CHAPTER 7

Reception of Forms without the Matter and Its Unmoved Causes

7.1 Perceptual Objects as Unmoved Causes

If the account of perceptual discrimination outlined in the preceding chapter is on the right track, we can finally begin to see how Aristotle may be able to account for the receptivity of perception – as one of the two most salient marks of animal life – by means of unmoved causes, and so how he may be able to flesh out, in causal terms, the first general account of perception as a complete passive activity from *An.* 2.5 without compromising the impassivity of the soul defended in *An.* 1.3–4. Integral to this endeavour is the notion of the discriminative mean that encapsulates why perceivers, when affected by perceptual objects, are neither straightforwardly assimilated to them, nor simply mediate their agency, but, precisely, *perceive* them.

Before revisiting the question of the impassivity of the perceptive soul and its involvement in perception from this new perspective (in Sections 7.3, 7.4, and 7.5), let us briefly focus, first, on the other unmoved cause, namely the perceptual object (Section 7.1),[1] and, second, on how the homeostatic account of discrimination can apply to non-tangible modalities (Section 7.2).

Aristotle's classification of perceptual objects as unmoved movers seems to presuppose, first of all, that perceivers in no way *produce* the content of their perception (as the Protagoreans maintain in a radical way).[2] What perceivers perceive are the external perceptual objects as they are. This does not mean, of course, that perceptual objects cannot be changing while being perceived. They clearly often are, and it is not uncommon for the perceivers themselves to be the causes of these changes – most patently in

[1] Cf. Sections 2.1, 3.1, and 4.2.

[2] And as, for instance, the ancient atomists – and in fact most modern thinkers – would maintain (albeit in a milder version) when distinguishing between primary and secondary qualities. For Aristotle's engagement with Protagoreanism, cf. Sections 4.3 and 6.2.

the case of the hot and the cold. When perceiving a warm cup in my hand, my hand is surely cooling the object in return. How, then, can Aristotle maintain that the object is an unmoved mover? Its case seems prima facie to contrast with that of an artisan, such as a medical doctor, who may surely be exhausted after her day in the office, but without this taking anything away from her expertise. The lowering of the cup's temperature, in contrast, clearly does transform its perceptible features: it is being changed, under the cooling agency of my hand, into a different kind of perceptual object and so it ceases, during the time of being perceived, to be the perceptual object it was at the beginning. One might therefore assume that Aristotle's classification of perceptual objects as being unmoved movers like artisans is ungrounded.

One possible line of response would be to emphasize the special status of the hot and the cold. Unlike colours, sounds, or odours, the hot and the cold are perceived by direct contact with the perceiver's body. Moreover, unlike flavours, they are properties of bodies qua bodies, so that there can be no neutral organ or medium for them. Furthermore, unlike the hard and the soft (and like the wet and the dry), they are highly unstable. Perhaps, for Aristotle's claim, it is sufficient to insist that *in all the other cases* being perceived does not involve any change in the perceptual object qua such (not even flavours of food, when it is consumed in tasting, are thereby transformed into different flavours).

However, even in the case of the hot and the cold, we might argue that Aristotle is willing to insist that the perceptual object *is* an unmoved mover in a sufficiently robust sense. Given the dynamic nature of perception, the fact that the perceptual object is changing (under the agency of my body) while I am perceiving it need not take anything away from its status as an unmoved mover, as long as my perception is exactly tracking this change over time.[3] If this is achieved, then one can insist that although the perceived object is undergoing a perceptually relevant change while being perceived, and although this change is produced by my body, it remains the entire time unmoved qua *perceptual object*. It means that the whole time I am perceiving precisely this external object as it is on its own – which now means exactly as undergoing this change – and not just as it is for me. I achieve this by having the changing quality constantly in my

[3] Another question is whether I can actually succeed in doing this in a concrete case. The fact that my hand is not only cooling the cup, but that the cup is also heating my hand, so that the hand's temperature changes, suggests that, in many cases, I cannot. This, however, is entirely attributable to my failure to preserve my body in the appropriate condition, which is parallel to the case of being affected by perceptual objects that are too strong.

organ as a quality *of* the external object itself. The object is changed while being perceived, but not changed by perception; and it is never changed in such a way that it loses its ability to be perceived as it truly is.

7.2 Homeostasis in Non-Tangible Modalities

In the case of the distal senses, the media apparently enhance the immobility of perceptual objects, so that these standardly remain unchanged while being perceived. However, this can hardly be the main function of the media. Rather, it seems that mediation primarily facilitates, or even enables, what happens in the perceptive organ proper, and that is, as we know from *An.* 2.11, discrimination, or, as Aristotle will add in *An.* 2.12, reception of perceptual forms without the matter. I suggested (in Section 4.5) that Aristotle's media are best understood as qualitative conductors, and that seems to be correct also in the case of the hot and the cold. When I feel the coldness of an ice cube, it is certainly not because parcels of my flesh are one after the other frozen to −10°C. Rather, the flesh, in Aristotle's view, is somehow capable of conducting the cooling agency without acquiring the respective temperature as a quality of its own.[4] It is, apparently, in this mediated form that the organ needs to receive the agency of the object, in order for the object to be discriminated, rather than replicated, in it.

If we connect these findings with the account of the discriminative mean offered in Sections 6.4 and 6.5, the upshot will be that the mediation of the object's agency is what facilitates, or even enables, the homeostatic reaction of an adequate accuracy necessary for a proper discrimination to take place. It is only when the agency is mediated by a qualitative conductor that it can be successfully 'measured' with the requisite level of precision and reaction time. One question about this mechanism was whether the proposed account of the discriminative mean can be extended from perception of the hot and the cold to the other sense modalities at least as successfully as the account of mediation was extended from sight and hearing to the contact senses in *An.* 2.7 and 11.

This question involves, among other things, the controversial issue of how, according to Aristotle, the work is divided between the periphery and the centre of the perceptual apparatus. The way Aristotle extends the account of perceptual discrimination to other sense modalities at *An.*

[4] That is not to deny that parts of the flesh can become somewhat colder or somewhat warmer; this, I take it, will mark their relative failure to mediate.

2.11, 424a7–10 suggests that he assumes discrimination to take place at the level of the peripheral organs, such as the eye, which is neither white nor black, but can, when illuminated, receive all colours in the same way as media receive them. It is hard to imagine how the requisite colourlessness could be realized in the heart, which, moreover, can hardly be illuminated (the *pneuma* seems not to be the solution here).[5] The analogue of what is neither black nor white in the case of hearing would apparently be the motionless air in the peripheral auditive apparatus.[6] However, later in *An.* 3.7 Aristotle is explicit about the fact that the mediation somehow continues further beyond the eye; his claim that there is a numerically single mean for all sense modalities is at least suggestive of the idea that all discrimination takes place in the heart.[7] I am not entirely sure whether this tension can be fully resolved. The truth seems to be that, in the *De Anima*, Aristotle does not offer a consistent picture about the relation of the periphery and the centre of the perceptual apparatus: the clearest example is perhaps his inconsistency in treating the tongue as the medium of taste in *An.* 2.7 and 11, while treating it as the organ of taste in *An.* 2.10.[8]

For our purposes, it is the following observation that matters: what happens on the level of peripheral organs (including tongue) must be either the discrimination itself, or a transformation of the incoming motions involving some kind of encoding (so that, for instance, the same ratio is further transmitted in a different pair of contraries).[9] If the latter is correct, then the extension of the homeostatic account from touch to other sense modalities becomes rather straightforward. Once we allow, say, the tongue to be capable of transforming the agency of a flavour into a 'motion' realized in a different pair of contraries from sweet and bitter, such that the heart can receive it (as seems necessary), then there appears to be no difficulty with assuming that another motion in the same pair of contraries, capable of neutralizing the incoming motion, can also be produced in the heart. The same will hold *mutatis mutandis* for the three distal senses.

[5] For more on the question, see Roreitner 2020.
[6] See *An.* 2.8, 419b33–420a15.
[7] See *An.* 3.7, 431a17–20. This is one of the passages in the *De Anima* that speaks against the contrast between 'the heart view' of the *Parva Naturalia* and the 'entelechy view' of the *De Anima* as defended by Nuyens 1948 (for attempts to show how the two views are in fact compatible, see Block 1961, Hardie 1964, Lefèvre 1972, Tracy 1974, and Corcilius and Gregoric 2013). However, that is far from proving a perfect doctrinal consistency between the *Parva Naturalia* (with *Phys.* 7.2–3) and the *De Anima*. One counterexample is Aristotle's insistence on the impassivity of the perceptive soul in the *De Anima*, as argued by Menn 2002 (cf. e.g. Heinaman 1990: 85–8).
[8] Cf. Sections 4.4, 4.5, and 6.4.
[9] For the latter option, cf. e.g. Freeland 2021: 170.

If, in contrast, we assume that discrimination takes place on the periphery, then the extension is less obvious, but certainly not impossible. As has been noted by Roberto Grasso: 'if there are causal agencies that make relevant media of perception (such as air, water, and flesh) become *F*, there should be no objection to the existence of symmetrically contrary causal agencies that can counterbalance the first agency in bodies that are materially homogenous to the media of perception'.[10] If we take the example of sound, there is no principled reason why the auditory apparatus should not be capable of exactly counterbalancing – either in the air contained in it or on the membrane to which the auditory channels lead[11] – these incoming motions.[12] The details of what happens in the perceptual apparatus are admittedly murky; but this is the case on all accounts. Moreover, these details clearly lie beyond the scope of the *De Anima*. The point is that there is no principled reason for Aristotle, once he accepts a homeostatic account of discrimination for the hot and the cold, not to extend it to other sense modalities – regardless of whether discrimination is meant to take place at the periphery or in the centre of the perceptual apparatus.

What seems to be more pressing is the second question raised in Section 6.5 – namely, how the perceptive soul is supposed to regulate the mechanism. In what sense can it be described as the efficient cause of perception, and how far can the model developed in *An.* 2.4 for the nutritive soul be adapted to it? More specifically, one might have the following doubt: is it not the case that the proposed homeostatic account of the most primitive perceptual discrimination is based on a *petitio principii*? The suggestion was that, rather than being itself affected, the soul governs the countervailing reaction to the acting of the perceptual object on the organ. But how does the soul *know* in which way the organ is being affected? Are we not

[10] Grasso 2020: 281.

[11] See *GA* 2.6, 743b35–744a5; *PA* 2.7, 652b30; *PA* 2.10, 656b13–19; *HA* 1.16, 494b29–31, 495a8–18; *HA* 3.3, 514a17; *HA* 3.13, 519b2–6; *Sens.* 2, 438b10–15.

[12] Grasso 2020: 281 suggests that this works 'according to a principle analogous to the "destructive interference" between two waves of equal frequency and opposite phase'. Alternatively, one could exploit Aristotle's comparison between the perceptive capacity and τόνος at *An.* 2.12, 424a31–2: perhaps the way in which the organ counterbalances the incoming motion is simply by retaining the τόνος that the motions tend to untune; or perhaps the auditory apparatus functions as a sort of multidimensional monochord as an instrument for measuring sounds (it is not certain that Aristotle knew about monochords, but it is not unlikely; see Creese 2010: esp. 81–104). By retaining the appropriate τόνος in all its parts, the auditory apparatus allows all incoming motions to 'resonate' in it and thus be measured, rather than being conducted further, reflected back as an echo, or simply disappearing. For one suggestion concerning vision, see Grasso 2020: 281–2.

already presupposing what we are trying to explain?[13] This set of questions will be addressed in the following section.

7.3 The Agency of the Perceptive Soul

Let us return to Aristotle's claim in *An.* 2.4 that the soul is an efficient cause of perception understood as a kind of alteration, much as it is an efficient cause of growth and diminution.[14] The parallel between perception and growth here is striking. Prima facie, it may seem that they have nothing in common: after all, growth, and nutrition in general, consists in *(re)producing* the animal's body, whereas perception is receptive, a kind of *being moved* or *affected* by perceptual objects. I want to suggest, however, that despite these obvious differences Aristotle's parallelism between the efficient role of the soul in perception and nutrition contains an important clue for understanding his account of perceptual discrimination.

First, in line with Aristotle's definition of efficient cause as the principle of motion or rest/coming to rest (στάσις, ἠρέμησις),[15] the agency of the nutritive soul can be understood as fundamentally directed at 'rest' in the sense of preserving the living body as such, in its natural condition:[16] it consists in 'preserving the substance'.[17] Making the body larger or smaller seems secondary.[18] Furthermore, even reproduction can be understood as a preservation of the body's substance or form, albeit *in something else*.[19] Indeed, Aristotle's objections to his predecessors, at the first stage of his inquiry into nutrition (415b28–416a18), all turn around this stabilizing – preservative – function of the soul. The body 'would be torn asunder if there were nothing preventing [it], and if there is something like this, then it is the soul – that is, the cause of growth and nutrition'; the soul 'holds

[13] The proposed account thus faces a similar kind of difficulty as Alexander's account (as was argued in Section 5.3), which is no surprise, for some such difficulty must be faced by any interpretation that takes seriously Aristotle's commitment to the impassivity of the soul.

[14] *An.* 2.4, 415b21–7 quoted and discussed in Section 5.5.

[15] See e.g. *Phys.* 2.3, 194b30–1, 195a23–4; *Metaph.* Δ.2, 1013a29–30, 1013b24–5; Θ.8, 1049b5–8; Λ.4, 1070b24–5; cf. *Metaph.* Δ.12, 1019a34–5. See also Aristotle's definition of natural beings (at *Phys.* 2.1, 192b14–15) as 'those which have in themselves the principle of change and of rest' (cf. *Phys.* 2.1, 192b20–3), which is recalled at *An.* 2.1, 412b15–17.

[16] *An.* 2.4, 416b17–19. [17] *An.* 2.4, 416b14.

[18] As Menn 2002: 118 puts it, the nutritive capacity 'is primarily a power of maintaining the thing at its natural size, and only incidentally a power of augmenting the thing when it is too small (or diminishing it when it is too big); nutrition rather than growth is the deeper phenomenon'.

[19] Cf. *An.* 2.4, 416b23–5 and 415a25–b7. For the relation between nutrition and reproduction, see Coates and Lennox 2020 and Lennox 2021b, cf. also Lefebvre 2021.

[the body] together'.[20] The fire, on the other hand, can certainly 'augment itself' by consuming more and more combustible material, but what distinguishes a genuine growth of a living body from the augmentation of fire is the *limit* set to the body's augmentation by the form, and, again, nothing other than the soul can be responsible for this.[21]

Such an emphasis on preservation, stability, 'holding together', and 'setting a limit' does not imply, of course, that the nutritive soul cannot also be understood as the principle of motion or change. The preservation of the living body as such can be achieved only by a complex structure of changes and, while the nutriment can, in a sense, be seen as an efficient cause, too (as demanded by Aristotle's argument in *Phys.* 8.4–6), the primary agency belongs to the soul. According to Aristotle's considered account, it is the soul that nourishes the body by means of the nutriment.[22] This claim draws on Aristotle's art (or 'craft') analogy: the nutritive soul is the ultimate efficient cause of nutrition and preservation of the living body in a sense analogical to that in which the carpentry is the ultimate efficient cause of furniture production.[23] This is a central tenet of Aristotle's natural philosophy in general,[24] which has several far-reaching implications for his account of the soul in particular, directly pertaining to its immobility as emphasized in *An.* 1.3–4.[25]

For our present purposes, what matters is mainly one point summed up in the aphorism that 'art does not deliberate'.[26] This claim cannot be intended to deny that the agency of an art is regularly realized through the artisan's conscious deliberation, volitional acts, and so on; rather, the point seems to be that qua agency *of the art itself* it is not deliberative, and, indeed, not volitional, nor conscious. In other words: when analysing the

[20] *An.* 2.4, 416a6–9; cf. *An.* 1.5, 410b10–13, 411b5–10.

[21] *An.* 2.4, 416a15–18. On growth, see also *GC* 1.5 (cf. R. King 2001: 49–58 and R. King 2021: 54–7); on the 'limit' of growth, cf. *GA* 2.6, 743b27–744a17 (and Carbone 2021).

[22] *An.* 2.4, 416b20–3. For a helpful analysis of how *An.* 2.4 (and *GC* 1.5) is compatible with the argument of *Physics* 8, see Johansen 2012b: 128–37.

[23] See *An.* 2.4, 416b1–3. The art analogy was introduced at *An.* 1.3, 407b24–7; cf. also 2.4, 415b15–21. See further *Phys.* 2.2, 194b5–9; 2.8, 199b33–5; *PA* 1.1, 641a8; 2.7, 652b13–15; *GA* 1.22, 730b5–23; 1.23, 730b24–33; 2.1, 734b36–735a5; 2.4, 740b24–34; 2.6, 743b20–5. Cf. *GA* 2.6, 744b16–27; *EE* 7.9, 1241b17–19. For the art as a primary efficient cause, see *Phys.* 2.3, 195b21–5; *GC* 1.7, 324a24–b13; 1.10, 328a18–22; *Metaph.* Z.7, 1032a27–b23; Λ.4, 1070b26–34. For the historical background of Aristotle's art analogy, see Coughlin 2024.

[24] See especially Broadie 2007, Sedley 2008: 173–81 (cf. Sedley 2010: 11–18), and Witt 2015; cf. Charlton 1984: 120–6.

[25] See especially Menn 2002; for a helpful overview of the discussion, see Fernandez and Mittelmann 2017.

[26] *Phys.* 2.8, 199b27–30. On this passage, see Broadie 2007: 94–5, Sedley 2008: 177–81 (cf. Sedley 2010: 14–17), and Witt 2015: 117–19.

artistic agency, we can put the conscious psychological processes on the part of the artisan in parentheses as being subsidiary to the basic causal model of an art producing its artefact. That is why, despite all their differences, art *can* provide an apt analogy for the workings of nature(s), with nutrition serving as a paradigmatic case.[27]

One implication of the art analogy is, arguably, that the nutritive soul not only determines the normative natural state of the body as the goal of nutrition but also has control over which changes will lead to that goal in each given situation depending on the current state of the body.[28] The soul determines not only the goal to be reached but also how exactly the bodily processes are to be directed *right now*, to reach that goal. The concrete process of preservation governed by the soul will obviously be different in the case of an internal disease, of exhaustion after a long run, or of a battle injury. There is a sense in which each nutritive soul (or each soul qua nutritive), as a sort of elephant-building or tiger-building art, always produces exactly the same result, namely the persisting living body in question. However, doing this means different things in different situations depending on the current state of the body; the soul therefore requires control over how to get from the given state to the natural state (as far as possible). It is obvious that this kind of control cannot involve any consciousness or volition, for all animal consciousness and volition already presuppose it.[29] This observation, I argue, contains a clue for addressing the worry whether the proposed homeostatic account of perceptual discrimination is not based on a *petitio principii*.

With regard to perception, the first thing to notice is that the notion of preservation, which was central to Aristotle's analysis of nutrition, plays an important role in his discussion of perception, too. It figures, as we have seen, at a key juncture of the first general account (417b2–5), and it is explicitly reapplied to tasting at *An.* 2.10, 422b3–5.[30] Moreover, if the suggestions made in the preceding chapters are on the right track, the notions of the mean (*An.* 2.11–12) and of impassivity (*An.* 3.4) are intimately related to this notion of preservation. Prima facie, though, the preservation achieved in nutrition and the preservation involved in

[27] For an analysis of how the art analogy is developed into Aristotle's account of nutrition in *An.* 2.4, see Menn 2002: 117–28; cf. Gill 2021: esp. 28–30, 38–9.

[28] For a recent account of forms as not only 'sources' but also as 'controllers' of changes, see Charles 2021: 68–79.

[29] Moreover, something like this control is also manifested in plants, despite the fact that they lack any form of perception according to Aristotle.

[30] For the latter passage, see Section 6.4.

perception are very different: in the former case, it is the soul that preserves the body, whereas, in the latter case, the perceptive organ is said to be preserved by the perceptual object. And there are other important differences as well. One can argue, nevertheless, that the two notions of preservation are not simply homonymous. It turns out that the preservative character of perceptual πάσχειν is not something that the perceptual object can be credited with as such; indeed, the perceiver can be affected by perceptual objects in such a manner only due to the preservative activity of the soul, and this activity can helpfully be compared with the activity of the nutritive soul.

A preliminary perspective on the connection between the two notions of preservation is offered by Aristotle's treatment of the place of the contact senses within the overall economy of animal self-preservation. Aristotle makes this intimate connection explicit in his claim in *An.* 2.3 that 'touch is the perception of the nutriment' for it is tangible bodies by which animals nourish themselves, and so it is by touch – or by taste in animals in which taste is separated from touch – that animals identify nutriments.[31] Later, in *An.* 3.12, Aristotle adds that touch also contributes to self-preservation on an even more rudimentary level by identifying things that need to be avoided because they would destroy the body, such as fire.[32] In this context, discrimination of what is imperceptible becomes important again,[33] particularly with respect to 'excesses' (ὑπερβολαί) – that is, objects that are imperceptible in the sense of being 'destructive' of the healthy state of the perceptive organ. At the end of *An.* 2.11 (424a14–15), Aristotle refers explicitly to excessively tangible objects, with the most obvious example being, again, fire. Fire falls under the more general category of objects that are imperceptible because their agency cannot be counterbalanced, and so they disrupt the organ's proper balance, making it thereby (temporarily) imperceptive.[34] However, in contrast to the case of deafening sounds or blinding light, the message here is not just to block one's ears or close one's eyes, for the object's destructivity to the sense is at the same time its destructivity to the living body as a whole: identifying something perceptually as destructive to touch is a clear signal for the whole body to withdraw. In other words, the failure to counterbalance the agency of a tangible object (in a way that would result in a

[31] *An.* 2.3, 414b6–14; cf. 3.12, 434b18–22; *Sens.* 1, 437b15–18.
[32] *An.* 3.12, 434b11–18; cf. *Sens.* 1, 437b14–15.
[33] Cf. Sections 6.3 and 6.6.
[34] See also *An.* 2.12, 424a28–32; 3.2, 426a30–b8; 3.4, 429a31–b3. Cf. *Insomn.* 2, 459b13–18, which describes how an after-image gradually changes 'colour' before disappearing – as if the too-strong motion were being step-by-step counterbalanced.

standard perception) is *eo ipso* a case of discriminating that object as destructive for the entire living body.

A similar set of considerations can be found in Aristotle's analysis of the sense in which the taste is also of what is 'untastable' (ἄγευστον), where 'untastable' is spelled out as 'that which has an indistinct or bad flavour, or a flavour that is destructive of the taste'.[35] In what follows, Aristotle explains why the topic of discrimination of what is imperceptible was introduced at this point; it is because distinguishing between drinkable and undrinkable (and, apparently, edible and inedible) is the most basic function of taste:

> The principle (ἀρχή) seems to be the drinkable and the undrinkable (τὸ ποτὸν καὶ ἄποτον), for taste is somehow of both. But in one case [the experience is] bad (φαύλη) and destructive (φθαρτική) [[of taste]], in the other case [it is] according to nature (κατὰ φύσιν). (*An.* 2.10, 422a31–3)[36]

Here, Aristotle seems to identify the most basic and rudimentary function of taste as a kind of *testing* of prospective nutriments. If the object is such as to destroy the balance of the sense of taste (it is 'untastable'), this means that it would also be destructive for the living body as a whole, and thus it should be avoided. If, on the other hand, what results is 'according to nature', it suggests that the animal will also be capable of transforming the tested object as a nutriment into its own blood and making it a part of its own substance (i.e. its body will be preserved by it in its natural state, just as the organ of taste is preserved by it).[37]

By emphasizing these connections between perception and animal self-preservation, I do not mean to suggest that, for example, taste should be *defined* with a reference to nutriment. That would be an utter failure for Aristotle's project of identifying the basic capacities of the soul as definitionally separable from each other.[38] What these passages highlight is rather a continuity and structural parallelism between the working of the contact senses and the self-preservative mechanism of the animal. When

[35] See *An.* 2.10, 422a20–34 (the quotation comes at a30–1; this is the passage that introduces the discrimination of the imperceptible for the first time and is also the most extensive passage on the topic).

[36] At 422a32, I read ἀμφοτέρου (rather than ἀμφότερα) with Trendelenburg; τῆς γεύσεως ('of taste') at 422a33 is omitted by WyP and it may well be a gloss. The grammar is not entirely transparent, but the main idea seems clear enough.

[37] It seems to be no accident that the quoted passage is immediately followed by the account of tasting that explicitly involves the notion of preservation introduced in *An.* 2.5. See *An.* 2.10, 421a34–b10, as discussed in Section 6.4.

[38] Cf. Corcilius and Gregoric 2010 and Johansen 2012b: 47–72.

I taste a cake or bile, the basic act of perceptual discrimination consists in identifying it as sweet or bitter, not as edible or inedible; thus, perception *is* in definition separable from nutrition. The point is that perceptual discrimination, of this rudimentary kind at least, can be seen, to some extent, as being a refinement of the self-preservative mechanism underlying nutrition. I say 'to some extent' because perception is clearly a different kind of activity; this does not, however, exclude a continuity with nutrition as far as its underlying mechanism goes.[39]

If these observations are on the right track, then they suggest that the causal model developed by Aristotle for the nutritive soul can, indeed, be used, up to a point, for better understanding the role of the perceptive soul (or soul qua perceptive) – as is suggested by Aristotle's parallel at *An.* 2.4, 415b23–8. We can think of the perceptive soul as controlling the counterbalancing reaction of the perceptive organ in a way parallel to how the nutritive soul preserves the body in its natural state. Clearly, the homeostatic mechanism will have to be much more precise, prompt, and nuanced, particularly as we climb up the natural ladder from touch and taste to smell, hearing, and especially sight. However, as argued in the preceding section, there is no principled reason to think that such agencies are impossible. Similarly, as has been argued now, there is no principled reason against ascribing such agencies to the soul as their primary efficient cause. Given the difficulties faced by other accounts of the soul's involvement in perception, the relative lack of clarity about the precise details should not discourage us from exploring the proposed hypothesis on the level of generality appropriate to the *De Anima*.

The main concern was that the account of the perceptive soul as governing the countervailing reactions involves a *petitio principii* in assuming that the soul can determine the reaction in such a way as to exactly counterbalance the agency of the perceptual object. Does this not presuppose that the soul has already 'measured' or 'cognized' the intensity of the incoming motion? If so, we would be presupposing a kind of cognition in explaining the purportedly basic cognitive acts. However, the parallel with the nutritive soul shows that, in fact, there is no such circularity involved here. What is presupposed is no 'cognition': it is, at least, no more 'cognitive' than what allows the nutritive soul to govern the processes

[39] Aristotle's comparison with polygons at *An.* 2.3, 414b19–32, according to which the nutritive capacity is 'in capacity present in' the perceptive capacity just as the triangle is in capacity present in the quadrangle (b29–32), can be read along these lines. Decomposing quadrangles into triangles is the standard geometrical way of understanding something about the former.

effecting the preservation of the living body as a whole. As observed above, the nutritive soul determines not only the goal but also the concrete processes that will lead to that goal in the given situation, depending on the current state of the body. Accordingly, the nutritive soul has some control over the current state of the body, which clearly does not involve anything cognitive, deliberative, or volitional.[40] Nothing more than this kind of control over the perceptive organ is necessary for the soul to be capable of governing the homeostatic mechanism underlying, arguably, perceptual discrimination. This means that the basic perceptual acts – as the rudiments of animal cognition of the external world – are undergirded by more basic, unconscious workings of the living body. But that is hardly an objectionable finding. The point is that, on the proposed account, Aristotle is *not* committing the error of conceiving this unconscious working of the body governed by the perceptive soul as being cognitive in its nature. It is no more cognitive than the working of the body governed by the nutritive soul; what distinguishes it is that it *results in* a cognition. Indeed, it results in the most basic cognitive acts: the rudiments of animal consciousness.

This certainly does not imply that cognition or consciousness is *reduced* to material processes or to a complex of more primitive living activities. The fact that the homeostatic mechanism in question underlies perceptual discrimination (rather than being, say, just a part of the process of preserving the living body in its natural state) is explained by nothing other than the *perceptive* soul governing this mechanism. We could never understand perception without taking the perceptive soul, and the specific goal inherent in it, into account. This brings us to how perception essentially differs from nutrition – despite all the parallels and continuity emphasized above.[41] To put it bluntly, the most fundamental difference consists in the fact that an entirely new goal is set by the perceptive capacity: while preservation is the final goal of nutrition, in perception preservation serves only as a means for achieving something quite

[40] One way of making sense of this 'control' might begin from Aristotle's insistence that the soul *is* the substance of the living body (*An.* 2.3, 415a12–15; cf. 2.1, 412a19–21, 412b10–11; 2.2, 414a14–19). What an art can achieve only via the artisan's continuous *cognition* of the outside material that is being transformed into an artefact, the nutritive soul is able to achieve without any cognition or consciousness involved, exactly because it is the very substance of that upon which it acts. The point is that, in the living being, the product of the 'art' is not external to what is endowed with the 'art' (and what serves as the instrument of the 'art'): the gap between the artisan and the artefact disappears (cf. *Phys.* 2.8, 199b28–9), and with it also the need for cognition (and deliberation).

[41] I thank Thomas Johansen for pressing me on this point.

different – namely, discrimination. Nutrition is directed exactly at countervailing the influences of the external world on the living body and so preserving it in its natural state, whereas in perception the agency of the external object is countervailed (in a more precise and immediate way) not because this kind of enhanced balance is desirable on its own, but precisely because it is a way of discriminating the agents. What defines the very achievement of nutrition is used in perception as only a means for achieving something quite different. The irreducible contribution of the perceptive capacity, I submit, consists exactly in directing a similar kind of mechanism to an entirely different end.[42] Moreover, this redirection involves an irreducible enrichment of the governing agency of the soul: it not only 'produces' a precisely measured reaction but does so in such a way as to make the measurement explicit, that is, to make it emerge as a 'phenomenal likeness', a presence of a quality *of* the agent in the perceiver, or – to put it bluntly – as *a perception* of the agent.[43]

These observations also show why conceiving the involvement of the perceptive soul in terms of efficient causality, parallel to that of the nutritive soul, need not compromise the essential passivity and receptivity of perception. It is true that, on the proposed model, we have a pair of agents in the case of both nutrition and perception (namely the object and the soul); however, their interrelation is entirely different in each case, which implies an essential difference in the kind of activities that nutrition and perception, respectively, are. In nutrition, on the one hand, the agency of the nutriment is systematically reduced to the scheme of like joining like, as the 'final nutriment' is incorporated into the animal's own body. In perception, on the other hand, everything serves the overarching purpose of being affected by the perceptual object in the requisite way (that is, receiving its quality exactly as a quality *of that object*). In nutrition, the object is assimilated to the living body, whereas in perception the

[42] The fact that preservation becomes instrumental here makes it no more dependent on cognition than it was in the case of nutrition. The point is, again, that the instrument in which the work of the 'art' is realized is not external to what is endowed with the 'art', and so – because there is nothing like the gap between the artisan and her instrument – there is no need for cognition in order for the instrument to be controlled in the requisite way.

[43] It is obvious that the phenomenal likeness cannot be simply identified with the acting of the perceptual object on the organ (the likeness is rather what this acting *results in*, due to the activity of the soul). However, it is probably also not to be straightforwardly identified with the opposing agency of the soul. Rather, we should understand it as the result of the latter countervailing the former. Perhaps it can be described as a kind of tension constantly produced by the two agencies cancelling each other out. In this tension, the ratio (λόγος) defining the incoming affection (and the quality of the external object) comes to be present in a new – discriminative – way. (Thanks to an anonymous referee for pressing me on this point.)

perceptive organ is assimilated to the object. Accordingly, despite the continuity and structural similarity in the underlying mechanism, nutrition is, vis-à-vis its object, an essentially productive activity, whereas perception is an essentially passive and receptive activity.

The proposed account of basic perceptual discrimination and of the perceptive soul as an efficient cause of it, thus, provides an attractive alternative to existing interpretations. It explicates, in a non-circular way, how the soul makes the animal perceive, without compromising either the soul's impassivity or the essential passivity of perception.[44] Moreover, the proposed model does not presuppose any literal contact between the soul and the body, thereby preventing any assimilation of the perceptive soul to spatial entities. The soul 'meets' the incoming motions by 'acting' on the organ in the way art 'acts' on and 'uses' its instrument. This presupposes a certain 'commonality' between the art and the instrument, as Aristotle insists at *An.* 1.3, 407b13–27: carpentry needs a saw and a chisel, while a flute is of no use for it. However, this kind of commonality is clearly not reciprocal in the sense of implying that the art or the soul could itself be affected by its instrument; nor does it imply that the soul is literally located in a determinate point of the body (any more than the art of flute-playing is located in a determinate point of the flute-player's body or her instrument). Rather, it is like a measuring art using the perceptive body as its instrument, while being a part of the body's very essence, and so not being external to it. This allows the soul to achieve what is unthinkable for an art – namely, producing cognition and consciousness of the external world acting on the body.

If this is correct, then there remains one last major exegetical question on the table. This concerns the passages in *An.* 2–3 that may seem to suggest that Aristotle did, after all, allow the perceptive soul to be itself affected by and assimilated to perceptual objects, so that the Themistean approach ultimately ought to be preferred, despite all of its problems.[45] In the remainder of this chapter, I discuss the two most important passages of this kind and argue that, in both, Aristotle has something quite different in mind. Because this involves nothing less than (a) Aristotle's second general account of perception in *An.* 2.12 and (b) his final summary in *An.* 3.8 of the findings concerning the perceptive and the thinking soul, this will also be a good occasion for taking stock.

[44] It thus provides at least one possible way of carrying out the programme outlined in Section 5.5.
[45] Cf. Section 5.4.

7.4 The Perceptive Soul, Receptivity, and Forms without the Matter

I count seven passages in *An.* 2–3 that may prima facie suggest that Aristotle, after all, does allow the perceptive soul itself to be affected by and/or assimilated to perceptual objects.[46] In all but one of them, the grammatical subject of Aristotle's pronouncement is αἴσθησις in general, or more particularly γεῦσις or ὄψις.[47] In considering these passages, it is worth bearing in mind that these expressions can be used in at least three different ways:

α_{COMP} They can refer broadly to *the senses* including their bodily organs, as in the puzzle of *An.* 2.5, 417a2–9 (see αἰσθήσεις at 417a3), but also later, most clearly perhaps in the opening argument of *An.* 3.1: 'Concerning the simple bodies, the perceptive organs (αἰσθητήρια) are constituted merely of two of them, namely of air and water: the pupil (κόρη) is of water, the auditive organ (ἀκοή) of air, and the olfactory organ (ὄσφρησις) of both.'[48]

α_{CAP} But αἴσθησις can also refer more specifically to *the perceptive capacity* in virtue of which the organ is perceptive.

α_{ACT} And it can, finally, refer to *the activity of perceiving*, too, as it clearly does in the opening of *An.* 2.5 (416b32–4).[49]

This is not to suggest that we can deal with all problematic passages by simply saying that Aristotle may have α_{COMP} in mind, and thus that there is nothing to worry about. There are contexts in which he undoubtedly uses the αἴσθησις language in the precise sense of α_{CAP}. The clearest example is perhaps in the final part of *An.* 2.11, where (as we have seen in Sections 6.4 and 6.5) Aristotle draws a sharp distinction between the organ, the perceptive capacity (αἴσθησις) responsible for the organ's perceptivity, and the activity of perceiving. The second general account of

[46] See *An.* 2.8, 420a30–1; 2.10, 422b2–3; 2.12, 424a17–19 with 22–3; 3.2, 426a3–5, 426b31–427a2; 3.8, 431b21–432a3; 3.12, 435a8–10. I am leaving aside *An.* 2.5 and the meaning of τὸ αἰσθητικόν therein, as it has already been discussed (see Sections 1.1, 2.4, 3.7, and 5.4).

[47] The only exception is *An.* 3.8, where at one point Aristotle refers to τῆς ψυχῆς τὸ αἰσθητικόν (431b26). This passage, however, mentions neither 'being affected' nor 'being changed'; rather, it is about the presence of forms 'in' the soul.

[48] *An.* 3.1, 425a3–5, cf. a7, which says that the earth is to the greatest extent admixed in the organ of touch (ἁφή). Significantly, when Theophrastus paraphrases this passage (as quoted by Priscianus, *Metaphr.* 19.22–5), he writes ὄψις instead of κόρη. Cf. *An.* 2.11, 423b17–20 and Alexander of Aphrodisias, *Mant.* 2, 107.1–3. For this meaning of αἴσθησις, see also the list of passages given by Bonitz 1870: 21.

[49] Cf. 417a3–4.

αἴσθησις in *An.* 2.12, which immediately follows, clearly works with this nuanced picture, and the same is true about the summary of *An.* 3.8. It is these two *loci classici* that provide the decisive test.[50]

Let us begin with the former:

> **(i)** Concerning all αἴσθησις in general it must be maintained that αἴσθησις is that which is capable of receiving perceptual forms [or: objects][51] without the matter, just as the wax receives the signet of a ring without the iron and the gold: it takes on the golden or the brazen signet, but not qua gold or bronze. **(ii)** And similarly the αἴσθησις of each [modality] is affected by that which has a colour or a flavour or a sound, not insofar as each of these is said, but as such and such and according to proportion. **(iii)** The perceptive organ is that in which this kind of capacity is primarily present. [The organ] is thus [numerically] the same [as the capacity], but [their] being is different; for that which perceives is apparently a certain magnitude, but, surely, neither what it is to be perceptive nor αἴσθησις is a magnitude; rather it is a proportion and a capacity of that [i.e. the perceptive organ].
>
> **(i)** Καθόλου δὲ περὶ πάσης αἰσθήσεως δεῖ λαβεῖν ὅτι ἡ μὲν αἴσθησίς ἐστι τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν[52] 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 ᾗ χρυσὸς ἢ χαλκός· **(ii)** ὁμοίως δὲ καὶ ἡ αἴσθησις ἑκάστου ὑπὸ τοῦ ἔχοντος χρῶμα ἢ χυμὸν ἢ ψόφον πάσχει, ἀλλ᾽ οὐχ ᾗ ἕκαστον ἐκείνων λέγεται, ἀλλ᾽ ᾗ τοιονδί καὶ κατὰ τὸν λόγον. **(iii)** αἰσθητήριον δὲ πρῶτον ἐν ᾧ ἡ τοιαύτη δύναμις. ἔστι μὲν οὖν ταὐτόν, τὸ δ᾽ εἶναι ἕτερον· μέγεθος μὲν γὰρ ἄν τι εἴη τὸ αἰσθανόμενον, οὐ μὴν τό γε αἰσθητικῷ εἶναι οὐδ᾽ ἡ αἴσθησις μέγεθός ἐστιν, ἀλλὰ λόγος τις καὶ δύναμις ἐκείνου.
>
> (*An.* 2.12, 424a17–28)

First, we must ask exactly what this is an account *of*. At the end of (iii) Aristotle clearly means by αἴσθησις the perceptive capacity (α_{CAP}) as the source of perceptivity for 'that which can perceive' (τὸ αἰσθητικόν) or 'that which perceives' (τὸ αἰσθανόμενον), which is described here unambiguously as a spatially extended entity (i.e. the perceptive body). If αἴσθησις takes this

[50] For the five remaining passages, see the Appendix.

[51] It is hard to decide whether 'perceptual objects' or 'perceptual forms' is the correct reading (see the following footnote). The truth is that in the two later passages drawing on (i) Aristotle paraphrases the thought both ways: 'receiving each perceptual object without the matter' (*An.* 3.2, 425b23–4); and 'receiving the forms without the matter' (*An.* 3.12, 434a29–30). It is, thus, desirable to accommodate both readings.

[52] The word εἰδῶν is attested by manuscripts EVWy and commentators starting with Themistius, *In An.* 77.29 (cf. Ps.-Simplicius, *In An.* 165.29–30, Philoponus, *In An.* 437.2–3), but it is omitted by manuscripts SUXPE$_a$ (where E$_a$ stands for the original recension of Parisinus 1853).

meaning throughout the whole passage (as it did at *An.* 2.11, 423b31 and 424a4), then Aristotle is describing the perceptive capacity itself as being receptive in (i) and as being affected by perceptual objects in (ii).

The passage can then be taken as supporting the idea that the assimilation model developed in *An.* 2.5 is to be applied to the perceptive soul itself (*Psychic Interpretation*).[53] However, in (iii) Aristotle sharply contrasts αἴσθησις in the sense of perceptive capacity with τὸ αἰσθανόμενον (and, by implication, τό αἰσθητικῷ εἶναι with τὸ αἰσθητικόν), which can be read as a warning (in the spirit of *An.* 1.3–4) against taking the assertions about αἴσθησις, as the unextended source of perceptivity, in terms of the assimilation model developed for τὸ αἰσθητικόν (i.e. a spatially extended entity). Something similar is suggested by what comes immediately before in *An.* 2.11, where the assimilation model was explicitly applied to the organ of touch, described as τὸ ἁπτικόν, *rather than* to the capacity of touch (ἁφή) present in it.[54]

We shall return to these considerations below. But we should first note that the idea of taking αἴσθησις already in (i) and (ii) as referring narrowly to the perceptive capacity of the soul is by no means necessary or self-evident. It is also possible that Aristotle is speaking in (i) and (ii) of αἴσθησις more broadly along the lines of α_{COMP}: αἴσθησις could be understood as picking out, collectively, 'the senses' or 'that which can perceive' prior to their analysis into the bodily and psychic aspects, which would then be spelled out only in (iii). It is unsurprising that this approach has often been adopted by interpreters searching for evidence of Aristotle's view on the role of the perceptive organs.[55] Furthermore, the approach is

[53] See Lorenz 2007: 193–4, cf. Polansky 2007: 345–9 and already Ps.-Simplicius, *In An.* 165.34–166.31. It is worth noting that one need not take αἴσθησις in (i) and (ii) along the lines of α_{CAP} to derive a similar kind of reading. This is testified by other late ancient commentators, who took αἴσθησις here more broadly than Ps.-Simplicius (along the lines of α_{COMP}), but also understood the point as directly concerning the perceptive soul. This is either because the kind of reception and affection described in (i) and (ii) presupposes that the soul 'is affected along with the body', as Themistius maintained (see Section 5.4), or because receiving forms without the matter means that only the form of αἴσθησις, i.e. the perceptive soul, is affected (see Philoponus, *In An.* 438.6–10).

[54] See Section 6.4.

[55] This understanding of αἴσθησις is typical for the literalist interpretation; see Slakey 1961 and references in n. 61. But see also Caston 2005: 300–7 and Caston 2020: 18–37. Cf. e.g. Hicks 1907: 415. It is less obvious how the spiritualist interpreters understand αἴσθησις in (i) and (ii). Burnyeat 1992: 21–2 speaks, with reference to (i) and (ii), about both what 'the effect on the organ' is like and how forms 'act on the corresponding faculties in us'; Johansen 1997: 189 paraphrases αἴσθησις in (i) and (ii) as 'the sense-faculty'. I take it that the idea must be close to Philoponus (see n. 53): αἴσθησις in (i) and (ii) means broadly that which can perceive (α_{COMP}), but Aristotle's claim here is that only the form of it, i.e. the perceptive capacity, is affected and altered by perceptual objects.

supported by the fact that when Aristotle later recalls the account of *An.* 2.12, he restates it in terms of the perceptive organ being receptive of perceptual objects without the matter (*An.* 3.2, 425b23–4).[56]

Alternatively, one could take Aristotle as first characterizing in (i) and (ii) the activity of perception (α_{ACT}), and then drawing inferences in (iii) concerning the perceptive capacity (α_{CAP}) as what is primarily responsible for it. This would align with Aristotle's general methodology.[57] Support for this reading may be found in *An.* 2.5, where the first thing Aristotle says about αἴσθησις, the general account of which he wants to provide, is that 'it comes about in being moved and being affected'.[58] Although it is prima facie somewhat strange to describe the activity of perception as 'what is receptive' (τὸ δεκτικόν) and 'is affected' (πάσχειν), there are passages in which Aristotle is willing to say that the activity of perception 'is moved' in a certain way: what he means is that perception is a kind of being affected.[59] Moreover, given the dynamic nature of perceptual likeness, it would make perfect sense to characterize the activity itself as receptive of the form (as the form is received only for the duration of perceiving).[60]

None of these preliminary observations is conclusive, but they jointly call for caution when we try to derive definite views about the involvement of the perceptive soul from the quoted passage. That said, I shall argue that the proposed homeostatic account of perceptual discrimination (from *An.* 2.11) allows us to understand Aristotle's claims in (i) and (ii) as not compromising the impassivity of the soul in any way, *even if* they are taken to concern the perceptive capacity of the soul itself. I first offer an interpretation of Aristotle's account in (i) and (ii) which remains neutral on what exactly the referent of αἴσθησις is supposed to be. I then discuss the consequences for the role of the perceptive soul when αἴσθησις is interpreted as the perceptive capacity.

[56] Cf. *An.* 3.12, 434a29–30, 435a1–10, where even mediation, and a fortiori the affection of perceptive organs, is covered by the wax simile.

[57] Cf. *An.* 2.4, 415a14–23 (responding to 1.1, 402b10–16).

[58] A distinction between α_{CAP} and α_{ACT} is then drawn explicitly at 417a12–13 (cf. Section 3.1). There is a parallel in Aristotle's inquiry into nutrition in *An.* 2.4 introduced and closed as a treatment of τροφή understood as the activity of nourishing oneself (see 415a23–4 and 416b30).

[59] See *An.* 2.8, 420a30–1 and *An.* 3.2, 426b31–427a1, as discussed in the Appendix.

[60] Cf. *An.* 3.4, 429a15, where it seems like τὸ νοεῖν (and by implication τὸ αἰσθάνεσθαι) is the grammatical subject of being δεκτικόν τοῦ εἴδους. Both alternative readings of (i) and (ii) – in terms of α_{COMP} or α_{ACT} – presuppose that ἡ τοιαύτη δύναμις at the beginning of (iii) is taken to mean something like 'the capacity responsible for this' rather than straightforwardly picking up on αἴσθησις as used in (ii).

The key question is how 'receiving perceptual forms [or: objects] without the matter' should be understood. Indeed, this has been one of the central questions in the debate between literalism and spiritualism. Roughly, the literalist interpretation takes Aristotle to mean that the perceptive organ acquires a literal likeness to the perceptual object without taking material particles of it into itself.[61] The spiritualist interpretation, by contrast, reads the phrase as claiming that 'no physiological change is needed' for perceptual awareness to take place.[62] The contrast between the two approaches becomes very clear in a later passage explaining why plants cannot perceive:

> **(iv)** (. . .) The cause is that they do not have a mean (μεσότητα) and [or: that is] the principle capable of receiving forms of the perceptual objects (τοιαύτην ἀρχὴν οἵαν τὰ εἴδη δέχεσθαι τῶν αἰσθητῶν), but rather they are affected with the matter (πάσχειν μετὰ τῆς ὕλης). (*An.* 2.12, 424b1–3)

The claim that plants 'are affected with the matter' is interpreted by the respective approaches as saying either that plants are heated 'by letting warm air or other warm matter into their system',[63] or that plants are heated 'in both form and matter' in the sense of, simply, becoming hotter. The analogical reading again provides an attractive alternative to this dichotomy: in perception, the organ does not become literally like the perceptual object (as plants do when being heated); rather it comes to embody the same ratio in a different pair of contraries. This is, allegedly, what plants are claimed to be incapable of in (iv).[64]

These three kinds of approaches, however, do not exhaust the interpretative options (as argued in Section 4.6), and the alternative developed in the preceding chapters also proves fruitful with regard to Aristotle's second general account of perception in *An.* 2.12.

We can begin by observing that there are difficulties in accounting for the details of Aristotle's explanation of why plants do not perceive in (iv) in both the materialist and the spiritualist readings.[65] Even if we accept, with literalism, the curious idea that 'being affected with matter' means something like receiving warm air into oneself, it is difficult to explain Aristotle's claim that plants lack the 'principle capable of receiving forms of the

[61] See e.g. Sorabji 1974: 74 n. 28, Sorabji 1992: 210–16, cf. Everson 1997: 87–9 and 99–102 and Hamlyn 1993: 114–15.
[62] Burnyeat 1992: 22, cf. e.g. Johansen 1997: 189, and Murphy 2005: 295.
[63] Cf. Hicks 1907: 419. For a critical assessment of this idea, see e.g. Magee 2000: 324–6.
[64] See Caston 2005: 300–7, Caston 2020: 28–37. Cf. Bradshaw 1997: 156.
[65] For a detailed critical discussion of the literalist reading, see Murphy 2005.

perceptual objects'. Surely, when a plant lets the warm air in, it is warmed by it, and so it does receive the form of the hot, albeit mediated by a reception of hot matter. And similarly for the analogical reading: a plant is surely capable of receiving the form of the hot, albeit not 'transduced'. So how could Aristotle deny that simple capacity to plants? His claim about plants is no less mysterious on the spiritualist reading. According to Burnyeat, 'receiving the form of something just means becoming like it'. But that is surely what happens to the plant when it is heated: it becomes *like* the hot object 'in both form and matter'.[66] So, again: how could Aristotle deny that plants can receive forms of perceptual objects?

The common assumption behind all three readings seems to be that when Aristotle says that plants lack the 'principle capable of receiving forms of the perceptual objects' he is tacitly qualifying the claim, along the lines of (i), so as to mean that plants are unable to receive the forms of perceptual objects *without the matter*.[67] However, this is not what Aristotle is saying in (iv). It would be preferable to find an interpretation of the two – obviously parallel – expressions that does not necessitate importing the two additional words into the second passage.

The most promising interpretation of the second formulation, I submit, is to emphasize the possessive function of the genitive and understand the claim as saying not that what plants lack is the ability to receive forms *from* perceptual objects, as the standard reading has it, despite this making the claim patently implausible, but as saying literally that what plants lack is the ability to receive forms *of* the perceptual objects themselves, meaning that they cannot receive forms that would still *belong to* external perceptual objects.[68] Plants can clearly receive many forms *from* various perceptual objects acting on them: when a plant is heated it receives, from the hot object acting on it, the form of the hot and acquires it as a form of its own. What no plant can do is receive a form without appropriating it: a plant is unable to receive the form of the hot as still being a form *of* the hot object out there acting on it. That is why plants are unable to perceive.

If this reading of Aristotle's deceptively simple claim about plants is correct, then it also sheds light on what he must mean in (i) when characterizing αἴσθησις as 'that which is capable of receiving perceptual

[66] Burnyeat 1992: 23–4.

[67] Cf. e.g. Ross 1961: 265–6 (inspired, apparently, by Philoponus, *In An.* 440.30–441.2) and Polansky 2007: 252–3.

[68] This interpretative option is lost once τὰ εἴδη τῶν αἰσθητῶν is paraphrased, in line with 424a18–19, as 'sensible forms' (see e.g. Shields 2016: 251–2; cf. Charles 2021: 160: 'objects of sense').

forms [or: objects] without the matter'. Interpreters have often wondered – and disagreed on – whether the matter that is subtracted in this formula is the matter of the perceptual object or the matter of the perceptive organ.[69] The literalist interpretation opts unequivocally for the first option: the point, it maintains, is that the perceiver receives the form of the perceptual object without receiving its matter; it is taken for granted, though, that the perceiver receives this form in her own matter (which is the very same kind of matter according to literalism) as a form of her own.[70] The analogical reading agrees that the perceiver is claimed to receive the form in her own matter as a form of her own, while insisting, however, that this is a different kind of matter. The spiritualist interpretation, in contrast, emphasizes the second possible meaning of 'without the matter' and takes Aristotle's point to be not just that no matter is received or that the form is not received in the same kind of matter, but, more radically, that the form is received in no matter at all: it is received as a purely formal aspect of the perceiver, without this involving any material change.

The common assumption behind these three families of approaches, again, is that receiving the form in question means acquiring it *as a form of one's own*. But it is not obvious that this is the case. In fact, the dilemma sketched out in the preceding paragraph may be a false one. The point of the subtraction of matter is likely to be deeper than allowed for by the literalist and analogical interpretations, but also less mysterious than the spiritualist interpretation maintains. The claim that perceptual forms are received 'without the matter', I submit, is intended to deny precisely what all three sides tacitly presuppose – namely, that receiving perceptual forms means adopting these as forms of one's own. The matter Aristotle is here concerned about, I take it, is primarily the matter of the perceptual object, but the point is not that the form in question comes to constitute another compound (be it of the same or an analogical kind) on the part of the perceiver. What the literalist and analogical interpretations do not appreciate is that the matter that must remain outside the perceiver remains to be the matter of the form received by her. If the form were to produce a new compound on the side of the perceiver, it would not be received *without the matter* in the intended meaning. Accordingly, Aristotle also says something important here about the matter of the perceiver, namely that it does not acquire the form in question as a form of its own. That,

[69] The dilemma is succinctly captured by Shields 2016: 249.

[70] The same reading of 'without the matter' is often adopted also by interpreters rejecting literalism; see e.g. Lear 1988: 115–16.

however, by no means implies that perception involves no material affection or change in the perceptive organs, as spiritualism would have it.

The outlined approach not only makes Aristotle's later claim about plants intelligible (without interpolations) but also fits well with the details of the wax analogy in (i). We will be in a better position to understand the analogy once we realize that by 'receiv[ing] the signet (τὸ σημεῖον) of a ring' Aristotle does *not* mean receiving a certain shape that is the shape of (a part of) the ring and comes to be (in an inverted form) also the shape of the wax. Although it is undeniable that this happens, it is, arguably, not the aspect of the sealing event that Aristotle wishes to capture by the words 'receiv[ing] the signet of a ring'.[71] The wax is claimed to take on or receive 'the golden or the brazen signet, but not qua gold or bronze'. The final phrase ('not qua gold or bronze') is usually read as relating to the golden or the brazen signet (the signet is received not qua a piece of gold or bronze).[72] Alternatively, the phrase could be connected with the wax: the wax receives the golden or the brazen signet, but not as gold or bronze would receive it. On either construal, it is unlikely that Aristotle wants to direct our attention to how the shape of the signet is appropriated by the wax. It is *the golden/brazen signet* which is said to be received, not its abstract shape. It comes to the same thing then whether this golden/brazen signet is described as being received, but without the gold/bronze out of which it is made, or whether it is described as being received by the wax, but not as a piece of gold/bronze would receive it. In either case the point seems to be that the signet *itself* or *its* form is received without its proximate matter: the form of the signet comes to be present in the wax while its matter remains outside where the signet itself is located. The idea seems to be that wherever the letter with that seal on it goes, it has the golden or the brazen signet present in it, which provides authority to whatever is written in the letter – as if the owner of the ring were speaking to the reader directly.[73]

The upshot is, again, that Aristotle neither speaks of material replication of form (either literal or analogical), nor does he deny the involvement of

[71] In this way, Aristotle's use of sealing in *An.* 2.12 differs from his use of the same metaphor in *Mem.* 1 (450a29–32), where the word τύπος seems to correspond to the shape of the wax itself and is apparently intended to capture what a *phantasma* retains from the respective αἴσθημα.

[72] See e.g. Hicks 1907: 416, Ross 1961: 265, Caston 2005: 301, Polansky 2007: 341–3, Caston 2020: 19, and Corcilius 2022: 149–50.

[73] Accordingly, I think that there is more to the wax analogy than recognized by Brentano 1867: 81. However, there are also substantial dissimilarities between the *comparatum* and the *comparandum* and so caution is certainly warranted against taking the analogy too literally; cf. n. 74. For difficulties encountered by existing interpretations of the simile, cf. Grasso 2013.

material affections and changes in perception. He rather defines perception in terms of receiving forms *of* the outside perceptual objects. Now, saying that the received form remains to be a form of an external perceptual object (its proximate matter remains out in the world) does not imply that this form is not simultaneously something *of* the perceiver herself. It is *her relation* to the object. More to the point: it constitutes *her activity* of perceiving that object – namely, a complete passive activity (i.e. a case of *being affected* by the object and assimilated to it, albeit only for the duration of her perceiving it). Given, moreover, that the assimilation is completed throughout the time of perceiving, the form can also be described as a kind of *quality* of the perceiver, albeit neither in a materialist nor in a spiritualist sense. It is, I submit, the very quality of the outside object revealing itself in the perceiver.

In fact, the simile suggests, against the spiritualist reading, that receiving the form of a perceptual object without its matter will necessarily involve some material affections on the perceiver's side, just as the presence of the golden or the brazen signet in the wax can only result from a material imprint.[74] The reason why Aristotle does not say anything about the material affections here is apparently that he has already said what he had to say about them in *An.* 2.7–11, culminating in his account of perceptual discrimination at 423b31–424a10. There he explained – on the reading proposed in Sections 6.4 and 6.5 – that perception essentially involves material affections, which, however, must result in no persisting material likeness.[75] Rather, the perceptive organ needs to be retained in a neutral state, as τὸ μέσον, and it is exactly as being retained in this state – that is, as countervailing the agency of the perceptual object (due to the perceptive capacity active in it as its μεσότης) – that it discriminates the object. At 424a6–7, Aristotle has already analysed the discrimination in question in terms of 'coming to be the other extreme'. This, I proposed, should be read as receiving the quality not as a quality of the organ itself but exactly as a quality *of* the external perceptual object: it is the result of measuring the agency of that object (by means of counterbalancing it)

[74] The wax simile is, of course, only a simile with various dissimilarities to the case of actual perception. Most importantly, the imprint in the wax needs to be interpreted by someone, whereas the form of a perceptual object in a perceiver apparently *is* the activity of perceiving (cf. *An.* 3.2, 425b25–426a27 with Sections 4.2 and 4.3). Moreover, while the wax imprint persists independently from the signet, the perceptual likeness is gone once the object ceases to act on the perceiver (what may remain in the organ are only *phantasmata*). Caston 2020: 22–37 disregards these dissimilarities and so, as far as I can see, takes the simile all too literally.

[75] Although oscillations may well occur, cf. Sections 4.4 and 4.5.

that can be spelled out in terms of *the ratio* defining the quality in question coming to be present in the perceiver without its proximate matter.

This context also helps us to understand what Aristotle is adding in (ii): 'And similarly the αἴσθησις of each [modality] is affected by that which has a colour or a flavour or a sound, not insofar as each of these is said, but as such and such and according to proportion.' The final part of the sentence is, clearly, further spelling out the notion of receiving perceptual forms (or objects) without the matter. It is not obvious how this could support either the literalist or the spiritualist interpretation. But Victor Caston has identified a key support for his analogical alternative here, interpreting Aristotle's thought as contrasting literal assimilation (being affected by that which has a colour insofar as it has a colour) and transduction (being affected by the same object insofar as it has 'a more general characteristic that is not identical with the color . . . even though essential to it' – that is, insofar as its colour is an embodiment of a certain ratio).[76] However, although the notion of a ratio or proportion (λόγος) may seem suggestive of this reading, it is difficult to understand the phrase 'as such and such (ᾗ τοιονδί)' in the required sense – that is, as referring not to the quality in question itself (like the red colour), but to a 'different kind of quality' consisting in 'some essential feature of that quality'.[77]

More typically, the contrast that Aristotle draws in (ii) has been understood straightforwardly as a contrast between being affected by a perceptual object qua honey or rose on the one hand and qua being sweet or red on the other.[78] This traditional reading fits well enough with the proposed interpretation: Aristotle would simply be insisting that αἴσθησις receives only a quality of the perceptual object while the subject in which the quality inheres (i.e. the proximate matter of it) remains outside.[79]

One might worry, though, that this goes well beyond what is actually said in (ii). Rather, on the standard reading, Aristotle seems to be formulating here a perfectly general characteristic of acting and being affected. When, say, a kettle is heated by the stove, it is surely not affected by the stove qua stove, but exactly qua being hot. Hence the contrast would seem to hold for any qualitative affection whatsoever. If the formulation is to

[76] Caston 2020: 34 n. 51, cf. Caston 2005: 305–7.
[77] See Caston 2020: 37. For a similar kind of doubt, cf. Corcilius 2022: 149–50 n. 55.
[78] See Philoponus, *In An.* 437.17–19, Aquinas *In An.* 2.24, §554, and, more recently, e.g. Ross 1961: 265, Polansky 2007: 343–4, Shields 2016: 249, and Charles 2021: 157–8 (the example of honey goes back at least to Philoponus, whereas contemporary interpreters prefer red roses).
[79] See Corcilius 2022: 147–8 n. 52 for such an interpretation.

capture something peculiar to perception, then the phrase ἢ ἕκαστον ἐκείνων λέγεται must be referring to the perceptual object under a more specific description. And Aristotle provides examples of such a description: 'that which has a colour, or a flavour, or a sound'. His claim would, then, be that αἴσθησις is not affected by that which has a colour insofar as it is so described, but only 'as such and such' (ᾗ τοιονδί).[80]

But what could that mean? Here is a tentative suggestion: perhaps the contrast is meant to be brought out by the verb 'having' or 'possessing' (ἔχειν) in the following sense. Presumably, αἴσθησις is not affected by that which has a colour in the way that would result in it becoming another object *having* or *possessing* that colour; the result is only being such and such for the time of perceiving, but without acquiring the quality as a quality of its own. The final phrase 'according to proportion' would then be further spelling out the way in which the quality is present in the perceiver, drawing apparently on the account of perceptual discrimination from *An.* 2.11. The quality is, for the duration of perceiving, present in αἴσθησις as the ratio defining the quality in question without its proximate matter.

The suggestion is admittedly speculative, and it may be safer to stick to the traditional reading as spelled out above. Be that as it may, if our overall interpretation of (i) and (ii) is on the right track, then what implication does the passage have for Aristotle's commitment to the impassivity of the soul? Let us assume, for the sake of argument, that by αἴσθησις Aristotle is referring throughout to the perceptive capacity of the soul.[81] This would mean that the perceptive capacity is itself characterized here as 'that which is capable of receiving' perceptual forms (or objects) and as 'being affected by' perceptual objects. What would that imply for the soul's impassivity? My claim is that if we read the passage with the account of perceptual discrimination from *An.* 2.11 in mind (as we are presumably expected to do), there is no reason to worry about impassivity.

As regards the account of receiving forms without the matter in (i), we have already seen (in Section 6.5) that the 'acting' of the perceptive soul

[80] This is also claimed by Caston (see the references in nn. 77 and 78); cf. Caston 2005: 301–2 for a criticism of the traditional reading. Cf. *An.* 3.4, 429a16: νοῦς is 'in capacity such [as its object], but not it' (δυνάμει τοιοῦτον ἀλλὰ μὴ τοῦτο). If it is true that Aristotle is reapplying the present contrast in this later passage, it confirms that the traditional understanding is inadequate, for what would τοῦτο refer to if the object in question is the very essence of a substance?

[81] If in (i) and (ii) he is rather speaking of the perceptive organs (α_{COMP}) or the activity of perception (α_{ACT}), there arises, as noted above, no difficulty for the impassivity of the soul whatsoever.

qua μεσότης can be understood as a way of *receiving* the agency of the object insofar as the counterbalancing reaction is thoroughly determined by it and perfectly mirrors it: this is exactly how the form possessed by a perceptual object is received while remaining in the possession of that object.[82] This interpretation also explains why Aristotle elsewhere describes the perceptive organ (or the animal) – rather than the perceptive capacity of the soul – as being receptive of perceptual objects, or forms, without the matter.[83] This is because although the form is received by the agency of the soul, this reception takes place, strictly speaking, in the perceptive organ which is the proper subject of both the acting of the perceptual object and the countervailing reaction.

It is somewhat more difficult to understand why Aristotle should want to describe in (ii) the perceptive capacity of the soul as *being affected* by the perceptual object. This would clearly have to mean something different from what he described at *An.* 2.11, 423b29–424a2 when saying that the organ of touch can be affected, for instance by a hot object because it is in capacity such as the object is in fulfilment. The organ of touch can, as a body, come to have the same degree of heat as the object (even though this may imply the death of the animal in question), but it would be absurd to assume that the soul can be more or less hot.[84] Here again the account of perceptual discrimination from *An.* 2.11 provides a clue. If asked how the perceptive capacity could be itself described as being affected by perceptual objects, Aristotle would respond, I suggest, that this can capture how the perceptual object *occasions* an activity of the soul, and, indeed, *determines exactly* what this activity is concretely. This, to be sure, does not involve the soul being affected *in its own right*. That is the privilege of bodies, as Aristotle seems to be reminding us in (iii); but the soul *is* being affected coincidentally insofar as it is the soul of a body affected in its own right. Being affected coincidentally does not mean becoming the proper subject of any change, but it is far from irrelevant: indeed, the soul can be the primary cause of perceiving only insofar as it is coincidentally affected by perceptual objects. Aristotle's account of discrimination and receptivity in *An.* 2.11–12 can be read as a sketch of how coincidental affection is just enough to make the perceptive soul the first principle of a complete passive activity.

[82] Cf. *An.* 2.12, 424b1–3. [83] See *An.* 3.2, 425b23–4; 3.12, 434a29–30.
[84] The situation is, accordingly, similar to that of *An.* 2.10, 422b2–3 (for which see the Appendix) if we take γεῦσις there as referring to the capacity of taste.

7.5 The Perceptive Soul and Perceptual Objects

Let us conclude by briefly discussing Aristotle's final summary of *An.* 2.5–3.7 in 3.8. This is the only passage in the *De Anima* in which he unambiguously describes the soul itself, not exactly as being affected by or receiving the forms of perceptual objects, but as itself *being* these objects *in a potential and formal way*. This description suggests that when actively perceiving some object the perceiver's soul *actually formally contains* or *is* the form of that object. That claim seems prima facie to contradict my insistence on locating the affection and reception of perceptual forms in the ensouled organ rather than in the soul itself.

However, we must examine more closely what Aristotle actually says here:

> Now, as a way of summing up what has been established about the soul, let us move to saying that the soul is in a way all the beings (ἡ ψυχὴ τὰ ὄντα πώς ἐστι πάντα). For beings are either perceptible (αἰσθητά) or thinkable (νοητά), and scientific knowledge is in a way the objects of knowledge (τὰ ἐπιστητά) and αἴσθησις is the perceptual objects (τὰ αἰσθητά); but it needs to be explored in what way (πῶς). Scientific knowledge and αἴσθησις, then, are to be divided in accordance with their objects (εἰς τὰ πράγματα), the [scientific knowledge and αἴσθησις] in capacity in accordance with the objects in capacity (ἡ μὲν δυνάμει εἰς τὰ δυνάμει) and the [scientific knowledge and αἴσθησις] in fulfilment in accordance with the objects in fulfilment (ἡ δ' ἐντελεχείᾳ εἰς τὰ ἐντελεχείᾳ). The perceptive part (τὸ αἰσθητικόν) and the knowing part (τὸ ἐπιστημονικόν) of the soul are these in capacity (δυνάμει ταῦτά ἐστι): one [is in capacity] the object of knowledge (τὸ μὲν ἐπιστητόν), the other [is in capacity] the perceptual object (τὸ δὲ αἰσθητόν). And necessarily they are either the things themselves (αὐτά) or the forms (τὰ εἴδη). But they are surely not the things themselves, for the stone is not in the soul, but rather its form. So, the soul is like the hand (ἡ χείρ), for the hand is the instrument of instruments (ὄργανόν ἐστιν ὀργάνων) and [similarly] νοῦς is the form of forms (εἶδος εἰδῶν) and αἴσθησις is the form of the perceptual objects (εἶδος αἰσθητῶν). (*An.* 3.8, 431b20–432a3)

This complex passage cannot be discussed exhaustively here.[85] I limit myself to making a few observations relating directly to our question. Drawing on his polemic against the *LKL* principle at *An.* 1.5, 409b23–410a13, Aristotle rejects the absurd idea that, when I perceive or think of a stone, the stone itself is present in my soul. However, he

[85] For two recent discussions, see Crubellier 2020 and Corcilius 2024b.

retains something important from the intuition behind *LKL* – namely, the idea that *the form* of the stone is somehow present 'in' my soul, at least for the duration of my knowing or perceiving it. Aristotle does not make it entirely clear whether he has a case of perceiving or a case of scientifically knowing a stone in mind. But, for our purposes, we can apply the claim to perception, while, for the sake of simplicity, taking the form in question to be a colour of the stone.[86] What does Aristotle mean by claiming that the form is 'in the soul'? What he says is that it is there in capacity even when I am not perceiving the stone, and in fulfilment when I am perceiving it. How is this compatible with the account of the perceptive capacity as a μεσότης? I suggest that being a μεσότης is for the perceptive capacity exactly being in capacity the form of any perceptual object (of each range). When the stone acts on the perceiver, the μεσότης comes to be its form in fulfilment, for *its acting* on the organ, determined by the agency of the stone, *is* that form – or *results in* the presence of that form – in the organ. Because the fulfilment of the soul – that is, its acting and the result thereof – is located in the organ,[87] there is no conflict between saying that the form is in the organ and that it is, in the proposed sense, 'in the soul'.[88]

This reading is supported by Aristotle's memorable analogy with the hand as 'the instrument of instruments' introduced, apparently, to clarify the sense in which the form of a perceptual object is 'in the soul' or – what seems to amount to the same thing for Aristotle – the sense in which the soul *is* the form of the perceptual objects, namely the form of all perceptual objects in capacity and the form of each perceived object in fulfilment. In *PA* 4.10, Aristotle says that the hand, because it is 'an instrument for instruments', is many instruments rather than one,[89] and that it *comes to be* the instrument it is using.[90] This clearly does not mean that the hand is as

[86] See Section 4.2 for the sense in which perceptually receiving a colour is a case of perceiving its bearer.

[87] Cf. *An.* 2.1, 413a5–6: 'the fulfilment of some [parts of the soul] is [the fulfilment] of the [bodily] parts themselves'.

[88] Besides the passages already referred to, this reading is further supported by the contrast Aristotle draws out in *An.* 3.4 between perception and thought. As an upshot of the argument at 429a18–27, he insists in the following lines that the description of the soul as 'the place of forms' is true, but that this is only so in the case of the thinking soul – apparently because the perceptual forms are, strictly speaking, received in the perceptive organ rather than in the soul itself.

[89] 'And the hand would seem to be not one instrument, but many; indeed it is, as it were, an instrument for instruments (ὄργανον πρὸ ὀργάνων). Accordingly, to the one able to acquire the most arts, nature has provided the most useful of instruments, the hand' (687a20–3, trans. J. Lennox).

[90] 'For the hand becomes (γίνεται) a talon, claw, horn, spear, sword, and any other weapon or instrument – it will be all these (πάντα ἔσται ταῦτα) thanks to its ability to grasp and hold them all (διὰ τὸ πάντα δύνασθαι λαμβάνειν καὶ ἔχειν)' (687b3–5, trans. J. Lennox).

such affected or changed by the instrument; rather, the hand is what allows the instrument to fulfil its proper function. When taking hold of a spear or a sword, the hand itself comes to function in a spear-like or a sword-like manner; in this way it allows the spear or the sword to be fulfilled as what it is. I take this to be the core of the analogy. Just as for a sword to be fulfilled as a sword means for it to be taken hold of by a hand and used, say, to cut someone's throat, so for a perceptual object to be fulfilled as a perceptual object means for it to be 'taken hold of' by a perceptive soul and be measured in a perceptive organ. However, just as it is not the hand itself that is cut by the sword, so it is not the soul that is as such affected by the perceptual object: rather, it is the soul's activity *in* the perceptive organ that makes it become the form of a concrete perceptual object in fulfilment (while of course remaining the form of all perceptual objects in capacity).

If this is correct, then there is no stronger sense in which the soul itself is receptive or passive implied by *An.* 3.8 than was offered in *An.* 2.11 and 2.12. Hence, the perceptive soul's receptivity in *An.* 2 and 3 is perfectly compatible with its impassivity as defended in *An.* 1.3–4. If this is the case, then we can see how the perceptive soul can be the primary unmoved cause of perception as a complete passive activity in which an outside object – the other unmoved mover of perception – is discriminated, with an ultimate authority, as what it is truly like.