

No, he replied, the beautiful will in some point of view be found ugly; and the same is true of the rest.

And may not the many which are doubles be also halves? – doubles, that is, of one thing, and halves of another?

Quite true.

And things great and small, heavy and light, as they are termed, will not be denoted by these any more than by the opposite names?

True; both these and the opposite names will always attach to all of them.

And can any one of those many things which are called by particular names be said to be this rather than not to be this?

He replied: They are like the punning riddles which are asked at feasts or the children's puzzle about the cunuch aiming at the bat, with what he hit him, as they say in the puzzle, and upon what the bat was sitting.<sup>1</sup> The individual objects of which I am speaking are also a riddle, and have a double sense: nor can you fix them in your mind, either as being or not-being, or both, or neither.

Then what will you do with them? I said. Can they have a better place than between being and not-being? For they are clearly not in greater darkness or negation than not-being, or more full of light and existence than being.

That is quite true, he said.

Thus then we seem to have discovered that the many ideas which the multitude entertain about the beautiful and about all other things are tossing about in some region which is half-way between pure being and pure not-being?

We have.

Yes; and we had before agreed that anything of this kind which we might find was to be described as matter of opinion, and not as matter of knowledge; being the intermediate flux which is caught and detained by the intermediate faculty.

Quite true.

Then those who see the many beautiful, and who yet neither see absolute beauty, nor can follow any guide who points the way thither; who see the many just, and not of the absolute justice, and the like, – such persons may be said to have opinion but not knowledge?

That is certain.

But those who see the absolute and eternal and immutable may be said to know, and not to have opinion only?

Neither can that be denied.

The one love and embrace the subjects of knowledge, the other those of opinion? The latter are the same, as I dare say you will remember, who listened to sweet sounds and gazed upon fair colours, but would not tolerate the existence of absolute beauty.

Yes, I remember.

Shall we then be guilty of any impropriety in calling them lovers of opinion rather than lovers of wisdom, and will they be very angry with us for thus describing them?

I shall tell them not to be angry; no man should be angry at what is true.

<sup>1</sup> A man who was not a man (a cunuch) threw a stone that was not a stone (a pumice-stone) at a bird that was not a bird (a bat) sitting on a twig that was not a twig (a reed).

But those who love the truth in each thing are to be called lovers of wisdom and not lovers of opinion.

Assuredly.

**Demonstrative Knowledge and its Starting-points:  
Aristotle, *Posterior Analytics*\***

3

Readers of the preceding extracts may feel inclined to agree with Plato that knowledge is superior to mere opinion, and that it needs to go beyond the particular to some more abstract level of rational justification; but they may also feel sceptical both about the notion of *innate* sources of knowledge (put forward in the *Meno*), and also about sharp contrast (in the *Republic*) between the visible and the intelligible realms, which seems to downgrade the role of ordinary sensory information as a source of knowledge. The following extract from Aristotle puts pressure on both these Platonic ideas.

In his views on knowledge, Aristotle accepted the Platonic idea that what is known must have a certain stability, and immunity from change and fluctuation. Genuine scientific knowledge, it is asserted in the following extracts from the *Posterior Analytics*, is of that which 'cannot be otherwise'; it concerns 'eternal truths', not particulars. Aristotle also lays out a normative framework for such knowledge: it must proceed from self-evident premises, or starting-points, and it must advance by rigorous logical steps from premises to conclusion. Notice that there are two requirements here. The second, that the conclusion should follow from the premises, is the requirement of deductive validity in argument ('deductive' because the conclusions follow inevitably from the premises from which they are logically deduced). Aristotle, in his famous theory of the *syllogism*, had drawn up a procedure for testing the validity of arguments (a syllogism is a standard pattern of formal valid argument, such as 'all As are B, all Bs are C, therefore all As are

C'). But validity alone does not suffice to produce knowledge. The syllogism 'All planets are stars, all stars are square, therefore all planets are square' is perfectly valid – the conclusion follows inescapably from the premises – but it is worthless as a contribution to scientific knowledge, since the premises, or starting-points of the argument, are false. So Aristotle insists that for what is required for deductive knowledge, in addition to the logical validity of the relevant argument patterns, is that the starting points themselves should be self-evidently true.

Plato, as we have seen (extract 1), believed that the mind has innate knowledge of certain self-evident truths. But Aristotle questions the suggestion that the starting-points for knowledge have to be innate, stressing instead the crucial role of sense perception in providing the raw materials of knowledge. Knowledge must involve going beyond particular instances, and grasping universal truths, but this need not, according to Aristotle, imply the existence of abstract Forms over and above particular objects and groups of objects. Rather, knowledge develops naturally from sense perception, since the human mind has the capacity for noticing and remembering general similarities which underlie the flux of sensory experience. This faculty for grasping the universal in the particular is called by Aristotle *nous* or 'intuition' (though he does not succeed in making it clear just how the results of intuition are supposed to have the self-evidence and certainty needed to serve as the starting-points for scientific demonstration).

\* Aristotle, *Posterior Analytics* [*Analytica Posteriora*], c.330 BC, extracts from Book I, ch. 1 (71a1–4), ch. 2 (71b9–25), ch. 4 (73a21–5), ch. 8 (75b21–36); Book II, ch. 19 (99b20–110b12). Translated by John Cottingham.



All teaching and all intellectual learning arises from pre-existing knowledge. This is evident if we look at all the examples. For the mathematical sciences are acquired in this way, as is each of the other arts. The same goes for arguments – both syllogistic and inductive, for both produce instruction by means of what we are already aware of . . .

We consider we have scientific knowledge or understanding of something . . . whenever we consider we know that the cause of the item in question is its cause, and that it is not possible for it to be otherwise. So it is clear that having scientific knowledge is something of this sort. For both those who do and those who do not have knowledge think that they are in this situation, the latter merely believing it, while the former are actually in it. Hence scientific knowledge relates to that which cannot be otherwise.

We shall discuss later whether there is also another way of knowing. But we can state now that there is knowledge through demonstration. By demonstration I mean a scientific syllogism, and by this I mean one whose possession constitutes scientific knowledge.

If knowledge is indeed what we have just proposed, demonstrative knowledge must necessarily depend on premises which are true, primary, immediate, and better known than, and prior to and causes of, the conclusion . . . Without such conditions there can be syllogisms, but not be a demonstration, since it will not produce scientific knowledge . . .

Since it is impossible for that of which there is knowledge to be otherwise, that which is known through demonstrative knowledge must be necessary. Demonstrative knowledge is the knowledge we have in virtue of having a demonstration. A demonstration therefore is a syllogistic deduction from necessary premises . . .

It is evident that if the premises of a syllogism are universal, then the conclusion of such a demonstration – demonstration in the strict sense – must also be an eternal truth. So there can be no demonstration with respect to perishable things, nor any scientific knowledge of them strictly speaking but only in the accidental sense; for in such cases the attribute does not belong to the subject universally, but only at a particular time and in some respect . . . Demonstrations and knowledge of things that occur often, such as eclipses of the moon, do hold good permanently in so far as they relate to events of a certain kind; but in so far as they do not hold good permanently, they are [not universal but merely] particular. And so in other cases . . .

We have said that it is not possible to achieve scientific knowledge through demonstration unless we know the premises that are primary and immediate . . . With regard to these starting-points, it would be strange if we possessed them all along, since then we would possess knowledge superior to demonstration without being aware of it. But if, by contrast, we acquire them, and did not possess them earlier, how would we come to know them and learn them in the absence of any pre-existing knowledge? That is impossible, as we said earlier with regard to demonstration.<sup>1</sup> Thus it is clearly impossible either for us to possess them all

<sup>1</sup> Compare the first sentence of this extract.

thing, or for us to acquire them if we are ignorant and have no predisposition for knowledge. So we must already have some capacity . . .

This capacity evidently belongs to all animals, since they have an innate power of discernment – what we call sense-perception. Though it is innate, there are some animals in which the sense-impression persists, while in others it does not. For the latter group . . . there is no knowledge outside the act of perceiving; but others can retain something in the mind after perceiving it. And when this happens frequently, we get a difference arising as a result of the retention, some come to develop a *logos*<sup>1</sup> and others do not.

Thus from sense-perception there arises memory, and when there is repeated memory of the same thing, there arises *experience* (for though there are many memories, they make up a single experience). And from experience – the whole universal now established in the mind (the *one* distinct from the *many*, whatever is *one and the same* in all the many instances) – there arises the starting-point of a skill, or of scientific knowledge (skill if it concerns what merely comes to be, scientific knowledge if it concerns what *is*).

Thus these dispositions are neither innate in a determinate form, nor on the other hand do they arise from other higher states of knowledge, but they come about from sense-perception. It happens just as in battle when there is a rout: if one man stands fast, another does, and then another, until a position of strength is reached. The mind is so constituted as to be capable of this.

Let us now restate the account we have just given, which was not very clear. When one of the undifferentiated particular things ‘stands fast’, a primitive universal is in the mind; for although what one perceives is the particular thing, the perception is of a universal – for example of a *man*, not of Callias, the particular individual. Again, a stand is made in these primitive universals, and the process continues until the ultimate universal concepts stand (for example, such and such a species of animal is a step towards the general kind *animal*, and so on). So clearly it is [not by deduction but] by induction that we have to get to know the starting-points.

Concerning the intellectual faculties by which we reach the truth, some are always true, while others, such as opinion and reasoning, admit of falsehood; scientific knowledge and intuition (*noûs*) are always true. No other kind of thought except intuition is more accurate than scientific knowledge, and the starting-points are more knowable than the demonstrations which proceed from them . . . Hence there cannot be scientific knowledge of the starting-points; and since nothing can be more true than scientific knowledge except intuition, it is intuition that grasps the starting-points.

<sup>1</sup> A (rational) account or general concept.