristotle mentions the test in *Metaphysics* Theta after he has discussed the Megarics indicates that he is not willing to give up the test altogether (we'll say more about this feature of the structure of Theta 3 below). It is not obvious how the Theta description of the test offers a solution to the Megaric challenge, and we cannot discuss this issue in detail, but we believe that the passage offers starting-points for an interpretation that takes account of the Megaric challenge.[40]

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entailed by the tested proposition. The unaccommodating application of the test will result in (M) even in a world where there is only one proposition, or where no entailment relations obtain.

38 Other scholars have suggested a dialectical background of the test itself (Jacobi 1997; Jansen 2016).

39 We ask: "is this possible now?", not: "is this possible in the following stipulated scenario which resembles the obtaining actuality in all but these points?".

40 Perhaps along the lines of (Witt 1995), who argues that Aristotle's notion of substance provides the specifying criterion for the test. Cp. also with Philo, for instance, who defined what is possible as "what is predicated in accordance with the suitableness of the subject (*tēn epitēdeiotēta tou hupokeimenou*), even if prevented from coming about by some external factor" (LS 38B2. Cf. LS 38D); hence, for Philo the criterion seems to be the *hupokeimenon*: its properties cannot be subject to accommodation, but whatever is external to it, can.

So Aristotle's test for possibility supports the contradiction argument for (M), especially if the Megarics were engaged in challenging contemporary philosophical presuppositions. But how does the test for possibility relate to the conditional defense? Can the latter be modified one more time to make yet another comeback?

The conditional defense, as presented by Beere, seems quite different from the possibility test, as it relies on a sorites-style cascade of necessary conditions narrowing in on a sufficient condition. But a conditional defense could result from multiple applications of the test for possibility. We could say that the Megaric begins by asking his interlocutor to suppose that a stick of oak lies at the bottom of the ocean. He then asks whether this stick can burn and that the answer should depend on the test for possibility: assume that the stick is burning and see if any impossibility follows. In the supposed scenario, if the stick would burn, there would be fire underwater, which the interlocutor will declare to be impossible. Now suppose the stick is taken out of the water and re-apply the test, and so on.

In effect, this presentation of the conditional defense moves through the scale of accommodation. The initial degree of accommodation will not be on the pole of the scale; at most it will be as the minimal version prescribes, for otherwise the defense is the contradiction argument and we won't see a cascade, but sometimes the Megaric will have to allow for even more accommodation in order to elicit a first affirmative reply regarding the question whether something is possible, which is then the starting-point of the cascade. The terminal degree of accommodation likewise does not coincide with the other pole of the scale, i.e. maximal accommodation, but will retain all those supposed facts which, according to the questioning Megaric, do not bear on the possibility under investigation (for instance, the supposition that the stick is oak).

This conditional defense might be at least compatible with the test for possibility. But does it fit the dialectic as well as the contradiction argument, i.e. does it put pressure on the test for possibility? The Megarics force into the open the indeterminacy hidden in Aristotle's formulation of the test by showing that (M) is a consequence of the test. But to achieve this, they need to agree with their interlocutor that certain situations are impossible, i.e. that certain proposed possibilities fail the test. No doubt the contradiction argument can bring about these agreements, for it works on clear-cut contradictions, which are agreed to be impossible. Whether the conditional defense can come to an agreement, and in particular with Aristotle, is unclear. For it seems that Aristotle does not think an impossibility results when applying the test for a proposed possibility against a context which does not assume the actuality of the event the possibility of which we test. It is unclear, therefore, where the Megarics' confidence would come from that they would reach an agreement with Aristotle regarding the outcome of a series of tests that would ultimately lead to (M), while it is very easy to see where this confidence would come from in the case of the contradiction argument, namely from the PNC.

Finally, it could seem as if the very structure of Theta 3 speaks against our interpretation and in favor of the conditional defense, because, so the objection says, the fact that Aristotle brings up the test after discussing and, in this view, refuting (M), shows that (M) cannot have been designed as an attack on the test. We have already said above that we believe that an interpretation of the chapter can be developed that contains a defense of the test in face of the difficulties (M) brings up. Here we want to emphasize that if the chapter structure is a problem for our interpretation, it is likewise so for the conditional defense. For it is not the type of argument for (M) but rather (M) itself that has a direct bearing on the test. (M) says that only what is actual is possible. The test says that only that is possible which, if assumed to obtain, does not bring about impossibilities. But, according to (M), that is only the case if what is assumed to obtain does actually obtain. So, (M) is one way to give the test the criterion it needs to be applicable, no matter how (M) itself is justified. By refuting (M), Aristotle at best has indicated that he doesn't wish (M) to be the test's correct criterion of application, but that is not enough, as we have argued above. The crucial point here is that no matter how we justify (M), the fact that Aristotle brings in the test after discussing (M) is strange as long as we think that there isn't an argument for a criterion of application different from (M). But if we think there is such an argument, or at least an indication of one (as in Witt's interpretation), then our interpretation of (M)'s justification is superior to the conditional defense, because it links in directly with the test.

5 Conclusions

We began this paper by reviewing the literature on defenses regarding the Megaric modal thesis (M) which Aristotle reports in *Metaphysics* Theta. Neither of the proposals had much historical evidence in its favor, and one of them, the temporal defense, had, in our opinion, serious flaws. We also observed a widely shared – though undefended – conviction according to which (M) should be understood as a piece of metaphysical doctrine; in fact there is little, if any, clear evidence one could refer to in the Megaric lineage in order to show that the Megarics were metaphysicians working in the positive mode. On the contrary, there is a great amount of evidence that shows that the lineage is dominated by negative philosophizing. Focusing on the chronologically relevant period, this impression is strengthened by the character of Eubulides, a masterful inventor of paradoxes. This evidence suggests that the Megarics of Theta were not metaphysicians working in the positive mode. We then proposed a different argument for (M) which we called the contradiction argument. Critics have previously stopped short of investigating such an argument, because, we think, their view of the Megarics as holding metaphysical doctrines prevented them from seeing its merits.

In light of the historical background, we think that (M) is best understood as (part of) a previously unrecognized Megaric paradox. This paradox, if reconstructed by the contradiction argument, moves from indisputable premises to perplexing conclusions. It is indisputable, we think, to say that it is impossible for *x* to *φ* and to not-*φ* at *t* (even observing aspectual qualifications), but it is perplexing to say that, at *t*, *x* does not have the possibility to *φ* if *x* does not *φ* (i.e. current possibility collapses into current actuality); and it is highly perplexing to say that for *t* and any future time *t*+, all that is possible for *x* to do or be is what *x* actually is doing or is at *t*, and that what *x* is not actually doing or is not at *t*, *x* is never able to do or be (i.e. current and future possibility collapse into current actuality).

Since the conditional defense can also be understood as a paradox, the historical evidence of the Megarics' mode of philosophizing alone does not suffice to rule it out. We therefore considered one more piece of evidence. We turned to Aristotle's so-called 'test for possibility' and argued that it shows a strong similarity to the contradiction argument. This speaks in favor of the contradiction argument as it allows us to understand the test for possibility as the original target of the paradox. The conditional defense, though it can be modified further to be compatible with the idea of putting pressure on the test, ultimately fits less well into this dialectic. Riddles, like the contradiction argument, might have had serious purposes: they were attempts to uncover problems in philosophical and everyday notions of their time, and as such, they might have had a significant impact.[41]

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