Ancient Epistemology

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In his latest offering, Lloyd Gerson outlines a variety of ancient epistemological systems, beginning with the Presocratics and ending with Plotinus. An overarching theme is that knowledge is not justified true belief for these ancient thinkers. Rather, knowledge is a natural kind in its own right, so 'having' knowledge can be read literally and taken as an objective cognitive achievement.

Gerson begins this narrative with the presocratics. In contrast to Greek mythology, these early philosophers posited a *kosmos*, or intelligible order, to the world. Although nature may not seem ordered, there is intelligible structure behind the appearances (15). This leads to a division between intelligible reality and appearances. We can have cognitional states that arise from false appearances, or we can have a cognitional state "whose object is reality itself" (17). This division between appearance and reality gives rise to various schools of thought. First, the scepticism of Xenophanes, which is rooted in the fact that we do not know if appearances are true (16). Secondly, the dogmatism of Parmenides, who said we can know reality and appearances do not really exist (18). Finally, the relativism of Protagoras, who thinks that since appearance is what we see, this is the reality (19). Democritus endorses a sort of relativism of appearances, but he also thinks that there is a reality of atoms behind appearances (22). Democritus then argues that belief pertains to appearances, while knowledge pertains to reality (24).

Plato also thinks knowledge is a real achievement (27). This means that knowledge is not justified true belief, as knowledge is not a subset of belief, nor can beliefs provide immediate contact with objective reality (29-30). Like Democritus, Plato thinks belief is of sensible images or appearances, while knowledge is of intelligible reality (31). Moreover, knowledge is infallible, while belief is not (32). This means the intelligible object must be present inside the knowing subject, or else knowledge cannot be guaranteed, for we would be dealing with representations or appearances again (41). This cognitive identity thesis is supported by *Sophist* 248e and the example of the *demiurge* in the *Timaeus*. Moreover, cognition fundamentally involves these same types of identities. Understanding is the cognition of the essential sameness of two different instances of a Form (36). Knowledge is the cognition of the material identity of all the distinct Forms due to the Form of the Good (36).

Although Aristotle disagrees about the existence of Forms, he "agrees with his master's basic epistemological doctrine" (62) that belief pertains to the sensible while knowledge pertains to the intelligible. Knowledge involves understanding the relation between the species and genera of substances (64). Knowledge is, therefore, of universals, while belief is of sensibles. This is supported by Gerson's claim that knowing is an act of identifying (66). The identities made about sensible objects are impermanent, for we can say that Socrates is white-haired, but this has not always been true (69). The identities made about intelligible objects are lasting, for we can say that dogs are mammals, and this will always be true (70). Aristotle also argues that intellection is not mixed with body because thinking implies that "one is identical with that which one thinks" (79). Since the intelligible object is present in the same intellect that comes to know of the presence of the

intelligible object, there is an identity. Corporeal objects, however, require "necessary physical separation" (80), so the intelligible object cannot be present inside the intellect if the intellect is corporeal. Gerson finds support for this cognitive identity thesis in *De Anima* 3.5 (85) and with the self-thinking of the Prime Mover (87).

Gerson deals with the Epicureans and the Stoics together, since they both endorse a materialistic form of naturalism (90), which means that the intellect is corporeal, while they also think error leads to human unhappiness (91). The Epicurean wants true belief, but also the firmness of conviction which leads to serenity (92). However, Epicurus also holds that all sense perceptions are true (94). Thus to arrive at serenity humans must rely on something more than sense perception, for it does not provide error or conviction (95). Epicurus concludes that there is a link between sense perception (which is always true) and belief (which is true or false), and the possibility for error arises at this link (97). For the stoic, the sage possesses knowledge (101). Knowledge is "sure and stable grasping" (104), where grasping is having a true presentation, which inerrantly reveals itself and its cause. The wise man cannot conceive of the presentation as being false (106), so knowledge is infallible for him (108). However, the Stoic rejects the infallibility of Plato and Aristotle, which was rooted in the immateriality of the intellect. Despite this, the Stoic thinks "the wise man is the truth he knows" (109), or in other words, truth is within the wise man.

Pyrrho, Carneades and Aenesidemus, as sceptics, all attack these predecessors who think knowledge is possible (113ff). Two of their arguments are relevant here. First of all, they argue that presentations, or sense perceptions, could be false (117). The Stoics and the Epicureans both rely on the truth of perceptions, so this damages their positions. Gerson rehearses some of the responses given to this sceptical argument (118ff). Secondly, the sceptic attacks the infallibility of knowledge that is crucial for Plato, Aristotle and the Stoic. Sextus argues that the self-reflexivity required for infallible knowledge is impossible for corporeal entities (129). He introduces a dilemma: if the intellect grasps itself as a whole, then it cannot turn in on itself to grasp itself, for the grasping is all there is of the intellect (129). Moreover, if the intellect grasps itself as a part cognizing another part, then this is representationalism and we lose infallibility (130).

Plotinus agrees that if the intellect is corporeal, then the required self-reflexivity is impossible (137), for the intelligible object cannot be inside the intellect due to the necessary spatial separation of material objects. Plotinus, however, posits an incorporeal intellect where the intelligible can be inside the intellect (137). Thus, we can have two parts within a complex whole, and self-reflexivity is salvaged. In addition, Plotinus argues that understanding involves cognizing the identical object present in multiple appearances (138). We understand that the dog seen now is the same as the dog seen yesterday, even though they are different sense experiences. We understand that the thing that appears to be a man is the same thing as what appears to be seated (146). Plotinus then argues that although the sceptic does not claim to know, the sceptic still claims to understand, and this is not possible without this Plotinian type of cognition that brings many things into one (150).

Gerson closes by comparing these ancient epistemological strands with contemporary epistemology. He interacts with Quine, Kornblith and Williamson. He concludes that ancient epistemology should be a third option alongside the standard analysis and contemporary naturalized epistemology. Ancient epistemology takes its place as a naturalistic epistemology that is irreducible to the empirical sciences because of the first-personal component found in self-reflexivity (155).

This book offers an original, yet historically rooted, interpretation of ancient epistemology. The argumentation is controversial at times. For example, Gerson thinks the similarities between Aristotelian and Platonic epistemology are far greater than most would. He also interprets Plato as adhering to a Plotinian cognitive identity thesis. Gerson, to his credit, acknowledges the controversial nature of some of his claims (166), and points the reader to a variety of sources for further reading. Although the density of this book lends itself to obscurity at times, in the final analysis it provides a valuable and well defended perspective of ancient epistemology.

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Scientific Representation: Paradoxes of Perspective

BAS C. van FRAASSEN
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Over forty years ago Bas van Fraassen argued that time is a logical space, an abstract structural representation of events. From this insight came pioneering work in the semantic view of scientific theories (theories represent the world through mathematical structures called models) and development of constructive empiricism (the aim of science is to produce empirically adequate theories). His philosophical efforts have been beset, however, by a historical paradox that plagues all structuralist accounts of scientific representation. *Scientific Representation: Paradoxes of Perspective* is largely van Fraassen's attempt to dissolve this paradox on the basis of a novel thesis: Scientific representation is perspectival.

The book begins with the observation that many of our representations (e.g., sculptures, drawings, photographs) are perspectival: As much as they trade for their success on selective resemblance, they trade for their success on selective distortion, as contextually determined and highlighted by their *use* to represent something. As used in science, mathematical models successfully represent phenomena (observable objects, events, and processes) through structural resemblance and distortion by abstraction and idealization. However, in the "official formulation" of a scientific theory, its mathematical models "are generally not perspectival representations" (p. 86); they are meant to provide something akin to a "God's eye view" of what phenomena *are like* independent of contexts of measurement. Perspectivity enters in their use to predict what phenomena *look like* in measurement outcomes of experiments. Measurement outcomes are claimed to be perspectival representations of the phenomena measured, trading for success on structural resemblance as well as on distortion from (*inter alia*) the limited range of instrumentation and the indefiniteness of results. A helpful analogy is the representation of an observable cube in a Cartesian frame of reference (Figure 1). In depicting the cube as having parallel lines, the mathematical model is intended to represent what the phenomenon is like from no point of view; however, the model (in conjunction with laws of projection) has a use to predict what the cube will look like in any photograph (where its lines appear to converge).

Van Fraassen's anti-metaphysics depends upon the claim that since it is the use of a representation – not what is represented – that determines its selective resemblance and