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The Soul's Tool: Plato on the Usefulness of the Body

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Abstract: This paper concerns Plato's characterization of the body as the soul's tool. I take perception as an example of the body's usefulness. I explore the *Timaeus*' view that perception provides us with models of orderliness. Then, I argue that perception of confusing sensible objects is necessary for our cognitive development too. Lastly, I consider the instrumentality relationship more generally and its place in Plato's teleological worldview.

Keywords: body, Plato, *Phaedo*, soul, *Timaeus*

Plato believes that the soul uses the body for a variety of purposes.¹ For instance, in the *Timaeus*, the gods create the body as a vehicle for the soul (69c); in the *Cratylus*, the soul uses the body for language (400c); and, in the *Alcibiades*, the body is characterized as the soul's tool in general (128a–131a). This paper is focused on one respect in which the body is useful for the soul: perception. Perception is a special case because, as we shall see, it is *necessary* for the soul to achieve its perfection. Indeed, the soul needs the body, but not in a way that makes abandonment of the body any less desirable or possible: on the contrary, abandonment of the body is in every way desirable, and it is possible only after using the body in the right way.

Plato develops the language of ὄργανον ('instrument' or 'tool') as a way of characterizing the relationship between the soul and body. It marks an important moment in the history of psychology. After all, Aristotle's discussion of the soul's instruments in *Generation of Animals* is indebted to Plato's work.² Yet, it is understandable that the position gets disregarded in contemporary discussions of

1 All translations of Plato and Aristotle are my own. I have consulted the translations in the bibliography, such as Ross (1961), Barnes (1984) and Cooper and Hutchinson (1997).

2 The central passage is Aristotle's *Generation of Animals* II 4.740b25–34, where he explains that the nutritive soul uses hot and cold as its "tools" in causing growth, explicitly similar to the way that the products of art are made by the tools of the artist. See Freudenthal (1995) and Gelber (2020) for more on this passage.

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whether the mind is identical or reducible to the body. For Plato's position that the soul needs the body as a tool is inseparable from his teleological worldview: it tells us for the sake of what the soul is attached to the body.³ It is perhaps surprising, in light of pessimistic descriptions of the body as our tomb, that it can be useful for us too.⁴ The usefulness of perception highlights an important part of Plato's psychology: the body is both a tomb *and* a tool. Perception disturbs the soul by disrupting its motions, but it also can prompt the soul to contemplate the Forms.

In Section 1, I argue that the *Timaeus* presents perception both as a cause of psychic disorders and as a tool for correcting those disorders by providing us with models of orderliness. I then argue that perception of confusing sensible objects is necessary for our cognitive development too. I conclude by examining the *instrumentality* relationship more generally and its place in Plato's teleological worldview.

1 Perception: What It Is, and Its Advantages

Each episode of perception happens in two stages. For my purposes here, it is sufficient to say that in the first stage, an object external to us causes a disturbance to be conducted through our body (*Ti.* 43c1–3). In the second stage, the disturbance reaches the soul (43c4–d3). In the background of Plato's account of perception is the view that each of the four so-called elements is made up of polyhedrons. Fire, for instance, is composed of *tetrahedra*. This informs how the body perceives things as hot or cold. The fire in something hot acts on our skin by cutting and dividing it, entering our body then (*Ti.* 61e–62a). We perceive sourness when the earth in what we eat is rough against our tongues; the less rough, the tangier the taste (65d). Colors are analyzed as flames that flow from objects (67c–d). Odors are more complicated: we cannot smell any of the elements. Plato thinks that our nostrils are too narrow for earth and water but are too wide to properly capture fire and air (66d). Instead, we perceive only the transitions between the elements.⁵ Bodies produce odors when they decay, become damp, melt, or evaporate. In

³ An anonymous reviewer for *Elenchos* distinguishes between two kinds of tools: those which are *necessary* for the completion of a task and those which are unnecessary in the sense that the user could use something else to complete it. We might think of the discussions of hypothetical necessity and συναίτιον that occur in contemporary scholarship; see, for instance, Johansen (2020). For an instance of the latter kind of tool, see Pradeau (1998) on the marrow in the *Timaeus* and its relationship to the soul.

⁴ For example, see *Phaedo* 82e, *Cratylus* 400c, *Phaedrus* 250c, and *Gorgias* 493a.

⁵ Air, fire, and water transform into each other. Earth does not, since it is made out of cubes, and cubes cannot transform into the other polyhedrons.

general, when there is some transition between water and air, an odor is produced that *can* fit into our nostrils.

Plato does not talk about sense-data or sensory information being transmitted in these episodes. He talks instead of *motions*. For example, he speaks about more or less “penetrating” motions being produced by color-flames (68a–b). Sound is the percussion of air in the ear-canal, but hearing is the *motion* (κίνησις) that the percussion causes, which is transmitted from the head to the liver (67b–c).⁶ These motions seem to be transmitted through the blood. When Plato explains how the rational kind of soul is disturbed by perception, he says that the violent motions join with the “perpetually-moving stream” (τοῦ ῥέοντος ἐνδελεχῶς ὄχετοῦ) in our body to reach and then stir the soul (43c–d). It might be at first be surprising, then, that the gods seemed to have designed the blood-stream exactly for this purpose: the gods connected the whole body with the veins so that no part of us was kept in the dark about what we perceive (77d–e).⁷

The motion that is conducted through the body reaches reason, whose circles have orbits that ideally are copies of the world-soul’s, and then throws them off-course (43d–44a). Perception exists as one cause of psychic disorders, alongside nutrition, bile, and phlegm. Yet, on the other hand, perception occupies a unique and perhaps unexpected status among these causes. For it seems that the gods deliberately created our bodies as capable of perception. This is not true of, say, nutrition: we need to nourish ourselves because the gods were incapable of furnishing us with a less needy body. In designing our bodies, the gods made certain concessions to necessity, but making us capable of perception does not seem to be one of them. For the gods deliberately designed our bodies with this in mind: consider that in the *Timaeus*, some perceptions are *good* for us. See the following passage:

The god invented sight and gave it to us in order that we might observe the revolutions of intelligence in the heavens and apply them to the revolutions of our own thought, since there is an affinity between them (*Ti.* 47b–c).

The same idea recurs throughout the dialogue: we must “correct the motions in our head that were corrupted at the time of our birth by learning the harmonies and revolutions of the cosmos” (90d). Perception is as useful for us as it is dangerous,

⁶ See Lautner (2005) for a larger discussion of the mechanics of hearing in the *Timaeus*.

⁷ This is borne out by the way blood-vessels are present in every perceptive part of the body. Our tongue’s “tasting instruments” are, in fact, blood-vessels and extend to the heart (65c–d). Sound is the percussion of air that hits not just the brain and ear but also the blood (67b). One might interpret 67b differently and argue that not every sound has to be transmitted to the soul by means of blood but instead that the percussion of air strikes the brain and is transmitted to the soul directly without the mediation of blood.

but it is easy to miss this. Brisson (1997, 166), for instance, says “the contemplation of the universe and, above all, of the celestial movements is supposed to preserve the excellence of the soul. Otherwise, sensation may transform the soul into something bad.” He sets up a contrast between contemplation of the universe and sensation – but in such passages as 47b–c, the relevant kind of contemplation is an instance of sensation. It might at first be tempting to think that astronomy in the *Timaeus* is metaphorical for contemplation of the intelligible, especially following crucial passages in the *Republic* (e.g., 529) where Plato denigrates empirical astronomy and takes up something more philosophical.⁸ Yet, this line is not consistent with what he says about the invention of *sight* or with the reason we are reborn as land animals with heads close to the ground.

So, perception plays an important role in restoring our soul’s orbits back to their original condition, but it also was a culprit in ruining those orbits in the first place.⁹ The reason why perception is both dangerous and useful to the soul has to do with how reason responds to the perception-motion. Let us consider the case of sight. There is a visual stream that is the coalescence of the fire from our body and the fire from an external object and that is transmitted through our eyes; this perception-motion transmission is then conducted through the blood and reaches the soul.¹⁰ The damage to our soul is done when the motion strikes the circles of the same and different that are spinning around inside our heads. There is nothing useful about that: it is a purely destructive event. What comes next might help us, though. If what we have observed are the heavenly bodies, then awareness of their motions will help us imitate them in our own lives (47b–c; 90d).

There is a sense in which this claim is what we would expect Plato to say. The *Timaeus* also says that we care for our body by making it like the cosmic receptacle: we must always keep it moving to keep it in good shape (88c–d). Assimilation to the structure of the cosmos is a central idea in the *Timaeus*. The world-soul is a

8 We could, however, see something like this distinction at *Ti.* 91d, where people are punished in the cycle of reincarnations for relying too heavily on empirical astronomy. Ultimately, I think this can be explained by considering, as we shall see below, that relying on sensation is an important *step* in our cognitive development, and the people who will be reborn as birds, according to *Timaeus*, are considerably more advanced in their development than people reborn as land animals or shellfish, but their problem lies in having spent too much time at the level of empirical study. An anonymous reviewer for *Elenchos* points out that we might be able to understand the apparent disagreement between the *Timaeus* and *Republic* on this point in terms of the dialectical contexts and the identity of the speaker; specifically, consider that *Timaeus* is said to be the “best astronomer” (ἀστρονομικώτατον) and is accordingly well-disposed to empirical astronomy.

9 Of course, perception certainly makes other contributions to our embodied lives as well, such as it enables us to get around reliably and survive.

10 I disagree with Fletcher (2016) 432 when she says that “*Timaeus* does not associate sight itself with any of the negative effects attributed to αἴσθησις elsewhere in the dialogue.”

model for our own souls, so it makes even more sense in this case for the latter to imitate the former. When scholars note the importance of observing specifically the heavenly bodies, they are indisputably getting at an essential part of the dialogue's ethics. However, when they say that observing the celestial bodies is the *only* way for perception to be useful for us, they make a mistake, and it is a mistake that obscures something difficult about the usefulness of perception.¹¹

The gods invent hearing for the same reason that they invent sight: it is so we can restore the order in our souls. Here is what Plato says:

We can give the same account of sound and hearing [as was given concerning sight]: they have been given by the gods for the same reason and for the sake of the same goal. For speech was designed for the same purpose, and it makes the greatest contribution in achieving it. As much music that uses audible sound is also given for the sake of harmony. Harmony, when it has an affinity to the motions in our souls, was given by the Muses not to the one who uses it for irrational pleasure, which people nowadays think it is useful for, but to the one who uses it with intelligence, as an ally in restoring the orbits to an unharmonious soul and bringing it into symphony with itself. Rhythm has been given to us too as assistance on account of the disorderliness and the lack of grace in the conditions of most of us (47c–e).

Remarkably, one could read this passage and forget that hearing is *also* a cause of the disorders that the Muses want to correct by giving it to us. We learn here that we can restore the harmony of our soul not only by observing the heavenly bodies but by listening to orderly sounds. This passage still supports the view that the objects of useful perception are *examples* we should follow in restoring harmony, and these objects are not restricted to the heavenly bodies. There is more going on here. The claim that speech is the most useful part of hearing means not only that we hear other people's speech as orderly examples we should follow, but also that hearing speech prompts *us* to be orderly in *our* speech. Conversations do not merely provide a model for us to follow but, additionally, require us to impose some order on our thoughts when participating.¹²

This passage about hearing complicates the picture on which it is perception specifically of the heavenly bodies that is useful for us. That picture was initially attractive because the motions of the heavenly bodies are the same motions we should restore in our own soul. The passage about hearing forces us to widen the account to include all cases of orderly objects of perception, which explains why hearing and sight are the two senses most privileged by Plato. However, the

¹¹ E.g., Fletcher (*ibid.*): “However, it is through sight, and *in no other way*, that human beings are able to perceive and appreciate the order of the universe ... ” (emphasis added). As we shall see, hearing is also a way of perceiving order.

¹² Consider also the *Republic's* views about the mixo-Lydian and syntono-Lydian musical modes on our development (398e).

problem that will occupy us in the next section is that Plato throughout the corpus argues that the perfection of our soul depends on observations of *confusing and disorderly* sensible objects. The *Timaeus* is exceptional by stressing perception of order, but there is a moment where Plato shows that this other view is present here, too:

For this reason, we must distinguish between two kinds of causes: on the one hand, the divine; on the other hand, the necessary. As for the divine, we must search for it in all things for the sake of possessing a fulfilling life (εὐδαίμωνος βίου), as much as it is possible for our nature. We must search for the necessary for the sake of the divine, since we have determined that, without the necessary, the divine causes, about which we are serious, cannot be understood or partaken of on their own (*Ti.* 68e–69a).

We must investigate the necessary before we can understand the divine.¹³ The divine in the *Timaeus* includes the heavenly bodies: elsewhere, we are told that we should imitate the motions of the god (47c) and that our happiness depends on it (90c–d); this is consistent with Plato thinking that the created world is a god (34b, 92c). This passage widens the scope of objects that we must perceive beyond just the orderly. One of the aims of 68e–69a might be to explain why so much of the dialogue is dedicated to discussions of necessity. Whereas the appeal of studying the orderly cosmos is natural to someone who strives to imitate that order, it is harder to see why we would have to study the necessary. Looking first at the theory of recollection and then the *Republic*'s account of summoners will shine some light on how perception of disorderly objects can be useful.

2 Recollection and the Need for Perception

Recollection is described in the *Phaedo* as the process whereby we come to have in mind a Form by perceiving things that strive to be, yet fall short of being, that Form.

¹³ Strange (1999) 406 argues that the reason why we have to first pursue the necessary is that “Necessity is prior to Reason in the order of discovery and, at least within the framework of creation story, of time, since it ‘precedes’ Reason’s creation of time.” I do not see how priority in time would *explain* this idea, though. Plato is presenting a radical thesis: we have to study the cosmic principle that is responsible for disorder and chaos in order to discover the divine and achieve our happiness; this comes after forty pages of saying that we should ignore the sublunary world and imitate the superlunary. Necessity, in fact, undoes God’s effort to order the cosmos in the *Statesman* (269d). It should not be lost on us that Plato argues there is a development: first, we study the necessary; then, we study the divine and are happy. This is important for the connections I draw to other accounts of our cognitive development in the corpus (e.g., the theory of recollection, and the *Republic*'s account of summoners) below. See Morrow (1950), and Mason (2006) for more on necessity and chaos in the *Timaeus*. See Carone (2004) on the *Statesman*'s myth.

At the heart of the theory is our ability to recognize objects as, say, beautiful or just, despite that this ability could not have been acquired while embodied.¹⁴ After years of philosophical training, an expert might be able to even explicitly compare sensible objects with the Forms that they fall short of, thinking “what I see wants to be like something else that exists but falls short and is unable to be like that thing” (74d).¹⁵ This knowledge cannot have come from perception because we never perceive the other object in the comparison, the Form. What we encounter are only the deficient sensible objects that want to be like the Forms. This fits with the dialogue’s opening denouncement of perception as deceptive and affirmation that the Forms will be grasped only by those who approach them without the body and with reason alone (65–66).

Yet, that opening denouncement does not seem to fit with how important perception is in the process of recollection.¹⁶ Plato’s discussion of equal sticks and stones brings this to light vividly.¹⁷ There, he says: “as long as when you *see* one thing, you have something else in mind, whether similar or dissimilar, it would necessarily be recollection” (74d–e; emphasis mine).¹⁸ On the one hand, we recover the knowledge we lost at our birth by “using our senses” (ταῖς αἰσθήσεσι χρώμενοι) (75e). On the other hand, philosophers can grasp the Forms only when “not dragging perception into their reasoning at all, and when they are using their pure thought itself by itself” (αὐτῆ καθ’ αὐτὴν εἰλικρινεῖ τῆ διανοίᾳ χρώμενος) (66a). Let us for now note this problem, and we will return to it shortly.

The theory of recollection is also presented in the *Meno*, where it is developed as a theory of learning that escapes Meno’s paradox.¹⁹ The paradox is that we

14 Cf. Kelsey (2000) 118: “The basic idea is that if we use a certain piece of information in circumstances in which that information cannot be acquired, we must have acquired that information before we came to be in those circumstances.”

15 Scott (1995) 60 and Ackrill (1973) 194–5 make a lot of the first-person pronoun here.

16 Bedu-Addo (1991) discusses this problem at great length. The solution proposed there is that there are, in fact, two kinds of recollection in Plato’s dialogues. I do not think we need to make such a distinction to explain it, as we shall see.

17 See Sedley (2007), and Ademollo (2007) for thorough studies of this passage.

18 There are further questions, such as whether perception is a *necessary* part of recollection, since this passage is saying only that recollection *is* triggered by perception. See Osborne (1995) 221ff. for an argument that recollection is always triggered by perception. Much depends on whether the diagram shown to the slave-boy in the *Meno*, discussed briefly in the main text below, is an essential part of that episode. Modrak (2006) 134 thinks that the inclusion of the diagram shows us only “that perception in concert with reasoning may be a tool for recognizing the truth.” Irwin (1974) 769 n. 4 denies that the diagram is essential and that the *Meno*’s episode is at all empirical. Vlastos (1965) 147–8 and 151–2 thinks that the episode is empirical, but that perception still is not essential. I think that the diagram *is* an essential part of the *Meno*, but in the following section of this article, we will further explore the place of mathematical objects.

cannot search for either what we know or what we do not know (80d–e). If we know it, then there is no need to search for it. If we do not know it, then we do not know what to look for. The theory of recollection is proposed to explain the possibility of *de novo* inquiry – precisely by denying that it is *de novo*. We begin with some latent awareness.²⁰ The process of recollection in the *Meno* is illustrated by a question-and-answer session, rather than by an episode of perception triggering the recollection, as we might expect from the *Phaedo*.²¹ Still, perception *does* play an important role: the visual diagram that Socrates and the slave-boy use is present for a reason. Some scholars have denied this to the point that they believe the inclusion of the diagram is evidence that the slave-boy is conducting the inquiry improperly.²² However, I think that it is a desideratum of interpretations of the *Meno* that they paint generally the same picture as the (perception-dependent) one in the *Phaedo*. For the *Phaedo* refers to the *Meno* when it comes to recollection. In the former, Cebes and Simmias are familiar with the theory of recollection, and the text seems to implicitly call back to the earlier dialogue or perhaps even draw upon the same Pythagorean or Orphic source (72e–73b). When Socrates is reminding Simmias about the theory, he even says that perception triggers recollection (73c). To say that perception is not a feature (or even that it is a *bug*) of the theory in the *Meno* generates an inconsistency at a point in the corpus when Plato clearly relies on consistency and familiarity.

Perception is important, but the theory of recollection is built on the impossibility of explaining our cognitive lives if we think we had *only* perception.

19 Many commentators on the *Meno* have denied that we do need recollection to solve the paradox, but I am taking it as uncontroversial that Plato himself disagrees. For examples of this trend, see Taylor (1956) 135–6; Shorey (1965) 157; Klein (1965) 92; Philips (1965) 78; Eckstein (1968) 29–30; Grube (1935) 12; and Weiss (2012) 49–76. On the other side, see Hansing (1928); Gulley (1954) 194–5; Moravcsik (1970) 53; Irwin (1974) 753; White (1974) 289; Nehamas (1985) 29; Kahn (1996) 159–61; Dancy (2004) 221–36; Scott (2006) 87–94; Charles (2010) 128; and Benson (2015) 50. See also Gerson (1999) for an analysis of the recollection argument.

20 It is not stated outright what the awareness is of. Cf. Gulley (1962) 19, who says there is “no explicit association between recollection and ‘forms’, and no evidence in that dialogue that Plato had given any consideration to the question of the metaphysical status of ‘forms’ as contrasted with particulars.” Whether Plato really was unaware of the Forms depends on the date of the composition of the *Meno* and whether Aristotle’s testimony regarding Plato’s development is credible. See Bedu-Addo (1983) 229–30 who defends that Plato had already formulated the theory of Forms by the time of the *Meno*.

21 I do not have the space to consider here the *Phaedrus* but see especially 250b–d.

22 See Brown (1967) 63 and 66, who says that Plato presents the visual diagram “critically, as a sophistic counterfeit of geometry, a kind of ocular geometry” and that “it makes some difference whether the square in question is sensibly present to the men working out the argument. Such a consideration is foreign to the mathematical argument as such; ‘the square itself’ is what is being argued about, not this or that square ‘present to us’.”

Instead, the *Phaedo* claims that we acquired knowledge of the Forms of justice, beauty, and so on, before we were born, lost it at the moment of our birth, and then ought to spend our lives recovering it (75c–e). The *Meno* and *Phaedrus* back this claim up. In the former, Socrates appeals to what he has heard about the soul’s immortality and the afterlife from priests (81b–e). In the latter, Socrates tells a complicated myth on which disembodied souls move in the circles of the gods in chariots and try to glimpse the Forms: those who see them can enter into a human body, and during their lifetime, they can use “reminders” of the Forms to recollect what their souls saw before they were born (249a–250b).

I take it that the heart of the theory of recollection is captured by the *Meno*’s claim that the “truth of the things that are (τῶν ὄντων) is always in our soul” (86b).²³ We are meant to use perception to trigger the process of recovering these things, and this is not foreign to the *Timaeus*’ idea of restoring our original condition: there is something buried in us that we ought to recover. The *Timaeus* left the usefulness of perception at the notional level, whereas the theory of recollection develops it at greater length, but we are left with a question that we briefly explored earlier in this section: it is not clear how perception manages to do this, especially following the denouncement of perception earlier in the *Phaedo*. Scholars have puzzled over this for decades.²⁴ Hackforth (1955, 75), in fact, responds by denying that perception is what triggers recollection. Gulley (1954, 199) argues that the “inconsistencies are due to Plato’s failure to realize the full implications of [the theory of recollection].”²⁵ I will argue in the next section that there is no tension or inconsistency at all: perception is useful for restoring the correct condition of the soul, or (equivalently) for facilitating recollection precisely *because* its objects are deficient, which is why perception is denounced in the *Phaedo*. This account is meant to add to the *Timaeus*’ discussion: *Timaeus* focused on orderly objects, whereas the *Phaedo* and, as we shall see, the *Republic* focus on disorderly objects.

23 Cf. Kahn (2006) 130–1 for a similar identification of the heart of the theory of recollection: “if we separate out the myth of reincarnation, the prosaic thesis of recollection reduces to [...] the claim] the truth of beings is in the soul.” See also Leibniz’s *Discourse on Metaphysics* §26 (Leibniz 1991), where he says he would endorse the theory of recollection so long as it was “stripped of the myth of pre-existence.”

24 For example, see Bluck (1955) 62–3; Morgan (1984); and Bedu-Addo (1991) 27ff (“Socrates claims, apparently in flat contradiction to what he has just said about the worthlessness of the senses to the philosopher in his pursuit of knowledge, that, in fact, it is only through sense-experience [...] that we recollect the Forms”).

25 Cornford (1952) 51–2 and (1957) 5–6 makes virtually the same move.

3 Summoners

The pivotal text for us is the discussion of the summoners (τὰ παρακαλοῦντα) in *Republic* VII (522–525).²⁶ These are objects (or, more precisely, properties that objects have) that summon our understanding by confusing the soul. For example, one finger might be longer than a second finger but shorter than a third. Our soul would be confused by the combination of shortness and length in one and the same finger: the finger in question is both short and long. In contrast, the property of *being a finger* is not a summoner since a finger does not appear to the soul to *also* not be a finger in the way that it appears to be both tall and short. These perceptions are “adequate” (ἰκανόν) (523b). Plato thinks that a discussion of summoners is crucial for understanding the soul’s cognitive development in the *Republic*, which portrays education as a reorientation of the soul. Summoners accomplish just this reorientation. There is, however, a difficult question of *what* summoners summon. Socrates gives an array of answers: they summon our νοῦς (523d4, 523d8, and 524b4), our δῖάνοια (524d2), and our λογισμός (524b4).

The abundance of answers reflects the variety of possible summoners. Summoners help our soul move upwards on the divided line. There, the lowest category is imagination (εἰκασία), then belief (πίστις), then thought (δῖάνοια), and the highest is reason (νοῦς). Our soul can be summoned from, say, belief to thought or from thought to reason, but the summoners in each case will be different. Someone who has stagnated at the level of πίστις might be confused by sensible objects and have their δῖάνοια summoned, but someone who has graduated to δῖάνοια would be confused not by sensible but by mathematical objects, which would summon their νοῦς instead.²⁷

The *Republic*’s discussion bears this out: Plato spends more time discussing mathematical summoners than sensible objects. He initially defines summoners in

26 By presenting the account of summoners in following up the theory of recollection, I am not supposing that summoning is identical to recollection. The two theories are just similar enough that they are useful for discovering how perception of deficient objects can improve our cognition. However, I do want to resist claims such as Mohr (1984) 34’s that “there is no explicit mention or even a hint of the doctrine of recollection in the *Republic*.” Something *like* the theory of recollection is cryptically suggested at 498d: Socrates hopes Thrasymachus will remember their conversation in a future incarnation. The myth of Er too relies on the possibility of remembering things from previous lives (619–621b).

27 The relationship between the objects of δῖάνοια and νοῦς is unclear and enigmatic. At times, Socrates speaks as if the difference between the two modes of cognition relies on their methodology (i.e., the two modes have the same objects but in the former, the objects’ existence is merely hypothesized, and in the latter, they are discovered non-hypothetically) (510b), but other times, he speaks as if the two modes have distinct objects (e.g., 511c).

terms of perceptions but then uses that schema to understand how to reach the highest mode of cognition, which first requires a lengthy study of mathematics.²⁸ For most of the time that someone is enrolled in Plato's education system, they will have already turned towards mathematics and away from the sensible world, which explains why the focus in this section is on mathematics. The phenomenon of summoning is clarified by sensible objects, which are more obviously contradictory in nature than mathematical objects are. Summoning is said to occur "whenever perception no more presents one thing than its opposite" (523c).²⁹ The example of a finger being long and short, or of Helen of Troy being beautiful and ugly, illustrates this well (525a). The conclusion that Plato draws from this is that the art of calculation is essential for the philosophers-in-training because it will lead their souls upward.

However, by focusing too much on the way that Plato plans to use summoners in his education system, we miss that the confusion that prompts summoning is ordinary. The text says that summoning can initiate our cognitive development: sight, for example, perceives big and small *together* in the same sensible object, which prompts us to reflect on how this can be, and it is "from these cases that it first (πρῶτον) crosses our mind to ask what the big is and what the small is" (524c). The more decisive evidence that the confusion is ordinary is that the properties Plato lists as examples are all ordinary: e.g., dark, pale, thick, thin, hard, and soft (523e). The fact that there are also complicated mathematical properties such as one and unlimited reflects that summoning is useful at multiple stages of our education, and the ambiguity of what is being summoned (e.g., νοῦς or διάνοια) captures this too.

28 Bedu-Addo (1991) 30 makes much of how long our cognitive development takes: "Plato has in mind two quite different types of recollection, namely (i) recollection as a *gradual process of learning* [...] and (ii) immediate recollection of Forms." (He thinks that the account of summoning in the *Republic* is the theory of recollection, perhaps dressed up a bit differently, but the same for all intents and purpose except that it is a different kind of recollection, one that takes longer). However, our cognitive development always takes a while in *every* dialogue. There is never an immediate grasp of the Forms: the process takes decades in the *Republic*, goes through multiple stages in the *Symposium*, and in the *Phaedo*, we cannot get knowledge of the Forms until we are dead; the process is life-long. The slave-boy in the *Meno* does grasp the answers to Socrates' questions quickly, but he does not have knowledge (85c–d) and his awareness is not of the Forms.

29 Another helpful account of summoners: "I define as summoners those things that impinge on the respective sense (αἴσθησιν) at the same time as their opposite, whereas reason is not stirred by those that do not" (524d). Given how much of the discussion of summoners is couched in the language of αἴσθησις, how there could be mathematical, non-sensible summoners might seem to be a problem. See Franklin (2012) 485–97 for a solution to this problem.

Yet, it does not follow from the ordinariness of the confusion that summoning happens frequently. The discussion of summoning begins with this remark about the art of counting:

It [that is, the art of counting] might very well be one of the subjects we were seeking after that lead to reasoning (νόησιν), but nobody uses it correctly, even though it is in every way suited for dragging someone towards being (523a).

If mere perception of something both big and small led to cognition of the Forms, then everyone would be a philosopher, so here Plato explains why very few, if anyone, have the highest kind of cognition: summoners are not being used to summon. This anticipates an important point, namely, that it is not the perception that is doing the work. It is the reflection prompted by the perception. Lovers of sights and sounds, for instance, are living as if in a dream (476c). The summoners might rouse them from this dream – and, indeed, the *Republic's* theory of cognitive development explains how this rousing happens – but it will not be because they perceive enough beautiful things. It will be because they reflect on how those things can be both beautiful and ugly.

It is in this context that Plato has been accused of misunderstanding how relations work.³⁰ The criticism is that Plato infers from 'x is beautiful in comparison to y' and 'x is ugly in comparison to z' that x is both beautiful and ugly and thus that the sensible world is filled with contradictions, and that this move is illegitimate. The problem is treating a relation as though it were a property. This criticism is mistaken, at least as far as concerns the discussion of summoners, and seeing how it is mistaken clarifies how summoners work. Plato's claim here is that perception presents a finger to us as, say, *thick*. The content of the perception is an unqualified report. We do not ordinarily perceive things *as* bigger than other things, unless we are perceiving one thing right next to another.³¹ Consider as well when we taste some food: we do not taste the food as *more* delicious than some other food. We taste the food as delicious. When Plato is talking about properties here, he is talking about them as perception reports them to us.

30 For example, see Russell (1945) 150, who inaugurates this critical tradition in the 20th century, but it seems that Aristotle had earlier developed a similar line of reasoning in the Περὶ Ἰδεῶν. The criticism is preserved in Alexander's commentary on the *Metaphysics* and is surveyed by, e.g., Owen (1965) and Rowe (1979).

31 Perceiving two things right next to each other is common. It happens, for instance, with fingers. In these cases, it is not the perception of, say, one finger that is salient; it is the simultaneous or near-simultaneous perception of multiple fingers that prompt the comparison. If we could isolate from the perceptual episode the perception of one finger, we would see that we are not making a comparison in that moment, considered in itself.

It is true that we can resolve the confusion caused by perceiving a finger as both big and small by specifying *in relation to what* (πρός τι). This does not mean that Plato is mistaken when he represents perception of bigness as perception of a property instead of a relation. In fact, the discussion of summoners requires that he not be making this elementary mistake. We are *supposed* to resolve the confusion by thinking about what perception tells us. We are *supposed* to specify πρός τι. This is the cognitive action that ought to follow confusing perceptions: we should think about the big and the small and use them to make sense of what we perceive.³² The criticism that Plato has treated a relation as a property does not hit its mark, for his point was that perception reports relations as properties, and the confusion that this generates is resolved by further reflection on how this works and, eventually, the Forms. It is precisely because the relational nature of, say, thickness or deliciousness is so unclear that our reason is *summoned* when the soul reflects on it. We need the Forms to make sense of what we perceive.

It is also unclear how we should understand perception's report that, say, this finger is big or this finger is small. Scholars have sometimes interpreted the position in this passage to be that perception alone, with no help from anything else in the soul, can make judgments.³³ This is usually paired with a view that Plato first distinguishes between perception and belief only in the *Theaetetus*.³⁴ This interpretation misreads Plato's vocabulary. His choice of verbs here matters: he will often speak of perception as *presenting* (δηλώω) two opposed properties. Perception presenting something to us does not entail that it has made a judgment, whatever that might mean. Yet, the other reading is correct that there *does* have to be a judgment here. Summoning is a description of a familiar moment: we are

32 Consider the final refutation of the view that knowledge is perception in the *Theaetetus*, during which Socrates gets Theaetetus to agree “that it is through touch that the soul perceives the hardness of that which is hard, and likewise the softness of that which is soft,” which I take to mean that perception detects certain relative properties but “that as regards their being, the fact that they are, their opposition to one another, and the being, again, of this opposition, the matter is different. Here the soul itself attempts to reach a decision for us by rising to compare them with one another” (186b). I interpret Socrates' point to mean that there are some things, in contrast, that the soul cannot detect through sensory organs, such as their being and the fact that their hardness and softness are opposed to each other; the soul has to compare them, independently of perceptual organs. This is in line with the point being made in the *Republic*: our soul has to make comparisons; perception does not.

33 Burnyeat (1976) and (1990) 58, as well as Sedley (2004) 113, are examples. Kahn (2006) 128 disagrees.

34 Adam (1902) 109 opposes this view by arguing that “the sort of contradictory judgments that are here ascribed to [...] αἴσθησις have already been attributed to δόξα in 479b–479e.” Cherniss (1957) 244 n. 71 argues that Plato always thinks that αἴσθησις is mere sensory awareness, and whenever he speaks like αἴσθησις makes judgments, this is just a loose, informal way of talking.

presented with something, make a judgment about it, and then think ‘wait, that cannot be right’, and then think through our initial judgment and confusion. The hope is that we end up in a better condition than where we started, and in the *Republic*, this is ensured by the regimented education system that guides our reflection and revision. If we do not make any judgments, we have nothing to think through. It just does not follow that perception alone is making the judgment, especially when Plato’s vocabulary does not suggest that.³⁵

Perception is useful for us because confusion (ἀπορία) is useful for us. There is something familiarly Platonic, or Socratic, about using ἀπορία as a constructive pedagogical tool. When we consider the character Socrates’s use of ἀπορία generally, we see that he tends to use it to *initiate* a process of learning.³⁶ Summoners are the first step. They provide a template for the kind of education that the ideal city’s guardians should receive. They might even provide a helpful way of thinking about Platonic dialogues. Some scholars have recently argued that the contradictions within and between Plato’s texts are not unlike the way that sensible objects are apparently contradictory, and that these contradictions are intended as prompts for us to think for ourselves.³⁷

It would be a mistake to think that *everything* we perceive is a summoner. I said above that there are so-called adequate sensible properties that are not always accompanied by their opposites, such as *being a finger*. Moreover, there is the discussion of model sensible objects in the *Timaeus* that we explored in the first section: the harmonies that we perceive in the cosmos and that we hear furnish us with a model for restoring our own disordered souls. We might even, for a moment, think that Plato is *optimistic* about the sensible world, but, in fact, his point is that our cognitive development is so important that we should use every tool at our disposal. Let us imitate harmonious music and the motions of the celestial bodies when we can. The ordinary person, however, will not be naturally disposed to see the celestial bodies as something we should or even can imitate at all. To get to that higher stage in our development, we should first be summoned by the confusion of the sensible world. The confusion is the way that perception harms us. The

35 An anonymous referee for *Elenchos* helpfully points out that we might think of this in terms of κρίσις (i.e., non-propositional *discrimination*). See Campbell (2021) for a discussion of κρίσις in plant souls in the *Timaeus*.

36 The Eleatic visitor in the *Sophist* talks about confusion and refutation in this way (230a–231a).

37 Byrd (2007) argues that the dialogues themselves are summoners. Reale (1997), among others, argues that the ἀπορία among the dialogues prompt the reader to think. It is important to both Reale and Byrd that the dialogues provide us with idealized conversations, such that when we revise our thinking, we have in front of us already a sound model for us to follow. It is possible that Plato’s own statements on the value of perception are meant to form a summoner, too.

invitation to think through the confusion, hopefully with guidance, is the way that it helps us.³⁸

4 The Soul's Instrument

Now that we have seen that perception is useful for our soul's perfection, we should discuss the body generally as the soul's instrument.³⁹ We need the body to be presented with sensible objects that trigger recollection in the *Phaedo*. We need the body so much, in fact, that we might forget that the reason we need the body in the first place is that *embodiment* disrupted our psychic functioning. At the end of the second section above, we saw that scholars have puzzled over how the *Phaedo* could value perception so little while also holding it up as the spark of recollection. Plato's reasoning makes sense if we view the disruptive moment in perception as *prior* to the constructive moment when we reflect on perception's confusions. Moreover, the larger point is that perception is *instrumental*. The discussion of summoners in the *Republic* advances this idea by speaking explicitly about *correctly using* ontological deficiency as a tool for our soul's perfection.

We know from the *Timaeus* that our bodies are created by the gods and that each part of our body achieves a purpose for us: the eyes, for example, allow us to see the heavenly bodies and thus do philosophy. Some of Plato's writings, though, give the impression that the soul itself is somehow responsible for the body being what it is. Indeed, there are times when Plato speaks like our soul determines our body in some specific, focused way. Consider the way that Thersites' soul "clothes itself as a monkey" in the myth of Er (*Resp.* 620c). Another example is living in a way that earns a reincarnation as a shellfish (*Ti.* 92b). The general principle is that we choose our own bodies, and thus that our soul and body are well-suited to each other. Thersites had lived such a buffoonish life by criticizing Agamemnon in the *Iliad* that he would never have chosen any other body: there is an appropriate kind

38 If space permitted, it would be fruitful to consider the way that perception and embodiment are essential to the accounts of cognitive development elsewhere in the corpus. Fierro (2019) explores, for instance, the role of the body in the *Symposium's* ascent to beauty. See also Bedu-Addo (1976, 1977) for more on the *Republic* on our development beyond the account of summoning. While perception figures in other accounts of cognitive development, it sometimes does so differently (i.e., not always the consideration of contraries, such as in the *Symposium*).

39 In addition to the passages identified at the start of this paper, consider the *Theaetetus*. At 184c, Socrates and Theaetetus agree that we do perceive things *through* our sensory organs (denoted by δὶά with a genitive object) rather than *by means* of them (denoted by the dative of instrumentality). The famous wooden-horse image at 184d explicitly confers to the sensory organs the status of instrument (ὄργανον), which, I think, bears out the discussion in this paper.

of *fit* between body and soul here. The body depends on the soul in the way that, if Thersites' soul had been different, so would his body be different.

That we have exactly the body that we need to have is what Plato captures by saying that the body is our tool or instrument. The eschatological and theological contexts here are essential. In the first section above, Plato argued that the gods gave us eyes so that we could see the motions of the heavenly bodies and apply them to the disordered motions of our own soul. This is a clear example of our having the body that we need to have. When we consider myths in which we ourselves choose our bodies (such as the myth of Er), we choose the bodies we *think* we need to have, in the sense of what bodies we think are good for us, whereas the human body constructed by the gods is the only one that is, in fact, useful for us. The body of a shellfish is a punishment precisely because it is not useful for us. Atalanta was a famous huntress who chose to be reborn as a man because she wanted the honors that she thought she could get only as a man (*Resp.* 620b). Agamemnon chooses to be an eagle because he hates humanity (*ibid.*). These are examples of people choosing bodies that they *think* they need: the bodies are useful for getting what they want out of life, whether that is honor or just avoiding being born by a woman, like the misogynistic Orpheus when he chose to be a swan (620a).

It is an interesting historical fact, then, that Aristotle in *De Anima* criticizes proponents of reincarnation for not developing a tight enough relationship between soul and body:

Something absurd follows for this account concerning the soul and for most others, for they attach the soul to the body and place it in the body without specifying the cause of this or what the body is like. However, this might seem to be necessary: for on account of their relationship (κοινωνία), one acts and the other is affected, and one moves and the other is moved, none of which belongs to (ὑπάρχει) things that just happen to be related to each other. But these accounts merely try to say what the soul is, without specifying the body that is about to receive the soul, as if it were possible, like the Pythagorean myths say, for the soul to be clothed in any body whatsoever. For each body seems to have its own distinct form and shape, but what they say is nearly the same as saying that carpentry could clothe (ἐνδύεσθαι) itself in flutes; for it is necessary that a craft use its tools (τοῖς ὀργάνοις) and that a soul use its body (I 3.407b14–27).

Plato is the target of this criticism. Firstly, there is the reference to the myth of Er: Thersites' soul clothed itself in the body of a monkey, which Aristotle thinks is almost as absurd as saying that carpentry could *clothe* itself in flutes. There cannot be such a mismatch between soul and body, the criticism says. Secondly, the words 'this account' in the first sentence single out Plato's psychology, especially in the *Timaeus*, which was the focus for the past few pages in the same chapter and which

Aristotle had named specifically as his target at the start of the round of criticism (I 3.406b26).

The criticism is that Plato and others who believe in reincarnation allow bodies and souls to be mismatched. A belief in reincarnation as other kinds of animals requires a belief that bodies and souls are so separable that a soul can go from being in the body of a human to being in the body of a monkey or a shellfish. Aristotle is not criticizing other theories on which a human soul will be reincarnated necessarily as a human again and again.⁴⁰ The first part of the criticism claims that Plato does not adequately explain the relationship (κοινωνία) between soul and body; there is, therefore, a lack in Plato's psychology.⁴¹ The second part is that, without specifying this relationship, Plato misses the fact that the soul uses the body like a craft uses its tools and that we cannot explain how the two move and affect each other.

I submit that Aristotle's criticism misses its mark: it might successfully undermine Pythagorean theories, which he also identifies as a target here, but it misrepresents Plato's psychology. The foregoing discussion of perception confirms that we have exactly the body we need to have: the body's perceptual capacities are designed for the soul's well-being. As well, the liver is designed to help reason rein in the appetites (*Ti.* 71a–b). The spleen exists as a napkin to clean up the liver (72c). The coiled intestines allow us to go longer without food, or else we would be such a slave to our appetites that doing philosophy would have been impossible (73c). The lower gods are carrying out the Demiurge's order that they "make our species as excellent [ἀριστον] as possible" (71d). The lower gods "bound organs inside the body out of complete forethought for the soul" (45b). Accordingly, we can point to every single constituent of the body with reference to how it serves our soul. The most interesting for us in this study has been the eyes, which let our soul perceive the heavenly bodies and so restore our soul's original condition. Aristotle is missing this *teleology* or *instrumentality*. Some scholars have claimed that at the heart of Aristotle's criticism is a complaint that Plato cannot explain why our souls do not end up in, say, a book.⁴² If this is the right interpretation, then Aristotle is missing the way that the gods have carefully designed

⁴⁰ Of course, Aristotle would be opposed to a theory of reincarnation on which a man is reborn as a woman or a slave is reborn as a free person. He would have other reasons, too, for criticizing reincarnation wholesale, but my comments here are directed at the specific criticism at the end of I 3.

⁴¹ I am endorsing what Shields (2016) 132 calls the "weaker reading" of the criticism, on which Aristotle is saying that the theories under consideration are incomplete, as opposed to the "stronger reading," on which they *cannot* explain how souls and bodies interact.

⁴² E.g., Shields (2016) 133: "We might think that an old leather-bound edition of Machiavelli's *The Prince* could come to bear the departed soul of Richard Nixon. Aristotle regards this sort of view as worthy of ridicule."

the system of reincarnation and the way that we choose our own bodies.⁴³ There is no randomness so long as we bear in mind the *teleology* of soul-body relationships.

I suspect that part of the disagreement is that Aristotle believes that one function of the soul is to manage the body, whereas Plato thinks that the body functions as the tool of the soul.⁴⁴ The various bodily systems were set up by the gods in order to serve the soul; the soul does not contribute to that. Of course, there is another class of bodies that our souls are *not* suited for in the same sense, even though we might end up in them: namely, animal bodies. There is no doubt that animal bodies frustrate the soul's activity much more than being born in a human body, but that is precisely the point. The gods have designed the system of reincarnation such that there is a perfect *fit* between soul and body yet again, but it is not a helpful, constructive sort of fit. Instead, it is punitive. A human is reborn as a shellfish whose "penalty for extreme stupidity is the extreme dwelling place" (92b). Another fate is being reborn as a land animal whose head is close to the ground because they did not spend the time as a human studying the cosmos (91e). It is not only that this is a punishment but that these are the bodies we *choose*: we choose to be a land animal by choosing to neglect the cosmos. Thersites chooses to be a monkey because he is just that buffoonish. He is suited for this body in the sense that it reflects who he has made himself, although his soul's proper activity is not served by this body. The gods have carefully provided for animal bodies as much as for human bodies, but the aim of the provision is different: instead of carefully stewarding the soul back to its original condition, animal bodies punish us for our choices.

It is for this reason that focusing on the *instrumentality* of the body for the soul is key. The ethical dimension of this relationship stresses that the body is something that our souls use and ought to use well. There is a protreptic quality to this account. The most important statement of this as Plato's position comes in the

43 On the final page of the *Timaeus*, Plato explains that "both then and now, living things change into each other in all these ways, as they change by having or losing reason or unreason (*ἀνοίας*)" (92c). The language of 'all these ways', just following a discussion of how the gods have made unthinking people become shellfish, and so on, makes it clear that reincarnation is not random and instead is a god-designed system with rules.

44 The soul manages the body for Plato only in the sense that it helps to take care of it (e.g., by means of exercise). *Timaeus* 88b–d implores us to care for the body in order that the soul might be able to do the work for which it needs the body, such as delivering a lecture. However, this turns out to be another way of talking about the body as the soul's tool: the body needs to be kept in sufficiently good condition in order to be useful for the soul. There is a cosmological sense in which the soul takes care of bodies too (cf. *Phaedrus* 246b and *Laws* 896e–897a), but this does not bear on the biological systems that the *Timaeus* is discussing, which exist for the sake of providing for the soul (cf. *Ti.* 45b).

Alcibiades (129e) at a point when Socrates is convincing Alcibiades to care for himself.⁴⁵ The body is not what we are, but it is our tool. There is something defective about a person who cares for the body as an end in itself or as his or her self, rather than caring for it as an instrument. People who use their soul to satisfy the needs of the body, instead of using the body to satisfy the needs of the soul, have made a great error. Plato does not have the worked-out vocabulary that would allow him to think about the soul-body relationship as necessary or contingent. What he settles on instead is a middle position of instrumentality: a relationship that is so tight that our body is as well-suited to our souls as possible but weak enough that we can aspire to the permanent separation of soul and body.

References

- Ackrill, J. L. 1973. "Anamnesis in the *Phaedo*: Remarks on 73c–75c." In *Exegesis and Argument: Studies in Greek Philosophy Presented to Gregory Vlastos*, edited by E. N. Lee, A. P. D. Mourelatos and R. M. Rorty, 177–97. Assen: Van Gorcum.
- Adam, J. 1902. *The Republic of Plato*, Vol. II. Cambridge: Cambridge University Press.
- Ademollo, F. 2007. "The Equals, The Equals Themselves, Equality, and The Equal Itself." *Documenti e studi sulla tradizione filosofica medievale* 28: 1–20.
- Barnes, J., ed. 1984. *The Complete Works of Aristotle*, Vol. 2. Princeton: Princeton University Press.
- Bedu-Addo, J. T. 1976. "A Theory of Mental Development: Plato's *Republic* V–VII." *Platon* 28: 288–300.
- Bedu-Addo, J. T. 1977. "A Theory of Mental Development: Plato's *Republic* V–VII, Part 2." *Platon* 28: 212–24.
- Bedu-Addo, J. T. 1983. "Sense-Experience and Recollection in Plato's *Meno*." *American Journal of Philology* 104 (3): 228–48.
- Bedu-Addo, J. T. 1991. "Sense-Experience and the Argument for Recollection in Plato's *Phaedo*." *Phronesis* 36: 27–60.
- Benson, H. 2015. *Clitophon's Challenge: Dialectic In Plato's Meno, Phaedo, and Republic*. Oxford: Oxford University Press.
- Black, R. S. 1955. *Plato's Phaedo*. London: Routledge.
- Brisson, L. 1997. "Plato's Theory of Sense-Perception in the *Timaeus*: How it Works and what it Means." *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 13: 147–76.
- Brown, M. 1967. "Plato Disapproves of the Slave-Boy's Answer." *The Review of Metaphysics* 21 (1): 57–93.
- Burnyeat, M. 1976. "Plato on the Grammar of Perceiving." *The Classical Quarterly* 26: 29–51.
- Burnyeat, M. 1990. *The Theaetetus of Plato*. Translated by M. J. Levett, Revised by M. F. Burnyeat. Indianapolis: Hackett.
- Byrd, M. 2007. "The Summoner Approach: A New Method of Plato Interpretation." *Journal of the History of Philosophy* 45 (3): 365–81.

⁴⁵ Another example is *Clitophon* 407e–408a.

- Campbell, D. R. 2021. "Self-Motion and Cognition: Plato's Theory of the Soul." *The Southern Journal of Philosophy* 59 (4): 523–44.
- Carone, G. R. 2004. "Reversing the Myth of the *Politicus*." *The Classical Quarterly* 54 (1): 88–108.
- Charles, D. 2010. "The Paradox in the *Meno* and Aristotle's Attempts to Resolve it." In *Definition In Greek Philosophy*, edited by D. Charles, 115–50. Oxford: Oxford University Press.
- Cherniss, H. F. 1957. "The Relation of the *Timaeus* to Plato's Later Dialogues." *American Journal of Philology* 78 (3): 225–66.
- Cooper, J. M. and D. S. Hutchinson, eds. 1997. *Plato. Complete Works*. Indianapolis: Hackett Publishing Company.
- Cornford, F. M. 1952. *Principium Sapientiae*. Cambridge: Cambridge University Press.
- Cornford, F. M. 1957. *Plato's Theory of Knowledge*. London: Routledge.
- Dancy, R. M. 2004. *Plato's Introduction of Forms*. Cambridge: Cambridge University Press.
- Eckstein, J. 1968. *The Platonic Method: An Interpretation of the Dramatic-Philosophic Aspects of the Meno*. New York: Greenwood.
- Fierro, M. A. 2019. "Amor carnal, amor platónico en el *Banquete*." *Estudios de Filosofía* 59: 183–212.
- Fletcher, E. 2016. "Aisthēsis, Reason and Appetite in the *Timaeus*." *Phronesis* 61: 397–434.
- Franklin, L. 2005. "Recollection and Philosophical Reflection in Plato's *Phaedo*." *Phronesis* 50 (4): 289–314.
- Franklin, L. 2012. "Inventing Intermediates: Mathematical Discourse and its Objects in *Republic VII*." *Journal of the History of Philosophy* 50 (4): 483–506.
- Freudenthal, G. 1995. *Aristotle's Theory of Material Substance: Heat And Pneuma, Form And Soul*. Oxford: Clarendon Press.
- Gelber, J. 2020. "Soul's Tools." In *Heat, Pneuma and Soul in Ancient Philosophy and Science: From The Presocratics To Aristotle*, edited by H. Bartos and C. King, 243–59. Cambridge: Cambridge University Press.
- Gerson, L. 1999. "The Recollection Argument Revisited." *Apeiron* 32: 1–16.
- Grube, G. M. A. 1935. *Plato's Thought*. Indianapolis: Hackett.
- Gulley, N. 1954. "Plato's Theory of Recollection." *The Classical Quarterly* 4: 194–213.
- Gulley, N. 1962. *Plato's Theory of Knowledge*. London: Methuen.
- Hackforth, R. 1955. *Plato's Phaedo*. Cambridge: Cambridge University Press.
- Hansing, O. 1928. "The Doctrine of Recollection in Plato's Dialogues." *The Monist* 38: 231–62.
- Irwin, T. 1974. "Recollection and Plato's Moral Theory." *The Review of Metaphysics* 27: 752–72.
- Johansen, T. 2020. "From Craft to Nature: The Emergence of Natural Teleology." In *The Cambridge Companion to Ancient Greek and Roman Science*, edited by L. Taub, 102–20. Cambridge: Cambridge University Press.
- Kahn, C. 1996. *Plato and the Socratic Dialogue*. Cambridge: Cambridge University Press.
- Kahn, C. 2006. "Plato on Recollection." In *A Companion to Plato*, edited by H. Benson, 119–32. Malden: Blackwell.
- Kelsey, S. 2000. "Recollection in the *Phaedo*." *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 16: 91–121.
- Klein, J. 1965. *A Commentary on Plato's Meno*. Chapel Hill North Carolina: University of North Carolina Press.
- Lautner, P. 2005. "The *Timaeus* on Sounds and Hearing with Some Implications for Plato's General Account of Sense-Perception." *Rhizai* 2: 235–53.
- Leibniz, G. W. 1991. *Discourses on Metaphysics and Other Essays*. Translated by D. Garber and R. Ariew. Indianapolis: Hackett.

- Mason, A. S. 2006. "Plato on Necessity and Chaos." *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition* 127 (2): 283–98.
- Modrak, D. K. W. 2006. "Plato: A Theory of Perception or a Nod to Sensation?" In *A Companion to Plato*, edited by H. Benson, 134–45. Malden: Blackwell.
- Mohr, R. D. 1984. "The Divided and the Doctrine of Recollection in Plato." *Apeiron* 18 (1): 34–41.
- Moravcsik, J. M. E. 1970. "Learning as Recollection." In *Plato: A Collection of Critical Essays*, edited by G. Vlastos, 53–69. New York: Doubleday.
- Morgan, M. L. 1984. "Sense-Perception and Recollection in the *Phaedo*." *Phronesis* 29: 237–51.
- Morrow, G. R. 1950. "Necessity and Persuasion in Plato's *Timaeus*." *Philosophical Review* 59 (2): 147–63.
- Nehamas, A. 1985. "Meno's Paradox and Socrates as a Teacher." *Oxford Studies in Ancient Philosophy* 3: 1–30.
- Osborne, C. 1995. "Perceiving Particulars and Recollecting the Forms in the *Phaedo*." *Proceedings of the Aristotelian Society* 95: 211–33.
- Owen, G. E. L. 1965. "A Proof in the *Peri Ideon*." In *Studies In Plato's Metaphysics*, edited by R. E. Allen, 293–312. London: Routledge.
- Philips, B. 1965. "The Significance of Meno's Paradox." In *Plato's Meno: Text and Criticism*, edited by A. Sesonske and N. Fleming, 77–83. Belmont, California: Wadsworth.
- Pradeau, J.-F. 1998. "L'âme et la moelle. Les conditions psychiques et physiologiques de l'anthropologie dans le *Timée* de Platon." *Archives de Philosophie* 61: 489–518.
- Reale, G. 1997. *Toward a New Interpretation of Plato's Dialogues*, Edited and Translated by J. R. Catan and R. Davies. Washington: The Catholic University of America Press.
- Ross, W. D. 1961. *Aristotle: De Anima*. Oxford: Oxford University Press.
- Rowe, C. J. 1979. "The Proof from Relatives in the *Peri Ideon*: Further Reconsideration." *Phronesis* 24 (3): 270–81.
- Russell, B. 1945. *A History of Western Philosophy*. New York: Simon & Schuster.
- Scott, D. 1995. *Recollection and Experience: Plato's Theory of Learning And its Successors*. Cambridge: Cambridge University Press.
- Scott, D. 2006. *Plato's Meno*. Cambridge: Cambridge University Press.
- Sedley, D. 2004. *The Midwife of Platonism: Text and Subtext of Plato's Theaetetus*. Oxford: Oxford University Press.
- Sedley, D. 2007. "Equal Sticks and Stones." In *Maieusis: Essays In Ancient Philosophy In Honour of Myles Burnyeat*, edited by D. Scott, 68–86. Oxford: Oxford University Press.
- Shields, C. 2016. *Aristotle: De Anima*. Oxford: Oxford University Press.
- Shorey, P. 1965. *What Plato Said*. Chicago: University of Chicago Press.
- Strange, S. K. 1999. "The Double Explanation in the *Timaeus*." In *Plato 1: Metaphysics and Epistemology*, edited by G. Fine, 387–415. Oxford: Oxford University Press.
- Taylor, A. E. 1956. *Plato: The Man and His Work*. Cleveland: Meridian Books.
- Vlastos, G. 1965. "Anamnesis in the *Meno*. Part One: The Data of the Theory." *Dialogue* 4: 143–67.
- Weiss, R. 2012. *Virtue In the Cave: Moral Inquiry In Plato's Meno*. Oxford: Oxford University Press.
- White, N. P. 1974. "Inquiry." *The Review of Metaphysics* 28: 289–310.