

Aristotle on Various Types of Alteration in *De Anima* II 5

John Bowin

*Philosophy Department, University of California Santa Cruz, Cowell Academic Services,
1156 High Street, Santa Cruz, CA 95064, USA
jbowin@ucsc.edu*

Abstract

In *De Anima* II 5, 417a21-b16, Aristotle makes a number of distinctions between types of transitions, affections, and alterations. The objective of this paper is to sort out the relationships between these distinctions by means of determining which of the distinguished types of change can be coextensive and which cannot, and which can overlap and which cannot. From the results of this analysis, an interpretation of 417a21-b16 is then constructed that differs from previous interpretations in certain important respects, chief among which is its characterization of transitions from first potentiality to first actuality, e.g., learning, not as ‘ordinary alterations’, but rather as acquisitions of natural dispositions or faculties.

Keywords

Aristotle, alteration, *De Anima*

Commentators have generally agreed that the evident objective of *De Anima* II 5 is to find, by the introduction of a suitable philosophical refinement, a grain of truth in the reputable opinion that perception is an ἀλλοίωσις τις, or a ‘kind of alteration.’ It has also been commonly assumed that the end result of this refinement is a distinction between an ἀλλοίωσις *simpliciter* and this ἀλλοίωσις τις that is supposed to include perception. While in general agreement with this assumption, Myles Burnyeat, in his paper ‘*De Anima* II 5,’¹ and Robert Heinaman, in a critical response to

¹ M. F. Burnyeat, ‘*De Anima* II 5’, *Phronesis* 47/1 (2002), 28-90.

Burnyeat's paper entitled 'Actuality, Potentiality and *De Anima* II.5',² have shown that matters are much more complicated than this summary would suggest. The reason for this is that in the text where this refinement takes place, Aristotle gives us not one but three oppositions between types of transitions, affections, and alterations. First, Aristotle distinguishes between

- (i) transitions such as from being able to know to knowing which a subject is able to undergo because his 'kind and matter' are of a certain sort (let us follow Aristotle in calling these *πρῶται μεταβολαί*³ or 'first transitions') and
- (ii) transitions such as from knowing to contemplating (let us call these 'second transitions'):

But we must make distinctions concerning potentiality and actuality; for at the moment we are speaking of them in an unqualified way. For there are knowers in that we should speak of a man as a knower because man is one of those who are knowers and have knowledge; then there are knowers in that we speak straightaway of the man who has knowledge of grammar as a knower. (Each of these has a capacity but not in the same way – the one because his kind and matter are of this sort, the other because he can if he so wishes contemplate, as long as nothing external prevents him.) There is thirdly the man who is already contemplating, the man who is actually and in the proper sense knowing this particular A. Thus, both the first two <are> potential knowers, but (i) the former <becomes an actual knower>, having been altered through learning, i.e. having repeatedly changed from a contrary disposition, (ii) the latter <becomes an actual knower> in another way, viz. from having knowledge of arithmetic or letters without exercising it to the actual exercise. (*DA* II 5, 417a21-b2)⁴

Then he contrasts

- (iii) affections involving 'a kind of destruction of something by its contrary' (let us call these 'destructive affections') with
- (iv) affections involving 'the preservation of that which is so potentially by that which is so actually' (let us call these 'preservative affections'):

² Robert Heinaman, 'Actuality, Potentiality and *De Anima* II.5', *Phronesis* 52/2 (2007), 139-187.

³ See *DA* II 5, 417b17.

⁴ Translations of *De Anima* II 5 in this paper are, with minor modifications, from D. W. Hamlyn (trans., comm.), *Aristotle. De Anima. Books II and III (with passages from book I)* (Oxford, 1968).

Being affected is not a single thing either; it is (iii) first a kind of destruction of something by its contrary, and (iv) second it is rather the preservation of that which is so potentially by that which is so actually and is like it in the way that a potentiality may be like an actuality. For that which has knowledge comes to contemplate, and this [transition?] is either not an alteration (for the development of the thing is into itself and into actuality) or a different kind of alteration. For this reason it is not right to say that something which understands is altered when it understands, any more than a builder when he builds. The leading of a thinking and understanding thing, therefore, from being potentially such to actuality should not be called teaching, but should have another name; ... (DA II 5, 417b2-12)

Finally, he opposes

- (v) alterations toward privative conditions (let us call these ‘*privative alterations*’) to
- (vi) alterations toward a thing’s dispositions⁵ and nature, e.g., learning (for the lack of a better name, let us follow Burnyeat in calling these ‘*unordinary alterations*’):

... while that which, starting from being potentially such, learns and acquires knowledge by the agency of that which is actually such and is able to teach either should not be said to be affected, as has been said, or else we should say that there are two kinds of alteration, (v) one a change toward privative conditions, (vi) the other toward a thing’s dispositions and nature. (DA II 5, 417b12-6)

The difficulty, here, is in determining exactly how these distinctions are related to one another and how each is related to the contrast between an ἀλλοίωσις *simpliciter* and the ἀλλοίωσις τις that is supposed to include perception. Can one of them, for instance, be identified with this opposition? Burnyeat thinks so, and nominates the distinction between a first transition and a second transition, identifying a first transition with an ἀλλοίωσις *simpliciter* and the ἀλλοίωσις τις that includes perception with a second transition. As for the other oppositions, Burnyeat claims that the classes of destructive affections and privative alterations are to be identified with the class of first transitions,⁶ that the classes of second transitions and unordinary alterations fall under the class of preservative affections, and that the class of unordinary alterations is a proper subset of the class of

⁵) I will, throughout, translate ἔξις as ‘disposition’, and διάθεσις as ‘condition’.

⁶) By this, I mean that the classes of destructive affections and privative alterations are coextensive with the class of first transitions.

first transitions under a different description. (Although Burnyeat does not put the matter in exactly these terms, this is, in fact, what he proposes when he says that learning may be a first transition or an unordinary alteration depending on whether one ‘considers’ the *terminus a quo* of learning to be a state that is destroyed, i.e., ignorance, or a state that is preserved, i.e., first potentiality knowledge.⁷ Since alterations like warming and cooling feature the ‘destruction of something by its contrary’ without this possibility of redescription, I infer that, under Burnyeat’s interpretation, unordinary alterations are a *proper* subset of first transitions under a different description.)

Heinaman takes a different view, claiming that, although ἀλλοίωσις *simpliciter* and the ἀλλοίωσις τις that includes perception are each distinguished from other sorts of change in 417a21-b16, they are not explicitly distinguished *from each other*. Instead, Heinaman claims that the oppositions of a destructive affection to a preservative affection and a privative alteration to an unordinary alteration represent essentially the same distinction between a ‘negative’ change, which he identifies with both a destructive affection and a privative alteration, and a ‘positive’ change, which he identifies with both a preservative affection and an unordinary alteration, and that the ἀλλοίωσις τις that includes perception is a ‘positive’ change. The contrast between a first transition and a second transition, claims Heinaman, is unrelated to the distinction between a ‘positive’ and a ‘negative’ change, and represents, rather, the distinction between an ἀλλοίωσις *simpliciter* and a transition from inactivity to activity respectively.⁸

The objective of this paper is to sort out the relationships between these distinctions by means of determining which of the distinguished types of transitions, affections, and alterations can be coextensive and which cannot, and which can overlap and which cannot. From the results of this analysis, I

⁷ Burnyeat, ‘*De Anima* II 5’, 62.

⁸ Heinaman (‘Actuality, Potentiality and *De Anima* II.5’, 167) claims that the point of 417a31-b2 is to contrast ordinary alteration with suffering a mere switch from inactivity to activity. I say ‘mere’ switch because, according to Heinaman, the activation of some dispositions (e.g., lightness in *Physics* VIII 4) consists in an ‘ordinary change’. It is only a transition to an activity like thinking that is a change only in the category of ‘suffering’, and not also in one of the categories with respect to which ‘ordinary change’ occurs (place, quality, magnitude and substance). So for Heinaman, a second transition in *De Anima* II 5 is not the transition from second potentiality to second actuality as such, but only the subset of these transitions that is in the category of ‘suffering’ but not also in one of the other categories just mentioned.

will construct an interpretation that will differ from both Burnyeat's and Heinaman's in claiming that, among the types of transitions, affections, and alterations in *De Anima* II 5, only a destructive affection, strictly speaking, is an ἀλλοίωσις *simpliciter*. I will also differ from Burnyeat and Heinaman in claiming that the descriptions of a first transition and an unordinary alteration are essentially the same, and that since this is the case, they pick out the same class of changes. I will side with Burnyeat, however, in claiming that the ἀλλοίωσις τις that includes perception is a second transition and that the classes of second transitions and unordinary alterations fall under the class of preservative affections. Finally, I will agree with Heinaman that neither the distinction between a first transition and a second transition, nor the distinction between a destructive affection and a preservative affection, nor the distinction between a privative alteration and an unordinary alteration can be identified with the contrast between an ἀλλοίωσις *simpliciter* and the ἀλλοίωσις τις that is supposed to include perception. This last point is significant because if the contrast between an ἀλλοίωσις *simpliciter* and the ἀλλοίωσις τις that includes perception is made only implicitly in *De Anima* II 5, then Aristotle's primary purpose in this chapter cannot be to make this distinction.

Second Transitions vs. Unordinary Alterations

The simplest approach to sorting out these distinctions is undoubtedly the one taken by Stephen Everson, who supposes that the oppositions of a first transition to a second transition, a destructive affection to a preservative affection, and a privative alteration to an unordinary alteration are to be identified with each other. On this view, a first transition, a destructive affection, and a privative alteration are the same as an ἀλλοίωσις *simpliciter* and a second transition, a preservative affection, and an unordinary alteration are the same as the ἀλλοίωσις τις that includes perception.⁹ But, as the ancient commentators, Hicks, and, most recently, Burnyeat have recognized,¹⁰ there are decisive reasons to treat the classes of second transitions and unordinary alterations as distinct and, as I will also

⁹ Stephen Everson, *Aristotle on Perception* (Oxford, 1997), 89-96.

¹⁰ Ps-Simplicius, in *DA* 123,15 ff.; Philoponus, in *DA* 304,11 ff.; Alexander, *Quaest.* 84,19; R. D. Hicks (trans., comm.), *Aristotle, De Anima. With translation, introduction and notes* (Cambridge, 1907), 357; Burnyeat, 'De Anima II 5', 61-5.

argue, to hold that they do not even overlap. A fairly obvious, though weak indication that the classes of second transitions and unordinary alterations are distinct is that Aristotle contrasts an example of a second transition with an example of an unordinary alteration at 417b9-16: Learning is evidently an example of an unordinary alteration, since the description of an unordinary alteration at 417b16 characterizes the process of learning described at 417b12-14, and the transition to contemplating is clearly an example of a second transition. If one reads 417b9-12 as describing the transition to contemplating, then the *μὲν* and the *δέ* at b9 and b12 contrast the transition to contemplating at 417b9-12 with the process of learning at 417b12-4.

But if a second transition is a transition from a disposition or a faculty to an activity, and learning is an example of an unordinary alteration, and if we make the reasonable assumption that at least some instances of learning are not transitions from dispositions to activities,¹¹ then one can also deduce that the classes of unordinary alterations and second transitions are not coextensive. The reason is that if these assumptions are true, the class of unordinary alterations will encompass changes that the class of second transitions does not.

Support for the even stronger claim that the classes of second transitions and unordinary alterations do not even overlap, however, can be found in the fact that whereas a second transition is universally taken to represent a transition *from* a disposition or faculty to an activity, an unordinary alteration is explicitly said to be a change *toward* a disposition (*ἐπὶ τὰς ἕξεις*). As Kosman points out,¹² a subject may be said to change toward a disposition *by means of* the activities that the disposition is a disposition for, as in dispositions acquired through practice. So one might be tempted to think there is a sense in which a change toward a disposition is effected by means of a transition from that disposition toward its corresponding activity. But even if Aristotle succeeded in making this coherent,¹³ he can hardly *identify* a change, in any straightforward sense in which the indiscernibility of

¹¹ That is, if we can assume that at least some forms of learning are not achieved through practicing what is learned, but merely through absorbing it from a teacher.

¹² L. A. Kosman, 'What does the maker mind make?' in Martha C. Nussbaum and Amélie Oksenberg Rorty (eds.), *Essays on Aristotle's De Anima* (Oxford, 1992), 352.

¹³ In *EN* II 4, 1105a22-3 and *Metaph.* Θ 8, 1049b35-1050a3, Aristotle tries to dissolve the obvious paradox here: If we must acquire dispositions 'which come by practice or by rational formula [i.e., knowledge] by previous exercise' (1047b33-4), and if such an exercise

identicals is not violated, with the process by means of which it comes about. Aristotle, moreover, has just distinguished between transitions to dispositions and transitions to activities at 417a31-b2, giving no indication that these transitions might overlap.

Privative Alterations vs. Unordinary Alterations

Now if second transitions and unordinary alterations are distinct classes of change, then the contrast between a privative alteration and an unordinary alteration cannot be the same as the contrast between a first transition and a second transition. But if this is the case, then what does the distinction between a privative alteration and an unordinary alteration amount to? If, as seems natural, we take ‘the privative conditions’ (τὰς στερητικὰς διαθέσεις) at 417b15 to mean ‘the privations’ (τὰς στερήσεις), then the distinction between the *terminus ad quem* of a privative alteration and the *terminus ad quem* of an unordinary alteration appears to be an instance of Aristotle’s familiar opposition of a στέρησις to a ἔξις. When Aristotle opposes these terms in the *Categories* and the *Topics*, he invariably means to oppose φυσικὰ ἔξεις, i.e., natural dispositions or faculties¹⁴ like sight, to their στερήσεις at times when they should be present, e.g., blindness in an adult human. We also have the testimony of Simplicius that in the lost work *On Opposites*, Aristotle thought of this as the primary way in which στερήσεις and ἔξεις are opposed.¹⁵

In *Metaphysics* Iota 4, however, Aristotle envisages a more general sense of this opposition that encompasses the ἔξις and στέρησις of *any* quality, not just natural dispositions or faculties, and adds that στέρησις is a ‘sort of contradiction’ (ἀντιφασίς τις), by which he apparently means that all στερήσεις can be characterized by negative expressions of the form ‘not-F’.

presupposes the disposition for it, then either we can never acquire such dispositions, or we will be, absurdly, exercising the disposition before we have it.

¹⁴ See *Cat.* 10 passim, and *Top.* I 15, 106b21-6, II 2, 109b19, II 8, 114a7-13, V 6, 135b28-36, *Top.* VI 9, 147b26. In these passages, Aristotle seems to ignore the distinction between dispositions (ἔξεις) and faculties (δυνάμεις) that he makes in *EN* II 5 and *EE* II 2, lumping both under the heading ἔξις. In *Cat.* 10, when contrasted with a στέρησις, ἔξις appears to mean a natural δόναμις, like ἡ ὄψις, while in *Cat.* 8 and 15, ἔξεις are more broadly construed to also include things like ἀρετή and ἐπιστήμη.

¹⁵ In *Cat.* 402,30-5.

But if we read the καὶ in τὰς ἕξεις καὶ τὴν φύσιν at 417b16 exegetically, so that the phrase means, essentially, ‘the natural dispositions’ (τὰς φυσικὰς ἕξεις), and we read ‘the privative conditions’ (τὰς στερητικὰς διαθέσεις) at 417b15 as the στερήσεις of these natural dispositions,¹⁶ then the terms στερητικὰς and ἕξεις in the sentence that contrasts privative and unordinary alterations must be opposed as they are in the *Categories* and the *Topics* rather than as in *Metaphysics* Iota 4. That is, the terms στερητικὰς and ἕξεις must be opposed as the στέρησις and ἕξις of natural dispositions and faculties rather than as the στέρησις and ἕξις of any quality whatsoever.

A closely analogous precedent for taking ‘the dispositions and the nature’ (τὰς ἕξεις καὶ τὴν φύσιν) at 417b16 to mean ‘the natural dispositions’ (τὰς φυσικὰς ἕξεις), can be found in *Nicomachean Ethics* VII 12. Here, the context makes it much clearer that the phrase ‘disposition and nature’ (1152b36: ἕξεως καὶ φύσεως) and the reverse exegesis ‘the natures and the dispositions’ (1152b27-8: αἱ φύσεις καὶ αἱ ἕξεις) are meant to refer to natural dispositions such as health. The claim, in this passage, is that being healed is pleasant only incidentally, because what is pleasant in itself is not being healed, but the activity of our residual ‘disposition and nature’ (ἕξεως καὶ φύσεως). That this ‘disposition and nature’ is the natural disposition health is confirmed at 1153a14, where Aristotle says that pleasure, in itself, is the activity of our ‘natural disposition’ (κατὰ φύσιν ἕξεως).

Indirect evidence for taking ‘the dispositions and the nature’ at 417b16 in this way can also be found at *Metaphysics* H 5, 1044b32-3, where Aristotle uses κατὰ τὸ εἶδος as an exegesis of καθ’ ἕξιν in the phrase καθ’ ἕξιν καὶ κατὰ τὸ εἶδος.¹⁷ Here, Aristotle claims that the body is the matter of health in virtue of its disposition and its form (καθ’ ἕξιν καὶ κατὰ τὸ εἶδος), and of disease in virtue of privation and corruption that is contrary to nature (κατὰ στέρησιν καὶ φθορὰν τὴν παρὰ φύσιν). The ‘disposition and form’ of the body, in this passage, appears to be the natural disposition health. And the fact that the body is the matter of disease contrary to nature suggests that the body is the matter of health in virtue of its nature. So ‘in virtue of its disposition and its form’ is equivalent to ‘in virtue of its disposition and its nature’ and the passage is an instance of Aristotle’s well

¹⁶ For this reading, see Themistius, in *DA* 56,6-12, Philoponus, in *DA* 304,16-22, Heinaman, ‘Actuality, Potentiality and *De Anima* II.5’, 170-5.

¹⁷ Cf. Heinaman, ‘Actuality, Potentiality and *De Anima* II.5’, 174-5.

known tendency to identify nature with substantial form.¹⁸ From this, we can infer that the ‘disposition and form’ of the body is the ‘disposition and nature’ of the body, and that this is the natural disposition health.

I have suggested that we read τὰς στερητικὰς διαθέσεις at 417b15 to mean the στερήσεις of τὰς ἕξεις καὶ τὴν φύσιν in the following line. Burnyeat, however, claims that these phrases are not so opposed. He claims that while τὰς στερητικὰς διαθέσεις means στερήσεις as they are described in *Metaphysics* Iota 4, viz., as στερήσεις of any quality and not just natural qualities, τὰς ἕξεις καὶ τὴν φύσιν at 417b16 means ἕξεις as they are described in the *Categories* and the *Topics*, viz., natural dispositions like sight and health.¹⁹ Moreover, Burnyeat argues that the word στερητικός at 417b15 is to be understood ‘in its standard logical meaning’ of ‘negative’ (ἀποφατικός). The idea is that a change ἐπὶ τὰς στερητικὰς διαθέσεις is to be understood as a change toward conditions denoted by the negation of a description of a *terminus a quo*, e.g., ‘At the end of the process, what was e.g. cold is not cold, but warm: the negation ‘is not’ signifies that one quality has been replaced by another.’

Burnyeat’s goal, here, is to read a privative alteration as an ἀλλοίωσις *simpliciter*, but if this is indeed Aristotle’s meaning, he has picked an odd and misleading way to express it. It is odd because it describes ἀλλοίωσις *simpliciter* as a change between contradictories rather than contraries. Certainly, a change between black and white is also a change between not-white and white, but Aristotle would not say that this is the proper or κύριος description of an ἀλλοίωσις *simpliciter*, and one would expect him to use proper descriptions in a passage where he is supposed to be making distinctions between different types of change. Aristotle’s way of speaking is misleading under Burnyeat’s interpretation because it is normal practice for Aristotle to oppose στερησις to ἕξις where the στερησις is the στερησις of the ἕξις it is opposed to. When one sees the words στερητικός and ἕξεις in such close proximity, one naturally expects the customary opposition.

In support of his interpretation, Burnyeat cites Bonitz’s observation that the adjective στερητικός (meaning ‘privative’, not the noun στερησις meaning ‘privation’) is most often used by Aristotle to mean simply ‘negative’ (ἀποφατικός). This, however, can be explained by the uniqueness of the phrase στερητικὰς διαθέσεις and the distribution of the word

¹⁸ See e.g., *Physics* II 1-2 and *Metaphysics* Δ 4 passim.

¹⁹ Burnyeat, ‘*De Anima* II 5’, 62 n. 88.

στερητικός within the Aristotelian corpus. Out of the 253 occurrences of the adjective στερητικός, 247 are found in either the *Prior* or *Posterior Analytics*, where the word is almost invariably used to modify terms denoting components of a demonstration, e.g., a πρότασις ('proposition')²⁰ or a συλλογισμός ('syllogism'), so it should come as no surprise that στερητικός, in this usage, should mean ἀποφατικός. Nowhere else but in *De Anima* II 5, however, does στερητικός modify the word διάθεσις, and this uniqueness vitiates Burnyeat's argument from usage. Indeed, the stronger argument from usage leads us to take στερητικός and ἕξις to be opposed in the way στερήσεις and ἕξις are opposed in the *Categories* and the *Topics*, since this is, by far, the most common way that Aristotle uses these terms.

Finally, there is reason to doubt that the term διάθεσις ('condition'), as Aristotle uses it, could be understood as broadly as Burnyeat's interpretation requires. While Burnyeat's reading requires a διάθεσις to be any short-lived²¹ quality, *Categories* 7 and 8 seem to make διαθέσεις a subclass of long and short-lived qualities alike, classifying διαθέσεις and dispositions (ἕξις) 'among the relative' (6b2-3), in contradistinction to affective qualities, powers, and shapes. If διαθέσεις are a sub-class of short-lived qualities, τὰς στερητικὰς διαθέσεις can hardly represent *any* short lived privative

²⁰ I follow David Charles in translating πρότασις as 'proposition' rather than 'premise'. See David Charles, 'Nicomachean Ethics VII.3: Varieties of akrasia' in Carlo Natali (ed.), *Aristotle's Nicomachean Ethics, Book VII. Symposium Aristotelicum* (Oxford, 2009), 68.

²¹ Burnyeat, 'De Anima II 5', 62 n. 89, relies on *Cat.* 8, 8b27-9a13 for the claim that διαθέσεις are short lived, but the same passage also claims that διάθεσις is the genus of ἕξις. Thus, it is only a *mere* διάθεσις that is short lived. But Aristotle does not stick to this distinction and often uses the terms ἕξις and διάθεσις interchangeably. ὕγιεια, ἐπιστήμη, ἀρετή, and particular ἀρεταί, are sometimes called ἕξις, and at other times διαθέσεις: At *EN* VI 13, 1144b26 and *EE* I 5, 1216b24-5 ὕγιεια is called a ἕξις, but at *Phys.* VII 3, 246b4, *EE* II 1, 1220a19 and *Cat.* 8, 8b35, it is called a διάθεσις. *Phys.* VII 3 and *Cat.* 8, 8b27-9a13 classify αἱ τε ἐπιστήμαι καὶ αἱ ἀρεταί (b29) as ἕξις (cf. *Cat.* 15, 15b18-19; *Top.* IV 2, 121b38). According to *EN* VI 3, 1139b31-2, ἐπιστήμη is a ἕξις ἀποδεικτική, while, according to *EN* II 6, 1106b36, ἠθικὴ ἀρετή is a ἕξις προαιρετική. But the *Topics* twice calls ἐπιστήμη a διάθεσις: *Top.* II 4, 111a22 says διάθεσις is the genus of ἐπιστήμη, while *Top.* VI 6, 145a33 ff. says that ἐπιστήμη is a διάθεσις of the soul. And *EN* II 8, 1108b10-19 and *EE* II 1, 1219a31 slide between calling ἀρεταί and κακία ἕξις and διαθέσεις. *EE* II 1, 1220a29 and 1219a12 call ἀρετή a διάθεσις, and *EE* II 1, 1219a12 calls ἀρετή a διάθεσις καὶ ἕξις, while *EE* II 1, 1218b38 calls it a διάθεσις ἢ ἕξις. Also, there are instances where Aristotle calls individual ἀρεταί διαθέσεις, e.g., μεγαλοψυχία (*EE* II 6, 1223a6) and ἀνδρεία (*EE* III 1, 1228b2-3).

quality.²² Aristotle classifies dispositions and διαθέσεις ‘among the relative’, presumably because to have a διάθεσις or a disposition is to be relatively disposed (διατιθέναι πρὸς τι).²³ There is also evidence that διαθέσεις have a complexity that affective qualities lack.²⁴ *Physics* I 5, 188b11 uses the term διάθεσις to designate non-simple composite properties²⁵ like harmony, disharmony, combination, dissociation, order and disorder. (Aristotle talks of ‘opposing διαθέσεις’ in this passage, which clearly include ‘privative διαθέσεις’ because he mentions the examples of disharmony and disorder.) Finally, at *Metaphysics* Δ 19, 1022b1-3, Aristotle grounds the complexity of διαθέσεις in the mereological complexity of that which is disposed, saying ‘We call a διάθεσις the arrangement (τάξις) of that which has parts, either according to place or according to power or according to form; for there must be a certain θέσις, as the word διάθεσις shows.’²⁶

If this interpretation of the distinction between a privative alteration and an unordinary alteration is correct, and since learning is evidently an example of both a first transition and an unordinary alteration, we can now infer that Burnyeat and Everson cannot be correct in identifying the classes of first transitions and privative alterations. Since a privative alteration represents the loss of a natural disposition or faculty and an unordinary alteration represents the acquisition of a natural disposition or faculty, since these are unnatural and natural changes respectively, and since the classes of natural and unnatural change do not overlap,²⁷ the classes of privative alterations and unordinary alterations will not overlap. But the

²² Moreover, the only instances where Aristotle restricts the scope of the word ἀλλοίωσις is where he *excludes* changes in διαθέσεις (*Phys.* V 2 and VII 3), so it hardly seems likely that the word διάθεσις could be used as a synonym for ποιότης.

²³ Cf. *Cat.* 8, 11a22-3; *EE* II 1, 1220a33-4 where to have an ἀρετή is said to be relatively disposed (διατιθέναι πρὸς τι); cf. *Top.* IV 4, 125a35 which places διάθεσις, ἕξις, and συμμετρία, among the relative.

²⁴ Cf. Robert Wardy, *The Chain of Change: A study of Aristotle's Physics VII* (Cambridge, 1990), 162-3, who suggests that the difference between παθητικὰ ποιότητες and διαθέσεις is that the former are logically simple, whereas the latter are logically complex and might incorporate ‘specifications of παθητικὰ ποιότητες as elements.’

²⁵ τὰ μὴ ἀπλᾶ τῶν ὄντων ἀλλὰ σύνθετα (*Phys.* I 5, 188b9-10).

²⁶ Similarly, at *Cael.* I 10, 280a20-1, Aristotle uses τὸ διακεκοσμηθῆσθαι as an exegesis of τὸ διατεθεῖσθαι, which is said to result in a διάθεσις, and at *Rhet.* I 4, 1360a29, he says that a nose has a certain shape by being διατίθεσθαι πως.

²⁷ Aristotle tells us that every change is either natural or unnatural at *Phys.* VIII 4, 255b31-2, *Cael.* II 13, 295a3-4, and III 2, 301b19-20.

identification of the classes of first transitions and privative alterations contradicts this because if the classes of first transitions and unordinary alterations overlap, it implies that the classes of privative alterations and unordinary alterations overlap.²⁸

The characterization of a privative alteration as unnatural and an unordinary alteration as natural also affects how the classes of privative alterations and unordinary alterations relate to the class of destructive affections. Burnyeat claims that a destructive affection should be neutrally characterized as merely ‘the loss of one quality and its replacement by another’,²⁹ while Heinaman thinks that the word φθορά at 417b17 makes destructive affections unnatural because the same word is used at *Metaphysics* H 5, 1044b33 to describe the loss of a natural disposition. But this hardly proves that every φθορά τις ὑπὸ τοῦ ἐναντίου is unnatural, and the fact that Aristotle says that a contrary is destroyed by a contrary, without suggesting that one or another of the contraries is either unnatural or natural, seems to confirm Burnyeat’s view on the neutrality of destructive affections. But if destructive affections are neutrally characterized, and privative alterations and unordinary alterations are characterized as unnatural and natural, then neither Everson nor Burnyeat nor Heinaman can be correct in identifying the classes of destructive affections and privative alterations. This is because the neutral characterization of a destructive affection is inconsistent with the παρὰ φύσιν characterization of a privative alteration as a change to a privation of a natural disposition or faculty. Since unnatural alterations are only a proper subset of alterations that involve ‘a kind of destruction of something by its contrary’ the class of privative alterations cannot be identified with the class of destructive affections.

Nor, by an analogous argument, may the class of destructive affections be identified with the class of unordinary alterations since the neutral characterization of a destructive affection is also inconsistent with the κατὰ φύσιν characterization of an unordinary alteration as a change to a natural disposition. Since natural alterations are only a proper subset of

²⁸) Cf. Heinaman, ‘Actuality, Potentiality and *De Anima* II.5’, 171, who also argues, in a slightly different way, from the παρὰ φύσιν characterization of privative alterations, the κατὰ φύσιν characterization of unordinary alterations and the inclusion of learning in the classes of both first transitions and unordinary alterations to the impossibility of identifying the classes of first transitions and privative alterations.

²⁹) Burnyeat, ‘*De Anima* II 5’, 54.

alterations that involve 'a kind of destruction of something by its contrary', the class of unordinary alterations cannot be identified with the class of destructive affections.

First Transitions vs. Unordinary Alterations

Since learning is an example of both a first transition and an unordinary alteration, we can assume these types of change are related, but how? Do they merely overlap, does one subsume the other, or are they coextensive? If the classes of first transitions and unordinary alterations merely overlap, and Aristotle had just happened to use the same example for both without supposing that a stronger relation existed between them, it would, at the very least, have been a misleading use of examples. And, moreover, if one assumes that the distinction between a first and a second transition is unrelated or only tangentially related to the other distinctions between types of affections and alterations in *De Anima* II 5, one faces the problem of explaining how this distinction fits into the overall argument of the chapter. Heinaman has precisely this problem because he claims that the distinction between a first transition and a second transition is unrelated to the oppositions of a destructive affection to a preservative affection and a privative alteration to an unordinary alteration, and he locates perception within the class of preservative affections, which he identifies with the class of unordinary alterations.³⁰

Burnyeat, on the other hand, links these distinctions by claiming that the class of unordinary alterations is a proper subset of the class of first transitions under a different description. But the features of an unordinary alteration that he takes to make it distinct from a first transition can also be found in a first transition. Aristotle describes an unordinary alteration as an alteration to a thing's natural dispositions such as knowledge, and he describes a first transition as a transition to a disposition such as knowledge, which the subject is able to possess because his 'kind and matter' are of a certain sort (417a27). If, as seems reasonable, we take 'because his kind and matter are of a certain sort' to mean 'because he is a member of a certain natural kind', then a first transition, like an unordinary alteration is a transition to a natural disposition. And since this is what we take to be

³⁰ Cf. Heinaman, 'Actuality, Potentiality and *De Anima* II.5', 180-1.

distinctive of an unordinary alteration, it appears that the descriptions of a first transition and an unordinary alteration are essentially the same and that the classes of first transitions and unordinary alterations are coextensive. Since this is the case, and, as I have argued, the classes of destructive affections and unordinary alterations are not coextensive, this allows us to infer, in addition, that the classes of destructive affections and first transitions are not coextensive. So the class of destructive affections is coextensive with neither the class of first transitions nor the class of privative alterations nor the class of unordinary alterations.

Preservative Affections vs. Second Transitions and Unordinary Alterations

I have not, so far, touched on the relationship between the class of second transitions and the class of preservative affections. An obvious reason for associating these is that on one reading at least, Aristotle gives the transition to contemplation as an example of both types of change. I say 'on one reading' because while on anyone's reading of 417a31-b2, the transition to contemplating is an example of a second transition, the example of a preservative affection at 417b6-8 can also be read, as Gill and Heinaman point out, as being contemplation rather than the transition to contemplation.³¹ But even if the transition to contemplation is not envisaged at 417b6-8, there is a strong reason to suppose that it is, in any event, an example of a preservative affection, because both contemplation and the transition to contemplation will involve 'the preservation of that which is so potentially'. This is because neither in contemplating nor in coming to contemplate do we lose the disposition to contemplate. So the transition to

³¹) That is, if we read the ὅπερ at 417b6 to refer to θεωροῦν γίνεται in the previous line, we can translate the sentence as 'For that which has knowledge comes to contemplate, and this [transition] is either not an alteration (for the development of the thing is into itself and into actuality) or a different kind of alteration.' However, as Gill and Heinaman point out, the ὅπερ could also refer to just θεωροῦν, in which case the insertion of '[transition]' is unnecessary and it is only contemplating, and not the transition to contemplating that is at issue in the relative clause. For the view that b9-12 describes an activity, see Mary Louise Gill, *Aristotle on Substance: The Paradox of Unity* (Princeton, 1989), and Heinaman, 'Actuality, Potentiality and *De Anima* II.5'. For the view that b9-12 describes a transition to an activity, see Burnyeat, 'De Anima II 5', Alexander, *Quaest.* 84,8, 84,17-23, Ps-Simplicius, in *DA* 122,34, and Philoponus, in *DA* 303,34-5.

contemplating will fall under both the class of second transitions and the class of preservative affections, and given this fact, we can narrow the field of possibilities for the relation between these classes to three:³² It might be that they are coextensive, as Everson claims, it might be that one is a proper subset of the other, which is what Burnyeat seems to suggest,³³ or it might be that they merely overlap without one subsuming the other. My view is that while none of these mutually exclusive options are ruled out by the text, a better case can be made for Burnyeat's interpretation than for any of the others.

Burnyeat takes the class of second transitions to fall under the class of preservative affections because he identifies a second transition with an activation of a natural disposition or faculty, and he takes these to be 'preserved' by their activation, in accordance with Aristotle's description of a preservative affection. Heinaman rejects this suggestion, but, I think, on insufficient grounds. He argues that not all changes falling under the class of second transitions also fall under the class of preservative affections because while the latter are natural or 'positive', the former need not be, since a second transition represents any switch from inactivity to activity in the category of 'suffering', and not necessarily a switch to something natural or 'positive'. Heinaman claims that a second transition might be a 'move from not thinking what is false to thinking what is false.'³⁴ But there is no textual evidence for construing the class of second transitions so broadly. In each of the three texts where the 'triple scheme' appears, *Physics* VIII 4, *De Anima* II 1 and II 5, the examples of a first transition and a second transition are always the acquisition and exercise of a *natural* disposition or faculty.³⁵ Nowhere is the triple scheme invoked to explain the

³² From this we can also infer that preservative affections and unordinary alterations are not coextensive, as Heinaman claims they are, since if, as I have argued, first transitions and unordinary alterations are coextensive, then identifying preservative affections and unordinary alterations will imply that first transitions and preservative affections are coextensive. But this cannot be the case because, as I have just argued, preservative affections include transitions to contemplation while first transitions do not.

³³ Cf. Burnyeat, '*De Anima* II 5', 63; See also Myles Burnyeat, *Notes on Eta and Theta of Aristotle's 'Metaphysics': A Study Guide* (Oxford, 1984), 136, which claims that the class of preservative affections subsumes the class of first transitions as well as the class of second transitions.

³⁴ Heinaman, 'Actuality, Potentiality and *De Anima* II.5', 176.

³⁵ I shall adopt Burnyeat's term 'triple scheme' to refer to the triplet first potentiality, first actuality/second potentiality, and second actuality. As Burnyeat points out, *DA* II 1

acquisition or exercise of a vice, ignorance, illness, blindness, or any other sort of defect.

Burnyeat also takes the class of unordinary alterations to fall under the class of preservative affections because learning is an example of an unordinary alteration and 'there is a sense in which the learner, as well as the fully formed expert, qualifies for that lyrical phrase "an advance into oneself"'.³⁶ The phrase is from the further characterization of a preservative affection at 417b6-7 as being a 'development of the thing... into itself and into actuality' which appears only to refer, in its context, to contemplating or the transition to contemplating described in the immediately preceding lines. Burnyeat, however, claims that this should also apply to learning and, therefore, to unordinary alteration on the ground that changes 'toward a thing's dispositions and nature', since they develop or perfect a nature that one already has, represent instances of becoming more fully what one already is. In support of this, Burnyeat cites Aristotle's claim that a sleeping geometer is 'further from himself' when he is asleep than when he is awake at *Generation of Animals* II 1, 735a11-7. But he also might have mentioned *Physics* II 1, 193b12-18, which claims that nature proceeds toward itself, in a way, because nature in the sense of a process proceeds towards nature in the sense of a form. And *Physics* VII 3, 246a10-b2 may also be relevant since it claims that attainments of excellent dispositions of the soul, which presumably include knowledge, are perfections in which a person becomes what he really is.

That the class of unordinary alterations should fall under the class of preservative affections, argues Burnyeat, also follows from the fact that learning involves 'the preservation of that which is so potentially' that is characteristic of a preservative affection, since the potential to know belongs to the learner because his 'kind and matter' are of a certain sort (417a27). If being able to learn is part of what it is to be a human being, argues Burnyeat, then this ability must be preserved in its exercise, 'otherwise, it would be death to gain knowledge'. Gill argues along similar lines, claiming that 'if a potentiality for knowledge belongs to an ignorant man because his genus and matter are appropriate, then the potentiality will

contains only a fragment of the triple scheme, so the only full statements of this doctrine occur in *DA* II 5 and *Physics* VIII 4.

³⁶ Burnyeat, '*De Anima* II 5', 63. This is a claim with which, as Burnyeat points out, Philoponus is in agreement (*In DA*, 304,26-8).

still belong to him once he actually knows, because his matter and genus will still be suitable.³⁷ Burnyeat claims, in addition, that animal generation, or the process that 417b16-19 says learning is supposed to be analogous to, also involves a 'development of the thing... into itself'.³⁸ Although he cites no texts in support of this, he might have mentioned, in connection with *Physics* VII 3, 246a10-b2 which links the concept of perfection (τελείωσις) with 'becoming what one really is', the numerous instances in the *Generation of Animals* where Aristotle describes embryological development as a τελείωσις.³⁹

Burnyeat does not claim, in addition, that animal generation involves 'the preservation of that which is so potentially,' since, presumably, *De Anima* II 1, 412b15-17 seems to rule out the preexistence of the proximate matter of a human being.⁴⁰ Freeland and Lewis, however, have argued for the preexistence of the *non*-proximate matter of a human being, viz., blood and the menses (τὰ καταμήνια), which are a residue of blood.⁴¹ On their accounts, blood is the non-proximate preexistent matter for a human being because, according to Aristotle, it is what the semen works on in the womb to construct a fetus. And it is the non-proximate concurrent matter of the animal because it serves to nourish an animal's flesh, thus making it the proximate matter of the non-uniform parts, which are, in turn, the proximate matter of the animal. Lewis also points out that the production of blood through concoction involves 'the preservation of that which is so potentially,' since concoction involves mixture, which on Aristotle's account, entails the preservation of the potentialities (δυνάμεις) of its constituents (*GC* I 10, 327b31). So on the interpretation of Lewis and Freeland, both the production of blood, and the production of an embryo out of blood involve 'the preservation of that which is so potentially,' in the

³⁷ Gill, *Aristotle on Substance: The Paradox of Unity*, 179.

³⁸ Burnyeat, '*De Anima* II 5', 65.

³⁹ E.g., *GA* III 2, 753a10, III 7, 757a32, IV 4, 770b26, IV 8, 776b1, IV 10, 777b10, and 777b27.

⁴⁰ As Burnyeat puts it, *De Anima* II 1, 412b15-17 implies that 'the only body which is potentially alive is one that is actually alive' ('*De Anima* II 5', 50-1).

⁴¹ Cynthia Freeland, 'Aristotle on Bodies, Matter, and Potentiality' in Allan Gotthelf and James Lennox (eds.), *Philosophical Issues in Aristotle's Biology* (Cambridge, 1987), 392-407; Frank A. Lewis, 'A Thing and its Matter' in Scaltsas, T., D. Charles, and M. L. Gill (eds.), *Unity, Identity, and Explanation in Aristotle's Metaphysics* (Oxford, 1994), 247-77.

same way as wood preserves its dispositions when it is built into a box.⁴² The reason is that in each case, the preexistent matter retains the dispositional properties that make it suitable for its role in these productions.

There seems, then, to be a preponderance of considerations in favor of Burnyeat's view that the classes of second transitions and unordinary alterations fall under the class of preservative affections. And since we have already determined that the classes of unordinary alterations and second transitions do not overlap, we can conclude from this that the classes of unordinary alterations and second transitions are non-overlapping proper subsets of preservative affections, from which we can also infer that the class of preservative affections is coextensive with neither the class of second transitions nor the class of unordinary alterations.

Ἀλλοίωσις τις vs. Ἀλλοίωσις *Simpliciter*

Where, then, is the distinction between the ἀλλοίωσις τις that includes perception and an ἀλλοίωσις *simpliciter*? If the class of unordinary alterations is coextensive with the class of first transitions and a first transition is supposed to represent the acquisition of a natural disposition or faculty rather than its exercise, then perception can be neither an unordinary alteration nor a first transition. Nor can perception be a destructive affection or a privative alteration, because the former is contrasted with what is supposed to be analogous to perception (in the example of contemplation or the transition to contemplation, depending on how one reads 417b6-8), and the latter is a change to a privative condition like blindness, vice, disease, or ignorance. So the ἀλλοίωσις τις that includes perception is either a second transition or a preservative affection. But if the class of unordinary alterations is a proper subset of the class of preservative affections, and perception is not an unordinary alteration, then perception must fall within the complement of the class of unordinary alterations relative to the

⁴²⁾ Cf. *Metaphysics* Θ 7, 1049a21-4 which claims that the proximate concurrent matter of each thing is potentially what it is the proximate concurrent matter of, e.g., the wood of the box. See Michael Frede, 'Aristotle's Notion of Potentiality in *Metaphysics* Θ' in Scaltsas, T., D. Charles, and M. L. Gill (eds.), *Unity, Identity, and Explanation in Aristotle's Metaphysics*, 192-3, who argues that this implies that the construction of artifacts involves 'the preservation of that which is so potentially' because, for example, one can always construct *another* box out of the wood a box is made of.

class of preservative affections. And if the class of second transitions is also a proper subset of the class of preservative affections that does not overlap with the class of unordinary alterations, then the class of second transitions must fall within this complement.

In the light of this, the only option seems to be to say, as Burnyeat does, that perception is a second transition. Heinaman resists this move, arguing that since Aristotle obviously intends to define *perception* as an ἀλλοίωσις τις, not the *transition* to perception, and since a second transition would be a transition to perception and not perception itself, then perception cannot be a second transition. Otherwise, we would be attributing to Aristotle a conflation of perception with the transition to perception.⁴³ Burnyeat accepts this consequence and attributes the conflation to an overriding concern, on Aristotle's part, with the causality of perception in *De Anima* II 5.⁴⁴ What Aristotle wants to stress, according to Burnyeat, is that the changes in a perceiver's sense organs that make him *come to* perceive are not self caused (417b26-7). Hence, it is legitimate for the transition to perception to stand in for perception in *De Anima* II 5. One might also add that this is a harmless conflation that is built into the reputable opinion that perception is an ἀλλοίωσις τις. On anyone's account of change, and especially on Aristotle's, change cannot exist without temporal variegation. In Aristotle's case, this is because temporal variegation is necessary for the opposition of termini, and the opposition of termini is necessary for change.⁴⁵ So to call a perceptual occurrence an ἀλλοίωσις τις is to imply that it is temporally variegated.

It is, of course, true that in *Metaphysics* Θ 6 and *Nicomachean Ethics* X 4, Aristotle denies temporal variegation to perceptions, and, indeed, to all activities, so on Aristotle's considered view, it is only the inception of perception that has this feature. But to do justice to the reputable opinion that perception is an ἀλλοίωσις τις, it is surely permissible to defer these refinements for the time being, and take perception (αἴσθησις) to refer indiffer-

⁴³ Cf. Heinaman, 'Actuality, Potentiality and *De Anima* II.5', 176. Heinaman's solution is to identify perception with a preservative affection and an unordinary alteration, which he takes to be a 'positive', nature preserving change. But, if this were really Aristotle's intention, then he has not given us a criterion for distinguishing perception from nutrition or growth, and has made the simple point that perception is 'positive' in a terribly complicated and obscure way.

⁴⁴ Burnyeat, '*De Anima* II 5', 72-3.

⁴⁵ See e.g., *Phys.* VIII 7, 261a32-3.

ently to the inception of perception as well as to perception itself.⁴⁶ This, I suggest, is the intent behind the following resolution, located in the paragraph just before Aristotle sets forth the distinction between a first and a second transition:⁴⁷

First then let us speak as if being affected, being moved, (τὸ πάσχειν καὶ τὸ κινεῖσθαι) and acting (τὸ ἐνεργεῖν) are the same thing; for indeed movement is a kind of activity, although an incomplete one, as has been said elsewhere. (*DA* II 5, 417a14-6)

Both the actualization (i.e., τὸ πάσχειν καὶ τὸ κινεῖσθαι, which in this case is the transition to perception), and the actuality (i.e., τὸ ἐνεργεῖν, which in this case is perception) of the perceptive faculty are activities of this faculty, the former being incomplete and the latter being complete or unqualified.⁴⁸ Since the purpose of *De Anima* II 5 is to consider the activity of the perceptive faculty quite generally, it is not essential, at this point, to distinguish between complete activities, i.e., actualities, and incomplete activities, i.e., actualizations.

This same conflation of actuality and actualization is also evident where the 'triple scheme' is employed at *Physics* VIII 4, 255a30-b24.⁴⁹ At one point in this passage, Aristotle says that the activity (ἐνέργεια) of the light is to *be* 'high-up' (255b11), while only a few lines later he says that for the light to activate (ἐνεργεῖν) is to be 'moving ever higher' (255b1). Also, just before making the former claim, Aristotle says that the light immediately activates (ἐνεργήσῃ γ' εὐθύς), unless it is hindered from doing so. But it is hard to see how this activity could be anything other than rising, if what is

⁴⁶ Contrast Burnyeat ('*De Anima* II 5', 72), who claims that Aristotle carefully distinguishes perception from the transition to perception in *DA* II 5, but conflates the two elsewhere. I claim, rather, that the premise that perception is an ἀλλοίωσις τις already contains such a conflation, so that Aristotle conflates perception with the transition to perception in *De Anima* II 5, but carefully distinguishes the two elsewhere.

⁴⁷ Burnyeat takes this to mean that the activities of ἔξεις, in *DA* II 5, are to be taken as incomplete ἐνέργεια, claiming that Themistius and Ps-Simplicius are in agreement with him. But in fact, Themistius and Ps-Simplicius just point out that κινεῖν and ἐνεργεῖν are generically the same.

⁴⁸ Cf. *De Anima* III 7, 431a7, where I, like Burnyeat ('*De Anima* II 5', 47), take ἡ ἀπλῶς ἐνέργεια to mean ἡ τελεία ἐνέργεια.

⁴⁹ Heinaman's ('Actuality, Potentiality and *De Anima* II.5', 153-6) point that the transition between 2nd potentiality and 2nd actuality in the case of the light is a temporally extended locomotion, here, is well taken.

rising is any distance, however small, from being 'high up', because a period of rising would need to intervene before the light is 'high up', and this makes its being 'high up' *not* immediate.⁵⁰ Thus, in *Physics* VIII 4, 255a30-b24, both the actuality of the light (*being* 'high up') and the actualization of the light (*moving* 'high up') are referred to as activities of the light. The only difference, here, is that while in *De Anima* II 5 the conflation of actuality and actualization was also motivated by a desire to accommodate the reputable opinion that perception is an ἀλλοίωσις τις, in *Physics* VIII 4 it seems just to be motivated by Aristotle's interest in the triple scheme as such. As Burnyeat points out, in both *De Anima* II 5 and *Phys.* VIII 4, 255a30-b24, Aristotle is 'unwilling to tell us as much as we would like to know about the actuality side of the distinction', and this is reflected in Aristotle's injunction to treat 'being affected, being moved and acting' as 'the same thing'. Rather, Aristotle is more interested in making distinctions about potentiality than actuality, and is content to lump together the corresponding incomplete and complete activities.

As for the question of what to identify with the class of ἀλλοιώσεις *simpliciter*, since perception is a second transition and the class of second transitions falls under the class of preservative affections, and, presumably, the class of ἀλλοιώσεις *simpliciter* is distinct from any class of changes that includes perception, we are left with only three plausible candidates: the class of first transitions, the class of destructive affections, and the class of privative alterations (where first transitions and unordinary alterations are understood to be the same class of change). One might be tempted to identify the class of ἀλλοιώσεις *simpliciter* with the class of first transitions since first transitions are explicitly contrasted with second transitions at 417a31-3. But, as I have already argued, a first transition represents only a change toward a natural disposition or faculty so a first transition would be a poor candidate for an ἀλλοίωσις *simpliciter* due to its lack of general-

⁵⁰ At *Phys.* VIII 4, 255b12, Aristotle says κωλύεται δ', ὅταν ἐν τῷ ἐναντίῳ τόπῳ ἦ, which might be taken to imply that air is not high up (instead of 'is not moving high up') only if it is being hindered. The idea is that the transition from 1st to 2nd actuality takes time only because there is a hindrance (i.e., other air above the air tending upward getting in the way). The trouble with this, as Wedin recognizes, is that Aristotle thinks the counter-factual where there is no hindrance is a logical absurdity (see *Phys.* IV 8). Michael Wedin, 'Aristotle on the Mind's Self-Motion' in Mary Louise Gill and John Lennox (eds.), *Self-Motion: From Aristotle to Newton* (Princeton, 1994), 81-116) develops this interpretation, which he credits to Steven Strange and Tim Maudlin.

ity. The same goes for privative alterations since they represent changes away from natural dispositions or faculties. Since destructive affections are, as I have argued, neutrally characterized, I conclude, by process of elimination, that only a destructive affection, strictly speaking, is an *ἀλλοίωσις simpliciter*.

Conclusion

From the foregoing arguments, we can infer that neither the class of first transitions nor the class of destructive affections nor the class of privative alterations are coextensive with one another; nor are any of the classes of second transitions, preservative affections or unordinary alterations. From this we can infer that we have neither one distinction, as Everson⁵¹ suggests, nor two distinctions, as Burnyeat⁵² and Heinaman⁵³ suggest, but three irreducible distinctions between types of transitions, affections, and alterations in *De Anima* II 5.

The distinction between a first transition and a second transition is the distinction between the coming to be of a natural disposition or faculty and the transition to the activity of a natural disposition or faculty, e.g., contemplation or perception. The distinction between a destructive affection and a preservative affection is the distinction between an *ἀλλοίωσις simpliciter* and an *ἀλλοίωσις* that involves the preservation and perfection of what is altered, which includes the acquisition of a natural disposition or faculty and the transition to the activity of a natural disposition or faculty. Finally, the distinction between a privative alteration and an unordinary alteration is the distinction between the perishing and the coming to be of a natural disposition or faculty.

⁵¹) I.e., the distinction between an *ἀλλοίωσις simpliciter* (= a first transition = a destructive affection = a privative alteration) and an *ἀλλοίωσις τις* (= a second transition = a preservative affection = an unordinary alteration).

⁵²) I.e., (1) the distinction between an *ἀλλοίωσις simpliciter* (= a first transition = a destructive affection = a privative alteration) and a second transition, and (2) the distinction between an *ἀλλοίωσις simpliciter* and an unordinary alteration (preservative affections being merely the genus of second transitions and unordinary alterations).

⁵³) I.e., (1) the distinction between a 'negative' change (= a destructive affection = a privative alteration) and a 'positive' change (= a preservative affection = an unordinary alteration), and (2) the distinction between an *ἀλλοίωσις simpliciter* (= a first transition), and 'the transition from non-actuality to actuality' (= a second transition).

It is implicit in these descriptions that only destructive affections are ἀλλοιώσεις *simpliciter*; that the classes of first transitions and unordinary alterations are coextensive; that the ἀλλοιώσις τις that includes perception is a second transition; and that the classes of second transitions and unordinary alterations fall under the class of preservative affections. It is also implicit that neither the opposition of a first transition to a second transition, nor a destructive affection to a preservative affection, nor a privative alteration to an unordinary alteration can be identified with the distinction between an ἀλλοιώσις *simpliciter* and the ἀλλοιώσις τις that includes perception.

As I said at the outset, since Aristotle makes this last distinction only implicitly in *De Anima* II 5, then it cannot have been his primary purpose in the chapter to make it. Aristotle's purpose, certainly, is to establish that perception is an ἀλλοιώσις τις, but he does this, not by contrasting perception with ἀλλοιώσις *simpliciter*, but by relating it to the types of alteration distinguished by his 'triple scheme' of potentialities and actualities. This 'triple scheme', moreover, is not just a device for explaining perception, but is a more general model that accounts for the acquisition as well as the exercise of natural dispositions and faculties.

Perhaps the most significant consequence of this last point is that the feature of the 'triple scheme' that the ancient commentators called a 'first potentiality' is not a potentiality for an ἀλλοιώσις *simpliciter*, but a potentiality for an unordinary alteration. Commentators like Everson who miss the special status of unordinary alterations because they conflate them with second transitions, and, as a result, miss the special status of first transitions, have often misidentified first potentialities as potentialities for 'ordinary alterations'. Burnyeat falls into this trap,⁵⁴ but for a different reason, since he recognizes the special status of unordinary alterations, but still classes first transitions as ordinary alterations, claiming that the class of unordinary alterations is a proper subset of the class of first transitions under a different description. Burnyeat seems to give short shrift to Aristotle's description of first transitions because of an eagerness to move on to considering second transitions, which he thinks is more philosophi-

⁵⁴ As does Heinaman, who claims that Aristotle's account of a first transition 'unambiguously describes *ordinary* alteration as an actuality of what [Burnyeat] calls first potentiality' and later lists this 'fact' as a piece of 'information that can be derived without controversy.' (Heinaman, 'Actuality, Potentiality and *De Anima* II.5', 148, 167).

cally significant. Thus, he claims that to understand what a first transition is, we merely need to get over our post-Cartesian inclination not to put learning on a par with being warmed, before moving on to considering second transitions, which, he thinks, is 'the novelty we need to understand'.⁵⁵ The novelties we need to understand, however, are more plentiful than were previously thought.

⁵⁵) Burnyeat, 'De Anima II 5,' 54.