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THEORIES OF KNOWLEDGE IN THE OLD ACADEMY

ABSTRACT: The task of identifying the particular epistemological theories of the members of the old Academy is not an easy one, by reason of the general lack of evidence, but, at least in the case of Speusippus and Xenocrates, some insights are derivable. In both cases what we can observe is – while doubtless acknowledging the inferior status of sense-perception – a concern, in the case of Speusippus, to arrive at a criterion of *accuracy* in the perception of sense objects, namely by applying *logos* to raw sense-data, thus achieving *epistemonike aisthesis*; and in the case of Xenocrates, the application of his theory of minimal parts to the elucidation of the process of *aisthesis*.

SOMMARIO: Il compito di ricostruire le specifiche teorie epistemologiche dei membri dell'Accademia antica non è facile per via della generale mancanza di testimonianze in merito. Almeno nel caso di Speusippo e di Senocrate alcuni punti sono fortunatamente identificabili. Quanto si può osservare in ambedue i casi – ferma restando l'indubbia inferiorità della sensazione – è la preoccupazione, in Speusippo, di rintracciare un criterio di *accuratezza* nella percezione degli oggetti sensibili, applicando il *logos* ai meri dati percettivi, pervenendo così a una *epistemonike aisthesis*; in Senocrate, invece, si riscontra l'applicazione della sua teoria delle parti minime alla chiarificazione del processo dell'*aisthesis*.

KEYWORDS: Academy; Sense-perception; *Epistemonike aesthesis*; *Logos*; Atomic Minima

Among the basic tenets of philosophy inherited from Plato by his immediate successors in the Old Academy, as would be generally agreed, are a relative contempt for reliability of sense-perception and the acceptance of a theory of transcendent Forms. Neither of these doctrines, however, especially the latter, are to be regarded as handed down on tablets of stone, or indeed as

having attained any very definite form; rather, they were in the nature of ‘working hypotheses’, open to modification and development in various directions.

As we know, the views put forth by Socrates and other spokesmen of Plato on the value and reliability of the senses and the data they provide are generally rather negative, though not universally so. If we focus, for example, on the *Phaedo*, we find, at 65b-67a, the view expressed by Socrates (who is, admittedly, facing his own imminent death) that the senses are never reliable, and that, if one is ever to acquire true knowledge, it will only be by escaping the body and its organs of sense; while, in the *Republic*, Socrates is not much more positive: at V, 476a-c, those characterized dismissively as “lovers of sights and sounds (*philotheamones, philekooi*)” – that is to say, those who hold that sense-objects are the only reality – are declared to be “living in a dream state (*oneirottein*)”.

In the *Timaeus*, on the other hand, Timaeus tells his interlocutors, including Socrates (47a-c), that the capacity for vision in humans is the cause of their ability to understand the workings of the physical universe, which leads them to a taste for philosophy, and that will in turn stimulate them to a true understanding of the hidden structure of things.

But we are not really faced here by any stark contradiction or change of heart on the part of Plato. If we work back, so to speak, from this *Timaeus* passage to the previous two ‘negative’ passages, we may discern, first, that, in the *Phaedo*, at 75ab, it is by the intelligent observation of *nearly* equal sticks and other objects that one can arrive at an intuition of Equality Itself; and that in the *Republic* passage, it is admitted (475d) that the *philotheamones*, while not being philosophers, “bear a certain likeness to philosophers”, by reason of their “delight in learning”. So the senses, if employed with discrimination and intelligence, can after all yield insights into reality.

In this connection, we may adduce also the evidence of the *Theaetetus*, centrally concerned as it is with the relation between sense-perception and knowledge. The description by Socrates, near the beginning of his *elenchos* of Theaetetus, of the ‘secret doctrine’ of Protagoras (156a-157c) is rather too suffused with Socratic irony to be regarded as anything like a straight Platonic theory of perception. But Socrates’ interrogation of Theaetetus at 184b-186e, where an important distinction is made between the data received by – or rather *through* (*dia*, 184c 8) – the individual senses, and the unifying and generalizing power which unites and structures these data, which Theaetetus identifies as the soul (*psyche*, 185e 1), seems to provide an

excellent background for the theories of perception arising in the Old Academy.

It is against such a background, then, that the doctrinal positions of the members of the Old Academy may be viewed. In this regard, one must emphasise at the outset the sad dearth of reliable evidence for all the main figures concerned, specifically, Speusippus, Xenocrates, and Polemon. However, by the close analysis of such data as have come down to us, we may nonetheless, I think, derive some worthwhile conclusions.

I will begin with a report from Sextus Empiricus (*M*, VII, 145-146)¹ relaying Speusippus' doctrine of the 'criterion of truth' (*kriterion tes aletheias*), or 'guiding principle of knowledge':²

Speusippus' view was that, since there are things which are sense-perceptible and others which are intelligible, of those that are intelligible the criterion is cognitive reason (*epistemonikos logos*), while of sensible things it is cognitive sense-perception (*epistemonike aisthesis*). And cognitive sense-perception he conceived to be that which participates in the truth which accords with reason. To take an example: the fingers of the flute-player or harper possess an artistic activity (*technike energeia*), which is, however, not brought to fruition primarily (*proegoumenos*) through the fingers themselves, but is fully developed as a result of training under the co-operative guidance of reasoning (*logismos*), and the sense-perception of the musician, while it possesses an activity capable of grasping the harmonious and the non-harmonious, nevertheless is not self-produced (*autophyes*), but is acquired by reason. Even so, cognitive sense-perception naturally derives from reason the cognitive experience which it shares, and which leads to the unerring discrimination (*aplantes diagnosis*) of its proper objects (*hypokeimena*). (transl. Bury, slightly emended)

We need to consider carefully the theory being developed here, particularly the status being accorded the rational cognition of the physical world. If we think of the hands of the skilled pianist, for example, flashing across the keys of the piano, we can discern, on the one hand, a purely physical facility in the fingers, built up by long periods of fairly mechanical practice, which is certainly necessary for the skill of the pianist to be realized, and this would presumably answer to the basic physical efficiency of the sense-organs in receiving their proper objects. But on the other hand, what makes the

¹ F75 (= 34 Isnardi Parente) in the collection of L. Tarán, *Speusippus of Athens. A Critical Study with a Collection of the Related Texts and Commentary*, Leiden, Brill, 1981.

² The formulation 'criterion of truth' is a formulation that does not seem to go further back than the Stoics; there is no other evidence for its employment by either Old Academics or Aristotelians. I have suggested elsewhere (J. Dillon, *The Heirs of Plato*, Oxford, Clarendon Press, 2003, p. 77) that Sextus' source here is probably Antiochus of Ascalon, in his *Kanonika*.

movement of the fingers purposeful and truly artistic is the *intellectual power* of the pianist, directing them in obedience to his or her conception of the form of the composition. Even so, our perception of the physical world, our discernment and identification of objects (*pragmata*), groups of objects, and situations within it, is a function, not of ‘raw’ *aisthesis*, but rather of *logos* directing *aisthesis* – that is to say, *epistemonike aisthesis*.

One may note, in this connection, that the mention of *aplaines diagnosis* in the passage of Sextus, if we can reasonably attribute it to Speusippus himself, may be a covert reference to the ‘Circle of the Other’ in the soul, as set out by Plato at *Tim.*, 37b-c, which, when “moving in a straight course”, causes “opinions and beliefs which are firm and true”.

Speusippus, then, has plainly drawn creative conclusions from his Platonic heritage, and has in the process significantly upgraded the status of sense-perception – or at least some sense-perceptions, *viz.* those reinforced by informed, ‘scientific’ expertise.³ We may note,⁴ however, that Plato himself is quite prepared on occasion to acknowledge expertise in the recognition of harmonious sounds on the part of musicians (*Soph.*, 253b; *Phlb.*, 17b-e); and the need for expert sense-perception on the part of the good doctor is adduced at *Phdr.*, 268b – in either case this being the result of the ability to apply a rational understanding of harmony derived from the intelligible realm to appropriate sensible phenomena. So really, Speusippus might be viewed as merely formalizing various suggestive propositions put forth by his distinguished uncle.

As regards his formulation of the *criterion* for the knowledge of intelligible objects, it is important to realize that these will not be the Platonic Forms in anything like their traditional guise (if only we could be sure what that was!), as we have the – admittedly somewhat tendentious – evidence of Aristotle (*Metaph.*, M, 9, 1085b 36 ff. = F35 Tarán = 77 Isnardi Parente) that Speusippus, recognising the difficulties attendant on the theory of Forms, had rejected these in favour of a system of numbers, and

³ I would not go so far as Tarán, *Speusippus of Athens*, p. 434-435, in concluding that Speusippus is upgrading the status of *all* sense-perception; he is surely making a clear distinction here between that which is informed by *logos* and that which is not.

⁴ I am indebted here to the acute observations of G. Cambiano, in his most useful paper “Speusippo e la percezione scientifica”, *Antiquorum Philosophia*, 5, 2011, p. 99-117. See also the useful discussions of M. Isnardi Parente, “Speusippo in Sesto Empirico”, *Adv. Math.* VII, 145-146”, *La Parola del Passato*, 24, 1969, p. 203-214, Ead., “Sesto, Platone, l’Accademia antica e i Pitagorici”, *Elenchos*, 13, 1992, p. 119-167 (<http://scholarlysource.daphnet.org/index.php/DDL/article/view/126/65> [08.11.2018]) and Aldo Brancacci’s article in this special issue.

secondarily of geometrical figures. These, as I have conjectured elsewhere,⁵ when projected on the level of the World Soul, do the work of Forms in giving structure to the physical world, but they are themselves more in the nature of mathematical formulae. It is, I would suggest, the discernment of the mathematical or geometrical nature of this structure in its various manifestations (such as harmonies and proportions) that, for Speusippus, constitutes *epistemonike aisthesis*.

What, then, of his successor Xenocrates? I see no reason to doubt that he would have endorsed a theory of perception very similar to that of Speusippus, but, sadly, we have no evidence on this subject. What we are told about, in a passage of Sextus immediately following the account of Speusippus quoted above (*M*, VII, 147), is actually a distinctive tripartite division of levels of cognition, corresponding to a system of three levels of reality (which is quite a feature of Xenocrates' metaphysics):

Xenocrates says that there are three forms of existence (*ousia*), the sensible (*aisthete*), the intelligible (*noete*), and that which is composite [*scil.* of these two] and the object of opinion (*doxaste*); and of these the sensible is that which exists below the heaven, the intelligible is that which belongs to all things outside the heaven, and the opinable and composite is that of the heaven itself; for it is visible by sense-perception, but intelligible by means of astronomy. This, then, being the situation, he declared that the criterion of the existence which is outside the heavens and intelligible is scientific knowledge (*episteme*), that of what is below the heavens and sensible is sense-perception (*aisthesis*), and the criterion of the mixed existence is opinion (*doxa*). (transl. Bury, slightly emended)

It seems to have been one of Xenocrates' particular concerns to find a formula, or formulae, for linking the various levels of the universe with each other, and to employ the device of postulating an intermediate stage between the two extremes of intelligible (and unchanging) and sensible (and ever-changing) reality in order to facilitate this. Here we see him presenting *episteme* and *aisthesis* as two contrasting modes of cognition of two opposed modes of being. So much is Platonic enough; his interesting innovation, however, is borrow the Platonic concept of 'opinion' (*doxa*) to characterize the apprehension of the intermediate, heavenly realm, on the ground that its contents, the planets and stars, are perceptible (though unreliably) by the sense of sight, but their true nature is cognizable only intellectually, by means of astronomy – that is to say, *scientific* astronomy, as outlined in Plato's

⁵ Dillon, *The Heirs of Plato*, p. 48-49.

Republic (VII, 528e ff.) – and is thus to be regarded as a mixture of the other two modes of apprehension.

Although Xenocrates is not primarily concerned with theories of sense-perception in the present context, it seems reasonable to draw the conclusion that, if cognition of the heavenly bodies requires the application of *doxa*, to a major extent, to supplement *aisthesis*, in order to grasp their essence, then this might also be true, at least to a *minor* extent, to grasp the essence of ordinary sublunar physical objects – that is, to achieve *epistemonike aisthesis* of them.⁶ It is a sad reflection, however, of the miserable state of our knowledge, that we actually know nothing of the views of Xenocrates on sense-perception.

Another interesting doctrine of his, however, may in fact prove relevant to this topic. We are told by the doxographer Aetius⁷ that “Xenocrates and Diodorus⁸ defined the smallest elements [of things] as partless” (i.e. declared that there were minimal parts of things), and that “Empedocles and Xenocrates compose the elements of smaller particles (*ogkoi*), which are minima (*elachista*) and, as it were, elements of elements” (my own translations). Xenocrates is here placed in rather peculiar company, but in his case, this ‘atomistic’ theory may be essentially a creative development of the theory of basic triangles, which form the building blocks of the elements, and so of everything else, in Plato’s *Timaeus*.

This theory by itself, admittedly, need not have any direct relevance to a theory of sense-perception, but a further aspect of it, reported this time by Porphyry, in his commentary on the *Harmonics* of Ptolemy,⁹ seems to me to

⁶ This situating of *doxa* between *episteme* and *aisthesis* seems to constitute an interesting variation on Plato’s well-known situating of *doxa* between *episteme* and *agnoia*, at the end of *Republic* V (477c-480a) – though we cannot be sure that Xenocrates is intending to criticize that passage!

⁷ I, 13, 3, p. 312b Diels (= Xenocrates Fr. 51 Heinze/F68 Isnardi Parente²), and I, 17, 3, p. 315b Diels (= Fr. 50 Heinze/F71 Isnardi Parente²).

⁸ That is to say, Diodorus Cronus, the dialectician of the Megarian School. On this topic, and on the interesting question of the influence of their atomistic theories on that of Epicurus later, see the most useful contributions of F. Verde, *Elachista: La dottrina dei minimi nell’Epicureismo*, Leuven, Leuven University Press, 2013, Ch. 2 and Id., “Diodorus Cronus on Perceptible Minima”, in U. Zilioli (ed.), *From the Socratics to the Socratic Schools: Classical Ethics, Metaphysics and Epistemology*, London-New York, Routledge, 2015, p. 134-148.

⁹ *In Ptol. Harm.* p. 30, 1 ff. Düring (= Fr. 9 Heinze/F6 Isnardi Parente²). Porphyry’s primary authority here is declared to be a certain Heraclides (possibly Heraclides of

do so. This is his theory of sound and harmony, in which he sets out, first, an analysis of types of motion (*kinesis*), and then, when he has identified sound as a species of motion in a straight line (*eis euthy*), presents it as consisting in fact of a sequence of sound-atoms, each occurring at a given instant, but giving the impression of a continuous flow. To illustrate this conception, he offers the analogy of a spinning top with a single black or white spot on its surface, which, as the top spins, appears as a continuous line – and likewise, a single vertical line painted on the surface will appear as a solid plane of colour.

What we may presumably derive from this is the suggestion that not only sounds, but also visual data, may be analysed into atomic units, which then appear to our senses as continuous flows of auditory or visual phenomena, since our senses are not acute enough to discern the single units as they strike upon them.

These observations are, admittedly, presented incidentally to an exposition of the ‘Pythagorean’ theory of harmony, but there seems no reason not to take them as forming part of a serious theory of perception. One may grant that our sense-organs are not acute enough to perceive the atomic units of which our sense-data are composed, but on the other hand, it may be claimed that our faculty of sense-perception is capable of imposing coherent form on these ‘raw’ sense-data. In any case, one may observe here, as in the case of Speusippus, a greater degree of attention being paid to the mechanics of our perception of the physical world than is evident in the dialogues of Plato.

The rather maverick member of the Old Academy, Heraclides of Pontus, also seems to have postulated atomistic ‘unarticulated particles’ (*anarmoi ogkoi*) as the basic building-blocks out of which all sense-perceptible entities are compounded (Fr. 118 Wehrli = 59 Schütrumpf), which puts him in the same camp as Xenocrates on this issue. That he also drew conclusions about the nature of sense-perception from this theory is indicated by a doxographic snippet from Stobaeus (= Fr. 122b Wehrli = 63B Schütrumpf), to the effect that he wished to explain how the sense-organs receive impressions from outside:

The perceptions of the particular senses are due to the symmetry of the pores, when the appropriate emanations from a given object fits into the pores of each of the sense-organs. (my own translation)

Pontus), in *Introduction to Music*, and he is quoting Xenocrates as relaying the doctrine of Pythagoras – certainly a creative adaptation of Pythagoras on his part!

This is confirmed by a testimony from Clement of Alexandria (*Protr.*, V, 66, 4 = Fr. 123 Wehrli = 64 Schütrumpf) which suggests that Heraclides effectively adopted the atomist theory of a stream of ‘images’ (*eidola*) emanating from objects and impressing themselves upon the sense-organs. All this seems not too far removed from Xenocrates’ theory about the way that the sense of hearing processes sound-atoms.

In respect of the other members of the Old Academy, such as Polemon, Crantor, or Eudoxus of Cnidos, we know nothing of their views on sense-perception. We may, however, adduce in this connection a passage from the ultimately Antiochian survey of Academic philosophy set out by Varro in Cicero’s *Academica*, I, 31-32, where a theory of sense-perception is presented:

All the senses, on the other hand (*scil.* as opposed to intelligible reality), they consider to be dull and sluggish, nor are they at all capable of perceiving any of the things which are supposed to come within the scope of the senses, because they are either so small as to be imperceptible by sense,¹⁰ or subject to such violent motion that no single thing is ever stationary, nor even remains the same thing, because all things are in continual ebb and flow;¹¹ accordingly, this whole level of reality they call ‘opinionable’ (*opinabilis* = *doxaste*). Knowledge (*scientia* = *episteme*), on the other hand, they consider to exist nowhere except in the notions and reasonings of the mind (transl. Rackham, slightly modified).

This must be regarded as a rather discouraging account of Old Academic theory, if one is disposed to argue, as I am, that a more positive evaluation of the sensible world, and our ability to cognize it, had been developing in the Academy of Speusippus and Xenocrates. However, we may reflect that, notwithstanding such theories about sense-perception as we have discerned on the part of these two thinkers, and of Heraclides, when it came to giving an overall assessment of the relation of the sense-world to the intelligible world, it is reasonable to suppose that one would tend to re-state the basic Platonic doctrine of the inferiority of the former. This need not preclude the development of theories as to the precise mode in which the senses relate to the data of the sense-world by utilising *logos* to discern harmonies and proportions derivable from the intelligible realm; it is simply concerned to reiterate the fundamental superiority and accuracy of the intellection of that realm.

¹⁰ This only makes sense if what are being referred to are the basic molecules of matter out of which sensible objects are composed; but if so, Varro is hardly making himself clear.

¹¹ Here we have a thoroughly ‘Heraclitean’ picture of the physical world, based on the description of sense-perception given in *Theaet.*, 155d-157c.

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