

# Relational Intentionality in Aristotle

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## Uptake of Form without Matter

In *De Anima* II.12, Aristotle says that a sense (*aisthēsis*: sight, hearing, smelling, taste, touch), as distinct of its sense organ (the eyes, the ears, the nose, the tongue, the skin), receives form without matter:

Καθόλου δὲ περὶ πάσης αἰσθήσεως δεῖ λαβεῖν ὅτι ἡ μὲν αἰσθησίς ἐστι τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἄνευ τῆς ὕλης, οἷον ὁ κηρὸς τοῦ δακτυλίου ἄνευ τοῦ σιδήρου καὶ τοῦ χρυσοῦ δέχεται τὸ σημεῖον, λαμβάνει δὲ τὸ χρυσοῦν ἢ τὸ χαλκοῦν σημεῖον, ἀλλ' οὐχ ἢ χρυσοῦς ἢ χαλκός· ὁμοίως δὲ καὶ ἡ αἰσθησίς ἐκάστου ὑπὸ τοῦ ἔχοντος χρώμα ἢ χυμὸν ἢ ψόφον πάσχει, ἀλλ' οὐχ ἢ ἐκαστον ἐκείνων λέγεται, ἀλλ' ἢ τοιονδί, καὶ κατὰ τὸν λόγον.

αἰσθητήριον δὲ πρῶτον ἐν ᾧ ἡ τοιαύτη δύναμις. ἔστι μὲν οὖν ταυτόν, τὸ δ' εἶναι ἕτερον· μέγεθος μὲν γὰρ ἂν τι εἴη τὸ αἰσθανόμενον, οὐ μὴν τό γε αἰσθητικῶν εἶναι οὐδ' ἡ αἰσθησίς μέγεθος ἐστίν, ἀλλὰ λόγος τις καὶ δύναμις ἐκείνου. (424a16-28)

In general, with regard to all sense-perception<sub>A</sub>,<sup>1</sup> we must take it that the sense<sub>A</sub> is that which can receive perceptible forms without their matter, as wax receives the imprint of the ring without the iron or gold, and it takes the imprint which is of gold or bronze, but not *qua* gold or bronze. Similarly too in each case the sense<sub>A</sub> is affected by that which has colour or flavour or sound, but by these not in so far as they are what each of them is spoken of as being, but in so far as they are things of a certain kind and in accordance with their principle.<sup>2</sup>

The primary sense-organ is that in which such a potentiality resides. These are then the same, although what is for them to be such is not the same. For that which perceives must be a particular extended magnitude, while what it is to be able to perceive and the sense<sub>A</sub> are surely not magnitudes, but rather a certain principle<sub>L</sub> and potentiality of that thing. (Aristotle, 1968, 42-43)

It is necessary to grasp, concerning the whole of perception generally, that perception is what is capable of receiving perceptible forms without the matter, as wax receives the seal of a signet ring without the iron or gold. It acquires the golden or the metallic seal, but not insofar as it is gold or metal. In a similar way, perception is also in each case affected by what has the colour or taste or sound, but not insofar as each of these is said to be something, but rather insofar as each is of a certain quality, and corresponding to its proportion.

The primary sense organ is that in which this sort of potentiality resides. The sense organ and this potentiality are, then, the same, though their being is different. For what does the perceiving is a certain magnitude; nevertheless being capable of perception is not; nor is perception a magnitude, but is rather a certain proportion and a potentiality of that thing. (Aristotle, 2016, 47-48)

Two features of the more general Aristotelian context make this claim less surprising that it otherwise could be: First, we have here a straightforward application of the more general hylomorphic account of change. Because the reception of the sensible form (e.g. the colour, the sound) by the animal is an alteration of the animal (*alloiōsis*) (*De An.*, II.5, 416b34), it is, like any alteration, the acquiring of a new form by some underlying thing. The underlying thing here is either the sense-organ or the sense, i.e. its capacity to sense, and the acquired form is said to be perceptible and what is ascribed to the perceptual objects *kata ton logon*, i.e. as a form. Second, that perception and all

1. In his “Notes on the Translation”, Hamlyn (1993, xvii) says that he uses the subscript “A” to flag occurrences of *aisthēsis*, which “may be translated variously as ‘sense’, ‘perception’, perhaps ‘sensation’, etc., and is sometimes used even to refer to the sense-organ.

2. According to his “Notes on the Translation”, any word subscripted with “L” translates “logos” (1993, xvii).

forms of knowledge more generally are ‘of the like by the like’ is an *endoxon*, a plausible opinion put forward by some of Aristotle’s predecessors and as such discussed in the first book of the *De Anima*. We cannot presume, it seems to me, that the acquired form, *to musikon*, is what we would ordinarily think of as a property – what Aristotelian forms are should be left open at this stage of our inquiry. Whatever they are, however, they explain perception, i.e. the change in the sense: sight passes from being potentially red to being actually red by the acquisition of a new form, RED, by the underlying matter, i.e. the eye.

Psychological states generally have a hylomorphic structure: they are either “enmattered forms” (*logoi enuloi*) or “forms in matter” (*logoi en hulē*) (403a25), depending on the reading of the ms. (cf. Shields, 2016, 98). Such affections (*passiones, ta pathē*) allow for two different descriptions:

διαφερόντως δ' ἂν ὀρίσαιντο ὁ φυσικὸς [τε] καὶ ὁ διαλεκτικὸς ἕκαστον αὐτῶν, ὅσον ὀργή τί ἐστίν· ὁ μὲν γὰρ ὀρεξίει ἀντιλυπῆσεως ἢ τι τοιοῦτον, ὁ δὲ ζέσειν τοῦ περι καρδίαν αἵματος λυπῆσεως ἢ τι τοιοῦτον, ὁ δὲ ζέσειν τοῦ περι καρδίαν αἵματος καὶ θερμοῦ. τούτων δὲ ὁ μὲν τὴν ὕλην ἀποδίδωσιν, ὁ δὲ τὸ εἶδος καὶ τὸν λόγον. ὁ μὲν γὰρ λόγος ὅδε τοῦ πράγματος, ἀνάγκη δ' εἶναι τοῦτον ἐν ὕλῃ ταιαδί, εἰ ἔσται. (403a29-403b3)

But the student of nature and the dialectician would define each of these differently, e.g. what anger is. For the latter would define it as a desire for retaliation or something of the sort, the former as the boiling of the blood and hot stuff round the heart. Of these, the one gives the matter, the other the form and principle<sub>L</sub>. For this is the principle<sub>L</sub> of the thing, but it must be in a matter of such and such a kind if it is to be. (Aristotle, 1968, 4–5)

The natural scientist and the dialectician would define each of these affections differently, for example, what anger is. The dialectician will define it as desire for retaliation, or something of this sort, while the natural scientist will define it as boiling of the blood and heat around the heart. Of these, one describes the matter and the other the form and the account. For this is the account of the thing, but it is necessary that it be in matter of this sort if it is to exist. (Aristotle, 2016, 3)

Whether or not Aristotle claims at the end of *De An.* I.1 that *all* psychological states involve matter, he certainly claims that *some* do, e.g. anger. Anger is given a hylomorphic structure: it *is* the boiling of the blood (material cause) and for retaliation, and hence a type of desire (final cause).

Generalising this account to perception, we may say that of some perception of red, sight is the matter and the red the form. The matter is not the eye, the sense-organ, but its capacity, sight.<sup>3</sup> Whatever it is that ‘receives’ the form, is ‘acted upon’ and ‘becomes isomorphic’, it certainly is not the sense-organ (the *aisthêtêrion*), but its capacity or potential, i.e. the faculty of perception (the *aisthêtikon*) (cf. 424a24-28 quoted above). In my perception of the red of a tomato, say, my eye realises its potentiality to ‘receive’ the sensible form of the tomato: with respect to this potentiality, it is affected by the tomato insofar as the latter has a certain sensible form, even if, with respect to its matter, i.e. to what has that potentiality, it is affected by the tomato insofar as the latter has a certain matter. Matter affects the eye, form the eye’s potentiality, sight.

τῶν δὲ καθ' αὐτὰ αἰσθητῶν τὰ ἴδια κυρίως ἐστὶν αἰσθητά, καὶ πρὸς ἃ ἡ οὐσία πέφυκεν ἐκάστης αἰσθήσεως. (418a7-25)

Of the objects which are perceived in themselves it is the special-objects which are objects of perception properly, and it is to these that the essence of each sense<sub>A</sub> is naturally relative. (Aristotle, 1968, 25)

Among things perceived in their own right, exclusive objects are properly perceptible objects; and it is to these that the essence of each sense is naturally relative. (Aristotle, 2016, 34-35)

While perception and the perceptible are correlatives (*Cat.* 7), the relation is not symmetric, but directed *from* the perceptible objects *to* the perception, because the former, but not the latter, could exist in the absence of the other one (*Cat.* 8a6-9): the perceptible objects themselves are the agents of perception (*Met.*, *Γ.* 5, 1010b35-1011a2), and the capacity they actualise when they act upon perceivers is grounded in non-dispositional properties: “the proper sensibles will bring about perception in virtue of being what they are: they are intrinsically such as to produce the relevant changes in the organs” (Everson, 1997, 29).

3. Shields (2016, xxxiv) makes this quite clear: “Form reception results in perception only when it occurs in a living being endowed with the capacity of perception (*aisthēsis*).”

To posteriority of the senses to their *kath'hauta* objects, the proper sensibles, does not make the latter in any way 'internal' to or 'subsist in' the former.<sup>4</sup> It rather constrains their material constitution:

The organ [of sight] needs to be transparent because [...] it is the transparent which, because it is colourless, is receptive of colour [...]. Coloured substances and transparent substances thus stand as agents and patients *kath'hauta*: it is the nature of colour to produce change in what is transparent – just as it is in the nature of what is transparent to be affected by colour. (Everson, 1997, 80)

The proper sensibles are thus *kath'hauto* causes of a change in a perceiving body – a change which is the perception. In all types of perception, the medium is that of a transmission of form. It is a form that is taken on in the alteration of the sense that is the perception. This is put in terms of “things in so far as they are of a certain kind” in passage quoted above.

In the visual perception of a red surface, e.g., the eye is the matter, and redness its form. Redness, however, as the proper sensible of sight, is an external object, and a particular (*De An.*, II.5, 417b16). It is “capable of setting in motion that which is actually transparent, and this is its nature” (*De An.*, II.7, 418a26). That only the form, but not the matter of the red object is received, makes it a form of perception; plants, which do not perceive, lack this differential ability because they do not have sense-organs and thus no senses.

Of the nature of (some particular) redness, a proper sensible of sight, we are given the following picture: it is a form of an external object, which exists prior to and independently of our perceiving it. Because it is capable of setting air, which is a medium of sight, into motion, it may be received by a sense, i.e. sight, the nature of which it is to be receptive to it, i.e. potentially red. When the red object is perceived, it shares its form with the eye – the sense (sight) is affected by the essence of the proper sensible, while the sense-organ is affected in the sense of being of a certain extended magnitude. The sense-organ (eye) and the sense (sight) are “the same, although what it is for them to be such is not the same” (*De An.*, II.12, 424a17): sight is a potentiality of the eye, its function and essence; it is sight that becomes red, i.e. is affected only by the form (of the red object), while the eye, which is affected in a different way, is in relation not just to the form, but also the matter of the red object, the bearer of e.g. the reflectance properties that causally explain why it is red I see.<sup>5</sup>

So redness *is* a way for sight to be!

## Realism about Sensibles and Direction among Correlates

Redness, however, is also some externally and independently existing particular: things were red before the first eye came about.

Proper sensibles may exist before the sense in question exists (*Cat.* 8a6-9), for “perception is hardly of itself – but there must be something else beyond the perception, and this must be prior to the perception; since what brings about change is naturally prior to what is changed, even if they are spoken of in relation to each other” (*Met.* Γ.5, 1010b35-1011a2). Sight, for example, is thus posterior to its proper sensibles, the colours.

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4. Everson (1997, 31–32) argues against Hamlyn (cf. his comments on p. 105 of Hamlyn (1968)) and Sorabji (1971, 81) that the dependence of the sense on its objects is not definitional, logical or grammatical, but causal. This also defuses the worry that Aristotle's priority claim is implausible for the case of touch, the objects of the latter to be too varied to define the sense of touch (Hamlyn (1968, 105–106) and Sorabji (1971, 81)).

5. This interpretation makes best sense of the otherwise quite enigmatic beginning of II.12, of which I have not been able to find a convincing interpretation. Hamlyn's use of scare quotes is telling: “Aristotle goes on to ‘explain’ the reception of form in terms of the affection of a sense by things in virtue of their form, i.e. in perception the sense is affected by an object just in so far as it is of the relevant form and not because it is what it is.” (Hamlyn, 1968, 113, ad 424a17)

What is the nature of this posteriority, i.e. in what sense is Aristotle a realist about colours? In a process of perceiving, sight is the matter and what is perceived is the form. This is compatible, however, with sight being the form of the eye, which is its matter:

ὁ δ' ὀφθαλμὸς ὕλη ὄψεως, ἧς ἀπολειπούσης οὐκέτι ὀφθαλμὸς, πλὴν ὁμωνύμως, καθάπερ ὁ λίθινος καὶ ὁ γεγραμμένος. (412b20-22)

The eye is matter for sight, and if this fails it is no longer an eye, except homonymously, just like an eye in stone or a painted eye. (Aristotle, 1968, 10)

The eye is the matter of sight; if sight is lost, it is no longer an eye, except homonymously, in the way that a stone eye or painted eye is. (Aristotle, 2016, 23)

Aristotle does not just say there that the stone eye is not an eye though it may appear to be one (in the way in which a false friend is not a friend nor a fake promise a promise), but also that the stone eye is structurally, with respect to its form, 'almost' an eye, except that it does not have the kind of matter it needs. We thus have at least two hylomorphic layers: an eye is a pupil that sees (pupil+sight), and a seeing is sight that has a perceptible form (sight+perceptible), in the same way in which Socrates is a body that lives (body+soul) and his life is his soul that knows (soul+knowledge).

It is thus fitting that Aristotle begins his "new start" at the beginning of book II with a general statement of hylomorphism:

λέγομεν δὴ γένος ἐν τι τῶν ὄντων τὴν οὐσίαν, ταύτης δὲ τὸ μὲν, ὡς ὕλην, ὃ καθ' αὐτὸ οὐκ ἔστι τόδε τι, ἕτερον δὲ μορφὴν καὶ εἶδος, καθ' ἣν ἤδη λέγεται τόδε τι, καὶ τρίτον τὸ ἐκ τούτων. ἔστι δ' ἡ μὲν ὕλη δύναμις, τὸ δ' εἶδος ἐντελέχεια, καὶ τοῦτο διχῶς, τὸ μὲν ὡς ἐπιστήμη, τὸ δ' ὡς τὸ θεωρεῖν. (412a6-11)

Now we speak of one particular kind of existent thing as substance, and under this heading we so speak of one thing *qua* matter, which in itself is not a particular, another *qua* shape and form, in virtue of which it is then spoken of as a particular, and a third *qua* the product of these two. And matter is potentiality, while form is actuality – and that in two ways, first as knowledge is, and second as contemplating is. (Aristotle, 1968, 8)

We say that among the things that exist one kind is substance, and that one sort is substance as matter, which is not in its own right some this; another is shape and form, in accordance with which it is already called some this; and the third is what comes from these. Matter is potentiality, while form is actuality; and actuality is spoken of in two ways, first as knowledge is, and second as contemplating is. (Aristotle, 2016, 22)

Aristotle compares what is added to knowledge over contemplation to the difference between sleeping and waking: unexercised knowledge is "prior in generation" to its exercise in contemplation; contemplation is the second, knowledge the first actuality of a rational animal. The latter is the first actuality of the potentiality had by someone who has a capacity for knowledge, but does not yet know (nor, a fortiori, exercise that knowledge).

As he does in the case of change in the *Physics*, Aristotle starts his investigation of perception in *De Anima* II.5, which "seems to be a kind of alteration" (*alloiosis*), by a distinction between potentiality and actuality – when speaking about potentiality, it is true to say, as some do, that only like affects like; whereas with respect to actuality, unlike affects unlike:

διαιρετέον δὲ καὶ περὶ δυνάμειος καὶ ἐντελεχείας· νῦν γὰρ ἀπλῶς ἐλέγομεν περὶ αὐτῶν. ἔστι μὲν γὰρ οὕτως ἐπιστημὸν τι ὡς ἂν εἴποιμεν ἄνθρωπον ἐπιστήμονα ὅτι ὁ ἄνθρωπος τῶν ἐπιστημῶν καὶ ἐχόντων ἐπιστήμην· ἔστι δ' ὡς ἤδη λέγομεν ἐπιστήμονα τὸν ἔχοντα τὴν γραμματικὴν· ἐκάτερος δὲ τούτων οὐ τὸν αὐτὸν τρόπον δυνατός ἐστιν, ἀλλ' ὁ μὲν ὅτι τὸ γένος τοιοῦτον καὶ ἡ ὕλη, ὁ δ' ὅτι βουληθεὶς δυνατός θεωρεῖν, ἂν μὴ τι κωλύσῃ τῶν ἕξωθεν· ὁ δ' ἤδη θεωρῶν, ἐντελεχέειά ὦν καὶ κυρίως ἐπιστάμενος τόδε τὸ Α. ἀμφότεροι μὲν οἷν οἱ πρῶτοι, κατὰ δύναμιν ἐπι-

στήμονες <ὄντες, ἐνεργεῖα γίνονται ἐπιστήμονες.> ἀλλ' ὁ μὲν διὰ μαθήσεως ἀλλοιωθεὶς καὶ πολλάκις ἐξ ἐναντίας μεταβαλὼν ἕξεως, ὁ δ' ἐκ τοῦ ἔχειν τὴν ἀριθμητικὴν ἢ τὴν γραμματικὴν, μὴ ἐνεργεῖν δέ, εἰς τὸ ἐνεργεῖν, ἄλλον τρόπον. (417a21-417b1)

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, his stuff, is of this sort, the other because he can if he so wishes contem-

plate, 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, < being > potential knowers, < become actual knowers >, but the one by being altered through learning and frequent changes from an opposite direction, the other by passing in another way from the state of having arithmetical or grammatical knowledge without exercising it to its exercise. (Aristotle, 1968, 23)

One must also draw a distinction concerning potentiality and actuality. For we have just now been speaking of them without qualification. In the first case, something is a knower in the way in which we might say that a human knows because humans belong to the class of knowers and to those things which have knowledge; but in the second case, we say directly that the one who has grammatical knowledge knows. These are not in the same way potential knowers; instead, the first one because his genus and matter are of a certain sort, and the other be-

cause he has the potential to contemplate whenever he wishes, so long as nothing external hinders him. Yet another sort of knower is the one already contemplating, who is in actuality and strictly knowing this *A*. In the first two cases, then, those knowing in potentiality come to be knowers in actuality, but the first one by being altered through learning, with frequent changes from a contrary state; and the other, from having arithmetical or grammatical knowledge and not actualizing it to actualizing in another way. (Aristotle, 2016, 33)

Aristotle here contrasts two transitions, both from (some) potentiality to (some) actuality:

**episteme** Humans are by their nature potentially knowers, i.e. possessors of knowledge (*episteme*); their being knowers is the actualisation of a potentiality which they have by nature, in virtue of MAN being RATIONAL ANIMAL. In this sense, all animals are perceivers, in virtue of ANIMAL being PERCEIVING LIVING THING. It is also in this sense that anything red is seen as red, for RED IS APPEARING RED.

**theoria** Someone who has acquired knowledge becomes able to exercise it in contemplation (*theoria*): when someone knowingly contemplates, e.g. by speaking or by solving a mathematical problem, she actualises, i.e. practices a skill she has previously acquired. In humans, such exercise is subject to the will, but not so in other animals: in such animals, the capacity will be triggered autonomously in the absence of interfering factors, in virtue of the capacity being natural, i.e. pertaining to the nature of the animal. It is in this sense that animals see red, just by laying their eyes upon something red, in the absence of interfering factors; and it is in this sense that something red comes to be seen as red, under the right circumstances.

Even though the first change is grounded in the nature of the thing changing (the actualisation of the potential is the realisation of the teleological function of the animal in question), it is a real change, “from an opposite direction”, i.e. an alteration of the changing thing. The second change, which happens autonomously in the absence of interfering factors, is not a real change, but the mere making manifest of a pre-existing and prior ability. When my eye meets the red tomato, my seeing it and its being seen by me are not real changes: I was already there to see it this way and it was there to be seen by me in this way.

A conception of colours as the proper sensibles of sight<sup>6</sup> is thus realist in at least three different, interlocking, ways:

- The form RED is a form of mind-independently existing objects and is the actualisation of a power they have independently of being perceived.
- The actualisation of the form RED does not depend on and is not brought about by perception; RED is actualised by light, the medium of sight, and the way it is actualised is ‘reciprocal’ to the power of light to make things visible, not the power of perceivers to see; RED is essentially visible, but not essentially seen.
- In perception, the perceiver is passive; the change that is perception occurs in the perceiver; the perceived object and its colour do not change in perception: nothing mind-independent is altered when and because perception occurs.

6. Rather than of colours we should speak here of “chromatic profiles”, so as to preserve Aristotle’s claim that they are the proper sensibles of sight: we also see black and white things, transparent things and things that do not have surfaces, such as shadows, holes, holograms and rainbows. I will ignore this complication in the following.

## Aristotelian Intentionality and the road from Thebes to Athens

The ontological priority among the correlatives (aisthesis is posterior to aistheton; episteme to episteton) explains why perception and thought are *of* things (generally) different from themselves. How is correlation compatible with priority? By the potentiality / actuality distinction: an instance of perception and what is perceived in it are correlated insofar as they are actualisations, but the second is prior to the first insofar as they are potentialities. This priority is of the definitional / essential type: The colour is not defined in terms of its perception, but the perception is defined in terms of what it is the colour of.

ἡ δὲ τοῦ αἰσθητοῦ ἐνέργεια καὶ τῆς αἰσθη-  
σεως ἡ αὐτὴ μὲν ἐστὶ καὶ μία, τὸ δ' εἶναι  
οὐ τὸ αὐτὸ αὐταῖς· λέγω δ' ὅσον ὁ ψόφος  
ὁ κατ'ἐνέργειαν καὶ ἡ ἀκοή ἢ κατ' ἐνέρ-  
γειαν· ἔστι γὰρ ἀκοὴν ἔχοντα μὴ ἀκούειν,  
καὶ τὸ ἔχον ψόφον οὐκ ἀεὶ ψοφεῖ, ὅταν δ'  
ἐνεργῇ τὸ δυνάμενον ἀκούειν καὶ ψοφῇ τὸ  
δυνάμενον ψοφεῖν, τότε ἢ κατ' ἐνέργειαν  
ἀκοὴ ἅμα γίνεται καὶ ὁ κατ' ἐνέργειαν ψό-  
φος, ὡν εἴπειεν ἄν τις τὸ μὲν εἶναι ἀκουσιν  
τὸ δὲ ψόφου.

εἰ δὲ ἐστὶν ἡ κίνησις (καὶ ἡ ποίησις καὶ  
τὸ πάθος) ἐν τῷ κινουμένῳ, ἀνάγκη καὶ  
τὸν ψόφον καὶ τὴν ἀκοὴν τὴν κατ' ἐνέρ-  
γειαν ἐν τῷ κατὰ δυνάμιν εἶναι· ἢ γὰρ τοῦ  
ποιητικοῦ καὶ κινήτικοῦ ἐνέργεια ἐν τῷ  
πάσχοντι ἐγγίνεται· διὸ οὐκ ἀνάγκη τὸ κί-  
νουὸν κινεῖσθαι· ἢ μὲν οὖν τοῦ ψοφητικοῦ  
ἐνέργειά ἐστὶ ψόφος ἢ ψόφησις, ἡ δὲ τοῦ  
ἀκουστικοῦ ἀκοὴ ἢ ἀκουσις· διττὸν γὰρ ἢ  
ἀκοή, καὶ διττὸν ὁ ψόφος.

The activity of the sensible object and that of the sense is one and the same activity, and yet the distinction between their being remains. Take as illustration actual sound and actual hearing: a man may have hearing and yet not be hearing, and that which has a sound is not always sounding. But when that which can hear is actively hearing and that which can sound is sounding, then the actual hearing and the actual sound come about at the same time (these one might call respectively harkening and sounding).

If it is true that the movement, both the acting and the being acted upon, is to be found in that which is acted upon, both the sound and the hearing so far as it is actual must be found in that which has the faculty of hearing; for it is in the passive factor that the actuality of the active or motive factor is realized; that is why that which causes movement may be at rest. Now the actuality of that which can sound is just sound or sounding, and the actuality of that which can hear is hearing or harkening; 'sound' and 'hearing' are both ambiguous.

The actuality of the object of perception and of the senses are one and the same, but their being is different. I mean, for example, actual sound and actual hearing. For it is possible for someone who has hearing not to be hearing; and what has sound is not always making a sound. But whenever what is able to hear is in actuality hearing and whatever is able to sound is sounding, then actual hearing and actual sounding come about simultane-ously. One could say of these that the one is hearing and the other sounding.

If, then, the motion (both acting and being acted upon) is in the thing which is being acted upon, it is necessary that both the sound and the actual hearing be in something potential. For the actuality of what produces and causes motion comes about in the thing which is affected-for which reason it is not necessary that what initiates motion be in motion. Hence, the actuality of what is capable of making a sound is sound or sounding, and the actuality of what is capable of hearing is hearing or listening. For hearing is twofold; and sound is twofold.

In the immediate continuation, He points out that this explains the difference in active/passive:

ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων αἰσθη-  
σεων καὶ αἰσθητῶν· ὥσπερ γὰρ καὶ ἡ ποί-  
ησις καὶ ἡ πάθησις ἐν τῷ πάσχοντι ἀλλ'  
οὐκ ἐν τῷ ποιούντι, οὕτω καὶ ἡ τοῦ αἰσθη-  
τοῦ ἐνέργεια καὶ ἡ τοῦ αἰσθητικοῦ ἐν τῷ  
αἰσθητικῷ.

The same account applies to the other senses and their objects. For as the acting-and-being-acted-upon is to be found in the passive, not in the active factor, so also the actuality of the sensible object and that of the sensitive subject are both realized in the latter.

The same account also applies to the other senses and sensible objects. For just as both acting and being affected are in what is affected, but not in what is acting, so also is the actuality of the sensible object and of what is capable of perceiving in what is capable of perceiving.

The sameness-in-number but difference-in-definition case allows for differential treatment with respect to priority:

ἐπεὶ δὲ μία μὲν ἐστὶν ἐνέργεια ἡ τοῦ αἰ-  
σθητοῦ καὶ τοῦ αἰσθητικοῦ, τὸ δ' εἶναι  
ἕτερον, ἀνάγκη ἅμα φθίρεισθαι καὶ σώ-  
ζεσθαι τὴν οὕτω λεγομένην ἀκοὴν καὶ  
ψόφον, καὶ χυμὸν δὲ καὶ γεῦσιν, καὶ τὰ  
ἄλλα ὁμοίως· τὰ δὲ κατὰ δυνάμιν λεγό-

μενα οὐκ ἀνάγκη· ἀλλ' οἱ πρότερον φυσι-  
ολόγοι τοῦτο οὐ καλῶς ἔλεγον, οὐθὲν οἰό-  
μενοι οὔτε λευκὸν οὔτε μέλαν εἶναι ἄνευ  
ᾧψεως, οὐδὲ χυμὸν ἄνευ γεύσεως. τῆ μὲν  
γὰρ ἔλεγον ὀρθῶς, τῆ δ' οὐκ ὀρθῶς· διχῶς  
γὰρ λεγομένης τῆς αἰσθησεως καὶ τοῦ αἰ-

σθητοῦ, τῶν μὲν κατὰ δυνάμιν τῶν δὲ κατ'  
ἐνέργειαν, ἐπὶ τούτων μὲν συμβαίνει τὸ  
λεχθέν, ἐπὶ δὲ τῶν ἐτέρων οὐ συμβαίνει.  
ἀλλ' ἐκεῖνοι ἀπλῶς ἔλεγον περὶ τῶν λε-  
γομένων οὐχ ἀπλῶς. (DA III.2 425b25 –  
426a26)

Since the actualities of the sensible object and of the sensitive faculty are one actuality in spite of the difference between their modes of being, actual hearing and actual sounding appear and disappear from existence at one and the same moment, and so actual savour and actual tasting, &c., while as potentialities one of them may exist without the other. The earlier students of nature were mistaken in their view that without sight there was no white or black, without taste no savour. This statement of theirs is partly true, partly false: 'sense' and 'the sensible object' are ambiguous terms, i.e. may denote either potentialities or actualities: the statement is true of the latter, false of the former. This ambiguity they wholly failed to notice. (transl. Smith)

And since there is one actuality of the sensible object and what is capable of perceiving, though their being is different, it is necessary that what is spoken of in this way as hearing and sounding perish or be preserved at the same time, and so also for flavour and tasting, and similarly for the other cases. But this is not necessary for those things spoken of as potential.

Still, the earlier natural philosophers did not speak well on this point, because they supposed that nothing is white or black without sight, nor is there flavour without tasting. For though they were in one way right, in another way they were not right, since both perception and perceptible objects are spoken of in two ways, in some cases as potential and in others

as actual. What was said by them applies to the latter, but does not apply to the former. They, however, spoke without qualification about matters which are spoken of only with qualification. (Shields, 2016, 52–53)

Aristotle introduces correlative potentialities in *Physics* III.3 in terms of having an identical actualization:

ἀλλ' ἄλογον δύο ἐτέρων τῷ εἶδει τὴν αὐτὴν καὶ μίαν εἶναι ἐνέργειαν· καὶ ἔσται, εἴπερ ἡ διδάξις καὶ ἡ μάθησις τὸ αὐτὸ καὶ ἡ ποίησις καὶ ἡ πάθησις, καὶ τὸ διδάσκειν τῷ μανθάνειν τὸ αὐτὸ καὶ τὸ ποιεῖν τῷ πάσχειν, ὥστε τὸν διδάσκοντα ἀνάγκη ἔσται πάντα μανθάνειν καὶ τὸν ποιῶντα πάσχειν.

ἢ οὕτε τὸ τὴν ἄλλου ἐνέργειαν ἐν ἐτέρῳ εἶναι ἄτοπον (ἔστι γὰρ ἡ διδάξις ἐνέργεια τοῦ διδασκαλικοῦ, ἐν τινι μέντοι, καὶ οὐκ ἀποτετιμημένη, ἀλλὰ τοῦδε ἐν τῷδε), οὕτε μίαν δυοῖν κωλύει οὐδὲν τὴν αὐτὴν εἶναι (μὴ ὡς τῷ εἶναι τὸ αὐτὸ, ἀλλ' ὡς ὑπάρχει τὸ δυνάμει ἢ πρὸς τὸ ἐνεργεῖν), οὕτ' ἀνάγκη τὸν διδάσκοντα μανθάνειν, οὐδ' εἰ τὸ ποιεῖν καὶ πάσχειν τὸ αὐτὸ ἔσται, μὴ μέντοι ὥστε τὸν λόγον εἶναι ἓνα τὸν <τὸ> τί ἦν εἶναι λέγοντα, οἷον ὡς λώπιον καὶ ἱμάτιον, ἀλλ' ὡς ἡ ὁδὸς ἢ Θήβηθεν Ἀθήναζε καὶ ἡ Ἀθήνηθεν εἰς Θήβας, ὡσπερ εἴρηται καὶ πρότερον; οὐ γὰρ ταῦτά πάντα ὑπάρχει τοῖς ὁπωσοῦν τοῖς αὐτοῖς, ἀλλὰ μόνον οἷς τὸ εἶναι τὸ αὐτό.

But (someone will say) it is contrary to reason to suppose that there should be one identical actualization of two things which are different in kind. Yet there will be, if teaching and learning are the same, and agency and patiency. To teach will be the same as to learn, and to act the same as to be acted on – the teacher will necessarily be learning everything that he teaches, and the agent will be acted on.

It is not absurd that the actualization of one thing should be in another. Teaching is the activity of a person who can teach, yet the operation is performed in something – it is not cut adrift from a subject, but is of one thing in another. There is nothing to prevent two things having one and the same actualization (not the same in being, but related as the potential is to the actual). Nor is it necessary that the teacher should learn, even if to act and to be acted on are one and the same, provided they are not the same in respect of the account which states their essence (as raiment and dress), but are the same in the sense in which the road from Thebes to Athens and the road from Athens to Thebes are the same, as has been explained above. For it is not things which are in any way the same that have all their attributes the same, but only those to be which is the same.

But it is unreasonable that there should be one and the same operation of two things different in form. And if teaching and learning are the same thing, and acting-upon and being-acted-upon, then to teach will be the same thing as to learn, and to act upon as to be acted upon, so that it will be necessary that every teacher learns and everyone that acts upon is acted upon.

Or can it be that: (a) it is *not* absurd that the operation of one thing should be in another (for teaching is the operation of that which is disposed to teach, but it is *on* something, and not cut off, but is of this on this); and (b) there is, also, nothing to prevent the operation of two things being one and the same, not as the same in being, but in the way that what potentially is is related to what is operating, and (c) it is also not necessary that the teacher learns, even if to act upon and to be acted upon are the same thing, provided they are not the same in the sense that the definition that gives the 'what it was to be' is one (as with 'raiment' and 'clothing'), but in the sense in which the road from Thebes to Athens is the same as the road from Athens to Thebes, as was said earlier? For it is not the case that all the same things are present in things that are the same in any sense whatever, but only of those of which the being is the same.

The difference in definition of two reciprocal potentialities is then in turn explained by their direction, their unity by their being aspects of the same *kinēsis*:

οὐ μὴν ἀλλ' οὐδ' εἰ ἡ διδασκίτις τῆ μαθήσει  
τὸ αὐτό, καὶ τὸ μαθηθῆναι τῷ διδάσκειν,  
ὥσπερ οὐδ' εἰ ἡ διάστασις μία τῶν διεστη-  
κότων, καὶ τὸ διάστασθαι ἐνθιένθι ἐκείσε  
κάκειθεν δεῦρο ἐν καὶ τὸ αὐτό. ὅλως δ' εἰ-  
πεῖν οὐδ' ἡ διδασκίτις τῆ μαθήσει οὐδ' ἡ ποι-  
ησις τῆ παθήσει τὸ αὐτὸ κυρίως, ἀλλ' ὅ  
ὑπάρχει ταῦτα, ἡ κίνησις· τὸ γὰρ τοῦδε  
ἐν τῷδε καὶ τὸ τοῦδε ὑπὸ τοῦδε ἐνέργειαν  
εἶναι ἕτερον τῷ λόγῳ. (202a36-b22)

But indeed it by no means follows from  
the fact that teaching is the same as  
learning, that to learn is the same as to  
teach, any more than it follows from the  
fact that there is one distance between  
two things which are at a distance from  
each other, that being here at a distance  
from there and being there at a distance  
from here are one and the same. To  
generalize, teaching is not the same as  
learning, or agency as patiency, in the  
full sense, though they belong to the  
same subject, the motion; for the actual-  
ization of this in that and the actualiza-  
tion of that through the action of this dif-  
fer in definition. (Aristotle, 2014, 763)

And, in any case, even if teaching is the  
same thing as learning, to learn is not  
[therefore] the same thing as to teach,  
just as, even if two things separated by  
an interval have one interval between  
them, to be distant in the direction from  
*A* to *B* is not one and the same things as  
to be distant in the direction from *B* to  
*A*. But speaking generally, the teaching  
is not the same, in the primary sense,  
as the learning, nor the acting-upon as  
the being-acted-upon, but that in which  
these things are present, namely the  
change, [is the same as being acted  
upon]; for to be the operation of *B* in  
*A*, and to be the operation of *B* by the  
agency of *A*, are different in definition.  
(Aristotle, 1993, 5-6)

We also find this sameness-in-number/difference-in-account account of correlative powers in the *Metaphysics*. In *Met. Θ.1*, Aristotle asserts that the active capacity to  $\phi$  and the passive capacity to be  $\phi$ -ed are in a way a single capacity (1046a19-20) and in a way distinct capacities (1046a22). They are the same because (i) their exercise is the same and (ii) they produce the same change, i.e. produce the same change (ii) in the same way (i). The change is in the patient; both the active and the passive powers are powers for that change. They are also different, and thus distinct capacities, for they are in different locations: this in turn is itself explained in terms of what the powers can explain: the passive power is in the thing that undergoes the change and can help explain why it undergoes the change, but cannot explain why the active thing also undergoes a change (though it does, to some extent, explain what change it undergoes).

This, I think, may also explain why natural things both have an inner principle of change but are not self-changing in the sense in which *Phys. VIII* says that nothing changes itself. In *De An. II 417b1-16*, Aristotle makes the claim that a man who passes from (i) having knowledge (of what a dog is) but not exercising it to (ii) exercising this knowledge (encountering a dog, she knows that this is a dog) does not *thereby* undergo change. The lack of opportunity for the exercise of the knowledge, i.e. the fact that the perceptual situation of the knower does not present her with a dog, is an impediment, and the impediment is an impediment for the *manifestation* of the change, not for the change itself. That the change is already ongoing when the reciprocal power is activated is built into its very definition. Why is change the actuality of a potentiality *as* potentiality and why is it not the actuality of a potentiality *as* actuality? Aristotle illustrates the importance of the qualification with an example:

ὅτι δὲ τοῦτο ἔστιν ἡ κίνησις, ἐντεῦθεν δῆ-  
λον. ὅταν γὰρ τὸ οἰκοδομητόν, ἢ τοιοῦτον  
αὐτὸ λέγομεν εἶναι, ἐντελεχέα ᾗ, οἰκο-  
δομεῖται, καὶ ἔστιν τοῦτο οἰκοδόμησις.  
(201a15-18)

That this is what motion is, is clear from  
what follows: when what is buildable,  
in so far as we call it such, is in fulfil-  
ment, it is being built, and that is build-  
ing. (Aristotle, 2014, 758)

That this is change is clear from the fol-  
lowing: when that which is buildable  
is in actuality, in the respect in which  
we call it such, it is being built, and this  
is the process of building...(Aristotle,  
1993, 2)

The buildable is the house we plan to build today on this site here out of these bricks. Its becoming actual is the process of its being built; but it is only the buildable as such which already *is* actual in this process; the bricks lying around on the construction site were actual even before the process started and the house – the buildable as actual – will be actual only when the process is finished. During the process, however, we have something in between: not only is the buildable in potentiality (that was before the process), but it is now in actuality as well; it is in actuality as potentiality, as the buildable, and not yet as actuality, as the house, because we have not yet finished building it.

With respect to the metaphysics of powers, we thus have a very interesting three-fold distinction:



**potentiality only** The house is buildable (the materials are there, the plan has been made), but we have not yet started.

**potentiality and actuality** The house is buildable and is being built; its potentiality is activated but the actualisation of the house is still *qua* buildable, not yet *qua* built.

**actuality only** The house is built, the potentiality realised: while it was buildable, it is no longer buildable; rather it is built.

As I understand Aristotle, he identifies change with the process, the actuality of the potentiality as potentiality, the being activated but not yet having been realised of the potentiality. He gives another example:

...ἡ δὲ τοῦ δυνάμει ὄντος <ἐντελέχεια>, ὅταν ἐντελεσθεῖα ὄν ἐνεργῆ οὐχ ἢ αὐτὸ ἀλλ' ἢ κινήτῳ, κίνησις ἐστίν. λέγω δὲ τὸ ἢ ὡδί. ἔστι γὰρ ὁ χαλκὸς δυνάμει ἀνδριάς, ἀλλ' ὅμως οὐχ ἢ τοῦ χαλκοῦ ἐντελέχεια, ἢ χαλκός, κίνησις ἐστίν· οὐ γὰρ τὸ αὐτὸ τὸ χαλκῶ εἶναι καὶ δυνάμει τινί [κινήτῳ], ἐπεὶ εἰ ταῦτόν ἦν ἀπλῶς καὶ κατὰ τὸν λόγον, ἦν ἂν ἡ τοῦ χαλκοῦ, ἢ χαλκός, ἐντελέχεια κίνησις· οὐκ ἔστιν δὲ ταῦτόν, ὡς εἴρηται (201a27-34)

It is the fulfilment of what is potential when it is already fulfilled and operates not as itself but as movable, that is motion. What I mean by 'as' is this: bronze is potentially a statue. But it is not the fulfilment of bronze as bronze which is motion. For to be bronze and to be a certain potentiality are not the same. If they were identical without qualification, i.e. in definition, the fulfilment of bronze as bronze would be motion. But they are not the same, as has been said. (Aristotle, 2014)

The actuality, then, of what is potentially – when being in actuality it is operating, not *qua* itself but *qua* changeable – is change. I mean 'qua' thus: the bronze is potentially a statue, but yet it is not the actuality of bronze *qua* bronze that is change. For it is not the same thing to be bronze and to be potentially something: if indeed it were, without qualification and by definition, the same thing, then the actuality of the bronze, *qua* bronze, would be change, but, as has been said, it is not the same thing. (Aristotle, 1993, 2-3)

We are, I believe, given the following picture: when the sculptor buys the bronze, there is, in front of him, a statue-in-potentiality in the following sense: there is something, i.e. a bronze, that is potentially a statue. The bronze-in-actuality and the statue-in-potentiality are 'one in number' and 'one in reality', but they are 'two in account': for being actually a bronze and being potentially a statue are two things. When the change, the sculpting, occurs, it is the statue-in-potentiality that undergoes it, not the bronze-in-actuality; for the change is nothing but what undergoes it and it cannot be the bronze-in-actuality, because what the bronze is in actuality is independent of what it will become: what it is to be this bronze includes having been bought by the sculptor, having put here in his workplace, but – because the sculptor could change his mind, or accidents could happen – does not yet include its being sculpted into a statue.

Aristotle even gives two other examples:

(δῆλον δ' ἐπὶ τῶν ἐναντίων· τὸ μὲν γὰρ δύνασθαι ὑγιαίνειν καὶ δύνασθαι κάμνειν ἕτερον — καὶ γὰρ ἂν τὸ κάμνειν καὶ τὸ ὑγιαίνειν ταῦτόν ἦν — τὸ δὲ ὑποκειμένον καὶ τὸ ὑγιαίνον καὶ τὸ νοσοῦν, εἴθ' ὑγρότης εἴθ' αἷμα, ταῦτόν καὶ ἔν). ἐπεὶ δ' οὐ ταῦτόν, ὡσπερ οὐδὲ χρῶμα ταῦτόν καὶ ὄρατόν, ἢ τοῦ δυνατοῦ, ἢ δυνατόν, ἐντελέχεια φανερόν ὅτι κίνησις ἐστίν. (201a34-201b5)

(This is obvious in contraries. To be capable of health and to be capable of illness are not the same; for if they were there would be no difference between being ill and being well. Yet the subject both of health and of sickness – whether it is humour or blood – is one and the same.) We can distinguish, then, between the two – just as colour and visible are different – and clearly it is the fulfilment of what is potential as potential that is motion. (Aristotle, 2014, 759)

The case is clear with opposites: to be capable of being healthy and to be capable of being sick are different – otherwise being sick and being healthy would be the same thing – but the underlying subject, that which is healthy and that which is diseased, be it moisture or blood, is one and the same. Since then it is not the same thing, just as colour is not the same as visible thing, it is manifest that the actuality of the potential, qua potential, is change. (Aristotle, 1993, 3)

Blood is both potentially healthy and potentially sick, but it cannot be both actually healthy and actually sick. When it is actually sick and becomes healthy, what undergoes (and hence *is*) the change is the blood-as-potentially-healthy, not the blood-as-actually-sick, even though these two are the same in number.

Motion, the actuality of the mover as mover, is in what is moved, but its being moved is in the moved only potentially – even while it is moved!

### Correlatives in the *Categories*

So-called relatives (*pros ti* items) are introduced in the *Categories* as things that seem quantities, but are not – the examples given are “many” / “few” and “large” / “small”. They are relatives because “nothing is called large and small just in itself, but by reference to something else. For example, a mountain is called small yet a grain of millet large – because one is larger than other things of its kind while the other is smaller than other things of its kind” (*Cat.* 5b16-18). Aristotle explains the extrinsicness of these characteristics by their perspectival character: “the large and the small are looked at in relation to something else” (5b28-29).

The introduction by example is then followed by something like an official definition at the beginning of chapter 7:

We call *relatives* all such things as are said to be just what they are, *of* or *than* other things, or in some other way *in relation to* something else. For example, what is larger is called what it is *than* something else (it is called larger than something); and what is double is called what it is *of* something else (it is called double of something); similarly with all other such cases. The following, too, and their like, are among relatives: state, condition, perception, knowledge, position. For each of these is called what it is (and not something different) *of* something else. (*Cat.*, 6a36-b4, 2014, 41)

This is Aristotle’s so-called ‘Platonic’ definition of relations, or rather of what it is for things to stand in a relation.<sup>7</sup>

Relatives, however, are not just generically extrinsic, but have specific “correlatives” that “reciprocate”:

For example, the slave is called slave of a master and the master is called master of a slave; the double double of a half, and the half half of a double; the larger larger than a smaller, and the smaller smaller than a larger; and so for the rest too. Sometimes, however, there will be a verbal difference, of ending. Thus knowledge is called knowledge of what is knowable, and what is knowable knowable by knowledge; perception perception of the perceptible, and the perceptible perceptible by perception. (6b26-35, 2014, 42)

Aristotle explains that the reciprocation is automatic, grammatical almost, though not always apparent from surface grammar:

Sometimes, indeed, [relatives] will not seem to reciprocate – if a mistake is made and that in relation to which something is spoken of is not given properly. For example, if a wing is given as *of a bird*, *bird of a wing* does not reciprocate; for it has not been given properly in the first place as wing of a bird. For it is not as being a bird that a wing is said to be of it, but as being a winged, since many things that are not birds have wings. Thus if it is given properly there is reciprocation; for example, a wing is wing of a winged and a winged is winged with a wing. (6b35-7a4, 2014, 42-43)

The explanation of why *bird* is not the correlative of *wing* – that not all wings are had by birds – spells out a universality requirement: if *F* is the correlative of *G*, then necessarily, if something is *F* then something is *G* and *F* is of the *G* while the *G* is of the *F*:

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7. Duns Scotus translates as: “Ad aliquid dicuntur quaecumque hoc ipsum quod sunt, aliorum dicuntur, vel quomodolibet aliter ad aliud” (Sup. Praed. q 26, n. 2; 1, 497b), Beckmann (1967, 35) as “‘In einer Beziehung stehend’ heisst dasjenige, dessen Sein darin besteht, ein zu einem anderen gehörendes Sein genannt zu werden.”

Again, if that in relation to which a thing is spoken of is properly given, then, when all the other things that are accidental are stripped off and that alone is left to which it was properly given as related, it will always be spoken of in relation to that. For example, if a slave is spoken of in relation to a master, then, when everything accidental to a master is stripped off – like being a biped, capable of knowledge, a man – and there is left only being a master, a slave will always be spoken of in relation to that. For a slave is called slave of a master. (7a31-38, 2014, 44)

The construction “accidental to a master” is very interesting, for it is implicitly qualified as “accidental to a master *as a master*”: it is not accidental to the person who is a master, e.g. Socrates, to be biped, capable of knowledge, a man, but only to his being a master: while he could exist, we hope, without owning any slaves, he could not be a master: each correlative “carries the other to destruction” (7b20).

It is with respect to such ‘predicative’ essences that simultaneous correlatives ontologically depend on each other.<sup>8</sup> But not all correlatives are simultaneous: the knowable, e.g., is prior to knowledge, which only unilaterally depends on it (7b28-30); the perceptible is prior to perception and carries it to destruction, though not vice versa (7b35-39).

After having noted that with respect to some secondary substances, there is room for dispute as to whether or not they are relatives (*head* may be *someone’s head*, *hand* may be *someone’s hand*), Aristotle gives another definition of relatives:

Now if the definition of relatives given above was adequate, it is either exceedingly difficult or impossible to reach the solution that no substance is spoken of as a relative. But if it was not adequate, and if those things are relatives for which *being is the same as being somehow related to something*, then perhaps some answer may be found. The previous definition does, indeed, apply to all relatives, yet this – their being called what they are, of other things – is not what their being relatives is. (8a28-35, 2014, 47)

I think it is clear that Aristotle thinks that this second definition<sup>9</sup> is better than the first: while the first may be true of all relatives, it is perhaps true of some non-relative secondary substances as well; even more importantly, it does not settle questions which a definition should settle, e.g. whether *head* is a relative. Every head is the head of a headed, and every headed is what has a head, but this alone does not show that *head* and *headed* are relatives. They are relatives only if *being a head* is the same thing as *being the head of a headed*. If this were the case, it would not be possible to know what a head is without “knowing definitely that in relation to which it is spoken of”, i.e. what a headed thing is. It seems (Aristotle is cautious about this point), however, that this is the case, i.e. that we can know what *head* is without knowing what *headed* is – so secondary substances are not relatives.

The reciprocation of relatives is thus *not* just a necessary connection between different things,<sup>10</sup> but an intrinsic and essential feature.

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8. Aristotle characterises such counterfactual ontological dependence in terms of “stripping off”: “if there is no master there is no slave either” (7b7), “if there is nothing winged neither will there be a wing of anything” (7b9).

9. Duns Scotus translates as: “Ad aliquid sunt quorum hoc ipsum esse est ad aliud se habere” (Sup. Praed. q 26, n. 2; 1, 497b), Beckmann (1967, 35) as “‘In einer Beziehung stehend’ ist das, dessen Sein darin besteht, sich zu etwas anderem zu verhalten”.

10. Cf. Marmodoro (2014, 29): “*Pros ti* properties are monadic properties such that their manifestation or activation depends counterfactually on the activation of their correlatives.”

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