

The Argument from the Sciences

No Science of the Good

Our Passage

- * Further, since of things corresponding to a single Idea there is also a single science, there would have been one science of all the goods (*scil.* if there were a single Idea of the Good); but as things are, there are many sciences even of the things that fall under one category, e.g. of the propitious—for the propitious in war falls to the science of strategy and in disease to medical science, and the moderate in the case of food falls to medical science and in the case of exercise to the science of gymnastics.
- * ἔτι δ' ἐπεὶ τῶν κατὰ μίαν ἰδέαν μία καὶ ἐπιστήμη, καὶ τῶν ἀγαθῶν ἀπάντων ἦν ἂν μία τις ἐπιστήμη· νῦν δ' εἰσὶ πολλαὶ καὶ τῶν ὑπὸ μίαν κατηγορίαν, οἷον καιροῦ, ἐν πολέμῳ μὲν γὰρ στρατηγικὴ ἐν νόσῳ δ' ἰατρικὴ, καὶ τοῦ μετρίου ἐν τροφῇ μὲν ἰατρικὴ ἐν πόνοις δὲ γυμναστικὴ. (EN 1096a29-34)

The Closest Reconstruction

1. There is single science (*epistêmê*) corresponding to each single Idea.
2. So, if there were a single Idea of goodness, there would be a single science of goodness.
3. There is not a single science of goodness.
4. So, there is no single Idea of goodness.

Two Queries

- * Why (1)?

- * Why suppose that there is a single science corresponding to each Idea?

- * Why (3)?

- * Two possibilities:

- * There are several sciences of goodness.

- * There is not even a single science of goodness.

Further to (1)

- I. There is a single science corresponding to each single Idea.
 - * Is this an *ad hominem* point? Or one which Aristotle himself embraces?
 - * Why should there be such a restriction?

Aristotelian Sciences

- * An Aristotelian science (*epistêmê*) is an organised body of propositions, arranged in deductions laying bare the causal structure of the world.
- * Science comprises three main ideals:
- * A science captures and displays the essences of the members of its domain Δ .
 - * So, e.g., biology displays the essences of living beings, while mathematics deals with numbers and other mathematical abstractions, and so forth.
- * Second, a science makes plain precisely how essences in that domain are explanatorily prior to the other properties which members of that domain exemplify, including but not limited to their *propria*.
- * Third, a science adheres to formal or logical constraints:
 - * an *epistêmê* employs *deductions*, which are a kind of syllogism, but only those which are demonstrations, those displaying causal priorities.
 - * So, an *epistêmê* must respect logical requirements, which does in the first instance by adopting a canonical form of expression.

Science and Explanation

- * Sciences are *explanatory*.
- * We have an adequate explanation in the objective sense when:
 - * We have demonstrated that a certain trait belongs of necessity
 - * When we have shown that the trait follows from principles which are themselves necessary (*APo* 71b9–16).
- * In general, then, Aristotle contends that we have knowledge only when we have grasped what is explanatorily basic and necessary in a given domain of inquiry.

Scientific Knowledge

- * We think we understand a thing without qualification, and not in the sophistic, accidental way, whenever we think we know the cause in virtue of which something is – that it is the cause of that very thing – and also know that this cannot be otherwise. Clearly, knowledge is something of this sort. After all, both those with knowledge and those without it suppose that this is so – although only those with knowledge are actually in this condition. Hence, whatever is known without qualification cannot be otherwise.
- * Ἐπίστασθαι δὲ οἰόμεθ' ἕκαστον ἀπλῶς, ἀλλὰ μὴ τὸν σοφιστικὸν τρόπον τὸν κατὰ συμβεβηκός, ὅταν τήν τ' αἰτίαν οἰώμεθα γινώσκειν δι' ἣν τὸ πρᾶγμα ἐστίν, ὅτι ἐκείνου αἰτία ἐστί, καὶ μὴ ἐνδέχεσθαι τοῦτ' ἄλλως ἔχειν. δῆλον τοίνυν ὅτι τοιοῦτόν τι τὸ ἐπίστασθαί ἐστι· καὶ γὰρ οἱ μὴ ἐπιστάμενοι καὶ οἱ ἐπιστάμενοι οἱ μὲν οἴονται αὐτοὶ οὕτως ἔχειν, οἱ δ' ἐπιστάμενοι καὶ ἔχουσιν, ὥστε οὐ ἀπλῶς ἔστιν ἐπιστήμη, τοῦτ' ἀδύνατον ἄλλως ἔχειν. (*APo* 71b9–16)

Aristotle's Division of the Sciences

- * Aristotle himself offers a division of the sciences into three forms (*Top.* 145a15–16; *Phys.* 192b8–12; *DC* 298a27–32, *DA* 403a27–b2; *Met.* 1025b25, 1026a18–19, 1064a16–19, b1–3; *EN* 1139a26–28, 1141b29–32).
- * The general differentiation at the highest level turns on the orientation of each kind of sciences:
 - * Theoretical sciences seek knowledge for its own sake.
 - * Practical sciences concern conduct and goodness in action.
 - * Productive sciences aim at beautiful or useful objects.
- * Theoretic science comprises:
 - * First philosophy (viz. metaphysics or ontology)
 - * Mathematics
 - * Physics, or natural philosophy.

Domain Determination

- * One can say, then, that a single science is determined by a single domain.
 - * For each domain Δ , there is exactly one science.
- * When do we have a single domain Δ ?
- * Presumably when we have basic principles (*archai*) which provide mind- and language-independent essences.
 - * So, e.g., if there is a single essence for human beings, there will be a single science of humans, namely anthropology.
 - * If there is a single essence for numbers (*arithmoi*), there will be a single science of numbers, namely arithmetic.

Question: Could there be a single essence for all good things?

- * 'Just as being is not something single for the things mentioned [viz. items across the categories], neither is the good something single; nor is there a single science of being or of the good.'
- * ὥσπερ οὖν οὐδὲ τὸ ὄν ἓν τί ἐστι περὶ τὰ εἰρημένα, οὕτως οὐδὲ τὸ ἀγαθόν, οὐδὲ ἐπιστήμη ἐστὶ μία οὔτε τοῦ ὄντος οὔτε τοῦ ἀγαθοῦ (*EE* 1117b33-35).

Plato's Approach

- * As reported by Aristotle in a mildly polemical context:
- * “They [sc. the Platonists] made further use of the sciences in establishing the Ideas, and in more ways than one, as he [sc. Aristotle] says in the first book of *On Ideas*; and the arguments he seems to have in mind at the present moment [i.e. in the *Metaphysics*] are the following sort. If every science performs its task by referring to some one and the same thing and not to any of the particulars, then there will be with respect to each science something different apart from perceptible individuals, eternal and a pattern for the things produced in each science; and such a thing is the Idea. Again, the things of which there are sciences exist; the sciences are of certain different things apart from particulars (for the latter are infinite and indeterminate, while the sciences are of determinate things); so there are certain things apart from particulars, and these are the Ideas. Again, if medicine is not a science of this particular health but of health simply, there will be a certain health-itself; and if geometry is not a science of this particular equal and this particular commensurate, but of equal simply and the commensurate simply, there will be a certain equal-itself and a commensurate-itself; and these are the Ideas” (Alexander, *in Ar. Met.* 79.3-88.2).

A Gestalt Argument from the Sciences

* The Positive Argument Presented

1. Every science takes as its object some one definite thing.
2. This object is definite and determinate.
3. Particulars are indefinite and indeterminate.
4. Hence, every science takes as its object something other than particulars.
5. Hence, there must be some things beyond particulars, viz. Ideas.

Three Arguments

- * From Domains to Ideas
- * From Determinacy to Ideas
- * From Unqualifiedness to Ideas

From Domains to Ideas

- * If every science performs its task by referring to some one and the same thing and not to any of the particulars, then there will be with respect to each science something different apart from perceptible individuals, eternal and a pattern for the things produced in each science; and such a thing is the Idea.
 1. If each *epistêmê* proceeds relative to one and the same thing (*hen ti kai to auto*) and not to particulars (*kath' hehasta*), then for each *epistêmê* there will be something beyond (or beside, *para*) the sensibles which is a sempiternal *paradeigma* of the members of its domain (= an Idea).
 2. So proceeds each *epistêmê*.
 3. So, for each *epistêmê* there is an Idea.

From Determinacy to Ideas

- * Again, the things of which there are sciences exist; the sciences are of certain different things apart from particulars (for the latter are infinite and indeterminate, while the sciences are of determinate things); so there are certain things apart from particulars, and these are the Ideas.
1. Necessarily, each *epistêmê* ranges over some determinately specified domain.
 2. That determination can be provided only by particulars (*kath' hekasta*) or an object beside (or beyond, *para*) the particulars (=an Idea).
 3. That determination cannot be provided by particulars (*kath' hekasta*), because they are unbounded (*apeira*) and indeterminate (*ahorista*).
 4. Therefore, the determinate character of a science can be provided only by an object beside (or beyond, *para*) the particulars (=an Idea) .
 5. Therefore, there are Ideas.

From Unqualifiedness to Ideas

- * Again, if medicine is not a science of this particular health but of health simply, there will be a certain health-itself; and if geometry is not a science of this particular equal and this particular commensurate, but of equal simply and the commensurate simply, there will be a certain equal-itself and a commensurate-itself; and these are the Ideas.
 1. If (e.g.) medicine is not an *epistêmê* of some particular (*tode*) health but of health *simpliciter*, or geometry not of any particular geometric attribute ϕ but of geometric attributes *simpliciter*, then there will be a health itself (*auto*) and a ϕ itself (*auto*) (=an Idea).
 2. No *epistêmê* is over particular attributes.
 3. So, there are Ideas.

Aristotle's Complaints

- * Aristotle's Reaction to the Argument from the Sciences:
 - * This argument is a *non-sequitur*: it establishes that there are common things (*koina*), not that there are Ideas (understood as everlasting paradigms).
 - * This argument, if sound, would also establish Ideas for crafts, which its proponents do not want.

Noteworthy

- * It is noteworthy that Aristotle allows that these arguments are sound arguments for common things (*koina*).
- * Recall that in *EN* i 6, we are meant to agree that ‘there is no good qualifying as universal, common to all good things, and single’ (κοινόν τι καθόλου καὶ ἓν; *EN* 1096a28)
- * This is evidently stronger than the conclusion that there are no Ideas, understood as the denial of sempiternal paradigms, existing independently of particulars.

Aristotelian Universals

- * Some relevant passages:
- * Among things, some are universal* and others are particular*. By 'universal' I mean that which is naturally predicated of many things, and by 'particular' that which is not; e.g. man is a universal, while Callias is a particular (*De Interp.* 17a39-b1).
 - * The English word 'universal' renders Aristotle's technical term *katholou*, developed from the prepositional phrase *kata holou*, taken as a whole, or taken generally. He regularly opposes *katholou* to *kath' hekaston*, taken each in turn, or individually, that is, as particulars.
- * From experience, from the whole universal that has come to rest in the soul (the one apart from the many, whatever is one and the same in all those things), there comes to be a principle of skill and of understanding. . .(*APo.* 100a5-8).
- * Substance signifies what is not predicable of a subject, but the universal is always predicable of some subject (*Met.* 1038b15-16).

A Puzzle about Independence

- * If everyone were healthy, health would exist, but not sickness, and similarly if everything were white, white would exist but not blackness (*Cat.* 14a7-10).
- * By 'universal' I mean what belongs to its subject in every case and in its own right, and insofar as it is itself. It is clear, then, that what is universal belongs to things necessarily (*APo.* 73b26-7).
- * If there is some one account and the universal is not an instance of homonymy, it will be something not less than the particulars, but in fact more so, insofar as what is imperishable belongs to universals, while the particulars are by contrast perishable. . . (*APo.* 85b16-19).

Bringing this home to (1)

- * (1) There is single science corresponding to each single Idea.
- * Aristotle, like Plato, seems to accept (1).
- * What divides them is not the universality of the common things, but rather the question of ontological dependence.
- * If that is right, we have a question: why does he conclude the stronger thesis about commonality in *EN* i 6?

Further then to (3)

- * (3) There is not a single science of goodness.
- * Our two possibilities:
 - * There are several sciences of goodness.
 - * There is not even a single science of goodness.

An easy answer?

- * There is not even a single science of goodness.
- * ‘Just as being is not something single for the things mentioned [viz. items across the categories], neither is the good something single; nor is there a single science of being or of the good.’
- * ὥσπερ οὖν οὐδὲ τὸ ὄν ἓν τί ἐστι περὶ τὰ εἰρημένα, οὕτως οὐδὲ τὸ ἀγαθόν, οὐδὲ ἐπιστήμη ἐστὶ μία οὔτε τοῦ ὄντος οὔτε τοῦ ἀγαθοῦ (*EE* 1117b33-35).

Made difficult

- * There is a science (*epistêmê*) which studies being *qua* being, as well as the properties pertaining to it in its own right. This is in no way the same as any of the sciences discussing some part of being, since none of them studies being generally, *qua* being. Rather, each of those sciences cuts off some part of being and studies its attributes, as, for instance, the mathematical sciences do. (*Met.* 1003b20–26)
- * Such a science seems possible even though being is not a genus (*APo* 92b14; cf. *Top.* 121a16–19, b7–9).
- * Why should we not likewise expect an *epistêmê* of goodness *qua* goodness?