

could division arrive at one part from the removal of all other parts. Although Aristotle seems to refer in his text only to the disjunctive division found in the twenty-eighth chapter of the first book of the Prior Analytics, St. Thomas rightly interprets the present comparison in terms of division taken formally as such, a division based on true differences, e.g., omne animal est aut aquaticum aut gressibile.

The disjunctive division, made by members opposed as contradictories, divides things logically rather than according to the natures themselves. Any reasoning based on it would take its force from the disjunction rather than from the division. The division which is more properly in question in the study of the demonstrative art is that made by true differences. The members of such a division may be opposed only as contraries. The division will not be bimembered simpliciter but will be such at least reductively; there will be two extreme differences and several mean differences which can be reduced to the extremes, as is explained in the Metaphysics.²¹ Cajetan notes the genius of St. Thomas in interpreting division formally in this question, i.e., as a division through the enumeration of subjective parts.

Licet Aristoteles in textu non expresse nominare videatur alium processum quam primum, quoniam iste tantum habetur in primo priorum ad quae se remittit, et formaliter syllogisticus est, et titulus quaestionis formaliter deseruit, acceptatum tamen a multis antiquorum expositorum est, ut et vis processus divisivi tangatur et reprobetur. Relucet autem discursus divisivus, maxime in tertio processu,

quoniam ille solus formaliter divisivus est, et ex divisione robur trahit. Caeteros autem magis disunctivos quam divisionis dixerim, quoniam licet divisionis membra pertractent, tamen vel per disiunctionem adunant, ut fit in primo: vel ex disiunctionis vi necessitatem consequentiae habent, ut fit in secundo, propter quod secundum suum divinum S. Thomas ingenium divisionis vocabulum formaliter intuitus, tertium apposuit processum in quo ipsa divisio et eius vis operatur.²²

To whichever process of division we appeal in order to demonstrate a definition, a petitio principii will necessarily intervene.

After appealing to this common reason, Aristotle uses two arguments proper to the quod quid est to prove the same thesis. (a) Even if we grant that the process of division could prove that the elements which materially constitute the definition were predicated of the subject, it could not prove that they were predicated essentially and that they actually manifested the essence. (b) Nor could such a process prove that no essential predicate had been omitted and that the predicates did not exceed the essence.

But could not a division starting with the supreme genus and proceeding only by essential predicates adequately demonstrate a quiddity? Although such a process might manifest a quiddity, it could never do so syllogistically and necessarily from given premises. A demonstration would have to manifest why (propter quid) rational animal is an adequate definition of man.

(3) From the definition of quiddity as such.--In chapter six Aristotle rejects two more possible ways of de-

monstrating the quiddity. In general the essence cannot be demonstrated from that which is required for the essence. First of all it cannot be demonstrated by taking the very definition of quiddity and of definition as middle term, e.g., to be convertible with the subject and constituted by genus and difference. This is again to beg the question since the quiddity is already assumed as middle term. The ratio definitionis can be no more than a rule to guide us in defining, as a rule of art is used by the artist. In like manner the definition of syllogism does not enter a given syllogism, but it can be used to show that this given process is a syllogism.

(4) From the definition of its contrary.--Secondly, to demonstrate a given quiddity we cannot use the definition of its contrary, for this necessarily involves assuming what we wish to prove. It is true that the essences and definitions of contraries are contrary, but one cannot be used to demonstrate the other since both are of the same ratio and neither is more known than the other.

Nam in demonstratione non solum non debet assumi idem, sed neque debet assumi aliud ejusdem rationis, et non magis notum, quam conclusio probanda, et quod sit tale, ut posset ipsum aeque bene preparari per conclusionem, ac conclusio probetur per ipsum.²³

An argument against the demonstrative value of the latter two methods as well as of the process of division is

that none of them can demonstrate that all the predicates at which they arrive are one and constitute one nature.

(5) By a process of induction.--- In the first part of chapter seven Aristotle rejects a process of induction from singulars as demonstrative of a quiddity. By induction it can merely be shown that since a predicate does or does not apply to singulars, it will or will not be predicated of the universal. Induction cannot demonstrate that these predicates constitute the quiddity.

(6) By demonstrating the 'quia est'.---The rest of this chapter is devoted to arguing per rationes communes that the quod quid est is not demonstrable. After noting that whoever formally knows the quiddity of something must first know that the thing exists, he proceeds with the first series of arguments to show that the quiddity cannot be demonstrated in the same demonstration showing the quia est or the an est.²⁴ Aristotle concludes this first of all from the fact that just as definition is one per se and manifests only one thing, so demonstration which uses definition as the mean, must also, therefore, show only one single thing; the conclusion must always be proportionate to the mean. But in any creature existence and quiddity are necessarily different and distinct; hence one and the same demonstration cannot show both that a thing is and what its nature is.

Moreover, all that is subject to demonstration is the fact that something is (quia est hoc vel hoc vel hoc). What is demonstrated is an enunciation signifying existence or non-existence. But since existence (esse) does not constitute the quiddity of anything falling under a genus, the quiddity of no creature can be demonstrated of it. If anyone could demonstrate the quiddity alone, he would be in the position of knowing a thing's nature without knowing whether the thing exists; but this, as we noted above, is impossible. St. Albert explains that the object of the definier is simply to manifest a nature--not to syllogize that this definition is of this or that subject. His object is simply quid sit diffinitio, quod sit ex essentialibus collecta: et non studet circa hoc cuius sit vel quia.²⁵

Aristotle then appeals to definitions in common use to support the contention that a definition does not of itself prove that a thing exists; we can always ask, why should such a thing exist? Definitions do not carry a guarantee that the thing defined exists or is possible. Cajetan suggests more than one possible way of understanding the first statement: it is verified of the definition manifesting only the quid, whereas a definition manifesting the propter quid as well, could be a mean to conclude syllogistically that a thing exists; it can be verified also of the definition which

manifests only the quid per modum quid nominis, not the quid sub ratione quid rei.²⁶ The statement that the definition guarantees neither the existence nor the possibility of the thing defined must be interpreted in this way:

. . . nulla diffinitio dicit esse, aut posse esse formaliter, et hoc intendebat Aristoteles, licet aliqua dicat posse esse fundamentaliter, ut obiectio probat . . . sermo modo est de diffinitionibus dicentibus quod quid valde remote, et ideo non est mirum si nec formaliter; nec fundamentaliter dicunt (esse) vel posse esse sufficienter.²⁷

As is clear from this text as well as from the quotation from St. Albert in the previous paragraph, no definition formally signifies existence or possibility. Moreover, the remote definitions in question at this point would not do so even fundamentally.

(7) By demonstrating the 'quid est.'—Nor is the quiddity demonstrable or knowable by demonstrating the quid est or the quid nominis. The former possibility (through the quid est) was ruled out in the previous paragraph where it was pointed out that a demonstration of the quid est would leave us in the contradictory position of knowing the quid est without knowing the quia est. Aristotle shows the impossibility of the latter case (through the quid nominis) by pointing out the embarrassing consequences of admitting its possibility. To admit that the quod quid est can be known by showing the quid nominis would be to reduce all

definition to a mere ratio interpretativa nominis. It would mean removing what is most proper to definition as such, the signifying of a quiddity. In such an event both substances and non-beings would be properly definable. Any group of words to which a name could be given would properly be definitions.

Another indication that definition is not limited to nominal definition is that no science demonstrates the signification of words, but presumes this since words signify ad placitum; in the same way in defining, the signification of the word must be presupposed and the nature of the thing signified must be shown.

St. Thomas summarizes the conclusions of this initial comparison of definition and demonstration in the following paragraph:

Epilogat quae disputative praemissa sunt. Et dicit quod ex praemissis videtur sequi quod definitio et syllogismus non sunt idem, neque de eodem; et quod definitio nihil demonstrat, quia non est de eodem de quo est demonstratio. Et similiter videtur esse ostensum quod non est possibile cognoscere quod quid est, neque per *definitionem, neque per demonstrationem*; quia definitio solum ostendit quid, et demonstratio ostendit quia est. Sed ad cognitionem quod quid est requiritur cognitio quia est, ut dictum est.²⁹

This passage as it stands seems to leave us at an impasse. It appears that the quod quid est can be known neither by definition nor by demonstration. To determine in exactly what particular sense each of the above conclusions must be

understood if they are to have any truth, Aristotle will reconsider the whole question of how the quod quid est and the definition are known. Only this time he will do so, not disputative, but veritatem determinando, resolving the question in its proper terms.

CHAPTER III

THE MIDDLE TERM IN RELATION TO DEMONSTRATION:

DETERMINAT VERITATEM (Chapters 8 and 9)

In reexamining in chapter eight and nine the nature of definition and the relation of definition to demonstration in manifesting the quod quid est, Aristotle will consider first of all the quod quid est and then the definition which signifies it (chapter nine). The several ways in which definition may be manifested from demonstration have been the occasion of many and varied interpretations by the commentators. Their interrelation offers many problems. The outline which we shall give will follow closely that of St. Thomas; we shall also use several other scholastic commentators where they are of help in illuminating the text or bringing out the problems.

Aristotle gives us two ways of manifesting the quod quid est, one a method of logical proof, the second a method of demonstrative proof. Although the two methods are closely related, they must be treated separately and not per modum unius as some of the more recent commentators proceed to do.³⁰ The question at this point is one of the possibility of some kind of a priori proof of the inherence of these essential predicates, not of an a posteriori proof.

The Method of Logical Proof

The first, then, is a method by which one quod quid est can be proved from another quod quid est of the same subject and this by a logical syllogism and not a demonstrative one.

In proof of this he first points out that the quiddity is a cause of a thing's being; when we know the quiddity, we know a cause. Sometimes this causa essendi is the same as the essence, i.e., the material and formal causes which constitute the essence; the causa essendi may also be something extrinsic to the essence, namely, the efficient and final causes, which are in a certain way causes of the form and matter since the agent acts for an end and unites form to matter. From some of the extrinsic causes we can thus have a demonstration; just as one cause can be manifested from a prior cause, so one quod quid est can be manifested from a prior quod quid est. We can argue from a necessary agent cause or by hypothetical necessity from the end. If we take the ratio of the end as middle term we can argue to the means necessary to attain it; from the form of the agent we can know the effect; from the formal cause we can know the material.

To give a very common example of this, the quod quid est of a house may be taken according to its final cause (a shelter against rain and wind, etc.) or its material cause (stones and wood, etc.), and the latter may be shown through the former.

This is the method which Aristotle uses in the second chapter of the first book of the Posterior Analytics when he investigates the quod quid est of demonstration. From a definition taken from the end, (syllogismum apodicton, idest facientem scire) he argues to a definition from the matter, (necesse est et demonstrativam scientiam ex veris esse, et primis, etc.). Such a proof must always be given in the first figure since the conclusion in which a definition is predicated of its subject must always be universal and affirmative. That this method of arriving at the quod quid est is fitting follows from the fact that we conclude one quid est from another quid est as middle term.

St. Thomas accounts for the possibility of having more than one quid est or definition of one thing in the following passage:

Ad octavum dicendum quod si definitio de re aliqua daretur quae complete comprehenderet omnia principia rei, non esset unius rei nisi una definitio. Sed quia in definitionibus quibusdam ponuntur quaedam principia sine aliis, ideo contingit variari definitiones de una et eadem re. Definitio ergo fidei data ab Apostolo comprehendit omnia principia fidei ex quibus habitus consueverunt definiri, scilicet finem, objectum et actum.³²

. . . sciendum est quod contingit definitiones diversas dari eiusdem rei, sumptas ex diversis causis. Causae autem ad invicem ordinem habent: nam ex una sumitur ratio alterius. Ex forma enim sumitur ratio materiae: talem enim oportet esse materiam, qualem forma requirit. Efficiens autem est ratio formae: quia enim agens agit sibi simile, oportet quod secundum modum agentis sit etiam modus formae, quae ex actione consequitur. Ex fine autem sumitur ratio efficientis: nam omne agens agit propter finem. Oportet ergo quod probativa aliarum definitionum, quae sumuntur ex aliis causis.³³

(definitio, quae sumitur a fine, sit ratio et causa)

Each definition, then, represents one principle, one cause; each is also the ratio from which we can reason to the cause which is posterior to it. The end, however, is the causa causarum: et ideo definitio quae sumitur ex fine, formalior est inter omnes definitiones, et medium demonstrans eam.³⁴ The end, therefore, cannot be demonstrated from any prior cause. The relation of cause to definition is very succinctly indicated by St. Albert in the following passage:

. . . illud idem quod dicitur causa secundum id quod dat esse alteri, diffinitio est ejusdem secundum quod est principium cognitionis ipsius.³⁵

The method of logical proof of one definition from another definition of the same subject applies likewise to the deducing of the definition giving the quid of a proper passion from the definition giving the propter quid. These definitions, which will be considered at length in the next section, can be reduced to those according to the four genera of causes.

. . . hic modus, scilicet syllogizandi quod quid est per quod quid est, nunquam est demonstrativus ipsius quod quid est: quoniam hoc non fit si distinguantur quod quid est secundum vocem; nec si distinguantur secundum diversa genera causarum, etc., seu modorum diffiniendi quod in idem redit: puta quod una diffinitio dicat quid, et alia propter quid. Talis enim diversitas ad diversitatem causarum reducitur: quoniam una, scilicet dicens quid sumitur secundum causam formalem, et altera secundum effectivam, vel, etc.³⁶

The above text from Cajetan is sufficiently clear on the point. Such a proof might be arranged in the following manner in order to bring out its character as a logical syllogism:

The intervention of the earth is the loss of light on the moon;
 An eclipse follows on the intervention of the earth;
 Therefore an eclipse is the loss of light on the moon.

The ordinary arrangement of a syllogism of the quod quid est, as indicated in chapter three, will be one in which the definition is predicated directly of the subject or minor term in the conclusion. In the above example the definition of the proper passion is predicated directly of the passion in the conclusion. The same definition will enter the conclusion of the demonstratio potissima in which the proper passion is demonstrated of its subject, but the definition will not be concluded as directly predicated of the proper passion.

It might be objected that each thing has an essence proper to it, composed of matter and form which constitute its quiddity; and that any causes extrinsic to this essence cannot properly be called the quod quid est. The answer to this difficulty will be found in a text from the commentary of St. Thomas on the Metaphysica:

Aliquando autem quaeritur causa ipsius formae in materia quae est efficiens vel finis; ut cum quaerimus propter quid haec, scilicet lapides et lateres, sunt domus? . . . Quae quidem causa quaesita, est quod quid erat esse, logice loquendo. Logicus enim considerat modum praedicandi, et non existentiam rei. Unde quidquid respondentur ad quid est, dicit pertinere ad quod quid est; sive illud sit intrinsecum, ut materia et forma; sive sit extrinsecum, ut agens vel finis. Sed philosophus qui existentiam quaerit rerum, finem vel agentem, dum sint extrinseca, non comprehendit sub quod quid erat esse.³⁷

Since the logician studies things from the point of view of predication, he can designate quod quid est anything that

can be predicated in quid, i.e., any of the four causes as manifestive of the quiddity.

If it is objected that a definition according to the form alone is only a logical definition and therefore of no avail in demonstration, we can answer that it is of no avail in demonstrating the proper passions but that from it we can demonstrate the material definition.³⁸

Much of the discussion about this method centers upon the following brief text:

. . . est aliqua causa. Et haec aut eadem aut alia est. Et si utique alia est, aut demonstrabilis aut indemonstrabilis est.³⁹

Exactly which cause or causes are the causa eadem which is demonstrable and the causa alia which demonstrates? In his treatise on the Posterior Analytics St. Albert enumerates several possible interpretations of the above text. It is his opinion that when Aristotle speaks of a cause the same as the essence and of another cause other than the essence, he means by the former a cause expressing the essential principles (causa ex eisdem essentialibus sumpta) and by the latter an accidental cause which may or may not be a medium capable of demonstrating the essence. Nevertheless, he does not reject the possibility of an interpretation based on the quid est taken according to the four genera of causes, the explanation given by St. Thomas and Cajetan. Among the other possible

interpretations which he gives is one which would limit the causa eadem and the causa alia to the definition giving the quid of a proper passion, and the definition giving its propter quid; the latter would be the causa alia since it must include the proper subject.⁴⁰

Another obscure point regarding this method is the reason why it can only logically syllogize the quod quid est, but cannot demonstrate it. By logical syllogism is evidently meant a dialectical or topical proof. The following is the reason given by St. Thomas for its dialectical nature:

Nec tamen est modus probandi quod quid est demonstrative, sed logice syllogizandi; quia non sufficienter per hoc probatur quod id quod concluditur sit quod quid est illius rei de qua concluditur, sed solum quid insit ei.⁴¹

Such a syllogism cannot demonstrate its conclusion formally as quod quid est of the subject, although it does offer a dialectical argument in favor of this.

In explaining its dialectical character, several doubts occur.

(a) First of all the question arises whether this proof is merely dialectical. It appears to be a demonstration since in the major premise a proper effect is predicated of its proper convertible cause, and in the minor premise a definition is predicated of another definition.

(b) The second doubt concerns the very reason for its

being dialectical, since in the text Aristotle says that the reason for its not being demonstrative has been given previously. The only reference which has any appearance of probability is one to the third chapter of this book in which he rejects the possibility of demonstration of one quod quid est through another quod quid est because of a petitio principii. But the present argument does not appear to beg that which is proved. The quod quid est which is predicated in the conclusion is not the same as the quod quid est assumed as middle term; they are distinct according to the diverse genera of causes. Moreover, a petitio principii, should it occur here, would be opposed to a dialectical as well as to a demonstrative proof.

(c) The explanation given by St. Thomas likewise raises the question why the quod quid est is not sufficiently proved. In chapter three it was shown that if the major is the quod quid est of the middle term, and the middle term the quod quid est of the minor, the major must be the quod quid est of the minor.

In answer to the first doubt (a) it is clear that Aristotle did not mean to affirm that this process is in no way demonstrative, rather that it is not demonstrative of the quod quid est formally as such. It does demonstrate that the predicate is necessarily in the subject, but not that it is

in the subject formally as its quod quid est. It offers only a dialectical argument that the predicate is the quiddity of the subject. Thus it is demonstrative and logical in different respects.

The second doubt (b) is more difficult to answer. When Aristotle says, hic quidem igitur modus quod non sit demonstratio dictum est prius, the 'hic modus' may be understood as referring to the present method in two ways: (1) to the present method in specie, i.e., to a discourse proving a quod quid est taken from one genus of cause through a quod quid est taken from another genus of cause; or (2) to the method only in genere, i.e., to any discourse in which a quod quid est is proved by a quod quid est.

If we take it in the first sense (in specie), the text could be taken to mean that the quid est is not demonstrated simpliciter because a quid est is already assumed in the premises.⁴² The syllogism could still be called a logical proof since in a certain way we do arrive at a quid est. Although Boethius supports this argument it does not seem to be the one intended at this point by Aristotle. If we stop to consider the conditions enumerated in the third chapter of this book for a demonstration of the quod quid est, we find a more proper reason that the present process cannot be demonstrative. In order to demonstrate the quod quid est, the major term must

we must say that when we allow the distinction to hold any of the four causes or 9996, we are forced to be taking QDE from a cause

be the quod quid est of the middle term, and the middle of the minor; but in the present process, while the major is the quod quid est of the minor, it is not the quod quid est of the middle. The discourse is not demonstrative because these requirements are not fulfilled, not because of a petitio principii. It remains, nonetheless, a probable argument for concluding the quod quid est.

is this
reducible to
saying that the
middle is extrinsic
ie is not the
real QQE?
Otherwise, what is
the point of saying
for the extrinsic
conclusion, why not
make the argument
from middle to form?

If we understand the text in the second sense (in genere), we can show that such a discourse considered in genere is not a demonstration of the quid est by appealing immediately to the third explanation of the petitio involved in the demonstration of the quiddity as proposed by Aristotle in the fourth chapter.⁴⁵ A quod quid est cannot be demonstrated through a quod quid est because, as was explained above, there would be three terms only secundum vocem. The present method, in which a particular quiddity is concluded from another, is not demonstrative because it is not the process described in chapter three; and even if it were that process, it would still not be demonstrative because of an inevitable petitio principii. No matter how the quiddities are distinguished, whether secundum vocem, or according to the different genera of causes, or according to the modes of defining (definitio dicens quid vel propter quid), one quiddity cannot demonstrate the other. The explanation given in this paragraph

does not differ much from that of the preceding paragraph, but is rather an extension or completion of it.

Cajetan's answer to the objection that a petitio which invalidated a demonstration must have the same effect on a dialectical proof is brief.

. . . licet petitio sit vitium oppositum utrique syllogismo, et topico, scilicet et demonstrativo: non tamen omnis petitio in demonstrativis est petitio in topicis: quoniam unus inter locos topicos est, a nominis interpretatione procedere, quod si demonstrans faceret pateret: et similiter si demonstrans quaerat quod quid est, et assumat quod quid est petit. Dialecticus autem non, quia tot subtilitatibus non vacat secundum primam expositionem modo adductam, etc. 44

What constitutes a petitio principii for the demonstrator may still be a valid locus for the dialectician.

The objection to the explanation given by St. Thomas (c) has been adequately answered in the preceding paragraphs. Briefly, the present discourse does not sufficiently prove the quod quid est of its subject; it does not formally conclude the major term as quod quid est of the minor. It fails to do this because in the present process the major is not the quod quid est of the middle term, as would be required for such a demonstration. It is impossible to preserve a connection of the terms whereby each is the quiddity of the following, and still to preserve a sufficient distinction of terms for a demonstration. In the discourse about which we are speaking the major is not the quiddity of the middle

term because the major premise is not in the first mode of perseitas but in the fourth mode; in this premise a convertible effect is predicated of its proper cause. Unless this were so, the process would not be a priori and convertible, nor could both major and middle terms be definitions of the minor. The two definitions, in so far as they are distinct, are related as cause and convertible effect, and in a certain way as subject and passion;

quodammodo ut subiectum et passio, quoniam ex anteriori emanat naturaliter posterior et per illam fit necessarius et cognoscitur.⁴⁵

This method, as St. Thomas says, although it demonstrates that the major is in the minor, does not demonstrate that the major enters the quod quid est of the minor.

The foregoing pages are no more than an attempt to discuss some of the points which enter any consideration of the logical syllogism of a definition. There still remain a great many which have not been taken up. The exact nature of the dialectical locus which enters such a logical syllogism should be more specifically determined. Is it, perhaps, a locus whereby we argue from that which is proper to the cause to that which is proper to the effect? The question of what kind of demonstration, from the other point of view, enters this syllogism has not been expressly treated. Is it a demonstration secundum se or merely quoad nos? On the one hand the fact that we can have a cause outside the essence

as middle term seems to qualify some of them as demonstrations secundum se; on the other hand the conclusion seems to be per se nota since the predicate is of the ratio of the subject. Cajetan discusses this point briefly and seems to place such demonstrations somewhere between the two extremes.

Sapiunt enim naturam demonstrationis secundum se, pro quanto causa aliqua est, quare altera causa quae primum sit, insit ultimo: et illa causa non est de quidditate subiecti proprie, eo quod extranea est: sapiunt autem naturam demonstrationis quoad nos, pro quanto conclusio est propositio per se nota secundum se; causa enim intrinseca, a qua sumitur quod quid est, quod fit praedicatum conclusionis, etiam in obliquo est de ratione subiecti: non solum enim per se nota est ista propositio, homo est substantia corporea animata, etc., sed etiam illa, homo est ex corpore et anima, etc.⁴⁶

Another pertinent question concerns the quiddities which are subject to a logical syllogism. It is clear that in any subject composed of matter and form, the material definition can be deduced from the formal; but what quiddities can be manifested from a cause other than the essence? A proper passion can be manifested from its subject, a causa extrinseca. The nature of brute animal in general could be deduced from a definition according to its end. The inferior grades of creatures in general could be syllogized in this way since they are ordered to man, as is indicated in the twenty-ninth chapter of the second book of the Contra Gentiles. This, however would not be possible with similar definitions of man. A definition according to his end would suppose the form. Beatitude in the line of rational activity assumes

the rational form. Anything which is what it is propter seipsum, or which has a dignitas propter se could not be manifested in this way from a causa extrinseca.

The Method of Demonstrative Proof

The relation of 'quod quid est' to demonstration.--After explaining the mode of syllogistic proof, Aristotle takes up the method of demonstrative proof--how the quod quid est can be elicited from a demonstration. Aristotle will here consider anew the original questions, i.e., whether the quiddity is demonstrable and what things are demonstrable. After examining this process, it will be possible to compare it with the previous method and to give a more precise explanation of why Aristotle deemed it necessary to consider the whole question over again.

If we keep in mind that the present investigation concerns the possibility of knowing the quod quid est through demonstration, it will be evident why Aristotle must first compare the knowledge of the quod quid est with that of the propter quid which is the medium in demonstration and the reason for the conclusion. A series of distinctions will serve to clarify their interrelation. He explains first that just as we can know that a thing is such (quia est) without first knowing why it is such (propter quid), so we can know that a thing exists (an est) without first knowing what it is

(quid est). But the opposite is never possible; we cannot know the propter quid or the quid est without before or at least at the same time knowing respectively the quia est or the an est. To seek a quiddity without knowing that it exists is to seek nothing.

He then explains that there are two ways in which we can know that a thing exists without knowing its quiddity completely--either through a per accidens predicate of it, or through something which is essential to it and by which the essence is known in part. Moreover, when we know that something exists (an est) only through an accident, all that we really know is that the accident is. Such knowledge would not dispose us to investigate the quiddity since we would not, strictly speaking, know the an est of the quiddity which we would be investigating. If, however, we know the existence of the quiddity through some essential part of that quiddity, it will be much easier to attain an adequate knowledge of the whole quiddity since we are assured of its an est. The somewhat lengthy discussion of the relation of the knowledge of a thing's existence and of its quiddity serves to establish the thesis that in the way in which we know that a thing is, so we also know what it is; sicut nos habemus ad cognoscendum quia est aliquid, ita nos habemus ad cognoscendum quid est.⁴⁸

Cajetan gives an excellent explanation of what Aristotle understands by the expression, to know that a thing is only secundum accidens. Secundum accidens must here be taken in the sense of secundum aliud wherein the aliud must include not only extraneous accidents, but also proper passions, and even common substantial predicates.⁴⁷ What Aristotle means is a knowledge purely according to an accident. He does not mean to deny that an accident, if it is a proper effect, will be proportioned to its cause and can in this way lead us by discourse to a knowledge of the existence of its subject through something of its essence. The process which he himself describes of arriving at a knowledge of an eclipse from the failure of the moon to cause a shadow is an example of this. The accident can also lead us to a knowledge of some underlying subject in a very general way, as described again by Cajetan:

*Alio modo discurrendo ab illo accidente, ita quod per modum suffusionis cognoscatur aliquid subesse, sed quid vel quale sit illud ignotum relinquitur, sicut ex cognitione primi motoris cognoscimus aliquam substantiam immaterialem et intellectualem, etc., esse, sed quod quid est illius cognoscere non valemus, quoniam propria essentialia remanent ignota, et sic cognoscere quia est, non est cognoscere quia est, nisi secundum accidens et argutive, arguimus siquidem ex hoc illud esse, . . .*⁴⁸

Having explained these preliminaries, Aristotle applies them in explaining the present method of demonstrative proof. When we know through some essential part that a thing exists, we can sometimes elicit an adequate knowledge of its quiddity

from a demonstration. We use such a method in eliciting the definition of a proper passion from the propter quid demonstration of the passion of its proper subject. A good example of this is the demonstration of the eclipse. We demonstrate the eclipse or privation of light (major term), of the moon (minor term), by the direct opposition of the earth between the moon and the sun (middle term). The answer to the question, "Why does the moon fail?" will be nothing other than the ratio of the eclipse. To seek the propter quid of this conclusion is nothing other than to seek the quid est of the eclipse. The ratio of the passion (the eclipse) is assumed as middle term, i.e., as the propter quid in a demonstration of this passion of its immediate and proper subject. The medium which shows the propter quid of the conclusion is the ratio definitiva of the major term. The mean in such a case must be a medium debitum, a proper cause for the inherence of the passion in its subject. If this mean is found, then through it we can know (a) that the passion inheres in the subject (quia est), (b) why it inheres (propter quid), and also what its quiddity is (quid est).⁵⁰

If, however, we know the eclipse through some other mean than its proper cause, an extrinsic one such as the inability of the moon to produce a shadow at the time of the full moon, then we know only that the eclipse is (quia est); the

question still remains, why it is, and likewise what it is. Is it because of the opposition of the earth, the turning of the moon, or some other cause? The middle term for which we shall thus be searching is again the ratio of the major extreme. In this manifestation of the quiddity by a demonstration through the proper cause the complete definition of the passion can be known; from the major term, the privation of light, with the addition of the middle, because of the interposition of the earth, we have the complete definition of the eclipse. If another medium is required to prove the medium used in such a demonstration it will have to be ex reliquis rationibus, a phrase which St. Thomas interprets as the definitions of the minor term, which is the subject, and of other extrinsic causes. In the present example such a definition would be one which would show the natural movement of the moon:

Quia enim luna est corpus natum sic moveri, ideo necesse est quod obiciatur certo tempore terra inter solem et ipsam.⁵¹

A more detailed discussion of the definition as such in relation to demonstration will fall to the next chapter, since the present one considers more properly the manifestation of the quiddity which is signified by the definition. The present method, then, is one by which the quod quid est is known by being accepted as the propter quid in a demonstration. The quod quid est is not demonstrated properly as such but

is manifested through a demonstration in as much as the medium of the propter quid demonstration is the quod quid est.⁵²

After showing how the quod quid est of somethings can be manifested in demonstration, Aristotle concludes this chapter by showing that this is not possible in all things. The distinction whereby he shows which quiddities can be manifested in this way is contained in the following passage:

Est autem quorundam quidem quaedam altera causa, quorundam autem non est. (Definitiones quidem secundum speciem factae nullum habent medium quo demonstrantur; sed definitiones secundum materiam factae possunt habere medium.) Quare manifestum est quoniam eorum quae sunt quid est, alia quidem sine medio et principia sunt, quae quia sunt et quae quid sunt supponere oportet, aut alio modo manifesta facere; quod vere arithmeticus facit, et namque quid est unitas supponit, et quia est: sed habentium medium, et quorum est quaedam altera causa substantiae et ipsius esse, est per demonstrationem (sicut dictum est) ostendere non quod quid est demonstrantes.⁵³

The sections enclosed in parentheses are not found in the Greek editions of Aristotle. They are more probably interpretations which were added to the Latin text. The inherent difficulties of the text together with the interpretation which in some way entered the Latin text have given rise to several different explanations of the above passage.

St. Albert interpreted the paragraph in accordance with the inserted passage whose authenticity he accepted. The principal difficulty was to identify the definition secundum speciem and the definition secundum materiam. The definitions and

quiddities given according to the species, i.e., the form, have no medium or cause through which they can be demonstrated. Those given according to the matter can have a medium through which they are demonstrated. For the former both the quia est and the quid est must be supposed and cannot be manifested through demonstration. In the case of the latter, where there is an altera causa which is cause of the esse and of the substance or definition, the definition can be manifested through demonstration. St. Albert qualifies this manifesting in the following manner:

... habentium medium est demonstratio: non tamen est per demonstrationes demonstrantes quod quid est secundum quod quid est, sed demonstrat simplicem inhaerentiam rei, et quod diffinitio sit in diffinito.⁵⁴

What is properly demonstrated is not the quod quid est as such but only the inherence of the thing. The definition is only elicited from the demonstration. He then briefly identifies the definitions according to the species and the matter as those by the formal cause which is the species of the matter, and by the material cause of the thing.

... diffinitio data secundum speciem est diffinitio data secundum formam quae est species materiae, et est causa ejus, quod materia est talis vel talis: et ideo quodammodo est causa materiae et demonstrationis. Ea autem quae data est secundum materiam, proprie est illa quae concernit materiam in qua est causa ipsius quod diffinitur materialis:⁵⁵

St. Albert then devotes a whole chapter to the dubitatio Antiquorum as to which definition is secundum speciem and which

secundum materiam. He arrives at a solution first of all in terms of the demonstratio potissima in which a passion is demonstrated of its subject through the definition of the passio giving the quid and propter quid.⁵⁶ The definition secundum speciem would be the definition of the subject;

. . . et dicitur secundum formam data, eo quod datur de re in forma specifica constituta quam ad formam determinat.⁵⁷

Both the quia est and the quid est of the subject must be presupposed, and its definition neither demonstrates nor is it demonstrated;

Prima ergo formalis diffinitio subjecti est sicut demonstrationis principium, nec demonstrans nec demonstrata.⁵⁸

The definition secundum materiam would be the definition of the passion, quia est rei cuius est esse in materia subjecta quae est causa et principium ipsius.⁵⁹ This definition may give only the quid of the passion, a logical definition which is as conclusion in a demonstration; or it may give the quid and propter quid, entering the demonstration as ratio of the major term and as cause in the minor proposition.

Then extending the notion of demonstration to include not only the demonstratio potissima but any demonstration, he shows how we can also speak of a definition secundum speciem and a definition secundum materiam with respect to the twofold definition of a subject, i.e., the formal and the material definition; the formal definition of the subject can be used

to demonstrate the material definition, but not the proper passions. St. Albert summarizes these different kinds of definition in a concluding paragraph:

Est ergo diffinitio, ut principium demonstrationem non ingrediens: et diffinitio ut conclusio, quae est materialis subjecti diffinitio, et formalis passionis dicens quid: et est diffinitio ut medium demonstrationis, et haec duplex, formalis scilicet subjecti, et alia passionis quae dicit et quid et propter quid, illa enim in se concernit passionis essentiale principium.⁶⁰

St. Thomas devotes the first part of lesson eight to determining which quiddities can be manifested in a demonstration and which must be accepted as immediate principles or manifested in some other way than by demonstration such as through an effect or by something similar. In doing this he considers three explanations of Aristotle's statement that some things do not have an altera causa.⁶¹ The first explanation would limit such things to whatever simpliciter et absolute has no cause of its being. Only God would have no altera causa in this sense. Such an explanation, however, is ruled out by the very fact that Aristotle here speaks of a plurality of things and not of just one.

Another interpretation would be according to the four genera of causes, each of which is in a certain way the cause of the following cause, as was explained above in the case of the logical syllogism of the essence. The definition by the end, the causa causarum, would be ultimate in such an order and indemonstrable by a prior cause. Nor could we

arrive at another definition from the definition by the matter. To accomodate this interpretation to the text concerning the definitions secundum speciem et secundum materiam, a text which St. Thomas recognized as not authentic, some authors say that the superior cause is always formal in respect to the inferior.

A third way of interpreting the passage is one in accord with the example from arithmetic given by Aristotle. The things which have no other cause are those which have no prior cause in the genus subjectum of a particular science. For such a subject both the quia and the quid est must be supposed.⁶²

In his commentary Cajetan interprets this passage in a manner similar to the third interpretation given by St. Thomas. He opposes the quiddities of the subject and of the proper passions. Only the latter can be manifested in a demonstration or elicited from one. The exposition given by Sylvester Maurus indicates a similar interpretation.⁶³

Cajetan raises a question which throws much light on this paragraph. Why can the quod quid est of a passion and not that of a subject be known through demonstration? If both can be used as medium both should be knowable through demonstration. There are several passages where St. Thomas indicates that the quiddity of the subject can be used as

middle term; therefore it should be knowable through demonstration. Even granting that only the passion and its quod quid est have an altera causa, how can we conclude from this that only the quod quid est of a passion can be manifested in demonstration. We say that this quiddity is manifested not as conclusion but by being taken as propter quid., but the quod quid est of a subject can also be taken as propter quid. Nevertheless, according to Aristotle only the quod quid est which has a medium can be manifested through demonstration.

To answer this question it will be necessary to start immediately with the first distinction made by Aristotle, quorundam quidem quaedam altera causa, quorundam autem non est. This is a distinction not of the quod quid est but directly of the things themselves. The altera causa is a cause other than the substance of the thing. Some things have a cause other than their essence, others do not. The esse of some things is caused by a cause outside their own essence; other things have as cause only their own essence.

The second distinction refers properly to the quod quid est--some quiddities have a medium, whereas others do not. This distinction follows necessarily on the first, for if a thing's esse is caused by a cause outside its essence, the essence must likewise be caused. Consequently, since the cause of the esse and of the essence is the same, the

quod quid est must have a medium.

The subject, then, will lack a causa extranea either simpliciter or in that particular science, that is, a cause other than its essence per quam demonstrari possit ipsum esse.⁶⁴ Any a priori science supposes the esse and the quod quid est of its subject. Therefore, both the quod quid est of the subject and its esse lack a medium.

A passion, however, must have a causa extranea and such a one as will enter its complete definition. This definition is necessarily per additamentum. In this way the essence of the passion has a cause other than the essence and the quod quid est has a medium. This is apparent from the example of the eclipse given above.

Cajetan's explanation of the respective relations of subject and passion to demonstration will help to bring out the above points more clearly.

... aliter se habeat ad demonstrationem subiectum, et aliter passio: subiectum enim non est id quod demonstratur, sed de quo demonstratur, passio vero est id quod demonstratur, et consequenter cum causa passionis et eius quidditatis sit eadem, si vere debeat demonstrari passio, oportet ipsius passionis essentiae seu quidditatis propriam causam pro medium assumere, et sic cum per propriam causam rei cognitio sufficienter habeatur, ipsa quidditas passionis ex tali processu elucescit, et non solum ipsa quidditas, sed et tota diffinitio eiusdem ex tali demonstratione innotescit, quoniam causa illa cum sit propria, est illud additum quod diffinitionem passionis complet. Ex vi ergo demonstrationis propter quid habetur quod eius essentia causatur a medio, quod diffinitionem eius complet, etc; horum autem nihil subiecto convenit.⁶⁵

The cause of the passion is the middle term in demonstrating the passion of its subject; this cause must likewise enter the definition of the passio. This is not true, however, of the subject. In answering more directly the original question, it should be pointed out that the quod quid est of the passion is known and is manifested through demonstration, properly ex vi demonstrationis; it is known not simply from being used as a medium but in the manner explained above. The quod quid est of the subject is not known in this way ex vi demonstrationis but is presupposed to the demonstration.

In this second method of arriving at the quiddity Aristotle manifests the relation of the quod quid est to demonstration. To do this he takes the principal demonstration, the demonstratio potissima in which the passion is demonstrated of its subject, and shows how certain quiddities are manifested through it and must be known in this very way. These are the quiddities whose being is caused by a cause outside their essence--the passiones. In the course of explaining this second method Aristotle arrives at the answer to the questions presented in chapter seven. In this section he determines properly speaking the relation of the quod quid est to demonstration; in the following chapter he will determine the relation of the definition as such to demonstration and the nature of definition as manifesting the quod quid est. This will complete the response to the questions.

The solution to the difficulties is found already in the preliminary distinctions which introduce the explanation of the second method of arriving at the quod quid est, that is, the way of demonstrative proof. The original difficulty about the quod quid est centered on the apparent impossibility of knowing both quid est and quia est by the same demonstration. These distinctions show that both can be known through the same demonstration but in different ways; the quia est is known as conclusion, the quid est as medium. One distinction shows that the quod quid est can be manifested in this way only when the propter quid is a proper medium; otherwise the quiddity will be known only incompletely. Another compares the quid est and quia est with reference to the possibility of knowing one prior to the other. Since these distinctions do not go against the arguments advanced in chapter seven, Aristotle does not have to resolve them. The answers given here grant, for example, that a demonstration concludes properly only the quia est.⁸⁶

strict accordance of quiddity and existence.

The relation of the definition as such to demonstration.--

Having determined in the eighth chapter the relation of the quod quid est to demonstration, Aristotle proceeds in the ninth chapter to determine formally the relation of the definition as such to demonstration. He first sets off the definitio

quid rei from the definitio quid nominis. He assumes immediately that a definition taken here in its strict sense, is a ratio which signifies the quod quid est. If we restrict the meaning of the term in this way, then only a ratio which signifies a quiddity through something properly of the quiddity can be called a definition. If there were no other way of signifying a thing than by such a definition, we could not know that a thing is without knowing what it is. We do find, however, another ratio of the thing besides the definition. It corresponds to what is called the definitio quid nominis. Such a ratio would give only the signification of the name, or it might be a ratio of the thing itself but differing from the strict definition in that it signifies not the quiddity itself but rather an accident of it. To look for the complete quod quid est or definition we must first know that the thing is through a nominal definition and preferably through a definition by some part of its essence. As was explained above, only the latter kind of definition gives strict assurance of a thing's existence.

Another factor which distinguishes the ratio signifying the quid est from that signifying the quid nominis is the way in which they are one. The latter is one only by a conjunction of terms, whereas the former is one in as much as it signifies an essence formally as one. This point will be explained at greater length in connection with the seventh book of the Metaphysics.

There is another kind of definition which is defined as a ratio manifestans propter quid. This kind of definition expresses the cause formally as cause. An example would be, tonitruum est propter hoc quod ignis extinguatur in nube. St. Thomas calls it, quasi demonstratio quaedam ipsius quod quid est; it differs from a demonstration only by the order of terms and propositions. He also compares it to a continuous demonstration:

. . . significatur per modum demonstrationis continuas, id est non distinctas per diversas propositionis; accipiuntur tamen continue omnes termini demonstrationis.⁶⁷

The definition which merely signifies the quod quid est without demonstrating it could be stated in this way: sonus ignis extincti in nubibus. It signifies the same ratio as the former but in another manner, in the specific manner of a definition. If, however, we state it simply in this way: tonitruum est sonus in nubibus, no mention made of the extinctio ignis, we shall have a definition signifying the quid est incompletely and only as the conclusion of a demonstration. To signify the quod quid est perfectly, it must be completed by its proper cause. St. Albert refers to it as a logical definition of the passion.⁶⁸ It is what is demonstrated but does not itself demonstrate.

In summary we may say that there are three kinds of definition in relation to demonstration: the first kind is

the indemonstrable ratio of the quiddity of those things which have no causa extranea. These are definitions of things which are what they are propter seipsas, for example, the definition of man, animal rationale, the principle from which are demonstrated his proper passions. Another kind is like the syllogism which demonstrates the quod quid est, and differs from it only casu, that is, according to the diverse acceptance of the terms. This kind includes both the definition propter quid, and the complete definition of the quod quid est when it is not an immediatum. These are definitions of those things which are what they are propter causam and which express this cause. A third kind only signifies the quod quid est and is as the conclusion of a demonstration; it signifies the quiddity only incompletely.

It is worth noting that in this chapter the comparison between definition and demonstration is again made in terms of the demonstratio potissima, as the examples given by Aristotle as well as the summaries with which he terminates this chapter indicate. It seems, however, that we can understand some of the statements regarding a definition as differing from a demonstration only by the position of the terms, in a broader sense, somewhat parallel to the broader interpretation which might be given to the passage at the end of chapter eight (93 b20-25).⁶⁹ In this way a definition which

would include a virtual processus from a superior cause to an inferior one could be called a demonstratio positione differens. Such an interpretation would embrace the numerous references to this thesis together with the examples found in other works of St. Thomas.⁷⁰ Many of these examples do not fall under the demonstratio potissima. Such an interpretation will include those cases where another definition of the subject is directly concluded and predicated of the subject in the conclusion.

CHAPTER IV

THE MIDDLE TERM--DEFINITION OF THE SUBJECT OR OF THE PASSION

An interesting question arises at this point. Is the middle term in a demonstration the definition of the subject, the passion, or both? The demonstration in question is the demonstratio potissima, i.e., the demonstration which is first in any science, either absolutely first, or first with reference to a given subject of that science. Such a demonstration is first according to the nature of the thing itself; it is first in the order of composition--the foundation of all succeeding demonstrations, and ultimate in the order of resolution for the demonstrations of posterior passions will be resolved into it. The problem concerns principally the demonstration which is absolutely first for us, the one in which a passion is proved of its immediate subject. Where the second passion and not the first is proved of its subject, it is readily granted that the cause and therefore the mean is the first passion. But in proving the first passion, is the definition of the passion sufficient to constitute the mean, or is the definition of the subject involved, and if so, how does it enter? In discussing this question we shall follow substantially Cajetan's treatment of the problem in the texts to which reference will be made.

Some men such as Giles of Rome defend an impossible position, maintaining that the definition of the subject in

no way enters the mean in such a demonstration, and that at the most it is annexed to the mean. The subject, however, as proper cause of the passion cannot be ruled out of the mean. His conclusion, according to which it should be possible to demonstrate the passions of the subjective parts of a science directly from the passions of the principal subject, lay Thomism open to an age old attack, the accusation that it is all a series of deductions with no regard for experience. It is evident from the order of the treatises of Aristotle, on the other hand, that in demonstrating we must proceed from the essence of each subjective part in a distinct chapter. Each tract begins anew even from the question, an est, with respect to the particular subject it treats.

To determine St. Thomas's position we may appeal to some of the following texts in the Posterior Analytics. In discussing the propter quid in demonstration, he writes:

. . . medium est definitio maioris extremitatis. Et inde est quod omnes scientiae fiunt per definitionem.⁷¹
 There are other texts which specifically include the definition of the subject:

. . . ex definitione subiecti et passionis sumatur medium demonstrationis.⁷²

. . . oportet concludere passionem de subiecto per definitionem passionis, et ulterius definitionem passionis concludere de subiecto per definitionem subiecti.⁷³

We can interpret these two texts in two ways according as we consider the definition of the passion to be a definition dicens quid tantum or a definition dicens quid et propter quid.

One way would be for the first passion to be demonstrated through the definition of the passion dicens quid tantum; this definition would be demonstrated, thereupon, by the definition of the subject. In this process the mean would be multiplied.

Another way, favored by Cajetan as more in harmony with Aristotle and St. Thomas is the following:

Alius sensus est quod passio posterior demonstratur per suam diffinitionem dicentem quid et propter quid: ac per hoc demonstratur per priorem passionem quae in eius diffinitione cadit ut causa, sicut eclipsis demonstratur per interpositionem terrae: cum autem deventum fuerit ad primam passionem, illa demonstratur per diffinitionem subiecti et passionis simul: ex eis enim integratur diffinitio dicens quid et propter quid primae passionis, quoniam, ut infra probabitur, quod quid est subiecti est proprium propter quid respectu primae passionis; ~~sic autem demonstrando primam passionem, passionis;~~ sic autem demonstrando primam passionem, principalem locum tenet quod quid est subiecti, quoniam ipsius ratione medium illud continet propter quid, quod est altera causa passionis, etc.⁷⁴

In order that the mean of the demonstratio potissima may include the propter quid of the passion, it must include the definition of the subject together with the quid of the passion. It will bring together the proper causes of the passion as required for this demonstration--the formal, material, and efficient causes:

. . . formalem quidem rationem diffinitionis dicentis quid, materialem autem et efficientem rationem quod quid est subjecti, a quo in seipso emanat passio, etc.⁷⁵

This is in full agreement with the position of St. Albert.⁷⁶

The definition of the subject can, however, by itself be accepted as the mean since the subject is the proper cause and a sufficient mean to demonstrate the proper passion. Such a proof would be qualified as potissima since it is first simpliciter in the order of composition and ultimate in the order of resolution. The former method of proof, arguing from the formal and causal definition of the passion, can be called potissima from another point of view since it assembles all the genera of causes from which the passion depends.

St. Albert distinguishes the two proofs in the following paragraph:

. . . omnis passio completa et ut essentia completa accepta, demonstratur de aliquo sibi proprio subjecto: et hoc semper demonstratur per diffinitionem propriam, quae concernit subjectum, et dicit quid et propter quid. Quando autem est passio non per se, sed in subjecto accepta ut ens incompletum: haec (quia inter subjectum ut orta de ipso accipitur) per diffinitionem subjecti demonstratur.⁷⁷

If the passion is taken as a complete essence it is demonstrated through its definition giving the quid and propter quid; if taken as an incomplete being, it is demonstrated through the definition of the subject. In the same chapter we also find a precise explanation of why the definition of the passion must be the mean.