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KNOWLEDGE AND OPINION IN ARISTOTLE

– Jarosław Olesiak –

In this essay I would like to examine Aristotle's distinction between knowledge¹ (*episteme*) and opinion (*doxa*). The primary passage I will make use of is *Posterior Analytics* I.33. I will also refer to other texts and to the remarks of some of his translators and commentators. My thesis is that for Aristotle the distinction between knowledge and opinion is a complex one in which a number of factors must be taken into account. In order to have scientific knowledge, the following criteria (some objective, others subjective) must be satisfied: the object must be (objectively) true; it must be (objectively) necessary; the object must (subjectively) be thought to be necessary; the true cause has to be known (subjectively); and the necessity of the causal connection in the account or demonstration of the known proposition must also be perceived (again, subjectively). If any of these are not satisfied, there can at most be true opinion. Of these criteria the most important, and hence the one to which most attention will be devoted, is objective necessity.

Near the beginning of *Posterior Analytics* I.33 Aristotle names the three things which can be true: rational intuition (*nous*), science (*episteme*), and opinion (*doxa*) (*APo* 89a1). Furthermore, he mentions two kinds of objects of intellectual cognition, things which are capable of being otherwise and those which are not. In what follows I hope to explain how Aristotle understands the relationship between all of these terms: knowledge, opinion, and their objects, the necessary and the non-necessary.

Before setting out to consider knowledge and opinion, I would like to clarify what Aristotle means by rational intuition. In various places he defines it as the state of mind or faculty which grasps the first principles of knowledge and demonstration (*EN* 1141a7, 1143a35; *APo* 85a1, 100b8). In *Posterior Analytics* I.33 he calls it the originative source of scientific knowledge. He places it alongside scientific

¹ Aristotle's Greek term "*episteme*" may be translated into English variously as "scientific knowledge," "science," or simply as "knowledge." The term knowledge may also be used to refer to cognition in general. Whenever there might exist the risk of a confusion between knowledge in the sense of *episteme* and knowledge in the generic sense I will use the term scientific knowledge.

knowledge in being about things that are not capable of being otherwise. However, he also seems to distinguish it from indemonstrable knowledge, which he describes as the grasping of the immediate premise (*APo* 88b35). Earlier in the *Posterior Analytics* (I.3) he speaks of a faculty, which appears to be the rational intuition we are considering, and says that through it we know immediate, indemonstrable truths and recognize “definitions” or “ultimate truths.”² He calls it the *arche epistemes* or the first principle of knowledge. The problem before us, then, is to determine the relationship between rational intuition and indemonstrable knowledge on the one hand, and between it and scientific knowledge on the other. This problem is important because I believe that rational intuition plays a key role in the distinction between knowledge and opinion and in the conversion of opinion into knowledge.

Both Apostle and Ross comment on this problem. Apostle wonders why indemonstrable knowledge is mentioned at all, since rational intuition seems to be sufficient. He makes several suggestions: first, he says that some commentators hold that the two are used synonymously by Aristotle. Secondly, rational intuition might be a broader term than indemonstrable knowledge, if it is not necessarily the apprehension of a composite proposition as knowledge is. Thirdly, they could be different terms: rational intuition could be the direct apprehension of an object while indemonstrable knowledge could represent a thought.³

Ross’s explanation is based upon the distinction between indemonstrable knowledge and demonstrable knowledge: both entail subjective certainty and the grasping of necessary truths, but the former differs from the latter in being immediate and not ratiocinative. As regards *nous* he holds that it is synonymous with indemonstrable knowledge, since both are referred to as “principles of knowledge.”⁴

The solution which I would suggest is that rational intuition and indemonstrable knowledge are related as faculty and object of the faculty. Rational intuition would then be the faculty by which we grasp anything which is not demonstrable, whether it be a definition, an axiom, a hypothesis, or an undefinable concept, as Apostle suggests, or a composite but indemonstrable proposition which is

² *Posterior Analytics*, 72b24. The quoted alternative translations of *horous gnorizomen* are Mure’s and Tredennick’s, respectively. G.R.G. Mure, “*Posterior Analytics*”, *The Basic Works of Aristotle*, ed. Richard McKeon, (Random House, New York 1941), p. 114 (I.3, para. 2); Hugh Tredennick, *Aristotle: Posterior Analytics*, Loeb Classical Library, (Harvard University Press, Cambridge, Mass. 1960), p. 39.

³ Hippocrates Apostle, *Aristotle’s Posterior Analytics* (The Peripatetic Press, Grinnell, Iowa 1981), p. 209.

⁴ William David Ross, *Aristotle’s Prior and Posterior Analytics* (Clarendon Press, Oxford 1949), p. 606.

either seen intuitively or not seen at all. Rational intuition is related to knowledge in that it grasps necessary but immediate truths, as Ross suggests. It also causes one to “see” the connection in a demonstration, for these are immediate and not susceptible to further demonstration.

Having seen how rational intuition is related to demonstrable and indemonstrable knowledge, let us consider next the relationship between knowledge and opinion. In the opening lines of *Posterior Analytics* I.33 Aristotle states that knowledge and its object differ from opinion and its object. As Apostle remarks in his commentary, two differences are being considered, one between knowledge and opinion, the other between their respective objects.⁵ They are related as that which pertains to the subject – for knowledge and opinion are found only in the intellect – and as that which pertains to the object. I will first consider the objective aspects of cognition. In doing so I will start with what is most remote from the knowing subject and proceeding to what is more dependent on him.

We saw above that rational intuition stands alongside scientific knowledge in being about what is necessarily true. Opinion stands in contrast to both. Truth is the first point of distinction between knowledge and opinion, for while knowledge is by definition always true, opinion can be true and false and is capable of changing in truth value.

It ought to be understood, however, that the truth of knowledge pertains to the universal or to the nature and not to individuals, for in the case of individual sensible objects the universal truth of knowledge may fail to be satisfied because of some defect. This qualification is needed because otherwise it might appear that we cannot have science of sensible things. A science of them does exist insofar as there is some necessity in them.

While opinion, like knowledge, can be about what is true, only the object of knowledge is necessary. Necessity is in fact the principal difference between the objects of knowledge and those of opinion; scientific knowledge, explains Aristotle, “is commensurately universal and proceeds by necessary connections, and that which is necessary cannot be otherwise” (*APo* 88b32). Aristotle makes similar assertions in a number of other places (*De An.* 417b23; *EN* 1140b31; *APo* 73a22). Perhaps the best instance of this is found in the *Nicomachean Ethics*:

Now what scientific knowledge is, if we are to speak exactly and not follow mere similarities, is plain from what follows. We all suppose that what we know is not

⁵ H. Apostle, *op. cit.*, p. 209.

even capable of being otherwise; of things capable of being otherwise we do not know, when they have passed outside our observation, whether they exist or not. Therefore it is eternal; for things that are eternal are ungenerated and imperishable (EN 1139b19-24).

Opinion, on the other hand, has to do with that which is not necessary and is capable of being otherwise. According to Aristotle there are also “things which are true and real and yet can be otherwise” (*APo* 88b33); they lack the stability which is found in objects of knowledge and are hence liable to change, rendering the opinion about them false. Aristotle defines opinion similarly in other places (*Metaph.* 1039b33; *EN* 1140b27).

In his commentary on the *Posterior Analytics*, Aquinas agrees with Aristotle as regards scientific knowledge. Two things, he says, pertain to science: First “it is of the universal, for science is not concerned with singulars which fall under the sense.”⁶ Secondly, “science is obtained in virtue of necessary things” and “the necessary is that which cannot be otherwise.”⁷ Hence science is universal, necessary, and therefore eternal; it is concerned with the natures of things which are incorruptible in themselves, even though they be found in sensible particulars. Regarding opinion he also concurs with Aristotle that it is “the acceptance, i.e. grasping, of a proposition that is immediate and not necessary.”⁸

Apostle offers an example of each to illustrate the difference between them. As an example of an object of knowledge he gives the equality of vertical angles. This is a universal mathematical assertion which is necessarily true, for it follows upon the nature of such angles. Moreover, since they are mathematical and hence immaterial objects, they are incapable of changing.⁹

Necessity, the fact that a thing must be the way it is and cannot be otherwise, is also the basis of objective certainty. The certitude proper to mathematical propositions is one kind of certitude among several which are to be found in science. Aristotle divides theoretical science into three classes: metaphysics, which treats of things which do not depend on matter in any way; mathematics, which treats of those things which are found in matter but are not subject to motion or change; and physics, which treats of those things which are both found in matter and are subject to motion. The necessity of Apostle’s mathematical problem is of a particu-

⁶ Thomas Aquinas, *Commentary on the Posterior Analytics of Aristotle*, trans. Fabian R. Larcher (Magi Books, Inc., Albany, New York 1970), p. 157.

⁷ *Ibidem*.

⁸ *Ibidem*, p. 158.

⁹ H. Apostle, *op. cit.*, p. 209.

lar kind: it is the absolute certainty of quantitative forms which never fail in individuals.

The certainty of metaphysics will be even greater because of a greater independence from matter, which is the source of the ability to be otherwise. For example, the principle of non-contradiction is much more fundamental than any mathematical proposition; the latter in fact depend upon it. Finally, physics is the least certain of the three; for although the universal truths which apply to it are necessary, they may fail to be realized because of the presence of matter in the objects of this science. Physical things can change, and physical causes and processes can fail. In short, the necessity in physics is a contingent one, because of the multiplicity of factors at work.

The example which Aristotle gives of an object of opinion is John's being in school.¹⁰ The object is clearly contingent and particular: being in school in no way belongs to John by nature and John is but an individual member of a species. Universality properly belongs to knowledge, while particularity belongs to opinion.

Jonathan Barnes considers objective necessity in the first part of his commentary on *Posterior Analytics* I.33. He reduces what he believes to be Aristotle's argument in the first part of the chapter (88b30-89a10) to the proposition that "it is not the case that: (a understands that P if and only if a opines that P),"¹¹ that is, that opinion and knowledge are not identical. In discussing the basis for this conclusion, Barnes comments on necessity and objective certainty. He claims that the conclusion which he suggests depends upon two premises. The first is that "if a understands P then necessarily-P."¹² In other words, if one understands or has knowledge about something, that thing must be necessary. The second premise which Barnes claims to be necessary to support the above conclusion has to do with opinion. It is that "it is not the case that: (if a opines that P then necessarily-P)"¹³ or that opining does not imply necessity in the thing considered. Barnes holds that this is the premise which is supported by the text in the lines preceding 89a4. There Aristotle argues that contingencies must be the objects of opinion by excluding them from among the objects of the other possible cognitive attitudes. The assumption of course is that they are indeed objects of cognition. According to Barnes, Aristotle's argument would read as follows:¹⁴

¹⁰ *Ibidem.*

¹¹ Jonathan Barnes, *Aristotle's Posterior Analytics*, 2nd ed. (Clarendon Press, Oxford 1993), p. 198.

¹² *Ibidem.*

¹³ *Ibidem.*

¹⁴ *Ibidem.*

Since contingencies (not necessarily-P: “ $\sim n\text{-}P$ ”)¹⁵ are not the objects of any of the cognitive attitudes other than opinion (“ O_P ”: a opines P), we have that

$$(\sim n\text{-}P) (\sim \rightarrow) (\sim O_P) \text{ or } \sim [(\sim n\text{-}P) \rightarrow (\sim O_P)],$$

which is logically equivalent to

$$\sim [O_P \rightarrow n\text{-}P],$$

the premise which Barnes has just stated.

However, this does not seem to be what Aristotle concludes from these lines, for he clearly says that opinion is “belief of a premise which is immediate but not necessary (*APo* 89a4) (In our shorthand this would be $O_P \rightarrow \sim n\text{-}P$). This statement is stronger than what Barnes concludes from Aristotle’s argument. It seems to me that Aristotle’s stronger conclusion is also justified by what he has said in the previous line. For Aristotle is using the fact that what is non-necessary is indeed the object of *some* cognitive act, either knowledge (“ K_P ”: a has knowledge of P) or intuition (“ I_P ”: a has an intuition of P) or opinion (“ O_P ”: a has an opinion of P). We have then that

$$x \rightarrow \sim n\text{-}P,$$

i.e., some cognitive act has the non-necessary as its object, where $x =$ either K_P or I_P or O_P . But that act is not knowledge ($x \neq K_P$) since knowledge is not of the non-necessary:

$$K_P (\sim \rightarrow) \sim n\text{-}P.$$

Neither is the act intuition ($x \neq I_P$) since intuition is also not of the non-necessary:

$$I_P (\sim \rightarrow) \sim n\text{-}P.$$

Therefore the non-necessary must be the object of opinion ($x = O_P$) and we must conclude that opinion is of the non-necessary:

$$O_P \rightarrow \sim n\text{-}P,$$

which is indeed what Aristotle concluded.

The above argument invalidates Barnes’ objection that lines 89a4-10 suggest a premise different from the one suggested by the preceding line, namely that “if a opines P then not necessarily P”;¹⁶ for we have seen that the argument preceding line 89a4 can also support this premise. Anyhow, it is worthwhile considering what Barnes does say about lines 89a4-10 for it touches upon the notion of cer-

¹⁵ The shorthand notation for Barnes’ statements, here and in what follows, is mine.

¹⁶ *Ibidem*.

tainty or security in opinion. He interprets the argument which Aristotle gives from the *phainomena*, a term which Apostle translates as “what appears to be the case,” Mure as “observed facts,” and Barnes as “how things appear to be.”¹⁷ The first of these arguments is that both opinion and non-necessities are insecure. As Barnes notes, if insecurity implies non-necessity in the things, then this seems to support the proposition that opinion is of the non-necessary, or

$$O_P \rightarrow \sim n\text{-}P.$$

The meaning of insecurity, however, is not clear, for it could mean that the thinker is hesitant or lacks subjective certainty or that the object itself is insecure because it is liable to change. For security, he says, is a matter of stability. Barnes does not choose between the alternatives:

Thus Aristotle may mean that opiners are inherently liable to change their minds; or he may be referring to his view that opinions are inherently liable to change their truth-value.¹⁸

Aquinas does not explicitly offer a classification of the meaning of certainty in his commentary on this passage. It is clear, however, from what he says in other places that uncertainty is found in the opinion due to that quality of the object whereby it is not necessary and could be otherwise. This is also suggested by the example he gives: “the man does not run.”¹⁹ It is clear that one can have subjective certainty about this proposition and yet be uncertain since its truth is capable of changing.

Apostle, on the other hand, believes that the uncertainty is due to the object of opinion itself:

We are uncertain when we have an opinion, for we think that the object of opinion may or may not exist and that the nature of the object is not definite but is such that it may or may not exist.²⁰

He does, however, express some reservations about this in an earlier note. He points out that some things which appear to be opinions are always true, such as “Socrates drank hemlock.” He suggests that the term opinion is used here in a popular sense. Nevertheless, it seems to me that such a proposition is just as

¹⁷ H. Apostle, *op. cit.*, p. 45; G.R.G. Mure, *op. cit.*, p. 157 (I.33, para. 1); J. Barnes, *op. cit.*, p. 45.

¹⁸ *Ibidem*, p. 198.

¹⁹ T. Aquinas, *op. cit.*, p. 158.

²⁰ H. Apostle, *op. cit.*, p. 211.

valid an opinion as any judgment, since opinion includes all that is not scientific knowledge. A more satisfactory justification of this is that opinion can indeed be certain in the sense of being absolutely true. What makes the above proposition an opinion is that although it is absolutely true, it is not necessary, for it could have been otherwise.

The second *phainomenon* which Barnes interprets is Aristotle's claim that "no one thinks that he has an opinion when he thinks that an object of his thought is capable of being other than it is."²¹ According to Barnes, this also supports the stronger of the two premises considered above, that opinion implies the absence of necessity in the object ($OP \rightarrow \sim n-P$). When the stronger premise is combined with the first premise we get a conclusion which is stronger than the original conclusion: there is no object which can be both known and opined by the same person. This conclusion is in fact closer to what Aristotle appears to be arguing, for as Barnes himself points out, the first conclusion does not exclude the possibility that one person may know and opine the same thing at the same time.

Having examined what Aristotle and his commentators have said about necessity in the distinction between knowledge and opinion, we can now consider the basis for that distinction more broadly. Aristotle claims that knowledge in the strict sense is only of those things which are necessary. This would appear to mean that we are dealing with aspects of things which belong to them stably and permanently. In the *Topics* Aristotle explains that there are four modes of predication, which correspond to the ways in which an attribute may belong to a subject; what is predicated is done so either as genus, definition, property, or accident²². Science is concerned according to him with the first three, opinion with the fourth. Genus, definition, and property are attributes which belong to or flow from the substance of the object in question. Accidents, on the other hand, while they always inhere in a substance, do not necessarily belong to the substance in which they in fact are found. While every substance necessarily is qualified by accidents, they need not be this or that particular accident, and can be modified.

One must take care, however, to distinguish between predicable accidents (accidents viewed as predicated) and categorial accidents (or the accidental categories – accidents viewed as ways of being). The latter are contradistinguished from substance: for while substance is what exists by itself and not in another thing, accidents as ways of being exist only in substances. However, these acci-

²¹ J. Barnes, *op. cit.*, p. 198-99.

²² Aristotle distinguishes the four predicables in *Topics* I.5. In *Topics* I.9 he explains the relationship between the predicables and the categories.

dents may inhere in a substance in different ways, with varying degrees of permanence. It is this gradation of inherence that is expressed by the four predicables. A particular categorial accident may belong to, and hence be predicated of, a thing 1) generically, if it also belongs to other kinds of things, 2) specifically, if it belongs only to one kind of thing and serves to distinguish it from other members of the same genus, 3) as a property, if it belongs to members of a given species but is not distinctive, or 4) accidentally, if it may or may not belong to a particular individual.

We have considered above Aristotle's views on the difference between knowledge and opinion with regard to their objects. However, the state of mind of the knower is also taken into account by him, at least implicitly:

He [a man] thinks that he opines when he thinks that a connexion, though actually so, may quite easily be otherwise; for he believes that such is the proper object of opinion, while the necessary is the object of knowledge (APo 89a8-10).

If a thing is apprehended truly and is objectively necessary, it may nevertheless either be perceived as non-necessary or the necessity may not be adverted to. While in the above passage Aristotle does not explicitly mention this possibility, he will later give an example of such a situation. Aquinas in his commentary on this passage explicitly says that the text "can be understood in two ways: in one way, so that the immediate proposition in itself is indeed necessary, but it is accepted by opinion as non-necessary; in another way, so that it is in itself contingent."²³ Following this suggestion it indeed appears that in both cases we will have only true opinion with regard to the fact. In the second case there will in addition exist false opinion with regard to the quality of the fact. Error will therefore have entered at this point – not of course absolute error, for the thinker will still possess true opinion of the fact (though not of the reason for the fact) – but relative error, for he will not perceive the object fully as it is. Likewise, if a thing is truly apprehended but is not objectively not necessary, it may first of all be perceived as not necessary or without adverting to the absence of necessity. In these two cases we will have true opinion (not of course knowledge because the object itself is not necessary). Alternatively, the object may be perceived as necessary (though obviously without the true reason for that necessity, since such does not exist); in this case too positive error will have entered and the thinker will possess false opinion regarding the whole, though true opinion with regard to the fact itself. In the latter

²³ T. Aquinas, *op. cit.*, p. 158.

case the person may even think, though mistakenly, that he has knowledge, if he believes he knows the cause of the supposed necessity.

From the above considerations we see that scientific knowledge as Aristotle construes it has only one object, that which is objectively necessary. Opinion, on the other hand, is not only of that which is not necessary, but may also be of that which is actually necessary but is not seen as such.

It is clear from Aristotle's text that necessity which is real and at the same time perceived is the criterion for knowledge. He gives an example to illustrate the situation. Someone may believe that man, for example, is necessarily an animal; such a person has knowledge. Alternately, he may believe that it is possible for man not to be an animal, even though he actually is one; in this case he will have opinion (*APo* 88a35-38).

Aquinas sums this up by stating explicitly that "opinion is concerned with that which is accepted as possible to be otherwise, whether it is or not."²⁴

Another subjective factor which, although it has appeared above, ought to be considered more explicitly in our discussion of knowledge and opinion is certainty, that is, the absence of doubt about the truth of the proposition. I claim that certainty cannot be used to distinguish knowledge from opinion, for while knowledge is of its nature certain, opinion also admits of certainty. Furthermore, the notion of certainty is not explicitly present in Aristotle's text and is not directly pertinent to his distinction between knowledge and opinion. Let us first consider this issue in general and then in connection with Aristotle's text.

Certainty and doubt are subjective attitudes and are concerned with the conviction that one has regarding the truth value of a proposition. Certainty, the absence of doubt, consists of the conviction that the truth value of the statement in question cannot be other than it is thought to be, either absolutely or at least at present. Just as a proposition that one entertains must have a source, so too such a conviction must have a source. This source can be either the object itself present to the cognitive subject or some agency, that mediates the object. The mediating agency can be either a faculty of the knower himself or some other knowing subject, who presents the proposition for acceptance.

If the object of the proposition is itself present, then it can be the source of both the proposition and the conviction regarding it. An object can be present to sense perception or to the intellect; one then has either an object of sense or one of thought, respectively. In the former case complete certainty is possible and doubt positively excluded when one is in the actual physical and sensual presence of the

²⁴ *Ibidem*, p. 159.

object in question. One then sees immediately that the proposition is true and why it is true; and this state lasts as long as one remains in the direct presence of the object in question. In the case of objects of thought, presence involves actually understanding that something is so and at the same time seeing why it is so. In the case of simple objects such as principles seeing them intellectually is immediate. An example of such a simple object is what the number two is, which can be argued to have the character of a principle. In the case of complex objects this understanding is mediated by a demonstration or proof, which usually consists of a number of steps and is ultimately reducible to simple objects that are themselves seen directly. Simple objects are grasped by the faculty that Aristotle calls rational intuition, which was considered above. In the case of complex intellectual objects the corresponding activity that grasps them is science.

If the object of the proposition whose quality of being certain or doubtful is being considered is not present, then one's possession of the proposition is mediated. In the case of both sense objects and intellectual objects, it can be mediated by a faculty of the knowing subject himself, most notably memory, or by someone or something else. It is mediation that introduces the possibility of uncertainty, for certainty is proportional to the conviction of the reliability of the mediating entity. Memory is fallible in general and in a particular case recollection can be stronger or weaker. This is true as regards both sensible and intellectual objects: one can recall both a past event and a demonstration that one once carried out and be mistaken with respect to each of them. Likewise the testimony of another person or of a written text also admits of degrees of reliability; these are situations in which the mediating entity is the source only of the proposition and not of the demonstration, for if a demonstration were also presented by the mediating entity and understood, it would produce the presence of the intellectual object and give us the case considered above.

Let us next turn to Aristotle's consideration of the relationship between knowledge and opinion in the context of certainty. While he does not address the issue of certainty explicitly in the passage we have been examining, it is clear that he thinks knowledge possesses the attribute of certainty since he claims that he who knows believes that the object of his knowledge cannot be otherwise: "when a man thinks a truth incapable of being otherwise he always thinks that he knows it" (*APo* 89a7-8). The attitude toward the proposition that expresses this knowledge is therefore always one of certainty and the positive exclusion of doubt.

As regards opinion Aristotle maintains that it and its object are unstable²⁵ and that indeed the proper object of opinion is that which can be otherwise, even if in fact it is actually so.²⁶ Furthermore, we have seen above that a sufficient condition for the existence of opinion is the subjective conviction of the possibility of being otherwise, even if the object itself is in fact necessary, that is, necessarily the way that it is. It might therefore appear that Aristotle would concur that opinion of its nature involves what we have been calling uncertainty.

Yet I would argue that the above quality is not in fact uncertainty, but rather changeability. The truth value of a proposition that is possessed in the mode of opinion is one that can change or is at least believed to be capable of changing. Yet changeability is compatible with certainty in the ordinary sense, for the latter need not involve the indefinite temporal duration of the truth value of a statement. It is sufficient that one trust the mediating entity and also believe that the object of the proposition is not the sort that can change in the time that has elapsed since either we or someone else witnessed it directly. It is thus possible with regard to contingent objects to have what can truly be called certainty, which seems to concern primarily what is the case here and now. For example, one may have no doubt that John is in school or that it is raining, even though these things are not necessary, because one has just left John at school or has just witnessed heavy rain and these are not the sorts of things that change in the brief time that has intervened.

Certainty, therefore, cannot be used to distinguish knowledge from opinion, for the latter also admits of certainty. Moreover, the notion of certainty is not directly applicable to the Aristotelian distinction between knowledge and opinion.

The next factor to be considered is the cause or reason; for reality, truth, and necessity – actual and perceived – are not sufficient for the existence of knowledge. If one is to have scientific knowledge, the proposition, which must indeed be necessary and universal, must in addition be seen through its cause. Once the cause is known, the proposition may be demonstrated to somebody and can produce conviction, something that is not true of opinion. In *Nicomachean Ethics* VI.3 Aristotle says the following:

Scientific knowledge is, then, a state of capacity to demonstrate and has other limiting characteristics which we specify in the *Analytics*; for it is when a man be-

²⁵ “[O]pinion is unstable, and so is the kind of being we have described as its object.” (*APo* 89a5-6).

²⁶ “He thinks that he opines when he thinks that a connexion, though actually so, may quite easily be otherwise; for he believes that such is the proper object of opinion, while the necessary is the object of knowledge.” (*APo* 89a8-10).

believes in a certain way and the starting points are known to him that he has scientific knowledge, since if they are not better known than the conclusion, he will have his knowledge only incidentally (EN 1139b18-35).

The reference is to the *Posterior Analytics* where Aristotle states that “it is also necessary for demonstrated knowledge to proceed from principles which are true, primary, immediate, and also more known than, prior to, and causes of the conclusion” (*APo* 71b21-24). Thus, it is not enough to possess a necessary truth; one who would know must be able to account for it. This will give him the capacity to demonstrate. Without such an account, i.e. without a demonstration in Aristotle’s sense, there can only be opinion. However, just any account will not suffice.

We touched upon this above, but let us now carry it one step further. What is objectively necessary can be judged to be either necessary or not necessary. As we saw earlier, in the latter case we will have error, though not complete error, because the fact is apprehended correctly. The former case may be examined further. A proposition may either be seen to be true through the actual cause, or it may be accepted because of something which is not the cause. This may be something which is mistakenly thought to be the cause – in this case we have true opinion but with the wrong reason – or it may be something extrinsic to the object, such as authority. It is only when the proposition is seen through the actual cause that scientific knowledge is possible.

Let us now consider the last criterion for the existence of scientific knowledge. It is based upon a remark which Aristotle makes and upon which Aquinas elaborates. It seems possible to follow all of the steps of a demonstration and still only have opinion; for each of the steps of a demonstration may itself not be judged to be necessarily true. And thus, he who understands and he who opines will be able to proceed together through middles to immediate premises. For, as Aristotle explains, it is possible to have opinion about the reason for a fact as well as about the fact (*APo* 89a11-17). Aquinas presents the difficulty as follows:

Therefore, on this supposition, it remains that science and opinion are the same, because both the scientific knower and the man of opinion acquire science and opinion through middles until they reach things which are immediate as is clear from the foregoing. Hence if someone proceeds, through middles to immediate propositions he has science. Now this is what the man of opinion does, because just as it is possible to have an opinion that something is so, it is also possible to have an opinion why something is so. But when I say, “why,” a middle is implied. Hence it is clear that opinion can proceed to immediates through a middle,

whether opinion be of things that are contingent in their very nature, or of things accepted as contingent.²⁷

The resolution of the above difficulty leads to the final requirement for knowledge. Not only must the proposition in question be seen through the real cause, but that cause itself must be seen as necessary. Aquinas puts this very clearly:

If someone proceeds through middles to immediates in such a way that the middles are not considered capable of being otherwise, but are considered to behave as definitions which are the middles through which demonstrations proceed, there will not be opinion but science. But if someone proceeds to the immediates through certain true middles which, nevertheless, are either not verified of the things of which they are said per se (as definitions which are predicated essentially or signify the species of a thing), or he does not take them as being in these things per se, then he will have opinion and will not truly know the quia and the propter quid at once, even if he proceeds as far as the immediates: for then he will be forming an opinion through the immediates and will not know scientifically.²⁸

The difference between the knower and the opiner at this level is that the former sees the essential connections of the causes leading to the conclusion, whereas the latter fails to see the connection as essential.

Returning to point of departure we may pose one final question: how does one come to see all of the things needed to have knowledge of a thing: the necessity of the thing, the cause as cause, the cause's necessity? All of this seem to be precisely the work of rational intuition (*nous*), which is the faculty which grasps that which is indemonstrable and immediate, which these things are.

Thus we have seen how Aristotle's believes knowledge and opinion are related to one another by considering the attributes of knowledge and showing which of them are lacking in opinion. The object of knowledge must be objectively real; opinion can be about both the real and the non-real. The object of knowledge must be subjectively judged to be real; that of opinion may or may not be. The object of knowledge must be perceived to be necessary; that of opinion may be judged to be so but need not. The object of knowledge must be understood through the real cause; that of opinion may or may not be. Finally the cause of the

²⁷ T. Aquinas, *op. cit.*, p. 159.

²⁸ *Ibidem*.