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A short notice on Robert Heinaman's account of Aristotle's definition of κίνησις in *Physica* III

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In *Physica* III. 1-2 we can find at least two explicit definitions of change (κίνησις):[1]

(1) The actuality of what potentially is, *qua* such (ἡ τοῦ δυνάμει ὄντος ἐντελέχεια, ᾗ τοιοῦτον. *Phys*. 201a10- 11)[2]

(2) The actuality of the potential, *qua* potential (ἡ τοῦ δυνατοῦ, ᾗ δυνατόν, ἐντελέχεια. *Phys*. 201b4-6).

This definition of change has been the focus of intense debate amongst modern scholars.[3] In an influential article, Robert Heinaman has advanced an interpretation of this definition, according to which the potentiality involved in the definition of change is a *potentiality to change* (to F) – as opposed to a potentiality for *being* the end-state of a change (i.e. F). Heinaman points to different versions of the definition in which the potentiality involved in change is explicitly specified as a *potentiality to change* (to F). I will consider what Heinaman takes to be the unambiguous formulations:[4]

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[1] I won't consider the one at the end of *Phys*. III. 3 (202b26-7), which I take to be a reformulation of the original definition in terms of agency and patiency.

[2] I use W. D. Ross edition, Ross, W. D (1936): *Aristotle's Physics*. Oxford: Clarendon Press. I follow here most commentators (including Heinaman himself) in rejecting Ross' translation of ἐντελέχεια as "actualization" (on this, see Vigo, A. (1995). *Aristóteles: Física Libros III-IV*. Buenos Aires, Biblos. Pp. 109-110).

[3] Some examples are: Heinaman, R. (1994). 'Is Aristotle's Definition of Change Circular?', *Apeiron* 27: 25-37; Kosman, L. A. (1969). 'Aristotle's Definition of Motion', *Phronesis* 14: 40-62; Kostman, J. (1987). 'Aristotle's Definition of Change', *History of Philosophy Quarterly* 4: 3-16; Waterlow, S. (1982). *Nature, Change and Agency in Aristotle's Physics*, Oxford: Oxford University Press.

[4] A complete list of the different formulations of the definition in the *Physics* is provided by Heinaman, R. (1994). The ones I quote, (2), (3) and (7) (corresponding to my (3), (4) and (5)

(3) The actuality of the alterable (τοῦ ἀλλοιωτοῦ), *qua* alterable (*Phys*. 201a11-12).

(4) The actuality of the house-buildable (τοῦ οἰκοδομητοῦ), *qua* house-buildable (*Phys*. 201b9-10).

(5) The actuality of what potentially is changing (τοῦ δυνάμει ὄντος κινητοῦ), *qua* potentially changing (inferred from *Phys*. 202a3-4).

These formulations are taken by Heinaman to complete what in (1) and (2) is omitted, rather than to be in conflict with them. This is particularly obvious in (5), for κινητοῦ and the *qua* clause here specified can easily be taken to complete (1). What I want to argue is that, even though Heinaman's interpretation of the definition of change and the evidence he points at in his article do show that there is an ambiguity in the definition of change as to which kind of potentiality Aristotle is referring to, they do not decisively establish that the potentiality involved in the definition of change *is not* a potentiality for being the end-state of a change.

First of all, there is no such definition as (5) in Aristotle's text. Heinaman argues that we can safely infer (5) from the following passage:

> As we said, everything that produces change is also changed, if it is *potentially changeable* (τὸ δυνάμει ὂν κινητόν) and its not being changed is rest (the not being changed of that which admits of change is rest). For to operate on this, *qua* such, is just what it is to produce change, and this it does by contact, so that it will at the same time also be acted upon (*Phys*. 202a3-7).[5]

The words τὸ δυνάμει ὂν κινητόν are here being used to define *rest* (ἠρεμία), which being the *privation of change*, can only be ascribed to what is δυνάμει κινητόν, that is, to what is potentially changeable. That is, being a privation, rest must *presuppose* the concept of change and must be defined in terms of it. But there is no suggestion here that this must also be the case with the definition of change itself (i.e.

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respectively), are taken from this article.

[5] Aristotle continues: "because of this, change is the actuality of the changeable (κινητόν) *qua* changeable ...." (202a7). This explicit passage would support Heinaman's view if it were not for the fact that κινητόν is not here completing τὸ δυνάμει ὂν, but *replacing it*. Moreover, this passage occurs in a context in which Aristotle is working out his reformulation of the definition of change in terms of agency and patiency, and Heinaman has not shown that this reformulation is equivalent to the original definition. It is also worth pointing out that Edward Hussey excludes this passage (202a7-9) from his translation (See Hussey, E. (1983). *Physics: Books III and IV*. Clarendon Aristotle Series. Oxford: Oxford University Press).

that change itself must be circularly defined in terms of what has the potentiality to change). Moreover, τὸ δυνάμει ὄν κινητόν is not, literally understood, "what potentially is chang*ing*" (as Heinaman translates it), but "what potentially is chang*eable*".

But what about (3) and (4)? First, it is worth noting that (3) and (4) are not definitions of change as such, but of alteration and house-building respectively. The only general definitions of change that we get from Aristotle (apart from the one at the end of Chapter 3 in terms of agency and patiency) are (1) and (2). I think that, (5) being eliminated from the picture, what definitions (3) and (4) show (jointly with the three remaining definitions of locomotion, increase and decrease, and coming to be and ceasing to be at *Phys*. 201a10ff) is, at most, a conflict with the general definitions of change, (1) and (2).

That this is the case is strongly suggested, first, by the general definition of change - (1) - itself as the ἐντελέχεια of what potentially *is* (τοῦ δυνάμει ὄντος), where, in the absence of independent evidence like (5), "what potentially is" is not to be taken as meaning "what potentially is changing". There is no suggestion in Aristotle's texts that the participle ὄν of the verb 'to be' in the expression τὸ δυνάμει ὄν (to formulate (5) in the nominative) is to be taken exclusively as elliptical or as a copula; i.e. τὸ δυνάμει ὄν F, the substituend of F being κινητόν. Moreover, this latter is the only substituend which Heinaman can appeal to, and we have already noticed that it will not do the job Heinaman requires, for it means "changeable", thus rendering the meaning of the expression unintelligible (i.e. what is potentially changeable).

Secondly, the first definition of change - (1) above - is introduced by the following words:

> Having distinguished what is actually and what is potentially according to each kind <of being>, change is the actuality of what is potentially, *qua* such, for instance, the actuality of what is alterable, *qua* alterable, is alteration, ... (*Phys*. 201a9-12)[6]

In the first two lines, Aristotle is pointing out to his previous argument (*Phys*. 200b26-201a9), according to which there is no change over and above the categories, and more specifically, that change always takes place between opposite

[6] Translations are mine.

determinations [7] (e.g. white and black, complete and incomplete, upwards and downwards, etc.) in certain categories. This is just a specification of Aristotle's previous discussion in *Phys.* I. 7, according to which change is always from form to privation, and from privation to form, where privation and form, at least in the less problematic case of non-substantial becoming, are to be understood as predicates. What Aristotle now means by saying that he has distinguished what is actually (τοῦ μὲν ἐντελεχείᾳ) and what is potentially (τοῦ δὲ δυνάμει) according to each category, is that change takes place between something X *being potentially F* at *t* (being actually non-F) and the same thing X being actually F at *t'*, where F and non-F are opposite predicates within the same category. There is no suggestion in the line of argument developed in the whole preface to the definition of change for the claim that, as subscribed to the categories, τὸ δυνάμει is to be understood as what is potentially *changing to F*, rather than what potentially *is* F.

And finally, the conflict is stressed by some evidence which Heinaman does not consider as telling against his own interpretation. I mean, for instance, Aristotle's claim that "the bronze is potentially a statue (ὁ χαλκὸς δυνάμει ἀνδριάς), but yet it is not the actuality of bronze *qua* bronze that is change" (*Phys*. 201a30), where it is natural to complete the sentence with "but the actuality of the bronze *qua* potentially *a statue*". Heinaman thinks these lines do not constitute evidence against his interpretation because he reads the immediately following lines (201a31-32) as follows: "For the bronze and to be potentially *changing* (κινητῷ) are not the same..." – following the insertion of κινητῷ in some MSS. The insertion of κινητῷ however, is extremely dubious: it is omitted in the parallel text of *Metaphysica* 1065b26, which is probably why David Ross omits it in his Oxford edition of the *Physica*.

I conclude, therefore, that Heinaman's interpretation of the definition of change and the evidence he points at in his article can only show that there is an ambiguity in the definition of change as to which kind of potentiality Aristotle is referring to (an ambiguity that is, perhaps, deeply rooted in Aristotle's metaphysics, and that must be adequately explained). They do not decisively establish, however, that the potentiality

[7] I use the word 'determination' instead of predicate, because substantial form is not a predicate.

involved in the definition of change *is not* a potentiality for being the end-state of a change.

Bibliography

Heinaman, R. (1994). 'Is Aristotle's Definition of Change Circular?' *Apeiron* 27: 25-37.

Hussey, E. (1983). *Physics: Books III and IV*. Clarendon Aristotle Series. Oxford: Oxford University Press.

Kosman, L. A. (1969). 'Aristotle's Definition of Motion'. *Phronesis* 14: 40-62.

Kostman, J. (1987). 'Aristotle's Definition of Change.' *History of Philosophy Quarterly* 4: 3-16.

Ross, W. D. (1936). *Aristotle's Physics.* Oxford: Clarendon Press.

Vigo, A. (1995). *Aristóteles: Física Libros III-IV*. Buenos Aires, Biblos.

Waterlow, S. (1982). *Nature, Change and Agency in Aristotle's Physics*, Oxford: Oxford University Press.