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A STUDY OF DEFINITION

A Dissertation
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by

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PROPOSITIONES

1. Artes quae actiones et passiones humanas imitantur dependent quantum ad veritatem ipsius artificii a synderesi et scientia morali.
2. Moralis philosophia in tres partes dividitur: monastica, oeconomica, et politica.
3. Genus sumitur a materia.
4. In forma superiori continentur eminenter formaliter gradus inferiores vitae.
5. Definitio est terminus primae operationis intellectus.

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P A R T I
THE ART OF DEFINING

CHAPTER I

THE NATURE OF THE ART OF DEFINING

The Necessity of an Art of Defining

In the introduction to his treatise on the predicables, St. Albert divides the subject of logic according to the intention or the end of logic as an instrument of knowledge.

Divisio autem logicae, et quae sunt partes ipsius, ut dicunt Avicenna et Alfarabius, accipienda sunt ex intentione ipsius. Sicut vero jam ante dictum est, logica intendit docere principia per quae per id quod notum est, devenire potest in cognitionem ignoti. Est autem incomplexum, de quo quaeritur quid sit: aut complexum, de quo quaeritur an verum vel falsum sit.¹

St. Albert here considers logic as a modus sciendi common to all the sciences and as having a proper object specifying it as a science. As an instrument of knowledge, it looks to that which is to be manifested as to its end. The division of its subject will therefore follow on the diversity in the unknown object to be manifested. This object as considered sub dictione will be either something complex or incomplex.²

If the object is something incomplex it will give rise to the question quid est, "what is it." The adequate answer to this question will be a definition signifying the quiddity or essence of the unknown object. Thus one part of logic will teach us the principles by which we may come to know the definition and quiddity of anything.

Una quidem (pars) ut doceantur principia per quae sciatur diffinitio rei et quidditas: ita quod per principia illa doceatur quae sit vera rei diffinitio, et quae non, et quae videatur esse et non sit.³

If the object is something complex, we wish to know whether it is true or false. This can be known (sciri) only by argumentation; thus another part of logic will teach us the principles for proving an enunciation true or false. It will give us the rules for establishing the proof in syllogistic form according to the proper figure and mode as well as for determining its proper matter, and for detecting arguments which are such only in appearance. Therefore, just as the syllogism is an instrument in acquiring knowledge of something complex, so is the definition in acquiring knowledge of in-complex beings. It is from this that St. Albert and Cajetan infer the need of an art of definition.

The importance of this art will be even more evident from the pivotal role which definition has in any branch of philosophy. As St. Thomas points out in his commentary on the Posterior Analytics, definitions are assumed as the middle term in demonstration.⁴ In propter quid demonstration the middle term is the real definition of the subject; in a posteriori demonstration, it is the nominal definition of that whose existence is to be proved. Likewise in the Metaphysics in order to argue against those who propose a mean between contradictories, we must start from definitions of the true, the false, or other words.⁵ In the seventh book he will use the logic of definition to study substance. The first difficulty in the De Anima in knowing the substance of the soul

involves a difficulty quantum ad modum definiendi ipsam, i.e., in what way do we proceed to the definition, by demonstration, division or composition, and from what do we take the principles of the soul.⁶ Boethius notes that any argument or discussion must begin from a definition of the point in question.⁷

If we turn now to the practical sciences, it would seem that the art of defining is relatively less necessary for them than for the purely speculative sciences. The art of defining would thus be less necessary for the study of ethics in view of the contingency of its matter. In support of this we find that in the Ethics descriptive definitions and incomplete divisions ordinarily suffice for the end of the science which is a practical one. Since there is not a properly scientific formal abstraction, it is not necessary to spend a long time searching for strict scientific definitions and divisions.

The Position of Such a Treatise Among the
Logical Works of Aristotle

Aristotle says in several places that the lack of such an art was the cause of error among the ancients. He remarks also that Socrates was the first to raise the problem of universal definition. Socrates started to look for definitions in the study of ethical matters.

It was natural that Socrates should be seeking the essence, for he was seeking to syllogize, and 'what a thing is' is the starting point of syllogisms; . . . two things may be fairly ascribed to Socrates--induction and universal definition, both of which are concerned with the starting point of science.⁸

Plato accepted the notion of definition from Socrates; but finding nothing in corruptible nature that appeared to be capable of definition, he proposed the existence of separate Ideas as the object of definition.

Many such statements lead us to think that Aristotle would have written a treatise on definition, but we do not know whether he actually did write one. We have the word of Avicenna and Alfarabius that no such work came down to the Arabs. A treatise on the art of defining is not found in any of the extant works of Aristotle. St. Albert rejects unequivocally the suggestion that the ars diffiniendi is found in the Topics or the Metaphysics.

Quod autem quidem dicunt hanc tradidisse Aristotelem in sexto Topicorum, frivolum est: ibi enim partem diffiniendi non tradidit, sed docet terminare problema illud quo quaeritur quid insit ut diffinitio. Adhuc autem quidam alii dicunt haec pertinere ad metaphysicam, et Aristotelem hanc tradidisse in septimo et octavo primae philosophiae; sed hoc absurdum est. Aristoteles enim ibi docet quae sint diffinentia tam substantiam quam accidens, et quae sit diffinitio physica, et qualiter diffinitio est unum et non multa, et talia hujusmodi. Sed qualiter diffiniendo respondetur ad quaestionem qua quaeritur quid est res per essentiam et quidditatem, non docet: quia hoc ad logicam pertinet, et non ad primam philosophiam. Patet igitur, quod haec pars nondum ad nos pervenit.⁹

The treatment in the Posterior Analytics is of the definition specifically in relation to demonstration: can the quiddity

which is signified by the definition be demonstrated; is the definition the mean in demonstration and if so, how do we attain the knowledge of it?

To determine exactly the position of a treatise on the art of defining among the other logical works, we must first establish that the definition is properly the terminus of simple apprehension, the first operation of the mind. Simple apprehension should be considered as ordained to definition as to its most evolved and perfect product. St. Thomas speaks of the first operation of the mind as the formatio quidditatis. He gives us a striking argument to show that the knowledge of the species is the perfection of this operation. The perfection of intelligible being must be proportionate to that of nature. Just as the species, and not the individual, is that ultimate which nature intends, since it is the species that pertains to the perfection of nature; so in intelligible being it is the knowledge of the species, not of the individual, which pertains to intelligible perfection.¹⁰

The object, then, of the first operation of the mind is the essence or quiddity of material things, and in the definition that object is perfectly expressed. Thus we look to it as the perfection of the first operation. We know anything more perfectly according as we know more perfectly the differences which set it off from other things. To determine the

proper being of anything, we first place it in a genus which establishes its quiddity in common. To this are added differences which will best distinguish it from other things according as they manifest more perfectly the essential principles themselves of the object to be defined.¹¹ Such a definition is obviously not arrived at by any immediate intuition but only as the terminus of the first operation; it presupposes an ordering of the objects in categories with their subdivisions so that the object may be adequately defined and the whole essence manifested. From this we can argue that the art of definition will be the terminus of the first operation, preceded by the other treatises which concern themselves with the ordering of the objects as presupposed to the actual definition.

We have the order of these treatises in a concise passage taken from St. Albert:

Incomplexum autem sciri non potest nisi diffinitione. Et complexum sciri non potest nisi syllogismo et demonstratione. Sicut ad diffinitionem habendam necessarium fuit praemittere diffinibilium et diffinientium inventionem et acceptionem: ad quod necessarium fuit ponere ea secundum quorum rationem praedicabilia reducuntur ad ordinem, et secundo fuit necessarium ponere qualiter ipsa praedicabilia ordinata sunt, et tertio qualiter ex divisione colligitur cujuslibet incomplexi diffinitio.¹²

. . . ratio non colligit nisi quae anteposuit, nec componit nisi quae ante ordinavit secundum comparabilium rationem. Propter quod ratio qua fit ordinatio primum in Porphyrio tradita est. Ordinatio autem prout est in ordinatis, traditur in scientia libri Praedicamentorum, et in scientia sex principiorum, et in scientia divisionum.¹³

From these passages we see that the predicables in the Isagoge of Porphyry must first be studied. A thorough consideration of them is necessary for the categories as well as for the arts of division, definition, and demonstration. They are the ratio according to which the objects are ordered, a ratio taken ex ipsa forma ordinabilium--ex universali et particulari.¹⁴

The Categories, which order the objects themselves, are likewise presupposed to an art of defining. They are a great help in determining the definition of anything. If we know the properties of a thing, we can then easily find the first genus without an endless search.

After studying the order of objects in the above two treatises, we come next to the art of division--et quoad modum educendi unum de alio, inventa est scientia divisionum.¹⁵ It would give us the rules for adequate essential division of a superior into its immediate inferiors. These three parts appear to be a kind of beginning of the art of defining. They are all necessary for the definer and find their application in his art. The treatment of definition properly speaking, however, would seem to follow on them rather than being included in them. Exactly what such a treatise should include is again more difficult to determine.

We cannot agree with Cajetan in including the study of the predicables within the scope of such a treatise. The

consideration of genus and difference in the ars diffiniendi would only be a particular application of the more general treatment in the Isagoge which must precede the Categories. The mere quid nominis of the predicables is not sufficient for the study of the categories.¹⁶ John of St. Thomas also indicates that since the definition is not a simple term it must be excluded simpliciter from the notion of a predicable.¹⁷ The definition is an oratio; it is an ensemble of signs. It cannot, however, properly be reduced to the second predicable, species. Nor is the definition as such included in the categories for then a thing would be in the categories twice: by reason of its species which is placed per se in the category, and then by reason of its definition.¹⁸

The following are two statements of what in general should be included in a treatise on definition:

. . . logicus docens quaerere scientiam incomplexi, docet instrumentum quo accipiatur notitia illius secundum diffinitionem, et ea quae ad diffinitionem faciunt, et quae diffinitionem circumstant, et quae diffinitionem perficiunt, et ea quae diffinitionem mutant.¹⁹

Esset autem illius artis determinare quid sit diffinitio et ex quibus constat, et qualibus, et de passionibus ejus, et partibus subiectivis, sicut de demonstratione tractatur in libro Posteriorum.²⁰

If we consider some of the older treatises on definition we find that they limit themselves to certain aspects of definition. Boethius in his Liber de Diffinitione considers the definition of definition, the various kinds of definition, and

certain rules for good definition together with errors to be avoided.²¹ Avicenna introduces a collection of definitions with a brief study of definition as such. We find here clearly stated most of the scholastic distinctions regarding definition--the real definition as opposed to the description, incomplete definition, definition by causes, errors to be avoided.²² St. Albert treats much the same questions in a chapter on definition.²³ The considerations appear to be limited to definition properly as a second intention, and as term of the first operation of the mind. The other parts of the first operation are treated separately as presupposed to this art.

Another problem is to determine whether a treatise on definition should fall under material logic or under formal logic, or whether part would fall under one and part under the other. Would it be possible to apply here the distinction which we use in determining the same in the case of argumentation, another form of modus sciendi? Any considerations of the very form of the argument--which as such is either good or bad--would be part of formal logic, whereas those concerning its truth or falsity would pertain to material logic. Can we have a formal logic of definition in which we would give a general definition of definition or general rules for good definition? When we understand genus and difference in the strict sense we are already in material logic. Considerations of that which

can be defined and of the different kinds of definition appear to be based on the objective concept and would therefore be material logic. The far greater part, therefore, of the treatment of definition seems to fall under material logic.

We shall look briefly at a few of the points which appear to be contained properly in an art of defining--the definition of definition, rules for good definition, and the several kinds of definition. We shall not, however, limit our study to these questions but shall continue beyond them to consider some of the texts bearing on definition in the Posterior Analytics and the Metaphysics. This will help to throw light on the nature of definition not only as a term of the second intention but also in the order of first intentions. Our purpose will be to consider first of all in the latter part of this first section some of the general logical aspects of definition. On this will follow a consideration of definition in relation to demonstration in the Posterior Analytics. The commentaries of St. Thomas, St. Albert, Cajetan and John of St. Thomas will be our principal guide. The study will conclude with a third section devoted to the definition in the Metaphysics--principally the problems arising in the seventh and eighth books.

CHAPTER II

THE NATURE OF DEFINITION

The Definition of Definition

Before actually defining the definition, it would be well to note that the definition is designated by several names in the works of Aristotle. He refers both to definition and to syllogism as ratio.

. . . dicitur enim apud illum tam syllogismus quam diffinitio, ratio, eo quod ratio primo modo dicta est virtus cadendi supra occultum: hec autem virtus discurrit in cognitionem occulti supra aliud notum: per quod venit in notitiam ignoti.²⁴

Ratio can also mean merely the signification of any name, and this in those things which have a definition will be the definition of the thing. Thus Aristotle will say that the ratio signified by the name is the definition.

It is also called terminus as the term and perfection of knowledge, or as that which delimits the essence, explaining the whole nature, neither more nor less.²⁵ The definition as quod quid est and quod quid erat esse are distinguished in the following way by Robert Lincoln:

Vocatur etiam hoc appellatione quod quid est: eo quod explicat de quovis quid ipsum sit. Diffinitio aut (em) formalis dicitur ostendere quod quid erat esse: eo quod forma est vere essentia ipsius rei et dat esse proprie. Materia autem dat proprie potentia essendi: sicut supra plenius expressum est.²⁶

When we define the definition we must define it as a second intention, a logical relation. Most authors agree that

the definition is an oratio and that it signifies what a thing is. Aristotle states it thus in the Topics: Est autem definitio oratio, quae significat quid res sit.²⁷ Boethius gives us another definition substantially the same: oratio quae id quod definit explicat quid sit.²⁸ It answers the question quid sit, not the questions an sit, or quale sit. The objections to this definition raise several problems which it will be interesting to note.

Some authors object to the use of oratio as the genus in the definition given above. An oratio, they say, is not found without a verb, and is not, therefore, found outside the second operation of the mind. The definition, on the other hand, falls under the first operation. This follows from the fact that a definition can be used as predicate in a categorical proposition, a function proper to a term. St. Thomas likewise insists that definition pertains to the first operation of the mind, while assigning the oratio in the strict sense to the second operation.²⁹ We do not find in the union of the parts of the definition the composition required for the second operation of the mind. Even the use of several species to form one concept does not necessarily imply the formal comparison or separation which constitute composition and division in the strict sense.³⁰

The objection, however, ceases if we recall that the term oratio may be taken in a sense common to both the oratio perfecta and the oratio imperfecta. The latter of these

coincides materially with the complex term. Definition, considered as a certain whole, can be called an oratio although only an imperfect one. There is no more than an inchoatio compositionis. We find a further reason for defining definition as an oratio in the fact that definition is one kind of modus sciendi; and in defining modus sciendi we must use oratio as the matter from which it is formed. That the modus sciendi be a perfect oratio or an imperfect one, or in the manner of a complex term or an oratio, is purely material in relation to that which is formal in it--to be an artefactum logicum manifesting something unknown.

Dicitur tamen communiter 'oratio' quia cum modus sciendi inveniatur tum in oratione perfecta quam imperfecta, et quando invenitur in oratione imperfecta, materialiter solum sit terminus complexus, ut unico vocabulo definiretur, dicitur esse 'oratio.' ³¹

Hence the definition by oratio. John of St. Thomas concludes his explanation of this point with a brief summary:

Definitur tamen per orationem, quae pertinet ad secundam operationem intellectus, tum quia in vi orationis etiam teneri potest, si accipiatur per modum totius, tum quia modus sciendi est et modus sciendi communiter per orationem definitur, licet quando est oratio imperfecta, coincidat materialiter cum termino complexo. ³²

By this and other arguments we approach an answer to the difficulty created by defining definition, which pertains to the first operation of the mind, by oratio which pertains strictly speaking to the second operation. St. Thomas clearly assigns definition to the first operation because its object

is something simple and not something composite--the quiddity of a thing. Oratio enters its definition only as the oratio imperfecta.

Although definition is defined as an oratio, it cannot be defined as an oratio enuntiatiua. This is contrary to the opinion of those who maintain that we cannot have a definition outside a proposition. It is clear, however, that it is in no way necessary that a verb be included in a definition or that a definition be an oratio enuntiatiua. To include a verb, either the parts of the definition would have to be joined by the verb--which is clearly false since the parts are related as genus and difference, not as subject and verb; or the parts would have to be applied to the subject defined. This application to the subject, however, presupposes the definition already constituted, a definition which of itself adequately explains the object defined. The application pertains to the actual exercise of predication with reference to the object defined, and does not constitute the definition as such. The definition can be called a definition in act even outside a proposition. It has an actual intrinsic order to the thing defined, although it is not predicated in act of it. John of St. Thomas gives us the reason very succinctly:

. . . definitio etiam extra propositionem actu respicit definitum, non sub ratione subiecti vel praedicati, sed sub praecisa ratione definiti. Ut enim actu respiciat sub ratione definiti, non requiritur, nisi quod respicit illud

ut objectum et materiam definitionis, sicut nomen respiciat suum signatum, etiamsi actu non significet illud. Aliud est enim representari actu, aliud respicere actu signatum tamquam objectum signi.³³

In his commentary on the Perihermeneias, St. Thomas says explicitly that the definition is not an oratio enuntiativa unless a verb is added to it.³⁴ In the commentary on the Posterior Analytics he notes that in a definition nothing is predicated of anything else.³⁵ On the other hand he makes frequent references to the definition as virtually a proposition because once the definition is known, it is apparent that it is to be predicated of its subject.³⁶ The same point is indicated by the texts which state that in definition there is no composition and no judgment such as is found in knowledge of the true and the false.³⁷

We should point out in this connection that a definition can be called true or false only per accidens. Of itself a definition is good or bad. Truth and falsity are found per se in the composition of the intellect, per accidens in the operation by which it knows a quiddity in so far as a certain composition of the intellect intervenes. A definition may be false in two ways: in one way according as the intellect attributes the definition of one thing to something else, as if it attributes the definition of a circle to a triangle; in another way, if it joins together parts in a definition which cannot thus be associated, so that it becomes a definition of

nothing. Such a definition is not only false in respect to a given thing, but also in itself, e.g., animal insensibile, or animal quadrupes volatile, when no animal of that kind exists. A definition is true or false, then, only by reason of an order to affirmation and negation. The parts of a definition should be so joined that they may be predicated both together and separately of the object defined. The definition participates in the truth or falsity of this predication as implying an order and relation to it.³⁸

Approaching the question from another point of view, we may say that the intellect is not deceived per se loquendo in regard to its proper object which is the quiddity of a thing. The intellect can, however, be deceived per accidens in regard to the quiddity of composed things. This deception will occur not on the part of an organ, since the intellect is not a power using an organ; but on the part of the composition which intervenes in definition, as noted above. Such a deception can occur only in regard to composed essences, not in regard to simple essences, as St. Thomas explains:

Et hoc quidem accidit in compositis, quorum definitio ex diversis sumitur, quorum unum est materiale ad aliud. Sed intelligendo quidditates simplices non est falsitas, quia vel totaliter non attinguntur, et nihil intelligimus de eis; vel cognoscuntur ut sunt.³⁹

The quiddity of the separate substance implies no composition ex pluribus about which the intellect could form a false composition or division.

The Requirements for Good Definition

All admit that a definition can be called good or bad. This is common to every modus sciendi and consists in the manifesting of that which is unknown by an adequate and fitting explanation. If the explanation is a fitting one, it is designated good; if not, it is designated bad. Certain general rules are given by the later scholastic authors for good definition which would apply in common to all definitions:

a) A definition should be made through genus and difference, taking these terms in a broad sense. They will be found properly in the essential definition. In nominal definitions we will have something common as genus, and something distinctive of the particular in place of the specific difference. In general, then, every good definition in explaining a nature should do so by something common to it and to others. In this way it will embrace the whole nature. The parts of the definition must follow in a definite order so that they are related as potency and act.

b) Another rule is that the definition should signify more clearly than that which is defined since it manifests it. Therefore, the defined should not enter into the definition. The definition must also be composed of parts which are prior and more known than that which is defined.

c) The definition should not contain more nor less than the thing defined; otherwise it will not express the nature

defined. From these rules we can see why the definition is called terminus, as signifying the whole thing and terminating it. St. Thomas states the reason in commenting on the Perihermeneias.

Ideo dicitur terminus, quia includit totaliter rem; ita scilicet, quod nihil rei est extra definitionem, cui scilicet definitio non conveniat, nec aliquid aliud est infra definitionem, cui scilicet definitio conveniat.⁴⁰

The rules concerning errors to be avoided in defining will simply warn against any departure from the requirements for good definition.

Beyond the general rules for good definition, we find also the rules for perfect definition. Such definition must manifest the nature so that the proper accidents may be demonstrated through it of the subject. Through it we should be able to resolve all objections and to see the reason for the errors which others have made.⁴¹ Such also are the rules which we find given for the essential definition. The requirements for definition as found in the works of St. Thomas and St. Albert are ordinarily given in terms of the essential or substantial definition. In the same way the limits of definition (cf. the following paragraph) are given by them for the definition quid rei, that which is definition simpliciter. The question still stands whether we can make the distinction in a treatise on the art of defining of a material and a formal logic of definition whereby we can give, for example, a set



of general rules for defining. If such a distinction can be made, the question of definition as an analogical term (chapter three) will arise only in the material logic of definition.

The Limits of Definition

We may mention here several general conditions required in order that something be capable of definition. In the first place it must be one per se, one essence that is to be defined. All equivocation and confusion of plurality must be removed. That which is defined must also be a universal. Only the quiddity or nature is defined, not the singular. St. Thomas explains that definitions, since they are the principles or conclusions of demonstrations, must, like demonstration, be only of sempiternal things, not of corruptible ones. Definition can be of corruptible things only per accidens inasmuch as in universali these corruptible particular things have a certain sempiternity. Another condition of strict definition is that the thing defined be a species contained under a genus. If a genus is defined, it is defined not as genus but as a species, so that the ultimate genera cannot be defined. Differentiae are as such ultimate and simple, having no superior predicates in a direct line by which they can be defined. A difference as such enters only indirectly into the line of categories.⁴²

CHAPTER III

THE DIFFERENT KINDS OF DEFINITION

Definition 'quid rei' and Definition 'quid nominis'

The notion of definition appears to be an analogical notion with the definition quid rei as the primary analogue. All other kinds of definition would participate in the notion less perfectly; and in the study of any nature they would be ordered ultimately to the perfect realization of the notion in the definition quid rei. We find this idea reflected by Boethius in limiting the true definition to the substantial definition.

Docebimus nullam esse diffinitionem certam, integram, approbandam nisi eam quam dicunt philosophi substantialem Ergo haec substantialis diffinitio a M. Tullio sic explicatur. Oportere nos posito genere ejus rei de qua quaeritur, subjungere species, ut alia quae vicina esse possint discretis communioribus separemus, et tandiu interponamus differentias, quamdiu ad proprium ejus de quo quaeritur signata ejus expressione veniamus.⁴³

He distinguishes very carefully the substantial definition from the definitions which are used more properly by the rhetor than by the philosopher. This is followed by a list of fourteen kinds of definition which express only the notio rei, not a substantial explanation. They include definition by properties, description, definition by analogy, by a difference, etc. Avicenna designates the essential definition by a special word "hadd" which he applies in an improper sense to other kinds of definition.⁴⁴

When St. Albert gives the five principles or rules for good definition together with the corresponding defects, he

states them explicitly for substantial definition. They are far more specific than the general rules which we gave in the preceding section. The defects are given in terms of a departure from strict substantial definition. Definitions, he notes, which are made by stating the material and formal cause, or the efficient cause cannot be called proper definitions unless they can be reduced to definitions by genus and essential differences. Otherwise they are only qualescumque notificationes. Thus a definition by the matter must take the matter not apart from the form but as it is in first potency to being:

Secundum quod in ipsa est jam forma essentialis inchoata, et in qua potestate formali sunt inchoatae constituentes et dividentes differentiae.⁴⁵

If we say that man is composed of body and a rational soul, we must take body as corpus animatum sensibile from whose potency the rational principle is produced. In this way we can reduce it to a definition by genus and difference; corpus animatum sensibile is animal, and animatum anima rationali is rational. The same principle holds for definition by efficient cause. Such a cause must be taken not simply as efficient but as a univocal agent in the following way:

Tunc enim agens non sumitur ut efficiens tantum, sed ut agens secundum formam et univoce. Univoce autem agens, dat formam secundum quod de potentia formali exit ad actum.⁴⁶

This position appears more reasonable than that of John of St. Thomas who in his Summulae lists without any distinction such definitions by causes simply as species of the definition quid rei.⁴⁷ St. Albert concludes by pointing out that any other explanation made by accidents can only be called a description of the nature, not a definition. This description should be made by proper accidents, and not by common accidents.

When Aristotle and St. Thomas define definition it is ordinarily the definitio quid rei to which they have reference. Definition simpliciter and most properly for them appears to mean the essential definition. They distinguish it carefully from the ratio exponens significationem alicuius nominis.⁴⁸ We have here another indication that definition is analogical and that it applies per prius to the essential definition.

The definition of an analogical term will apply perfectly only to that in which it is found per prius. Thus the definition of definition must be given primarily of that which is definition per prius--the definition quid rei. Definition does not appear to be univocal to definition quid rei and quid nominis as the definition given by John of St. Thomas seems to imply--oratio naturam rei aut termini significationem exponens. The first definition should be that of the primary analogue.⁴⁹

The definition quid rei is opposed to nominal definition, the definitio quid nominis. The distinction between the two

has perhaps most clearly been expressed by Cajetan. The two kinds of definition are opposed as the quiddity of the word is opposed to the quiddity of the thing. Cajetan gives us this explanation in his commentary on the Posterior Analytics:

Nominis autem cum ad aliquid sit et essentialiter alterius signum tum praecognoscitur quidditas, quando eius significatio innotescit. Rei autem quidditas, non nisi per essentialia omnia patefit. Unde et proprium interrogativum quid nominis est quid significat: proprium vero interrogativum quid rei, est quid est.⁵⁰

To know the quid nominis is to know what is signified by the word. Such a knowledge can be acquired by proper or common accidents of the thing signified, by communia, by extranea, by logical intentions, by signs, or also by essential principles. To know the quid rei is to know the quiddity of that which is signified--what it is. The question quid est can be answered only by predicating adequately what pertains in the first mode of per se predication to the nature signified. This must be an essential definition; and since only beings have an essence, a definition quid rei can be given only of beings. Nominal definition can be given of non-beings as well as of beings since all that is involved is the signification of the word. We cannot formally know the quid rei of a thing unless we first know that it is. We can give such a definition only of real beings. No nature has the ratio entis unless it be always, or frequently or rarely, imperfectly or perfectly, or for some time. Thus if we do not know that a thing is, we may give a

definition of it by proper essential principles which will coincide materially with the definition quid rei, but will be formally only a nominal definition.

A definition quid rei can be given only of entia incomplexa and must explain the thing from first potency to ultimate act. Even complex beings may have a nominal definition, but this applies to them not as complex but in so far as they can be brought under some form of incomplexy. Provided that some name can be given to a complex whole, as for example Iliad to the history of Troy, any oratio explaining that name would be a definition.

We find the essential difference between the two kinds of definition in this that the quid nominis is the relatio nominis ad signatum, whereas the quid rei is the essentia rei relatae seu significatae. All definitions which are not essential definitions are only nominal definitions. Descriptive definitions are one kind of nominal definition and not a species of definition quid rei as John of St. Thomas would have it.⁵¹ The nominal definition is not limited to definitions which approach an etymology of a word. Cajetan's explanation is in complete harmony with the principal texts on this subject in Aristotle and St. Thomas.⁵²

Another aspect of definition as an analogous notion is found in the way definition is applied per prius et posterius

to the definition of substance and of accident. The complete definition of an accident could likewise be called a definition quid rei, but only per posterius, in the same way as essence is said per prius of substance and per posterius of accident, as is explained in the Metaphysics.⁵³

The Distinction of the Real, the Logical, and
the Complete Definition

In distinguishing the real definition from the dialectical or logical definition we may follow the principle enunciated by St. Thomas in his commentary on the De Anima:

Si quis ergo assignet definitionem, per quam non deveniatur in cognitionem accidentium rei definitae, illa definitio non est realis, sed remota et dialectica. Sed illa definitio per quam devenitur in cognitionem accidentium, est realis, et ex propriis, et essentialibus rei.⁵⁴

To determine exactly what is a real definition in each of the sciences, we must ask ourselves what it is that answers the question quid sit with reference to the particular genus subjectum. The Philosophus, who is interested in the existence of things, will answer with the quod quid est which for him means the intrinsic causes of a being, matter and form. The Logicus, accepting the term, cause, in its common sense, can define also by the extrinsic causes, i.e., the end and the agent cause. The quod quid est for him extends to all four causes.

We must note also that in the definition of a substance or subject, a real definition will not necessarily be a complete definition, although a complete definition will always be a real one. A complete definition is one which embraces all the causes of a thing. There can be only one complete definition of any given thing.⁵⁵

In natural philosophy the natural or real definition should be given by matter and form. A definition which is given by matter but which ignores the form is natural but imperfectly so. Only the naturalis considers sensible matter as having nature for its principle. The artist considers matter but with art as his principle. A definition by the form alone without a limitation to such matter would be a logical or dialectical definition. The dialectician proceeds ex communibus; and form, in that which it is of itself, is common. We do not here mean the proper form, for a definition by it would necessarily involve a relation to such a matter.⁵⁶ In like manner definition by efficient or final causes alone, in so far as such definitions cannot be reduced to definitions indicating the proper matter and form, will be only logical definitions.

A complete definition in natural philosophy will be one which includes all four causes. In such a definition the whole process of generation of the thing as natural would be included.

In defining the species alone of the natural substance, we would have to include only common sensible matter. The generative process would not have to enter this definition, since "the definitive character and form of each being precedes the material."⁵⁷ The place of physical genus in natural definition will be discussed in the third section of this study.

In mathematics a real definition will be according to the formal cause, but it must include likewise intelligible matter.⁵⁸ A real definition in metaphysics must be by the form. It may, however, include also the efficient and final causes.

In determining the nature of real definition for accidents we must take into consideration the fact that essence, together with definition which signifies it, are primarily said of substances and only secundum quid of accidents. Definition, therefore, will be found in a different way in substance and in accident, and not univocally in both. We cannot have a true definition of an accident inhering in a subject without including the proper subject in its definition. Accidents have being only as inhering in a subject; their quiddity depends on their proper subject. A formal definition by the essential principles alone is only a logical definition, as St. Albert states.⁵⁹ The definition of thunder as sonus communis or sonus in nubibus is not limited to thunder; not

every sound in the clouds is thunder. An accident has its species not per seipsam but as constituted in matter or its subject. In order to designate the genus and difference adequately, we must go beyond the intrinsic principle of the essence of the accident and add to the definition its proper subject as proper cause and principle. The real definition will be the complete definition. In comparing the two kinds of definition of an accident to demonstration, we should note that the definition by the quiddity alone is as the conclusion of a demonstration. It is demonstrated but does not itself demonstrate anything. The definition including both the quiddity and the proper subject, the quid and the propter quid, differs from a demonstration only in the position of the terms.⁶⁰

P A R T II

THE DEFINITION IN THE SECOND BOOK OF

THE POSTERIOR ANALYTICS

CHAPTER I

THE FOUR QUESTIONS PERTAINING TO SCIENCE (Chapters 1 and 2)

The Ordering of all Questions to the Question of the Middle Term

The definition will be considered in this section precisely in relation to demonstration. After determining the nature of the demonstrative syllogism in the first book of the Posterior Analytics, Aristotle devotes the second book to a study of the principles of the demonstration, namely, the middle term and the indemonstrable first principles. He intends to determine exactly what these principles are and how we come to know them. Except for the last chapter, the whole book is given to the study of the former principle, the mean. Since the mean in the demonstration propter quid must be a definition, we can see why questions about the definition should occupy so much of Aristotle's time in this second book.

In considering the definition in relation to demonstration two questions will immediately come to mind; what precisely is the role of definition as principle in a demonstration? Can a definition itself be demonstrated, and if not, how do we arrive at one? A more adequate solution can be given to these problems if we approach them with Aristotle through the four possible 'questions' about an object of knowledge, which he enumerates in the first chapter.

In his treatise on the Posterior Analytics, St. Albert refers to this part of logic as communicating the ability to demonstrate, an ability which consists in the art of finding the demonstrative mean.

. . . oportet tradere demonstrandi facultatem in quolibet demonstrabili, quae (inquam) ars consistit in inventione medii demonstrativi.¹

This mean is employed in order to have scientific knowledge of some conclusion. Thus Aristotle will proceed to reduce all things about which we entertain doubts, all things which are truly knowable (vere scibiles) through demonstration or in demonstration, to a knowledge of the mean. The genera of things knowable in the above way must correspond, then, to the doubts or questions which can be entertained about them. We do not form these questions, as St. Thomas points out, about immediata, which, although they are true, have no mean. These doubts, all of which relate in some way to a knowledge of the mean, can be reduced to these four questions: quia, propter quid, si est, and quid est. It will be necessary to see how these questions are ordered to the question of the mean and to consider certain difficulties which arise from them apropos of the definition.

The questions quia est and si est both seek the same thing--is there such a cause or mean? Can such a cause, which would be the middle term in a demonstration, be found? The

former question, quia est, asks it in a complex way, (i.e., as a complex question). Is there a cause to be found why this thing is "such," e.g., why man is white? The latter question, si est, presents the inquiry as a simple question. Is there a mean or cause to be found why this is, e.g., why man is?

The question propter quid follows immediately on the question quia est and is, like it, a complex question. When we ask propter quid, we are seeking the mean itself and formally as middle term in a demonstration--the reason why this thing is such, why man is white. The question quid est follows immediately on the question si est. It is similarly a simple question. When we know that a thing is, we ask what it is, e.g., what man is. When we ask quid est, we are seeking that which is de facto a mean, but we are not seeking it formally as a mean in demonstration.²

All are questions in some way ordered to a knowledge of the mean, the middle term. The questions si est and quia est inquire whether such a mean exists or can be found. The other two inquire about the nature of the cause or mean itself. If I ask, "Why does the moon undergo an eclipse," (propter quid) my answer will be the same in subjecto as if I should inquire, "What is an eclipse," (quid est).

I will seek it, however, under a different formality in each case: in the latter question, as the essence signified by

the definition; in the former, formally as the cause, the middle term in a demonstration.

The questions quia est and propter quid refer only to the passions of a subject. The question si est (an est) inquires primarily about a subject. It inquires about a proper passion, not formally as it is the passio of a subject, but as it is a certain thing in itself.

. . . quaestio an est, quaerit de subiecto et passione non ut passio est, sed ut res quaedam in se est, quoniam dubitare contingit de rebus illis, quae passiones sunt, an sint, et possunt res illae accipi ut substantia aliarum passionum, et consequenter de eis tunc supponetur an est, ut patet de triangulo de quo quaestio an est, formatur: et tamen passio est ut dixit Aristoteles in principio primi.³

Before taking up the particular difficulties it will be well to determine the sense in which the answers to the four questions are vere scibiles. A text from St. Albert explains this briefly:

Quaecumque enim vere scimus, . . . sunt scita vel per demonstrationem, ut complexa, vel per ea quae sunt in demonstratione, sicut per medium quod est diffinitio: sicut 'quia est,' scitur ex conclusione demonstrationis: scientia autem 'propter quid', scitur per medium demonstrationis potissimae secundum quod actu mediat inter extrema: scientia autem 'quid' habetur per diffinitionem non in quantum mediat, sed in quantum est diffinitio: et scientia 'si est,' relinquitur ex illa.⁴

The Definition and the Question 'quid est'

Several difficulties will have to be resolved to clarify the relation of the question quid est to the definition.

a) Does the question quid est inquire about something complex or something incomplex? If the answer to this question is something knowable (scibile), it should be stated in an enunciation, which alone has formal truth. But the enunciation is something complex, whereas the definition--which properly answers this question--is something incomplex.

This apparent contradiction finds its resolution in the notion of the way in which truth or falsity can be applied to the definition. It is evident that each question must seek that which is the proportionate response to it. To the question quid est, what is it, we must respond with the definition of the subject in question. This definition is something incomplex and Cajetan gives us the reason for this:

Quaestio quid quaerit formaliter de incomplexo, quoniam quaerere de complexo iuxta secundum adiacens pertinet ad quaestionem an est, et iuxta tertium adiacens ad quaestionem quia est, et propter quid.⁵

The definition, therefore, is something incomplex and refers strictly to the question quid est. The definition, moreover, is the ratio of the truth of the complexum sought by the question an est. The complexum which is the answer to the latter question is stated as an enunciation and it alone formally has truth. Because the definition is the ratio of this truth, the definition as well can be called scibile and true.⁶

b) Before the whole definition can be had in answer to the question quid est, one must first investigate the

essence by single quidditative predicates. But to all appearances the latter should be answers to the question quia est rather than the question quid est. Since they inquire about the composition of two things, the subject and this or that quidditative predicate, they necessarily involve a complex question (quia est).

The following principle must be accepted as fundamental in resolving this doubt: any question which inquires in a complex manner (complexe, i.e., according to the tertium adiacens) about the quod quid est or essence, pertains to the question quia est. Quidditative predicates considered absolutely according to their existence in their subject pertain simpliciter to the question quia est; to inquire, however, about the mode of this existence (inexistentia) by which they are parts of a definition, pertains primarily to the question quid est because the latter question alone investigates the essence as a whole. But because of the form of the enunciation involved in investigating them, quidditative predicates, considered as parts, also pertain by a secondary intention to the question quia est. The form of this enunciation is the form of the tertium adiacens. They remain, however, fundamentally ordered to the question quid est.⁷

The above conclusion (that a question inquiring complexe about a quiddity pertains to the question quia est) is also indicated by the fact that the four dialectical questions

or problems enumerated in chapter four of the first book of the Topics, one of which is the question de definitione, are all included under the present question, quia est. Here, however, in the Posterior Analytics the definition is sought formally as something incomplex. Only the whole essence itself, the quod quid est, pertains as such to the question quid est. For the dialectician, on the other hand, any question about quidditative predicates (genus, difference, etc.,) can be reduced to the question quid est, the question de definitione, precisely because it does not matter to him whether the question is solved through a common or a proper reason.⁸

c) It should be evident that these questions are not as such ordered to the praecognita of the demonstration. The use of these four questions to determine the praecognita is very misleading.⁹ That the question quid est, as here used, does not include the definitio quid nominis, the pre-existent knowledge of the predicate, and that the question quia est does not include the truth of any immediate principles is clearly indicated by Cajetan in his analysis of these questions.¹⁰

CHAPTER II

THE MIDDLE TERM IN RELATION TO DEMONSTRATION:

PROCEDIT DISPUTATIVE (Chapters 3 to 7)

The Problem

After showing that all the questions are in some way a question of the middle term, Aristotle considers how we come to know this middle term. He discusses the question according to the two formalities of the mean, i.e., the quod quid est and the propter quid. Of these two, the former will be more to our purpose, since it necessarily involves a study of the definition, an oratio signifying the quod quid est.

Aristotle had determined in the first book of the Posterior Analytics that from the real definition of the subject is deduced its first proper passion, and that from the definition of the first property is deduced the second, etc. In a posteriori demonstration as well, the middle term must be the nominal definition of that whose existence is to be proved. If, as is evident, the whole demonstration must depend on the middle term, signified by the definition, how can the authenticity of the definition be guaranteed? Can we have the same certitude in regard to a definition as we have in demonstration; or, in other words, can a definition be known through demonstration, and if it cannot be known in this way, how must it be arrived at?

Looked at from another point of view the problem will resolve into the question of a method of proceeding from a nominal definition, presupposed in any investigation, to an exact real definition by the proximate genus and specific difference. It is a question of how to arrive at a distinct concept of a given essence when we have only the confused concept with which to start.

In accord, then, with the purpose of the second book--to establish the principles of demonstration--Aristotle will limit himself to a consideration (a) of the definition and its significatum, the quod quid est, in their immediate relation to demonstration (chapters three to nine) and (b) of the general rules for determining the elements of a definition within the cadre of the predicables and the categories (chapter twelve). The correspondence of the parts of the definition to the parts of the thing defined will be clarified only in those books of the Metaphysics where the definition is used to determine dialectically the nature of substance and of its parts. The question of what is properly definable and of the unity of the definition will be clarified in the same section. The use of the logic of definition in those books remains an excellent example of dialectica utens, proceeding formally from the habitus of logic.

In chapters three to seven of this book Aristotle inquires disputative whether the definition can in any way be arrived at by demonstration. He does this by opposing demonstration and definition, and by reasoning from common arguments. Chapters eight and nine will be devoted to determining what is true in these arguments.

Whether the Same Thing Can be Known by Definition
and by Demonstration

In chapter three the question is raised whether the same thing can be known both by demonstration and by definition. The difficulties are considered on the part of the object to which demonstration and definition can apply.¹¹ That what is known by definition is not also demonstrable is first arrived at by the following series of arguments:

1) Not everything that is demonstrable can be defined.---

The initial proof supposes that every definition manifests the essence. Whatever is predicated of the essence is predicated affirmatively and universally; but not all demonstrations conclude affirmatively and universally; therefore not all definable things are demonstrable.

For the cases where demonstrations do conclude affirmatively and universally, we can argue that for one thing, as one, there seems to be only one scientia, one mode of

knowing, be it demonstration or definition. Cajetan explains that the argument rests on the knowledge which the knowable object demands or generates ex se.¹² In a definition taken by itself, we know only the principle of demonstration; knowledge, however, of the principle does not imply knowledge of all deducible conclusions.

Another argument stems from a point established in the seventh book of the Metaphysics--that definition is principally of substances, and that it is of accidents only as signified in the manner of substance. Demonstration on the contrary is only of things signified in the manner of an accident, i.e., as inhering in a subject.

2) Not everything definable can be demonstrated.--The argument that for any one thing there is only one mode of knowing, is again applied. Furthermore, the definition as first principle of demonstration, must be indemonstrable; there cannot be an infinite regression in demonstration.

3) Definition and demonstration are mutually exclusive.--Definition reveals essential nature, but demonstration assumes this. Another argument is that every demonstration proves a predicate of a subject either as attaching or as not attaching to it; in definition there is no predication of one part of another part. There can be no essential predication between genus and difference since they are formally different.

Demonstration and definition also differ in that they answer respectively the two questions quia est and quid est, neither of which is a part of the other. If the definable is not demonstrable, it follows clearly that definition and demonstration cannot be identical, nor can one be contained within the other.

Whether the 'quod quid est' Can be Syllogized or Demonstrated

In chapters four to seven Aristotle discusses seven possible ways of arriving at the quod quid est, the essential nature signified by the definition. The question will be whether the quod quid est can be syllogized or demonstrated through any of them. Of these possible approaches the first will demand a more extended treatment because of its importance in "determining the truth" in the eighth chapter.

(1) By true demonstration: through convertible terms.---

At first sight this method may appear to be nothing more than a repetition of the question discussed by Aristotle in the immediately preceding chapter (whether the same thing can be known by definition and by demonstration). To account for this renewal of the question in chapter four after the conclusions of chapter three, which we noted in the above paragraphs, St. Thomas gives the following brief explanation:

Fuit autem necessaria haec disputatio post praemissam, quia in definitione attenditur non solum ut illud quod significatur, sit quod quid est, sed etiam ut tali modo tradatur qui competat ad manifestandum quod quid est; ita scilicet quod sit ex prioribus et notioribus, et alia huiusmodi habeat quae in definitione sunt observanda.¹⁴

To distinguish the definable and the demonstrable it is not sufficient merely to show that it is the quod quid est which falls under definition. We must go further to consider the particular requirements for the proper manifestation of the quod quid est.

In distinguishing the fourth chapter from the third, Cajetan offers an explanation which goes beyond that of St. Thomas while not disagreeing with it. The above-cited paragraph points rather to such an interpretation.

De quod quid est igitur, quod per diffinitionem constat significari, duplex est quaestio ab Aristotele mota secundum eius duplicem acceptionem et quaestio quidem prima in capitulo praecedenti tractata, de ipso absolute sumpto quaesivit an posset attingi demonstratione, ut ex dictis ibi approbantis patet. Praesens autem de ipso relato ad id cuius est inquit an possit demonstratione sciri ipsum esse huius quod quid, id est, an applicatio diffinitionis, ut sic, ad diffinitum, possit per demonstrationem sciri, etc. Notanter autem dicitur 'ut sic' quoniam praesens quaestio non est an id quod significatur per diffinitionem possit processu demonstrativo concludi quod insit rei significatae per nomen diffiniti, puta an possit demonstrari quod homo sit animal bipes, ut ex textu colligitur et ab omnibus expositoribus unanimiter dicitur, sed an id, quod significatur per diffinitionem possit processu demonstrativo concludi quod insit, ut quod quid est seu per modum quo quod quid est inest ipsi rei significatae nomine diffiniti, unde quaestio ista est formaliter de modo inexistantiae, an possit demonstrari et non de ipsa inexistantia simpliciter. . .¹⁵

Whereas the third chapter considers the quod quid est absolute in reference to definition and demonstration, the fourth will ask whether the significatum of the definition can be demonstrated as such of that of which it is the essential nature; can the quod quid est be demonstrated precisely as such, i.e., as predicated in quod quid erat esse? The particular method of demonstrating the quod quid est which occupies this chapter is that of accepting convertible terms in the syllogism. The quod quid est which is concluded in such a syllogism must be (a) proper to this subject, since everything must have its proper essence; it must also be (b) predicated in quid, essentially, since not everything that is proper belongs to the essence. From this it follows that the quod quid est must be (c) convertible with that of which it is such.

A syllogism which would properly demonstrate the quod quid est must be such as to have all its terms convertible with each other. This can be deduced from the fact that the quod quid est is proper to the subject. Moreover, since the essence must be predicated in quid, the major term must be predicated in eo quod quid est of the middle term and the middle term in like manner of the minor term. If these conditions are not fulfilled, it does not necessarily follow that the quod quid est will be concluded.

If, however, all these conditions are fulfilled, the demonstration will still fail because there will necessarily be a petitio principii. If that which is predicated in both propositions is predicated not only in eo quod quid as the genus is predicated of the species, but is also the quod quid erat esse signified by the definition, it follows that the definition has already been assumed in the middle term.

The question immediately arises whether the syllogism which is here rejected because of the petitio principii is the one in which one definition is demonstrated through another definition of the same subject. If Aristotle does not here refer to that process, the question still remains, what process does he exclude because of the petitio.

In resolving this doubt it will be necessary to point out first of all that if the demonstrative process described by Aristotle did not involve a petitio principii, it would formally demonstrate the quod quid est of its subject.

It is likewise clear that this process assumes two definitions as the major and middle terms. This follows from the convertibility of definition and quod quid est as here used, an interpretation confirmed by the example in the text of the Platonic definitions of the soul.

Before proceeding to the answer, the several ways in which a petitio principii might possibly occur in a syllogism of the quod quid est must be investigated.

1) Is the petitio principii merely on the part of the nature of the thing considered secundum se, although not if considered quoad nos? Thus we could say that of the thing considered in itself there is only one definition; so that in a syllogism involving several definitions of the same object, there would be a discourse ab eodem ad idem. But the petitio would not necessarily follow if we considered the thing according to the concepts which we form of it, in which case we could have some concepts more known than others.¹⁶

2) Or is there a petitio principii not according to the propositions themselves but only according to that which is principally and formally sought in the syllogism? In this way we would grant that the major is the quod quid est of the middle term and the middle the quod quid est of the minor, ruling out any defect in the propositions themselves. The petitio would then lie, not in the assuming of the quod quid est which is concluded, but in the fact that one quod quid est has already been assumed as middle term in a case where we are seeking to demonstrate a quod quid est of that of which it is simpliciter, and not this or that quod quid est.¹⁷

3) A third way in which the petitio can be understood is as stemming from the fact that there cannot be a quod quid est of a quod quid est, just as there cannot be a definition of a definition; otherwise there would be an infinite regression

in definitions. If, then, a syllogism were so arranged that the major would be the quod quid est of the middle term, and the middle term of the minor, there would be a quod quid est of a quod quid est. This would leave only a verbal difference between the two. They would be the same not only secundum rem but also formally.

But the question remains; is the process which Aristotle here disclaims the one which demonstrates one definition through another definition of the same subject? It appears that this is not the demonstration in question. The latter process, as St. Thomas expressly teaches in lesson seven, does not sufficiently demonstrate that what is concluded is the quod quid est of the subject, although this is syllogized logice, as will be explained in that section. The present process, as formulated by Aristotle, would demonstrate the quod quid est if it were not for the petitio principii necessarily involved. The process which Aristotle actually rejects is the third one explained above where the major is actually the quod quid est of the mean, and the mean of the minor. In such a syllogism there would be three terms only secundum vocem, and therefore a petitio principii. This is the interpretation favored by St. Thomas, St. Albert, and Cajetan.¹⁸

If anyone should insist that Aristotle speaks here of that process by which one definition is demonstrated through another, he might use the first or second of the above expla-

nations to account for the petitio principii, but he would have to account likewise for other aspects of the question which present a formidable difficulty. If this demonstration concluding the quod quid est is not to be rejected because it involves a petitio principii, and if the objection to it must stem from some other reason, why does Aristotle never mention this other reason? Whenever Aristotle rejects in this book the demonstration of the quod quid est, it is because of the petitio principii. Moreover, how can the difficulty presented by the third explanation be overcome?

(2) By a process of division.-- The second possible method of demonstrating the quod quid est is by way of division beginning from the supreme genus and descending to the ultimate difference. This method likewise fails to be demonstrative because of a petitio principii. Aristotle rejects it first of all for a common reason drawn from the Prior Analytics, that nothing can be syllogistically proved by way of division since the conclusion will not follow necessarily from the premisses.¹⁹ Why this is necessarily true is succinctly explained by Sylvester Maurus:

. . . vel enim divisio est per membra contradictoria, ut cum animal dividitur in rationale et irrationale; vel non est per membra contradictoria, ut cum animal dividitur in rationale, hinnibile, rugibile, etc.; si divisio fit per membra contradictoria, petitur principium; si non fit per membra contradictoria, nisi petatur principium, conclusio non sequitur necessario ex praemissis; ergo, etc.--

Probatur prima pars minoris; dum enim arguimus: 'homo vel est rationalis vel irrationalis; non est irrationalis; ergo est rationalis';--si irrationale contradictorie opponitur rationali, idem est 'non esse irrationale' ac 'esse rationale,' cum duae negationes affirmant, atque idem sit auferre unam partem contradictionis, et ponere aliam partem contradictionis; ergo si argumentamur per divisionem ex membris contradictoriis, petimus principium et probamus unam partem contradictionis per negationem alterius, quod est probare idem per idem.-- Probatur jam secunda pars minoris; si enim argumentamur ex divisione per membra non contradictoria, ex tali divisione non constat membra enumerata esse omnia; sed si membra enumerata non sunt omnia, non sequitur ex necessitate conclusio.²⁰

The petitio principii which necessarily enters any such proof is evident from the above text. If the division is made by contradictory members, the only thing that could strictly be syllogized is something superior to that which we intended to prove. We would have to conclude disjunctively of the inferior member both differences by which we divide the superior whole. For example, animals are either rational or irrational; man is an animal; therefore, man is either rational or irrational. If we should wish to conclude one or the other member, we would beg the question. On the other hand if we do not divide by contradictory members, we cannot prove that the division exhausts the genus, and we must, therefore, assume what we intend to prove.

In comparing division with induction it becomes evident that in each we must assume that all the members contained under some common factor have been accepted. Otherwise induction could not conclude the universal from singulars, nor

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 bimediated 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 disunctionis 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 propter 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 probari 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 definer 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 quidity 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 eadem; 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 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 re-examining 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, (sylogismum 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 eas.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, definitio 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 definitio 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 Metaphysics:

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 respondetur 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

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.

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.⁴³ 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 peteret: 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 hwereby 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 things 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 relinquatur, 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, . . .⁴⁹

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 essentielle 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 accommodate 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.⁶⁶

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 extinguitur 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 continuae, id est non distinctae 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 potissima¹ 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.

CHAPTER V

HOW TO TRACE THE ELEMENTS PREDICATED AS CONSTITUTING THE DEFINABLE QUIDDITY (Chapter 12)

After determining the relation of the quod quid est to demonstration, it is Aristotle's intention in the tenth and eleventh chapters to determine likewise the relation of the propter quid to demonstration. He does this in showing how each of the four genera of causes can be knownⁿ proportionately as propter quid in a demonstration and how this varies in different things. The relation of one of these causes, the formal cause which is most properly called quod quid erat esse, has already been determined at length in the two previous chapters.

We shall pass on immediately to the next problem, which is of more interest to us, the question of how the quod quid est (chapter twelve) and the propter quid (chapters thirteen and fourteen) are to be investigated. A study of the former of these two will be very much to our purpose since it is nothing other than a discussion of the method to be adopted in tracing the elements predicated as constituting the definition, for the definition signifies the quod quid est. Such a discussion follows necessarily at this point. In the eighth chapter, where Aristotle determined

the relation of the quod quid est to demonstration, it was shown that certain quiddities and definitions can strictly speaking be elicited from a demonstration and must also be known in this way. Such a method assures us that we have the definition through a proper cause, but it is not a universal method nor does it develop a methodical process of searching for the defining elements which are predicated essentially of anything.⁷⁸ The present chapter considers two such methods of which we shall give only the broad outlines.

General Conditions

Aristotle first notes several general conditions for the quidditative predicates which will constitute the definition. They must first be predicated always and universally of their subject. Secondly, the predicates which are chosen should be wider in extent than the species to be defined but should not go beyond its genus. Such attributes are to be selected up to the point where they are severally wider than the subject but collectively coextensive with it.

An objection might be raised to the second condition from several texts in the Metaphysics which would indicate that the ultimate differences are equal in number to the species, that an ultimate difference does not exceed the species, and that a definition can be formed of one genus and one difference;

since the difference corresponds to the form it would seem that just as each thing has a form proper to it, so it should also have a proper difference.⁷⁹

The opposition in the texts may be resolved on the following basis. If the difference which would manifest the substantial form were known to us, such a difference would not be wider in extent than the species. But since essential forms are not per se nota to us, we must take accidents as signs of the form. These accidents, moreover, should be more common than the species and not proper accidents, for the latter are to be demonstrated from the definition of the species. We must use these more universal accidents as signs of the substantial form. From them we can determine the substantial predicates of the definition from which we may then demonstrate the proper passions. If the substantial forms are not per se nota to us, it follows that likewise the proper accidents, which are convertible with them and which must be demonstrated from them, cannot be per se nota to us. Thus we cannot know them as such before the definition of the species in order to designate the essence through them.

The principle that substantial forms are in themselves unknown to us and that they must be designated from their accidents is repeated many times in the works of St. Thomas.

The human intellect can have no direct intuition of an essence as such. The intellect of a separate substance, on the other hand, can grasp an essence in itself. In accordance with our way of knowing we must start from the objects of sense knowledge, the exterior accidents, in order that the intellect may come to know its proper object, the quiddity of things. From these accidents we come to know the natures and we name them accordingly as we know them.⁸⁰ We likewise use accidental differences as more known to us for essential differences in order to manifest the form. The accidental differences are not the substantial form, but, as is explained in the Metaphysics, there is a proportion between them and the substance which is their cause.⁸¹ They enter a definition only as signs of the substantial form and are in this way called quidditative predicates. A very striking example of this is the fact that the intellectual soul knows itself as well as the intellect only through its acts which are purely accidental predicates.⁸²

The principle is very clearly stated in the commentary of St. Thomas on this particular section of the Posterior Analytics.⁸³ Beyond this text we have an excellent statement of it in his commentary on the De Anima.

Si enim recte definirentur et possent cognosci principia essentialia, definitio non indigeret accidentibus. Sed quia principia essentialia rerum sunt nobis ignota, ideo oportet quod utamur differentiis accidentalibus in

designazione essentialium: bipes enim non est essentialis, sed ponitur in designatione essentialis. Et per eas, scilicet per differentias accidentales, devenimus in cognitionem essentialium. Et ideo difficile est, quia oportet nos prius cognoscere quod quid est animae, ad cognoscendum facilius accidentia animae: . . . E converso etiam accidentia, si praeaccipiantur, multum conferunt ad cognoscendum quod quid erat esse, ut dictum est.⁸⁴

The First Method: The 'Via Divisiva'

Aristotle now considers how we are to investigate these parts. He gives us two ways: the first, the way most appropriate to the investigation of the definition, by the division of the genus; the second, another way through the consideration of like things and differences. This investigation pertains to the intellectual operation of simple apprehension according to its object which is the quiddity. In it the intellect proceeds from a confused notion of the thing to be defined or the nominal definition to a distinct concept or real definition. We shall enumerate first of all the steps of the first process as given by St. Thomas and Cajetan in their commentaries.

If anyone wishes to define something, he should first divide the genus subjectum of the science under which it falls into its primary parts which are the infimae species. He should then attempt to define these species; by this is meant a consideration of the descriptive conditions of the species.

From a knowledge of these conditions he can come to know the first or supreme genus under which this species falls. In order to elicit the specific difference he must then consider the proper passions of the quiddity which is to be defined. These must be considered in themselves and in their causes. This is done by returning to the first genus and then through a consideration of the properties of the successive subalternate species determining in which subalternate species the species infima to be defined falls. By dividing the first genus in this way we descend ultimately to the difference which is proper to the essence to be defined.

In such a process the proper passions must be considered since they have the form as their cause and manifest the various specific differences. From the descriptions of the more universal genera by their properties it is easy to determine under which genera the species falls, for these properties are predicated of the species only inasmuch as it falls under the genus; these predicates inhere per se only in the genus. The inferior species are composed of the rationes of more universal ones; the latter are principles of the definition of the former. Therefore it is necessary to consider the proper passions in order to determine these more universal genera.⁸⁵

Both Averroes and St. Albert interpreted Aristotle's description of this method in a slightly different way. They concluded first of all that this method was ordered to the search for the essence of a subalternate species alone; St. Thomas, interpreting the text in question more broadly as concerning any universal whole or definable whole, referred it to either subalternate species or species specialissimae.⁸⁶ For Averroes, moreover, the process was far more simple, involving fewer steps in view of his notion that genera are composed and that species are simple.

We must note again that this process is useful ad colligendum quod quid est, non ad demonstrandum ipsum.⁸⁷ The conclusions concerning the process of division arrived^{at} in chapter five of this book must be kept in mind in evaluating the present method. Although the via divisiva does not give us a syllogistic proof of the quiddity, it can assure us that we have included all the elements of the definition of the quiddity. In order that the present method give us this assurance the various conditions described below must be observed. Only through them can we be certain that no essential differences have been omitted in the descent from the first genus.

In order to avoid any defects in the definition we must observe first of all the proper ordering of the parts. If a

definition is composed of genus and difference, it will be important which part is genus and which is difference. Among the terms of a definition the posterior must always be the act and perfection of the prior. A definition demands a certain mode of unity beyond the unity of an enunciation which is not varied by a conversion of terms.⁸⁸ It requires a unity of the terms according to the order of nature, which will make them an unum per se. The via divisiva demands that that which is divided be placed first, the dividing elements in proper order after it, and not the converse.

We must avoid, likewise, omitting anything which is required for the essential nature. All the differences of superior genera pertain to the quiddity of any inferior genus, for the latter is constituted by the differences dividing the superior genus. To be certain of an integral definition, we must omit no essential difference in the process of division. A difference is passed over if we divide a higher genus by a difference which divides an inferior genus, so that the division does not embrace all that is contained under the superior genus.

In establishing a definition by division three things must be observed:

(1) That only essential predicates be admitted. This will insure that there will be nothing superfluous in the

definition. The rule may be observed through the use of the method proper to arguments about accident, as well as about genus as developed in the second and fourth books of the Topics. From the dialectical loci treated there, we can argue (a) that the predicates inhere in the subject, (de problemate de inesse ut accidens), and (b) that they are predicated in eo quod quid, (de problemate generis).

(2) That the elements be arranged in the right order. This will follow if we always place first the term which is more common and prior to the term which is immediately consequent. If man is two-footed, he is animal, but not vice versa.

(3) That all things which pertain to the essence be included. No difficulty will arise on this point if we always assume the immediate differences which contain universally the thing divided. The ultimate difference will then complete the ratio of the definitum. The second and third points insure that nothing essential is lacking in the definition. They give us the genus and ultimate difference no further divisible by an essential division. If the division is to be made by immediate differences, they must be such in two ways: first of all in the sense of being immediate opposites between which no mean is found; and secondly as following immediately upon the genus which is divided so that no other differentiae intervene. If the differentiae are immediate in both of these

ways, it follows necessarily that the genus is exhausted by the division; thus it will not be necessary to assume or beg this point in such a division.⁸⁹

If a genus has more than two species, such a bimembered division must be judged to be insufficient simply and formally. But it could in some cases be called sufficient if the division is through differences which are truly contrary extremes, since in having the extremes we have also in a certain way the means. The species mediae are constituted from the contraries as is explained in the Metaphysics.⁹⁰

A genus should, moreover, be divided by its per se differences, not by those which are differences only per accidens. The per se differentiae are those to which the genus is in potency in virtue of the intrinsic ratio which constitutes it. For example, if we divide 'animal endowed with feet' the differentiae must be of animal qua endowed with feet--cloved-footed and not-cloven. A division, on the other hand, into white and black would be a division only by an accidental difference.⁹¹ This method of division is used by Aristotle to arrive, for example, at the genus of virtue and at the first definition of the soul.⁹² St. Thomas likewise calls it the via convenientissima to arrive at a definition.⁹³ The difficulties, nonetheless, which accompany the use of such a method under many circumstances were not ignored by Aristotle, as is evident from chapters two and three of the first book On the Parts of Animals.

The Second Method: 'Per Similia et Dissimilia'

After treating the mode of investigation through division, the modum maxime congruum, Aristotle teaches us another method, a way quoad nos, as will be explained. It is a method which ascends from inferiors to the superior, the quiddity which is sought. In looking for the definition of any quiddity we should first consider all those things similar to it, and then what is the same in all of them: e.g., esse rationale in all men. Then we should consider that which is the same in other things which are in the same genus as the first group but are of another species: e.g., the ability to neigh in horses, compared to rationality in man. After this we must search for a common ratio of the two groups. If a common ratio is found it will be the definition; if it is not found, then the ratio of each group must be distinct, and that whose definition is sought will not be one in essence but many, as in the example above; it cannot in such a case be represented by one definition.

Aristotle also shows from the terminus of this method and its order of proceeding that it is a proper mode of investigating the definition. Every definition must be of the universal and not the particular; if we consider the terminus

of this mode we see that it fulfills this requirement in arriving at something common or universal. The very order of proceeding in this mode, from defining singulars to universals, has two advantages to recommend it: (a) It is easier to define the singular, i.e., the less common, than the universal which is more common. There is more danger of equivocation as we define the more universal. (b) By first defining singulars we also start from that which is more certain and more known to us. In definition as in demonstration we must presuppose some knowledge as evident and manifest.

Several questions arise in reference to the latter method. The first of these is whether it is in fact easier to define the singular than the universal. If this is the case, then we must proceed from the singular to the more universal, which appears to be contrary to what Aristotle says in the Physics and St. Thomas in his commentary on the Metaphysics.⁹⁴ St. Thomas there states that the more universal is more known to us and easier secundum simplicem apprehensionem. Aristotle, moreover, orders the whole of natural philosophy on the principle that we must proceed from the more universal to the less universal as from that which is more known to us.

To answer this objection we must distinguish a twofold order of intellectual knowledge: secundum se and quoad nos.

There corresponds to this a double order of proceeding: (a) according to the order of nature and of doctrine secundum se, starting from the more universal; (b) according to the order of our investigation, starting with the less universal because it is easier to arrive at the unity of that which is less universal. The former proceeds from that which is more difficult, the latter from that which is easier for us. The two modes of investigating essential nature correspond to this twofold manner of proceeding.

Duobus enim modos venandi quod quid est docuit: primus quorum secundum ordinem naturae procedit a superioribus dividens, et nihil usque ad atoma praetermittens. Secundum autem a nobis incipit, et a posterioribus in priora procedit ex minus communibus magis communia quaerens; unde sit ut ille doctrinali processui magis serviat, hic investigativo.⁹⁵

Thus it is true that the more universal is easier for us to know according to the simple apprehension of terms, but not according to a complete quidditative knowledge. The context of the passage from St. Thomas upon which the objection was based supports this very response. Therefore, in first investigating any subject we start with the less universal and attempt to define it as well as to arrive at its properties; in the order of doctrine we proceed, as Aristotle says in the Physics, from that which is more universal to the less universal. This order, however, proceeds from what is more difficult for us, a point which is fully confirmed by the difficulty of the books of the Physics in natural philosophy.

Another difficulty arises in this respect: how can we define the less universal without first having defined the more universal, for the less universal contains the more universal actu et intellectu? Cajetan leads us to the solution by pointing out that we must not understand more universal and less universal so that the latter includes the former; rather take the inferior member formally according to its proper determination as distinct from the more universal. Take the inferior member according to its differential concept by which it is formally distinct from the more universal, the genus. The inferior member can be taken formally in two ways:

Uno modo secundum totum id quod formaliter est, et sic includit superius formaliter, quoniam quod quid est superioris est quod quid est inferioris, licet non convertibiliter, . . . et sic modo non accipitur inferius formaliter. Alio modo secundum id quod formaliter constituitur, et distinguitur etiam a superiori, et sic non includit superius, quoniam sic accipitur secundum differentialem conceptum, quia expers est generis formaliter ut in quarto Topicorum dicitur, et hoc modo loquimur hic de minus communis ut ex textu convincitur.⁹⁶

It is clear that the inferior member must be taken formally in the second sense, according to that which formally constitutes it and distinguishes it from its superior. Cajetan notes that the process of the second method terminates in the proper difference as is evident in the example of 'magnanimity' as developed by Aristotle.⁹⁷

If we refer to St. Thomas's prooemium to the De Anima, we notice that he attributes to Aristotle the view that the via venandi quod quid est is a via compositiva.⁹⁸ He remarks also that Plato considered it a via divisiva; Hippocrates, a via demonstrativa. Averroes and St. Albert make the same assertion. But in this chapter where the matter is expressly treated, Aristotle appears to describe the principal method of tracing the elements of the quiddity as a method of division, while making no mention of a 'compositive way.' What, then, is the via compositiva to which the commentators refer?

Averroes singled out the first method as the compositive way; but Averroes had succeeded in noting not two, but four distinct methods in this chapter of Aristotle, each of which concluded in a different terminus, so that one could not very well be singled out as opposed to the others in the manner of a via compositiva. Some commentators proposed the latter method as compositive, since it starts from a multitude which it proceeds to join in an ascending process. But this method is only a method quoad nos, not simpliciter; the question of searching for the essence is one of a processus simpliciter.

Cajetan concludes that the via compositiva can only be the first method. Aristotle, he explains, has already considered Hippocrates's opinion in neither wholly approving

nor wholly rejecting the value of the demonstrative procedure in establishing a definition. Plato's view was discussed when Aristotle determined that the method of division was useless for arriving syllogistically at a definition. Aristotle now concludes in this chapter that the proper procedure is one of division, though not in a way which will permit us to have the definition as the conclusion of a syllogism. Cajetan explains how the first method which we called a via divisiva, can be considered compositive;

Concludit tandem in hoc capitulo quod congrua ad venandum quod quid est, processus est divisivus, non syllogizando, quia hoc reprehendimus, sed colligendo incipiendo a supremo genere cum caeteris conditionibus dictis, additis regulis ex problematibus topicis; et haec est via compositiva. Licet enim divisiva dicatur quoniam a divisione incipit et dividendo incedat, efficaciam tamen ex compositione sortitur, et non ex vi divisionis. . . . divisiones utiles sunt ad colligendum quod quid est, non ad demonstrandum.⁹⁹

This method is compositive, then, as gathering the various quidditative predicates. Thus Aristotle's opinion is not altogether foreign to the others. He uses each of them in a certain way; both division and syllogisms based on the appropriate topics serve the method he describes, but in a manner differing from that conceived by his predecessors.

P A R T I I I

THE DEFINITION IN THE METAPHYSICS

CHAPTER I

THE IMPORTANCE OF DEFINITION IN THE METAPHYSICS

The notion of definition plays an important part as well in Aristotle's Metaphysics. It enters the sixth book as the principle of the specification of speculative sciences. Speculative sciences differ specifically according as their mode of defining is different.¹ The seventh and eighth books contain a further elaboration of the notion of definition for in them Aristotle uses the definition to study substance. In the study of opposition in the tenth book the intentions of genus, difference, and species are likewise considered. Our principal concern will be with some of the more fundamental points developed in the seventh and eighth books which contain the most extensive treatment of definition. We shall consider some of these points in briefly explaining why and how the definition enters the subject of the two books. It will not be necessary for this purpose to follow the steps of the argument in both books beyond their general outline.

These two books of the Metaphysics are devoted formally to the study of sensible substance. Why, then, is a lengthy consideration of definition involved in such a study? The answer will be found in the method which Aristotle proposes to follow in the study of substance. In the opening chapters of the seventh book Aristotle determines that the

science of metaphysics must treat principally of substance. After establishing the several meanings of substance and the fact that we must start our study of substance with sensible substance as the most known to us, he determines to study sensible substance logice in the seventh book. To argue logice, as Aristotle speaks of it here, is to proceed by dialectical arguments in which a logical intention enters formally so as to specify the argument. Thus it is necessarily an argument ex communibus and not ex propriis, since the second intentions of logic can be used as the basis of disputation in any science. Such arguments do not proceed entirely from terms proper to a given science. The arguments always remain formally logical, dependent on the science of logic. Such a logical method of inquiry is most properly used in metaphysics because of a certain affinity of the two sciences in the community of their subject matter. Each of the sciences has in a certain way the same subject. Just as all natural things fall under metaphysics in so far as they are being, so all natural beings can be the subject of logical intentions inasmuch as all natural beings can be considered by reason. In this way the subject of logic can be said to be coextensive with that of metaphysics.²

In order to study sensible substances, Aristotle will first investigate their quod quid erat esse, since the

quod quid erat esse is substance in the first of the four senses given in the third chapter, i.e., substance as essence, quiddity or nature. It is nothing other than the answer to the question quid est. He will investigate the quiddity ex modo prædicandi, a method which properly pertains to the logician. Since the modes of predication follow the modes of being, from the modes of predication we may discover the modes of being. Applying this to the quiddity we see that the quiddity is limited to those things which can be predicated per se of the subject in the first mode of perseitas. In this mode of predication the subject does not enter into the definition of the predicate. Such predicates are only the definition and its parts; the definition is the ratio which signifies the quiddity of anything.

This relation of definition to quiddity will help Aristotle in determining first of all what things have a quiddity. Thus he can ask whether the things in question have a definition since the definition is nothing but the ratio signifying their quiddity; he will inquire whether they have an essence or anything that can be given in answer to the question quid est.³ Since a definition is a ratio which has parts, he must determine later what these parts are and how they are related to the parts of the thing defined. Which parts of the thing defined are also parts of the definition and which are not?⁴

He must likewise determine how the parts of the definition combine to signify one thing and not several.⁵ The fact that Plato's Ideas cannot be defined will be of help in proving that they are not the quiddity and essence of things.⁶

This dialectical investigation of substance in the seventh book through the study of definition and the parts of definition which are predicated per se of substance yields a common argument for what pertains to substance. But, as St. Thomas explains in the seventeenth lesson of his commentary on that book, it has not yet been manifested exactly what that substance is which is the quiddity.⁷ It still remains for Aristotle to determine what secundum rem is the substance which is the quod quid erat esse. As an introductory step in determining this point, he first establishes by another dialectical argument in the last chapter of the seventh book that substance is as a principle and a cause. The argument which he introduces at that point is that substance is as principle and cause since it is that about which we can no further ask the question propter quid. Substance is itself the principle and cause to which other questions are reduced.

Thus after studying the nature of substance dialectically through predication he will proceed to study it properly as a cause and principle in this and that natural existing thing. As metaphysician his interest is to determine

the causes of being of the particular existent thing. Substance, then, is the formal cause of this being's being what it is. The quod quid erat esse is the propter quid why this flesh and these bones fall under this nature, whether that of man or that of animal. For the metaphysician secundum considerationem realem, only matter and form are principles of the quod quid erat esse; for the logician anything which can be predicated in quod quid est can pertain to the quiddity--even the efficient and final causes which are only extrinsic causes, but which can be predicated as illuminating a thing's essence. The metaphysician looks for agent and final cause properly as causes of this thing's being. Therefore he must search ultimately for the first causes which are cause of being in all things.

Aristotle proceeds, then, in the eighth book to manifest the proper principles of sensible substance. This will be done by arguing from what has been determined logice in the seventh book and thus applying those considerations to the res naturales existentes, as St. Thomas explains in the following passage.

Postquam determinavit Philosophus in septimo de substantia modo logico, considerando scilicet definitionem et partes definitionis, et alia hujusmodi quae secundum rationem considerantur; in hoc libro octavo intendit de sensibilibus substantiis determinare per propria principia, applicando ea quae superius inquisita sunt logice, ad substantias illas. . . . cum multa dicta sint in septimo logica consideratione circa substantiam, oportet syllogizare ex his quae dicta sunt, ut applicentur quae secundum considerationem logicam dicta sunt, ad res naturales existentes.⁸

. . . incipit Philosophus tractare de substantiis
sensibilibus inquirendo principia earum.⁹

He then shows that matter and form are the principles of sensible substance and determines likewise how they are united to constitute a whole. The development of these points involves a further consideration of the definition.

Our consideration of definition in these two books will be limited to only a few of the more important points. The interpretation of several of these will be much facilitated by the explanations found in the De Ente et Essentia of St. Thomas together with the commentary of Cajetan on that work. The first of these will be the question of what can properly have a definition. This will be followed by a discussion of the relation of the parts of the definition to the parts of the thing defined, and this by the question of the unity of the parts of the definition.

CHAPTER II
WHETHER ACCIDENTS CAN BE DEFINED

The Problem

One of the first applications of the method of predication in the study of substance is found in the fourth and fifth chapters of the seventh book. The definition has been defined by Aristotle as an oratio which signifies what a thing is.¹⁰ It answers the question quid sit and not the questions an sit or quale sit. If, therefore, the definition is that which signifies the quiddity, we can argue that if a thing can have something predicated of it by way of a definition, it has a quiddity or substance. It is clear that there is some kind of definition for sensible substances which are composed of form and of matter as a subject receiving the substantial form. Since each of the other categories also has a subject, the question arises whether the composite of subject and of accidental form in each of them does not likewise have a quiddity which can be signified by a definition. There seems to be a certain definable unity in each case.

The First Solution

Aristotle offers us one solution starting from the principle that only that which is a hoc aliquid is properly de-

finable since to be a quid must mean to be something.¹¹ Only substances, however, are a hoc aliquid. Therefore, they alone are definable; they alone have a quiddity, a quod quid erat esse. An accident by itself predicated of a subject is not a hoc aliquid. The accident "white" of itself is only a quale, not a hoc aliquid. If accidents such as "white" are to be defined, they must be defined in relation to their proper subject. This will give us a quasi ratio of the composite subject-accident, which will be a hoc aliquid in another way. Thus white will have to be defined as white man, in relation to man as its proper subject (if it be true that man is its proper subject).

Aristotle then rules out a mere ratio notificans nomen as insufficient to constitute a definition, even a definition of accidents. The true definition must signify aliquid per se dictum and that in the first mode of per se predication. Such predicates are first in the line of predication. Definition is a special name given to that which is most perfect in the order of convertible terms, namely, the one which signifies the quod quid est.¹² He concludes that according to this first solution only that has a quod quid erat esse which is truly a species since only a species is properly defined through genus and differentiae. The genus must be predicated per essentiam of the species. In the case, however, of a proper

passion or accident signified as such (e.g., album) the proper subject which is used as genus cannot be predicated in such a way; the essence of the subject is not the essence of the accident.

The composite of subject and accident is clearly only an unum per accidens and cannot, therefore, have a quiddity which is definable. The very nature of the composite accounts for this. It consists of things from several diverse categories, i.e., substance and accident, and hence implies several diverse genera. Diverse genera in turn cannot constitute one quiddity and definition. A definition must be given within one category.¹³

The Second Solution

Aristotle offers another solution in the same chapter: definition is primarily and simpliciter of substances, per posterius and secundum quid of accidents. The solution flows from the several ways in which we can speak of quod quid est and therefore also of definition since the definition signifies the quod quid est. Quod quid est is said primarily of substance which alone is properly a hoc aliquid. In another way it can also signify each of the other categories since for each of them we can find an answer to the question quid est, the inquiry of the definer. The quid est of the other categories,

however, does not signify a quid absolute, as in the case of substance, but rather a quid qualitatis, etc. Quality, for example, does not have a quid simpliciter but only secundum quid. We find the reason for this in the following passage from the commentary of St. Thomas.

Propter hoc enim quod omnia alia praedicamenta habent rationem entis a substantia, ideo modus entitatis substantiae, scilicet esse quid, participatur secundum quamdam similitudinem proportionis in omnibus aliis praedicamentis; ut dicamus, quod sicut animal est quid hominis, ita color albedinis, et numerus dualitatis; et ita dicimus qualitatem habere quid non simpliciter, sed hujus. Sicut aliqui dicunt logice de non ente loquentes, non ens est, non quia non ens sit simpliciter, sed quia non ens est non ens. Et similiter qualitas non habet quid simpliciter, sed quid qualitatis.¹⁴

Just as being is found primarily in substance and analogically by participation in the other categories, so likewise the quod quid est and the definition which signifies it. They can only be said analogically of substance and accident, i.e., per prius et posterius and per respectum ad unum, for they are said of accident only in reference to substance. As accident has incomplete being in relation to substance, so its definition is also incomplete.¹⁵

Since being can in a certain way be said of privations and negations, they also can be said to be in some way definable, but in a most imperfect and incomplete way which explains rather the name than the essence since they have no essence.¹⁶ In the way in which things have being, so they are definable.

He adduces as proof of this second solution the notion that a definition is one, and that by a unity per se, not merely a unity of continuity or of a collection. Just as unity is said analogically of substance and of the composite of subject and accident, so will definition be said analogically of both.¹⁷

The definition of accidents necessarily includes things of diverse categories since an accident must be defined in relation to its proper subject. Such a definition is not one per se, as explaining one quiddity, but one per additionem since it includes something outside the proper genus of the accident--the subject. In view of the second solution, the conclusion of the first solution--that accidents do not have a definition--must be understood per prius and simpliciter.

The Definition (per Additionem)

The fifth chapter of the seventh book brings us a more complete explanation of the manner of defining accidents by a definition per additionem. When we say that an accident must be defined per additionem, we mean that the definition of the accident must include something outside the very essence of the accident. The subject which must be included is outside the genus of the accidental form but is necessary for the complete definition of the accident. The aptitude to inhere in a subject is of the very essence of every accident--res, cui

debetur esse in alio. This essential dependence on a subject must likewise be expressed in the definition of particular accidents. This dependence of accidents on their subject together with the imperfection of their being is best expressed by defining them through their subject. Each accident has a proper subject of which it is predicated secundum se and through which it should be defined.¹⁸ The subject, if not one by a unity of nature or of being, must be one at least by a unity of capacity to receive the accidental form.¹⁹

Whether the accident is signified in concreto or in abstracto, its definition will always formally signify the accidental form or quiddity itself. The concrete and the abstract term here signify one and the same thing; only the mode of signification varies. It is the form and essence of the accident which is primarily signified and which is directly defined, since all quidditative predicates of the accident are included only in that form. The subject enters only as that which sustains or supports the definition.

An accident, as was noted, is defined in virtue of its essence, the accidental form. It is placed in the genus of its form; concrete or abstract pertains only to the mode of signifying. The mode of being is the same in both cases--esse in alio. The mode of signifying, however, is determined

by the mode of understanding of which it is nothing but a sign. If the accidental form is understood as accidens, as inhering in another, it is conceived by the mind together with its subject and is signified in concreto--"white." Here the form is still that which is primarily signified, but it is signified as denominating a subject. If, on the other hand, the accidental form is understood by itself, apart from its subject, in the manner of substance which properly exists of itself, then it is signified in abstracto--"whiteness."

Only accidents signified in abstracto are properly placed in the categories and properly have genus and difference. According to its mode of signifying, "whiteness" signifies purely the quality and thus falls under the category of quality. "White," on the other hand, signifies as a composite, namely, the composite of accident and subject which is one and being only per accidens and cannot, therefore, fall under the categories. The mode of signifying is as a necessary condition for placing a thing in a genus or species, a condition which must be considered by the logician.

As the abstract accident is properly in the categories, so it is the abstract accident which is most properly defined. An accident signified in concreto is not defined essentially except by reason of its formal element. As a composite of subject and accident it is an ens per accidens

and can have only a definitio quid nominis.²⁰ If, however, it is considered as subordinated to one concept which signifies primarily the form and signifies the subject only denominatively, it admits of real definition.

Genus and Difference in Accidents

Since an accident is not by its essence composed of matter and form we cannot say that in defining it the genus is taken from an intrinsic matter and the difference from the form as in the case of a composed substance. But the genus must always be taken from that according to which a thing is determinable. Thus the first genus of an accident (in abstracto) will be taken from that according to which it is primarily determinable, namely, its proper mode of being as a category, which is determined by the diverse relations of accident to substance--as measure, disposition, etc. The differentiae are taken from the diversity of the proper principles from which the accidents are caused. Thus in defining accidents signified in abstracto the proper subject is used as the specific difference. The subject is placed in their definition in obliquo, as that from which they draw their specific difference, e.g., simitas est curvitas nasi. Proper passions differ according as the principles of the subject from which

they are caused differ. Quantity, for example, differs according as the ratio mensurae is found diversely in successive and in permanent things. Moreover, accidents take their specific difference from their proper principle not only when they are caused immediately by a substance but also when one accident has another accident as its proper principle. In the latter case the differentiae derive from the diversity of accidental causes. The immediate principles of the first proper passion would differ from the second in this way.

It is important to note that the subject is not itself the difference but is put in place of the difference. An accident has its own proper difference as well as its own genus, but they cannot be completely explained without the subject. Because the proper principles of accidents are frequently hidden to us, we sometimes take the differentiae from their effects as more known to us. The example of this given by St. Thomas is the use of congregativum and disgregativum visus as the differentiae of color. These are effects caused by the abundance or lack of light, the proper principles.

The accident signified in concreto is defined, as was noted above, only with respect to the accidental form, not with respect to the composite as such. But in this case the subject is placed in recto in the definition and takes the place

of genus, not because of any difference in the nature of the accident but solely because of a difference in the mode of signifying. The concrete accident is signified in the manner of a composite--here the composite of subject and accident. Therefore, it must be defined in the manner of a composed thing in which the genus is taken from the matter and the difference from the form. The subject here is as matter or potency and thus takes the place of genus, e.g., simum est nasus curvus. John of St. Thomas explains that the subject does not enter the definition secundum se et absolute.

. . . tale concretum, si per se definitur, erit ratione solius formæ, et tunc subiectum secundum se et absolute non intrat definitionem, sed ut formatum ipsa forma accidentis secundum gradum genericum talis formæ ad ipsammet, secundum gradum specificum. Et sic cum dicitur: "Album est corpus disgregativum", non intelligitur corpus absolute, sed ut coloratum, et sic explicat rationem generis; ponitur autem ly corpus ut sustentans, non ut intrans quidditatem albi.²¹

The subject taken as determined by the accidental form under a more common ratio of the same accidental form is as matter to the subject determined by the particular form in question. The subject is not here taken as a logical genus, which would make of it and the accidental form a unity per se, a unity which would be definable as such. It is taken rather in the manner of a physical genus. The nature of this genus subjectum of accidents is discussed at greater length by St. Thomas in his commentary on the fifth book of the Metaphysics where

he opposes it to logical or predicable genus.²² The exact relation of physical genus to this genus subjectum is in itself a difficult problem and one which goes beyond the scope of the present work.

If we attempt to define the substantial form by itself (where this form is the form of a given matter) we must define it per additamentum in a way similar to that of defining an accident. Just as an accident has perfect being only in its subject, so the substantial form of a composed substance has its being only in its proper matter. Accidental and substantial form resemble each other in that neither has a complete essence by itself; each is ordered to something else as receptive of it. In the same way neither substantial nor accidental form is capable of complete definition in its own proper terms but only per additamentum. In the case of the substantial form, its proper matter must be added. This is clearly outside the genus of the form since the genus of form is act, whereas the genus of matter is potency. It is important to note that when the substantial composite as such is defined the matter which enters the definition is not ex additione as something outside the essence of the composite.

The mode of defining per additamentum, however, remains proper to the definition of accidents. Because of the imperfection of their essence, accidents require the addition

of something outside their essence in order to be defined. This reason obviously does not hold for the substantial form. A substantial form is defined in this way only in so far as it participates in the nature of accident--esse in alio. Another argument for the same conclusion is found in the fact that what is properly defined is whatever is found directly in the line of one of the categories and also as complete in its own species. In order to define an accident as it is found complete in its species and in the direct line of its category, we must define it by the addition of something outside its essence. In the case of the composed substance it is the complete species which is most properly defined; in such a definition, as we remarked above, the matter is part of the essence. Hence the mode of defining per additamentum is most proper to accidents.²³

CHAPTER III

THE RELATION OF THE PARTS OF THE DEFINITION TO THE PARTS OF THE THING DEFINED

The Signification of Genus, Species, and Difference as Names of the First Intention

In the tenth and eleventh chapters of the seventh book Aristotle discusses the relation of the parts of the definition to the parts of the thing defined. The question arises whether the parts of the definition are also parts of the thing defined. In order to arrive at a clearer idea of the difficulty, we should begin by noting that every definition is a ratio and as such must have several words or parts, since a ratio is a certain oratio composita and not a simple name. One name may be clearer than another, but only a ratio which has parts can manifest the principles constituting the essence of a thing as a definition must do. But do the parts of the ratio correspond to the parts of the thing in the same way as the ratio as a whole represents the thing? On the one hand one could argue that as the definition is the same as the thing, so its parts should be the same as the parts of the thing. But on the other hand, each part of the definition can be predicated of that which is defined--rational can be predicated of man--whereas no integral part can be predicated in this way of the whole.

In answering this question we shall limit the discussion to the perfect kind of definition, that of substance, and to a definition given through the genus and per se differentiae. Such a definition always signifies one essence or quiddity. This essence includes all the essential principles of the thing. In it and through it a thing has being. It is that by which a substance is known. By it a thing is constituted in its proper genus and species. The definition signifies what a thing is, as constituted in its genus and species; it signifies quid est res. The quiddity is nothing but the essence as answering the question, quid est res? The quod quid erat esse likewise designates that by which something is a quid--hoc per quod aliquod habet esse quid. The essence can be called form in the sense of signifying the perfection of each thing, or called nature in so far as it designates all that is intelligible in the thing. In the latter sense nature should be understood as common to substantial and accidental essences both generic and specific.²⁴

Briefly, the word essence signifies the form alone in simple substances and the composite of matter and form in the composed substances. Matter is a part of the essence of each individual of the species and thus matter universaliter accepta must be a part of the essence of the species. If the individual composite were to be defined, it would have to be

defined with individual matter, materia signata, since this is part of the individual essence. The specific essence or the generic essence of composed things will contain only materia non signata, common matter, which alone enters the specific essence. From the specific essence are excluded both particular matter--this flesh and these bones--and those parts which are accidental to the understanding of the species.

If the generic, specific, and individual essences are considered absolutely in themselves, apart from any relation to first and second intentions, they do not differ except according to greater or lesser determination, i.e., as the non-signate and the signate, although there is a different mode of designation in each case. The designation of the individual with respect to the species is through matter determined by dimensions; but the designation of the species with respect to the genus is through the difference which constitutes the species--a difference which is derived from the form of the thing. From this it follows that, considered in themselves, man, for example, and humanity are the same since the nature signified by each is the same. They differ only as terms of the first intention.²⁵ This brief statement of these points suffices for our purpose.

If we consider now the generic and specific names of the first intention, e.g., animal and rational, names which

constitute the definition, and man, which designates the species defined, we arrive at the proper terms of our problem. The species, man, is properly composed of the genus, animal, and the difference, rational, which constitute the definition representing the species. How are these parts related to each other and to the parts of the thing--matter and form?

If we compare first of all generic and specific names we see that the generic name includes in its signification all that is in the species. Whatever is in the species is in the genus but as undetermined. The generic nature must contain the whole being of the species since it can be predicated in recto of the species, whereas no part signified as part can be predicated in recto of the whole. The way in which the generic name must signify will be evident from the example of "body" which can signify--as it is in the category of substance--either a generic whole, or a material and integral part of animal. St. Thomas notes this very precisely in the following passage:

Cum enim ratio corporis in hoc consistat quod sit talis naturae, ut in eo possint designari tres dimensiones; si nomine corporis significetur res hujusmodi, ut in ea scilicet possint signari tres dimensiones sub hac conditione, ut superveniat alia perfectio quae compleat ipsam in ratione nobiliori, sicut est anima; sic est corpus pars animalis, et sic non praedicatur de animali. Si vero nomine corporis significetur res habens talem naturam ex quacumque forma ipsam perficiente, ut possint in ea designari tres dimensiones; tunc corpus est genus, et significat totum: quia quaecumque forma sumatur specialis, non erit extra hoc per quod ratio corporis conditionabatur; sed tamen indistincte, eo quod non determinetur, utrum ex tali vel tali forma dictam rationem habeat.²⁶

If, then, we compare genus, species, difference, and definition to see again how they agree and differ as names of the first intention, it will be evident that they all agree in this that each of them signifies the whole of that which is found in the species. Just as each of them can be predicated of the species, so each must include in some way the whole of that found in the species. They differ, however, according to that which they formally signify.²⁷ That which is formally signified by the genus is a material perfection; the difference formally signifies a formal perfection; the species formally signifies both of the preceding perfections but without distinguishing them; whereas the definition, while signifying the same aggregate of perfections, distinguishes the parts. "Animal," for example, formally signifies sensitive nature which is material with respect to the intellectual perfection formally signified by "rational." Hence the latter perfection is formal. "Man" and "rational animal" both signify the aggregate of sensitive nature and intellectual nature; the latter expresses both parts separately, the former does not. The species and definition both signify formally the same thing; the distinction is only in the manner of signifying--the definition signifies the whole in the distinction of its parts, the species does not.

If, therefore, we consider these terms according to what they signify both formally as well as materially, they

can all be said to agree in their signification; if we consider only that which is formally signified, they clearly differ and do not signify the same thing. Taking the parts of the definition we see that the generic name, e.g., animal formally and determinately expresses the material perfection of man--sensitive perfection. The genus is, therefore, said to be taken from the matter. The name of the difference, rational, formally and determinately expresses the formal perfection of man and is thus said to be taken from the form.

Just as the perfection formally signified by the difference is not included in the formal signification of the genus but is included only indeterminately, so the generic perfection is not included in the differential perfection. The generic perfection enters only indeterminately into the name of the difference, even though it is necessary for the understanding of the difference. The name of the difference, e.g., rational, does not determinately explain the genus. All that rational explains is "that which has rationality," whether it be horse or man. Nor can the genus be predicated of the difference properly according to any of the four modes of per se predication, unless perhaps as the subject is predicated of the passion. The difference likewise does not fall in the definition of the genus.²⁸

Genus is Taken from Matter, Difference from Form

To determine further the relation of genus and difference to the parts of the thing, it is necessary to note that the parts of the definition can be said to signify the parts of the thing only in so far as the parts of the definition are taken from the parts of the thing. The concepts of genus and difference can be traced to certain parts and causes of the thing but they are not these parts. Genus is reduced to matter; diversity of genus comes from diversity of matter. Species is reduced to form and a diversity in the ultimate determination of form accounts for the diversity of difference. Genus has a certain proportion to matter as species has to form but neither signifies as such matter or form. Species likewise is in a certain proportion to the composite of matter and form, but it does not signify this composite as such but rather the union of genus and difference (aliquid complectens genus et differentiam). The proportionality of genus and difference to matter and form is succinctly explained by Cajetan in the following lines:

Si enim perfectio generica, quae formaliter importatur per genus, est materialis respectu perfectionis differentialis, quae formaliter importatur per differentiam, oportet quod sicut se habet materia respectu formae in composito naturali, puta Sorte, ita genus respectu differentiae in composito rationali, scilicet specie, ut sicut materia est potentialis et perficitur ac specificatur per formam, sic generica perfectio est potentialis perfectibilis et specificabilis per differentiam.²⁹

Matter is the root of potentiality and determinability in the thing; form, the principle of act and determination. Genus and difference, differing proportionately as the indeterminate and the determinate and signifying in each case the essence, are most like the essential principles of matter and form. Genus is, therefore, taken from matter as from the proper principle of potentiality in the thing; difference is taken proportionately from the form, the principle of determination.

To show more clearly that genus and difference cannot signify matter and form respectively we should note again that genus and difference signify the whole. Since neither matter nor form are wholes, it follows that genus and difference do not signify them as such. The species likewise does not signify the composite of matter and form as such since its parts are properly the genus and difference. Cajetan gives St. Thomas's proof of this point in syllogistic form:

Materia et forma sunt partes sui totius, sicut duae res tertiae rei; genus et differentia non sunt partes sui totius, scilicet speciei, ut duae res tertiae rei: ergo genus et differentia non sunt materia et forma speciei. Major patet ex se: homo enim est alia res a materia sua, et alia a sua forma. . . . Minor vero declaratur hoc modo: si genus et differentia componerent speciem, ut duae res tertiam, tunc homo esset compositus ex animali et rationali; hoc est falsum: ergo a destructione consequentis genus et differentia non componunt speciem, ut duae res tertiam, quod erat probandum.³⁰

In giving an example to explain the above point, St. Thomas goes on to say that man is composed of rational and of

animal sicut intellectus tertius ex duobus intellectibus.

The concept of the species or of the definition is composed of two concepts, the genus and the difference. And so, because the definition is constituted by several parts, we cannot say that it is the genus or the difference. But how is this composition to be understood? Should it be taken as a composition of concepts in the order of second intentions or of first intentions, a composition of that which is formally signified by the terms or of the thing itself? There can be no argument about the first case: the second intention of definition or of species, as a logical relation, cannot be composed of the second intentions of genus and difference, just as no relation is composed of other relations. The second intention of definition is a relation imposed by the mind on a definite concept formed in the first operation of the mind and explaining distinctly the genus and difference. Nor is there any question of the things signified by the generic, specific, or differential names of the first intention; there is no composition here since the things signified are the same in re for each of the terms. The composition can only exist in the line of the formal concepts (in the sense of the formale significatum) of these names. It cannot be a composition of concepts as qualities inhering in the mind since as such all of them are simple qualities, not composed of parts. The composition is only according to that which

is formally represented in each concept, a composition of the objective concepts as such. In this sense we can speak of a third concept composed of two other concepts.

Although genus and difference do not signify matter and form they are, nonetheless, taken from them. How is the genus, first of all, taken from matter? Evidently it cannot be taken simply from the pure potentiality of prime matter since a genus signifies a certain nature, a definite actuality although not fully determined. Pure potentiality cannot as such be a principle of our knowledge. Genus must therefore be taken from matter according as matter is in some way intelligible to us. Matter is knowable in two ways; (a) by analogy or comparison with the relation existing in artificial things between the artificial form and what is material in respect to it; (b) by the form through which it is in act, for everything is known only in so far as it is in act. As matter is known in this way through form it affords a twofold basis for generic diversity.

(a) Matter is first the source of a diversity of genera as it stands in diverse proportion to form. From this diverse relation to form we have the diversity of the first genera of things. This is the basis in reality of the diverse predication of the categories. That which is in the genus of substance is compared to matter as to its part. That which is in the genus of quantity is compared to matter not as to its part but as the measure of it; quality as its disposition; and through these two the other categories are compared to matter

according to their respective proportions. Since matter is a part of substance, substance becomes a subject to these accidents.

(b) Matter is also the principle of diverse genera within a first genus. Within the genus of substance matter is the principle of genus according to the diverse degrees in which matter may be perfected by forms. Matter receives the perfection of act to different degrees in different things. Since the more perfect things possess in a certain way the perfections of the less perfect, something common can be found in various things which can be predicated univocally of all but which will be found more perfectly in one, less perfectly in the other. Matter as actuated in this way to a certain level of perfection common to many forms will be the basis of genus. Beyond this level specific forms will differ as having or not having further perfections. Matter actuated to the level of a common sensitive nature can thus be the basis of the genus "animal," which genus is still material and in potency to a further perfection, "rational," or the imperfection, "non-rational," its privative contrary. Since such a common degree of actuation may be found at various levels, (e.g., corporeal nature and sensitive nature), there will be a diversity of genus drawn from matter according as matter is actuated to diverse common levels. The genera of body, plant, and animal differ in this way.³²

Form is the principle of diversity according to species since it is by reason of formal qualities which material things possess in addition to those which are the cause of their genus, that the differences constituting species are derived. The difference is derived from the perfection or imperfection super-added to the common material element of the genus. Thus "sensible" and "insensible" are as differentiae added to the genus "animate."

We can conclude, then, that in things composed of matter and form, all the grades (or levels) of being are taken from the form, since the matter as such does not of itself determine a grade but receives and is informed by one. Matter is, nonetheless, remotely the principle of genus in such beings inasmuch as it is the principle of all potentiality. It is proximately the principle of genus only in so far as it is informed by form to a degree of being which is imperfect and material with respect to specific being.³³

Physical Genus and Logical Genus

The question of the relation of genus to matter has further implications of essential importance in distinguishing the way in which the logician and the natural philosopher define. Although the material element from which the genus is taken in composite things has both matter and form, the logician will consider only the formal element. Of interest to him

is only the common formality which is as such further determinable. It is this which pertains per se to genus in itself and not to genus as found in this or that nature. The logical intention of genus is constituted by this relation of universality with regard to inferiors differing in species.³⁴ The intention of genus can be found in various natures. Some of these are composed of matter and form; some are purely forms although dependent on matter, like accidents; others are pure subsistent forms. Since the logician considers the intentions absolutely, he may place in one genus things which will differ in genus as far as the natural philosopher is concerned. Only the logician can put material and immaterial created substances in the one genus, substance; or corruptible and incorruptible material substances in one genus--body. The definitions of the logician will thus be called formal.

The natural philosopher and the metaphysician, who consider the essences of things precisely as they have existence in things, must consider all the principles of the thing--both form and matter. The naturalis or physicus must look beyond a common ratio for a common matter in order to place things in one genus. Where this community of matter is not found there will necessarily be a diverse mode of potency and act. Where the latter is diverse the mode of being will likewise be diverse and consequently also the genera. Corruptibility in things springs from the matter. If there exist material substances which are incorruptible, this will pertain

necessarily to them and will imply necessarily a different kind of matter, a different kind of potency, and therefore also of physical genus. It is evident that material and immaterial created substances do not have a common matter.

For the natural philosopher genus is properly taken from matter. Genus, physice loquendo, sumitur a materia. For the logician the genus is taken from what is material (potential) but not properly from the matter. For the naturalis the sentence, genus sumitur a materia, implies above all a common matter.³⁵ This matter is not itself the genus. We shall still designate as genus "corruptible body, plant, etc." but with this further factor that the nature on which they are based implies a common matter. Only then can we speak of a physical genus.

St. Thomas also remarks that naturaliter loquendo the differences dividing the species must be opposed as contraries. For the logician, on the other hand, any kind of opposition of differences suffices, as is evident in the case of the species of number and of separate substances. Natural differentiae must be contraries since matter on which genus is founded is in potency to contrary forms. Substantial forms will be contraries only in the broad/^{sense}of a contrariety of privation. Matter actuated by one substantial form is opposed to all other substantial forms and is in privation of them.³⁶ Because of this privation of all other substantial

forms, a privation that implies a basic potency to receive them, we can speak of a generatio ad invicem which, understood in a broad sens, follows here on the community of matter.³⁷

We shall not extend the present study to the question of the relation of physical genus to the genus subjectum of accidents, a point which demands a lengthy discussion of the above two questions--those of contrariety and of generatio ad invicem.

The Definability of Separate Substances

The question of the relation of the parts of the definition to the parts of the thing defined takes on a new aspect in the case of the definition of a separate substance. Since a separate substance is a simple form, implying no composition of matter and form, there is no composition in the essence itself from which genus and difference can be taken. To what do genus and difference correspond in the separate substance; from what are they taken? It will be necessary for us to establish first whether these substances are definable before determining how they are definable.

Wherever the quiddity of anything is not the same as its existence (esse), that thing can be ordered within the categories. Where the existence of a thing is not its essence this existence must necessarily be limited, and limi-

ted to existence in some genus. To have an existence not limited to any genus is to have an unlimited existence--to be per se subsistens. It is clear that separate substances have a quiddity which is distinct from their esse. Because of this, each of them must have genus, species, and difference, although their proper differentiae remain unknown to us. We know the fact that they have differentiae even though what they are remains hidden to us. In the case of sensible substances, the essential differences as such are unknown to us, but they are signified by accidental differences which arise from the essential ones. Through the effect we know the cause. But even the proper accidents of separate substances are unknown to us so that we cannot signify their differentiae of themselves or through accidental differentiae. Although only the species is that which is properly defined it is not necessary that every species be definable by us. The species of immaterial substances are known to us not by definition but only, as St. Thomas notes, per quasdam negationes vel notificationes.³⁸

Genus and difference are, however, taken in a different way in sensible substances and in immaterial substances. Since immaterial substances are pure forms, uncomposed, both genus and difference must be taken in them from the whole essence not only formally but also radically. Each, however, is taken from the whole essence in a different way. The genus

is taken from the whole essence according as by it one separate substance is essentially like another. The difference is taken from the whole essence in so far as by it one differs substantially from another. They differ in this way by a certain formal degree of perfection by which one intellect is more perfect than another according as it approaches closer to the pure act of the divine perfection. In this way what pertains per se to genus and difference is preserved also in separate substances--that genus signify a certain nature formally as determinable and that the difference express the determinate substantial perfection of this being. What is per accidens is not found--that they be taken properly from matter and form.³⁹ The latter is proper to genus and difference as found in composed substances.

All simple substances will be contained in one genus, which will be one of immateriality, intellectuality or the like in which all agree. Since their perfection is not taken from a series of differences perfecting a genus, these substances have no subalternate genus.⁴⁰ The differences which distinguish them will follow on their having a greater or lesser perfection as compared to the primum agens, quod oportet esse perfectissimum, and not as compared to matter, since they do not have matter. Only in sensible substances because of the progressive perfectibility of a common prime matter can we have a series of genera and differences, of grades of perfection, based on diverse natures where one nature is determinable

by another nature more perfect than itself.⁴¹

The Composite Nature of Things as Reflected
in Our Way of Knowing

If we stop now to consider the whole structure of our mode of knowledge in the first operation of the mind, a process which terminates in the knowledge of essences through genus and specific difference, there becomes evident a remarkable correspondence of it to the composite nature of the things known. Our way of knowing through genera and differences follows necessarily on the kind of intellect which man has and is proportioned to the composite nature of the proper object of the human intellect--the quiddity of sensible substances. A parallel can be drawn between the way in which prime matter is potency to an infinity of substantial forms, by which it can be actuated only successively and gradually, and the way the human intellect is in potency to the knowledge of all things and is moved from potency to act by the intelligible forms of things. The intellect cannot know all by one form but must be actuated gradually by a succession of forms. This analogy of intellectual knowledge to natural generation can be developed at much greater length.

A point of particular interest in the study of our way of knowing by definition is the fact that the intellect be-

cause of its potency must be actuated gradually in the first operation of the mind. This process starts with the most universal and imperfect concepts and works down to a more and more determinate knowledge of the specific natures. The first form by which it is actuated is being, the primum cognitum, which must be known in a certain concretion to material being. Having no species contained under it, this notion is not generic, nor is it analogous. It is simply a univocal concept. From this we descend through the higher genera till we attain the natures in their specific differences. Such knowledge is proportioned to the composite nature of the proper object of the mind (not the adequate object which is being). Since the genus is taken from matter and the difference from the form, the definition represents the composite character of the sensible quiddity.

The fact that we must know sensible, material quiddities in this way follows from the very fact that our intellect is the faculty of a soul which is received in matter. Its participation in the divine lumen is so imperfect as to make it dependent on the things in nature in the generation of its knowledge. It depends ultimately on the material singular for its actuation. Because of this imperfection, it does not possess the universals in representando of angelic knowledge, whereby several things can be known at once in their distinction as in their cause. In order to know several things at

once the human intellect must resort to a universal which is a potential whole. We depend on things as they exist in their material individuality for our knowledge. We must abstract from them with the help of the agent intellect to a universal which contains its inferiors only in potency.

Although the process of knowing by genus and difference is in this way most proportioned to our knowledge of composite, material quiddities, we must carry it over likewise to any knowledge of immaterial quiddities, simple forms, which would more properly be known by intuition because of their simplicity. This way of knowing by which we must start from that which is most general is observed likewise in the order of determination in all our speculative sciences.

There remain several other important questions considered by Aristotle in the latter part of the tenth and in the eleventh chapter of the seventh book which we shall have to omit in this brief study because of the lengthy treatment which they demand. The first of these is the question of what matter is part of the species and thus enters the definition. This problem demands a study of the distinction of individual matter and common matter both in natural substances and in mathematica, for only common matter enters a definition. It should likewise be explained how the ratio of anything must be taken principally from the form, and that only those parts

of matter are included in which the form is principally found. The latter point brings us already to another complex question, that of the priority, simultaneity, and posteriority of parts to the species. A full explanation of the diversity of parts should accompany this question, e.g., the distinction of the parts of the species secundum rationem and secundum rem.⁴²

CHAPTER IV
THE UNITY OF THE DEFINITION

We shall go on immediately to a question which Aristotle considers in the twelfth chapter--the unity of the definition. The question comes up likewise in the sixth chapter of the eighth book. How can the definition which consists of many parts be one; how can it signify that which is one, the quod quid est? The objection which he raises is directed against the unity of the composite of genus and difference. For genus and difference to be one, it would seem that the genus would have to participate in differences which are contraries; but this seems impossible. Moreover, if several differences are used in the same definition, how can they constitute one ratio?

In answering these questions Aristotle limits the discussion to true definitions and to the definition of substance, which is of importance here. Such definitions are given through the division of a genus by true differences. They can always be resolved into a first genus and some differences. If any intermediate genus is used in defining, it is such as to embrace the first genus and the differences which constitute the subalternate genus. Thus if "animal" is used as the mediate genus of man, it is equivalent to "substance" together

with the differences "animate" and "sensible." In any definition there may be more but there must be at least two members, a genus and a difference.⁴³

The definition has its unity, by which it is one ratio signifying one nature or essence, precisely from its difference. The whole essence of the definition is somehow comprehended in the difference. The genus cannot be apart from its species since the forms of the species, which are the differences, are not other forms than that of the genus, but are the forms of the genus with their determinations. Animal is found only as man, horse, cow, etc. The difference is not added to the genus as a diverse essence but as implicitly contained in the genus, as determinate in the indeterminate, as "white" in "colored."⁴⁴

The division must proceed by proper and per se differences to the ultimate difference. If the differences are all taken per se and not per accidens, then the whole substance of the thing and the whole definition is constituted by the ultimate difference. The ultimate difference includes in itself all the preceding parts of the definition. It includes the genus since the genus cannot be without the species. If it did not include the preceding differences there would be needless repetition (nugatio) in definition. Thus "two-footed," which constitutes the difference of man as an integral whole, contains "having-feet."⁴⁵

If, however, the differences are only accidental, then one difference will not contain the others. There will be as many ultimate differences as there are divisions. They will be one only in subjecto, which does not suffice for the unity of the definition. The arguments against the unity of the definition are based on such differentiae.

The ultimate reason that genus and difference are united to constitute one ratio is, then, that one part is as matter, the other as form. Just as form comes to matter so as to constitute a true unity, so difference comes to genus. The mere material joining of several terms without interruption is in no way sufficient.⁴⁶

The manner in which difference is added to genus will explain likewise the common dictum: definitio explicat definitum a prima potentia usque ad ultimum actum. Any individual whose essence is distinct from its existence can have several essential predicates which approach more or less closely to the existence of this thing. The first genus is a predicate whereby this essence is most potential and most removed from its existence. The difference is taken, however, from the whole essence according as it is closest to its proper being. It constitutes the species in its degree of being and thus gives to the essence its ultimate intrinsic complement so that it can receive the being of actual existence. The genus explains the essence as most determinable and removed

from existence; the ultimate difference explains it as perfected by the ultimate act determining it so that it may receive existence. Intermediate differences are taken from intermediate perfections. In this way the definition explains the essence from its first potency to the ultimate act which determines it in order to the being of actual existence. Genus and difference abstract from actual existence, but they look to it as a foundation receptive of being--the former a remote foundation, the latter a proximate one.⁴⁷

Because of this relation to the esse existentiae we can see why genus and difference can be found in separate substances, material substances, and accidents. Only God lacks genus and difference. Since His quiddity is His actual existence, it cannot be conceived as more remote or more proximate to this existence. God is not in a genus because He is His esse.⁴⁸

A question which might be raised is why ens and the other transcendentals together with negative predicates do not enter definitions. All quidditative predicates enter the nature considered in itself and should, therefore, be contained in a complete definition of this nature. But transcendental and negative predicates also seem to be quidditative predicates. Why are they not required for the completion of the definition?

The principle that a definition is complete when it explains all the grades of being of a thing from its first potency to the ultimate intrinsic act can be applied here in resolving this question. If a definition must explain only all the essential grades of being in a thing, it must include only those essential predicates which express these grades. Transcendental predicates, however, do not express any grade or nature other than the generic or specific nature to which they are applied. They do not alter the nature as such. They merely express this nature in diverse modes: as one, true, good, etc. They are not proper to any given nature absolutely considered, but are common to nature considered in any way: in the mind, in individuals, or absolutely. They are substantial predicates but not in the same way as the predicates which enter the definition. Ens and unum are not related to the categories as genera since this would imply a relation of matter to differences which would determine them. Such a relation is impossible because ens and unum are immediately each of the categories and not by any addition.

Negatives predicates, considered formally, are likewise excluded from the nature absolutely considered and from the definition. If we consider these predicates formally, they are attributed to the nature only by the intellect for negations are only beings of reason. Considered fundamentally according as negation is based on affirmation, they are nothing but the affirmative predicates and can thus be considered essential predicates.⁴⁹

FOOTNOTES

PART I:

1. S. Albertus Magnus, Opera Omnia, ed. Borgnet, Vol. I, (Paris: Vivès, 1890), De Praedicabilibus, p. 8.
2. Cf. ibid., p. 9: "Complexio autem et incomplexio non accidunt rei secundum quod res est, nec etiam voci secundum quod est vox: sed accidunt voci secundum quod refertur ad intellectum simplicem vel compositum. Simplicem autem dico intellectum, qui simplex unius rei est intuitivus. Talis enim intellectus non significatur ad alium, nisi voce sive dictione incomplexa. Compositum autem dico intellectum, qui accipit rem unam in alia vel ut divisam ab alia: qui intellectus voce incomplexa designari non potest, sed potius complexa."
3. Ibid., p. 8.
4. S. Thomas Aquinatis, Commentarium in Aristotelis Libros Perihermeneias et Posteriorum Analyticorum, in Opera Omnia S. Thomae, editio Leonina, (Rome: Polyglot Press, 1882), Vol. I, In I Post. Anal., lect. 22, n. 12.
5. S. Thomas Aquinatis, In Metaphysicam Aristotelis Commentaria, ed. Cathala, (Turin: Marietti, 1926), Lib. IV, lect. 16, n. 733.
6. S. Thomas Aquinatis, In Aristotelis Librum de Anima Commentaria, ed. Pirota, (Turin: Marietti, 1936), Lib. I, lect. 1, n. 9.
7. Manlius Severini Boetius, Liber de Diffinitione, in Patrologiae Cursus Completus, Series Prima, edited by Migne, (Paris, 1847), Tome 64, col. 891.
8. Aristotle, Metaphysics, in Basic Works of Aristotle, edited by Richard McKeon, (New York: Random House, 1941), Bk. XIII, chap. 4. Cf. also Aristotle, ibid., Bk. I, chap. 6.
9. Opera Omnia, Vol. I, De Praedicabilibus, p. 8.
10. S. Thomae Aquinatis, Quaestiones Disputatae, (5 vols.; Turin: Marietti, 1942), Vol. II, Q.D. De Anima, a. 18, corp: "Unde considerandum est, quod eo modo quo aliquid est de perfectione naturae, eo modo ad perfectionem intelligibilem pertinet; singularia namque non sunt de perfectione naturae propter se, sed propter aliud; scilicet ut in eis salventur species quas natura intendit. Natura enim intendit generare hominem, non hunc hominem; nisi in quantum homo non potest esse nisi sit hic homo . . . quasi solum id quod est in specie, sit de intentione naturae, unde cognoscere species rerum pertinet ad perfectionem intelligibilem; non autem cognitio individuorum nisi forte per accidens."

11. Ibid., Vol. III, Q.D. De Veritate, q. 1, a. 3, ad 1; Summa Theologiae, in Opera Omnia, ed. Leonina, Vols. IV-XII, Pars Ia-IIae, (Vol. VII), q. 90, a. 1, ad 2; Contra Gentiles, in Opera Omnia, ed. Leonina, Vols. XIII-XV, Lib. I, (Vol. XIII), cap. 14.
12. Vol. I, I, Perihermenias, p. 373.
13. Ibid., De Sex Principiis, p. 305.
14. Ibid., De Praedicamentis, p. 149.
15. Ibid., p. 15; also p. 14, col. 2.
16. Thomas de Vio Cajetanus, In Praedicamenta Aristotellelis, ed. Laurent, (Rome: Institutum Angelicum, 1939), Prologus, p. 3.
17. Joannes a Sancto Thoma, Cursus Philosophicus, ed. Reiser, (Turin: Marietti, 1930-37), Vol. I, p. 380.
18. Ibid., p. 503.
19. S. Albertus, Vol. I, De Praedicabilibus, p. 15.
20. Cajetanus, In Praedicamentorum, p. 3.
21. P.L., T. 64, cols. 891-910.
22. Introduction à Avicenne; Son Epître des Définitions, edited with introduction by A.M. Goichon, (Paris: Desclée, 1933).
23. I, pp. 11-14.
24. Robert Lincoln, Commentaria in Libros Posteriorum Aristotelis, (Venice: Petrus de quarengiis de Pergamo, 1504), In II Post. Anal., p. 29. Cf. also S. Thomas Aquinatis, Scriptum Super Libros Sententiarum, T. I-II, ed. Mandonnet, (Paris: Lethielleux, 1929), In I Sent., disp. 2, q. 1, a. 3.
25. S. Thomas In V Metaph., lect. 19, n. 1048; In I Peri., lect. 4, n. 2.
26. In Post. Anal., Lib. II, p. 29.
27. Aristoteles, Topica, in Opera Omnia, ed. Bekker, (Berlin, 1831-1870), 101 b38.
28. Liber de Diffinitione, P.L., T. 64, col. 891.
29. In VI Metaph., lect. 4, nn. 1232, 1236; In I Peri., lect. 8 n. 6; ibid., lect. 6, nn. 2-3.

30. Cf. Joan. a Sto Thoma, Curs. Phil., I, pp. 372-73; Cursus Theologicus, in Iam, disp. 22, a. 4, nn. 27-29, ed. Vivès, (10 vols.; Paris, 1884-85), IV, p. 862; in IIIam, disp. 14, a. 2, nn. 26-29, VIII (Vivès), p. 406.
31. Joan. a Sto Thoma, Curs. Phil., I, p. 134.
32. Ibid., Vol. I, p. 137.
33. Ibid., Vol. I, p. 138.
34. In I Peri., lect. 8, n. 8.
35. In II Post. Anal., lect. 2, n. 11; cf. also In I Post. Anal., lect. 19, n. 5.
36. Cf. In I Post. Anal., lect. 5, n. 9; ibid., lect. 19, n. 7.
37. Cf. In VI Metaph., lect. 4, n. 1236.
38. Cf. Joan. a Sto Thoma, Cursus Phil., I, p. 135. S. Thomas Ia, q. 17, a. 3; De Ver., q. 1, a. 3; In VI Metaph., lect. 4, nn. 1237-38.
39. Ia, q. 58, a. 5, corp; cf. also In III De Anima, lect. 11, nn. 762-63; Ia, q. 85, a. 6, corp.; In IX Metaph., lect. 11, nn. 1901-9.
40. In I Peri., lect. 4, n. 2.
41. Cf. S. Thomas Aquinatis, In VIII Libros Physicorum Aristoteles, in Opera Omnia, editio Leonina, Vol. II, In IV Physic., lect. 5, n. 3; In I De Anima, lect. 11, S. Albertus, Vol. I, De Praedicabilibus, p. 11-14. Avicenna, in Goichon, Introduction à Avicenne, pp. 7 ff.
42. Cf. Joan. a Sto Thoma, Curs. Phil., I, p. 450.
43. Liber de Diffinitione, P.L., T. 64, col. 895.
44. Goichon, Introduction à Avicenne, p. 22: "'Comme le dit le Sage (Aristote) dans le livre des Topiques, c'est un énoncé qui indique la quiddité de la chose, c'est-à-dire la perfection de son être essentiel. Elle s'obtient du genre prochain et de la différence spécifique.' Hadd, n'est donc appliqué au sens tout à fait propre qu'à la définition essentielle métaphysique. Avicenne énumère cinq sens impropres du mot hadd,: 1. La définition nominale, 'qui expose le sens d'un nom indépendamment de l'être de la chose.' Puis concernant l'essence sans toute-

fois donner la quiddité: 2. La conclusion du syllogisme, 3. Le 'principe du syllogisme'; 4. Le hadd complet formé en les réunissant; 5. 'La définition des choses qui n'ont ni causes ni motifs, ou bien dont les motifs et les causes ne pénètrent pas l'essence, comme la définition du point de l'unité, de la définition et de tout ce qui ressemble à cela.'"

45. Vol. I, De Praedicabilibus, p. 14.

46. Ibid.

47. Curs. Phil., I, p. 20.

48. Cf. Aristoteles, Analytica Posteriora, ed. Bekker, (Berlin 1831-1870), Lib. II, cap. 7, 92 b25-35; ibid., cap. 9, 93 b28; De Anima, ed. Bekker, Lib. I, cap. 1, 402 b17 f. S. Thomas, In II Post. Anal., lect. 6; ibid., lect. 8, n. 6; In I De Anima, lect. 1, n. 15.

49. Curs. Phil., I, p. 19. Cf. also S. Thomas, In II Sent., dist. 35, q. 2, a. 2, ad 2. Cajetanus, In Iam, q. 13, a. 6, n. II comment., in Opera Omnia S. Thomae, ed. Leonina, Vol. IV.

50. Thomas de Vio Cajetanus, In Aristoteles Posteriorum Analycorum Libros Duos, (Lugduni: apud Ioannam Iacobi Iuntae F., 1579), In I Post. Anal., cap. 1, pp. 270, 274; cf. also In II Post. Anal., cap. 6, p. 582; ibid., cap. 7, pp. 593-94; In de Ente et Essentia D. Thomae Aquinatis, ed. Laurent, (Turin: Marietti, 1934), Prooemium, n. 8, p. 19.

51. Curs. Phil., I, p. 20.

52. Cf. above, n. 48.

53. S. Thomas, In VII Metaph., lect. 4, nn. 1331-38.

54. In I De Anima, lect. 1, n. 15.

55. Cf. S. Thomas In II Sent., dist. 27, q. 1, a. 2, ad 9; In II Physic., lect. 5, n. 7.

56. For these distinctions cf. S. Thomas, In VII Metaph., lect. 17, n. 1658; In I de Anima, lect. 2; In I De Caelo, lect. 2, n. 2, in Opera Omnia, ed. Leonina, Vol. III. Thomas de Vio Cajetanus, In de Anima Aristoteles, ed. Coquelle, (2 vols.; Rome: Institutum Angelicum, 1938-1939), Vol. I, n. 73, p. 58.

57. Aristoteles, De Partibus Animalium, ed. Bekker, Lib. II, cap. 1, 646 a37 ff. S. Thomas, In II Physic., lect. 15, n. 6.

58. Cf. S. Thomas, In II Post. Anal., lect. 9, nn. 4-6.

59. Cf. S. Albertus, Vol. II, II Post. Anal., p. 190.

60. Cf. S. Thomas, In II Post. Anal., lect. 7, n. 6; ibid., lect. 8; In VII Metaph., lect. 4, nn. 1345, 1352, 1355.
Cajetanus, In de Ente et Essentia, cap. 7, nn. 155-56, pp. 247-51.

PART II:

1. S. Albertus, Opera Omnia, ed. Borgnet, Vol. II, II Post. Anal., p. 155.
2. The distinction of the quaestio simplex and the quaestio composita is fully elaborated by Cajetan in his commentary: In II Post. Anal., cap. 1, pp. 542-43.
3. Cajetanus, In II Post. Anal., cap. 1, p. 545.
4. S. Albertus, Vol. II, II Post. Anal., p. 156. Cajetan's observations apropos of this phrase will likewise be helpful: "Aristoteles . . . intellexit vere scitum idem quod investigatione certum, ut per ly 'certum' distinguatur ab opinato, et per ly 'investigatione' distinguatur a principiis a natura inditis, et sic claudit in se omnia dubitabilia quae possunt per certitudinem cognosci, sive per demonstrationem, sive non, et consequenter notitia ipsius quod quid est, etc." In II Post. Anal., cap. 1, p. 541. He points out that if the phrase vere scitum is interpreted per demonstrationem cognitum, it will have to include not only the conclusion but also the mean, the quod quid est, which is less properly known per demonstrationem.
5. Cajetanus, In II Post. Anal., cap. 1, p. 547.
6. Cajetan explains this at greater length: ". . . diffinitio licet formaliter non sit vera vel falsa, virtualiter tamen est vera. Secundo dicitur, quod licet quaestio quid quaerit formaliter de incomplexo, quaerit tamen id quod est ratio veritatis complexi, quoniam ipsum quid est medium ad concludendum an est, et propterea scibile et verum et enuntiabile appellatur. Scibilia siquidem non eadem ratione omnia dicuntur, sed alia ut conclusiones: et haec proprie sunt an est, et quia est, aliae ut causae conclusionum, et haec sunt quid, et propter quid. Quae quoniam in enuntiationibus posita veritatem formaliter sortiuntur, non immerito solam enuntiationem quaeribilem et scibilem esse dictum est." Ibid., pp. 547-48.
7. In this regard Cajetan has an interesting observation involving again the relation of the operations of mind in their actual exercise. "Licet enim ad scire quod quid est, praecedat scire quia talia praedicata sunt partes diffinitionis insunt diffinibili, tamen est hoc per accidens pro quanto primae operationi intellectus immiscetur secunda, . . ." Ibid., p. 547.
8. Cf. Cajetanus, ibid., pp. 546-47. S. Albertus, Vol. II, II Post. Anal., p. 160. S. Thomas, In II Post. Anal., lect., n. 2.

9. For an example of this cf. R. Owen, The Nature of Demonstrative Proof, (Washington: Catholic University Press, 1943), pp. 14-24.

10. In II Post. Anal., cap. 1, p. 549: "A praecognitionibus vero quaestiones differunt in duobus, et primo in hoc quod sub praecognitione quid concluditur quid nominis, sub quaestione vero quid minime, eo quod quid nominis non est pars scientiae, sed variationi et placito humano subiacet, necessario tamen praesupponi oportet quia a vocibus doctrina et disciplina sit. Secundo in hoc quod sub praecognitione quia concluditur veritas principiorum et esse simpliciter subiecti, quorum neutrum clauditur sub quaestione quia, sed veritas principiorum extra quaestiones omnino est, ut pote ex se evidens, et esse simpliciter subiecti clauditur sub quaestione an est."

11. The inquiry is not restricted to the conclusion of the demonstration. The question concerns any manner of knowing a thing through demonstration--as conclusion, as the passion, or any other way. The exact way in which this is possible will be determined only in chapters seven and eight. Cf. Cajetanus, ibid., cap. 2, p. 557: "quaestio quaerit . . . utrum sit idem secundum idem diffinitione et demonstratione scire, sive illud attingatur a demonstratione, ut conclusio, sive ut passio, sive quocunque alio modo. Et hic absque dubio est vere intentus sensus, quoniam quaestio ista non determinatur usque ad cap. 7. ubi dicetur quomodo idem secundum idem potest attingi a diffinitione et demonstratione, et quomodo non. The conclusions at which he will arrive disputative in the previous chapters will be true, each in its own particular sense.

12. Cajetanus, In II Post. Anal., cap. 2, p. 558: ". . . illa propositio, unius in quantum unum est, unica est scientia, est vera loquendo de scientia, quam res scibilis ex se exigit, seu generat, quoniam res sicut se habet ad esse, ita se habet ad cognosci quantum est ex se. Et propterea si res una est ut sic, unicum exigit cognitionis suae modum, ex parte autem nostri non inconvenit plurificare modos cognoscendi unicam rem, et ideo loquendo de cognitionis modo ex parte nostris, propositio illa non est necessaria."

13. Cajetanus, ibid., cap. 6, p. 583: "Septem namque modos adduxit, quibus quod est imaginatur induci, scilicet per veram demonstrationem, per divisionem, per artem diffinitivam, per oppositum, per inductionem, per admixtionem cum si est, seu quia est, et per quid nominis, ut patet ex dictis, praeter hos enim modos non facile est octavum invenire. Ad veritatis ergo decisionem properandum est, etc."

14. In II Post. Anal., lect. 3, n. 2.

15. In II Post. Anal., cap. 3, pp. 560-61.

16. Cf. Cajetanus, In I Post. Anal., cap. 3, p. 501, and In II Post. Anal., cap. 3, p. 567.

17. Cajetanus, In II Post. Anal., cap. 3, p. 568: "quia tamen in tali processu assumitur quod quid est ipsius tertii et eius quod quid est principaliter quaeritur, ideo dixi quod petitur id quod principaliter et formaliter quaerit; petit siquidem, secundum veritatem in tali processu, quod quid est ipsius minoris extremi, non tamen illudmet quod concluditur; et quoniam nunc agitur de demonstratione quod quid est eo cuius est simpliciter, et non de demonstratione huius vel illius quod quid est, ideo peti dicitur quod principaliter et formaliter quaeritur, etc."

18. Cf. S. Thomas, In II Post. Anal., lect. 3. S. Albertus, Vol. II, II Post. Anal., pp. 168-70. Cajetanus, In II Post. Anal., cap. 3, pp. 568-69.

19. Bk. I, chap. 28.

20. Sylvester Maurus, Commentarium in Aristotelis Opera Omnia, Tome I, (Paris: Lethielleux, 1885), In II Post. Anal., cap. 4, n. 8.

21. Bk. X, chaps. 4 and 7.

22. In II Post. Anal., cap. 4, p. 574.

23. Sylvester Maurus, In II Post. Anal., cap. 4, n. 5.

24. In his commentary on this chapter St. Albert explains clearly what is meant by knowing the quia est before the quid est, and how they are not known at the same time (simul). ". . . 'quia' praecedit 'quid' secundum quod res est vere in suis principiis, quamvis non sit in actu vel in anima: et secundum hoc quia semper praecedit quid: et ex his aliquis venatur ex diffinitione inquirens ex quibus principiis et qualiter: . . . Dicendum quod quia est per medium accidentale potest haberi ant quid est, ut dictum est: sed si quia est probetur per medium essenziale, hoc non erit diffinitio, et ratio quia est et quid est simul scientur: et hoc expresse dicit Commentator. Et tunc cum scitur per medium essenziale, tunc etiam non simul aliquo modo: quia non aequae immediate sequitur utrumque ex demonstratione: quia non sequitur ex demonstratione tali immediate: et tunc cognoscendo si est per essentialia, percipitur et colligitur diffinitio ipsius." Vol. II, II Post. Anal., p. 181.

25. S. Albertus, ibid., p. 179.
26. Cajetanus, In II Post. Anal., cap. 6, p. 581.
27. Ibid., p. 582.
28. The latter part of chapter seven, beginning with "Si ergo definiens demonstrat . . ." is interpreted in different ways by various commentators. Their opinions are cited by the editors of the Leonine text in their footnotes, Vol. I, p. 348, n. 'd'. The explanations given by St. Albert and Cajetan were found particularly helpful. S. Albertus, Vol. II, II Post. Anal., pp. 180-82. Cajetanus, In II Post. Anal., cap. 6, p. 579.
29. In II Post. Anal., lect. 6, n. 10.
30. For example, J.M. Le Blond treats the question only in terms of the logical syllogism of the essence. Cf. Logique et Méthode chez Aristote, (Paris: J. Vrin, 1939), pp. 156-68.
31. Cf. also S. Thomas, In I Post. Anal., lect. 26, n. 2.
32. S. Thomas, In III Sent., dist. 23, q. 2, a. 1, ad 8.
33. S. Thomas, In I Post. Anal., lect. 16, n. 5.
34. S. Thomas, In II Sent., dist. 9, q. 1, a. 1, ad 1.
35. S. Albertus, Vol. II, II Post. Anal., p. 483.
36. Cajetanus, In II Post. Anal., cap. 7, p. 591.
37. Lib. VII, lect. 17, nn. 1657-58. Cf. also the Leonine text of S. Thomas, In II Post. Anal., p. 352, n. 'z'.
38. S. Albertus, Vol. II, II Post. Anal., p. 190: "Et si dicitur quod formalis (diffinitio) subjecti logica est vana ad demonstrationem, dicendum quod vana est ad passionem demonstrandam, sed non ad demonstrandum diffinitionem materialem." Cf. also S. Thomas, In IV Sent., dist. 3, a. 1, ad 1.
39. Post. Anal., Lib. II, cap. 8, 93 a5.
40. S. Albertus, Vol. II, II Post. Anal., pp. 182-84.
41. In II Post. Anal., lect. 7, n. 3.

42. This argument approaches the second explanation of the petitio in the third chapter of the second book of the Posterior Analytics.

43. Cf. above, p. 46.

44. In II Post. Anal., cap. 7, p. 591.

45. Cajetanus, In II Post. Anal., cap. 7, p. 592.

46. Ibid., p. 593.

47. Cf. Cajetanus, ibid., p. 596. The following passage also includes two examples of such knowledge: "Secundum accidens nihil aliud sonat, in proposito, quam secundum aliud: aliud autem hic dicitur, non solum extraneum accidens, sed passio propria: et non solum utrunque horum, sed etiam praedicatum substantiale commune, etc., unde ita sumitur accidens, sicut et sumitur in elenchis accidens, a quo dicitur fallacia accidentis, etc. Scire ergo quia est secundum accidens, est scire rem esse, non nisi quia induit aliquod aliud a se modo exposito: verbi gratia, scire intelligentias esse, quia motores orbium sunt, est scire quia secundum accidens, quoniam ex hoc non aliter sciuntur, quam ut habent rationem movendi: et similiter scire eas esse quia substantiae immateriales sunt, est scire eas esse secundum accidens, quoniam ex hoc nescimus tales res in species esse, sed in communi, in eo quod immateriales sunt, etc. Scire autem vere, quia est, est cognoscere quod ipsum secundum proprium et essentialem conceptum sit, etc."

48. S. Thomas, In II Post. Anal., lect. 7, n. 7.

49. In II Post. Anal., cap. 7, p. 597.

50. Sylvester Maurus, In II Post. Anal., cap. 5, n. 7: "si fuerit inventa haec ratio et hoc medium, quod sit propria causa rei, tum per illud cognoscimus et demonstramus, et quod passio convenit subjecto, et propter quid convenit, et etiam possumus elicere, quid sit passio, quae convenit."

51. S. Thomas, In II Post. Anal., lect. 8, n. 8.

52. Aristotle's summary (93 b15-20) as given by St. Thomas in paragraph nine of the seventh lesson seems to apply only to the demonstrative method. The outline given by St. Thomas in paragraph four determines its position to be such. He likewise indicates that it is in elaborating this particular method that the objections of lesson six are answered, a point to which we shall again make reference. Sylvester Maurus, however, interprets this passage as a summary of both methods. Cf. Sylvester Maurus, In II Post. Anal., cap. 5, n. 8.

53. Post. Anal., Lib. II, cap. 8, 93 b20-28.
54. Vol. II, II Post. Anal., p. 187.
55. Ibid., p. 188.
56. Ibid., p. 189: ". . . si loquimur de potissima et principalissima demonstratione, illa est in qua demonstratur passio de subjecto per diffinitionem passionis, quae dicit et quid et propter quid, et in qua eadem ratione diffinitio passionis demonstratur quae dicit quid sicut demonstratur et ipsa passio."
57. Ibid.
58. Ibid.
59. Ibid.
60. Ibid., p. 190.
61. Cf. Aristoteles, Post. Anal., Lib. II, cap. 8, 93 b20.
62. Cf. S. Thomas In II Post. Anal., lect. 8, n. 4. The following part of the text is very difficult to interpret: "Et sicut illa quorum non est alia causa, ita etiam illa quae possunt habere medium, et quorum est altera causa, potest manifestari quod quid est: ita tamen quod non demonstratur ipsum quod quid est, sed magis medium demonstrationis ut quod quid est accipiatur." There seems to be some omission from the text. The passage as it stands apparently establishes a community between those things which have an altera causa and those which do not. Both quiddities would be manifested through demonstration, a factor which up to this point has served to distinguish them. Cajetan shows clearly that manifestation of the quod quid est through demonstration refers only to those things with an altera causa--passions. The exposition given by Dominicus a Flandria does not resolve this question. (Cf. Opera Omnia S. Thomae, ed. Leonina, Vol. I, p. 357, n. 'z') The simple use of a quiddity as medium does not universally warrant the expression, manifestation through demonstration. His exposition appeals again to the logical syllogism of the essence.
63. ". . . 1 quia in omnibus generibus causarum debet perveniri ad primas causas; ergo etiam in genere quidditatum; ergo dantur quaedam quidditates, quarum in tali genere non est altera causa; ergo tales quidditates non cognoscuntur per demonstrationem, sed accipiuntur et supponuntur ut prima principia demonstrationum." Sylvester Maurus, In II Post. Anal., cap. 5, n. 9.

64. Cajetan, In II Post. Anal., cap. 7, p. 600.
65. Ibid.
66. Cf. Cajetan, ibid., pp. 597 f. S. Albertus, Vol. II, II Post. Anal., p. 184.
67. In II Post. Anal., lect. 8, n. 9.
68. Vol. II, II Post. Anal., p. 190.
69. The broader interpretation in question is the one given above according to the four genera of causes.
70. The following are some of the more important references in the works of St. Thomas to the definition as a demonstratio positione differens:
- In II Sent., dist. 9, q. 1, a. 1, ad 1.
In IV Sent., dist. 3, a. 1, q. 1, l. 1, corp; ibid., 3 corp., and also ad 4.
In I Physic. lect. 1, n. 5.
In I Post. Anal., lect. 16, nn. 4-5; ibid., lect. 26, n.3.
In II De Anima, lect. 1, n. 212; ibid., lect. 3, n. 247.
71. Lib. II, lect. 19, n. 4.
72. Lib. I, lect. 2, n. 3.
73. Lib. II, lect. 1, n. 9; cf. also Lib. II, lect. 7, n. 8: ". . . ipsum medium ostendens propter quid, est ratio definitiva primi termini, idest maioris extremitatis. (Sed si oporteat accipere aliquod aliud medium ad hoc demonstrandum, hoc assumetur ex reliquis rationibus, id est ex definitione minoris extremitatis, et aliarum causarum extrinsecarum.) Cum enim subiectum sit causa passionis, necesse est quod definitio passionis demonstraretur per definitionem subiecti."
74. Cajetan, In II Post. Anal., cap. 7, p. 607.
75. Ibid., p. 608. For a discussion of whether this definition is a definition quid rei or quid nominis of the passion confer Cajetan, In I Post. Anal., cap. 1, pp. 274-75.
76. Opera Omnia, Vol. II, In II Post. Anal., p. 190-93.
77. Ibid., p. 191.
78. The specific difference as well as the genus can be called an essential or quidditative predicate inasmuch as it is an intrinsic part of the quod cuius est. The genus, however, is

strictly predicated in quid, whereas the difference is predicated only in quale quid. Cf. Joan. a Sto Thoma, Curs. Phil., I, p. 387. Cajetanus, In II Post., Anal., cap. 10, p. 642-43.

79. Cf. S. Thomas, In VII Metaph., lect. 12; In VIII Metaph., lect. 2, n. 1696.

80. Cf. S. Thomas, Ia, q. 18, a. 2, corp.; ibid., q. 13, a. 8, ad 2; In II Sent., dist. 35, q. 2, a. 2, sol. I.

81. S. Thomas, In VIII Metaph., lect. 2. Cf. also Joan. a Sto Thoma, Curs. Phil., I, p. 463, col. 1, ll. 1-10.

82. S. Thomas, Ia, q. 87, a. 1 and 2.

83. In II Post. Anal., lect. 13, n. 7.

84. In I De Anima, lect. 1, n. 15. The following texts are likewise of interest: S. Thomas, In II Sent., dist. 3, q. 1, a. 6, corp; ibid., dist. 35, q. 1, a. 2, ad 3; In VII Metaph., lect. 12, n. 1552; Q.D. De Anima, a. 12, ad 8. While the texts given below enunciate the same principle as the previous ones, the references in them to definition by proper accidents must be interpreted in the light of what was said above: S. Thomas, Ia, q. 29, a. 1, ad 3; Q. D. De Spiritualibus Creaturis, a. 11, ad 3, also ad 14. S. Albertus, Vol. I, De Praedicabilibus, p. 12, col. 2, ll. 29-35; ibid., p. 14, col. 1, ll. 35-46; Vol. II, II Post. Anal., p. 166, col. 1, ll. 5-17.

85. Cf. S. Thomas, In II Post. Anal., lect. 14, nn. 2-3. Cajetanus, In II Post. Anal., cap. 10, p. 640. Sylvester Maurus, In II Post. Anal., cap. 8, nn. 4-6.

86. Aristoteles, Post. Anal., Lib. II, cap. 12, 96 bl5: "Congruum autem est cum totum aliquod aliquis negotietur, departiri genus in atoma specie prima . . ."

87. Cajetanus, In II Post. Anal., cap. 10, p. 636.

88. Cf. Aristoteles, Peri., cap. 10, 20 bl.

89. Cajetanus, In II Post. Anal., cap. 10, p. 642: ". . . opposita esse immediata, seu quibus nihil interest, est intelligendum non solum de immediatione inter se, sed etiam de immediatione inter ipsa et divisum: oportet siquidem opposita in quae fit divisio, et esse immediata inter se, ita quod nihil inter ea cadat medium: aliter divisum non necessario evacuetur per talia opposita, ut patet in divisione coloris per album et nigrum."

90. S. Thomas, In X Metaph., lect. 9, n. 2108-10.

91. Cf. Joan. a Sto Thoma, Curs. Phil., I, p. 450. Cf. also, S. Thomas, In VII Metaph., lect. 12, in connection with which this point will be further developed. The objection that all differentiae must be opposed as contraries is answered in the following passage from the Q.D. De Anima, of St. Thomas, a. 7, ad 18: "Dicendum quod naturaliter loquendo de genere et differentia, oportet differentias esse contrarias; nam materia, super quam fundatur natura generis, est susceptiva contrariarum formarum. Secundum autem considerationem logicam, sufficit qualiscumque oppositio in differentiis; sicut patet in differentiis numerorum, in quibus non est contrarietas; et similiter est in spiritualibus substantiis." Thus for the purpose of definition an opposition of strict contrariety in the differentiae is not necessary in all cases.

92. Cf. S. Thomas, In Decem Libros Ethicorum Aristoteles Expositio, ed. Pirotta, (Turin: Marietti, 1934), In II Ethic., lect. 5, n. 289.

93. S. Thomas, In III Physic., lect. 1, n. 5.

94. Aristoteles, Physica, Lib. I, cap. 1. S. Thomas, In I Metaph., lect. 2, n. 45.

95. Cajetanus, In II Post. Anal., cap. 10, p. 643.

96. Ibid., p. 644.

97. Post. Anal., Lib. II, cap. 12, 97 b15-25.

98. In I de Anima, Prooemium, n. 9.

99. In II Post. Anal., cap. 10, p. 646.

PART III:

1. Cf. S. Thomas, In VI Metaph., lect. 1, n. 1156.
2. ". . . Et hujusmodi, scilicet ens rationis, est proprie subjectum logicae. Hujusmodi autem intentiones intelligibiles, entibus aequiparantur, eo quod omnia entia naturae sub consideratione rationis cadunt. Et ideo subjectum logicae ad omnia se extendit, de quibus ens naturae praedicatur. Unde concludit quod subjectum logicae aequiparatur subjecto philosophiae, quod est ens naturae . . ." S. Thomas, In IV Metaph., lect. 4, n. 574. Cf. also Aristoteles, Metaphysica, Lib. VII, cap. 4, 1029 b13. S. Thomas, In I Post. Anal., lect. 20; In VII Metaph., lect. 3, n. 1308; Opuscula Omnia S. Thomae, ed. Mandonnet, (5 vols.; Paris: Lethielleux, 1927) III, In Boetium De Trinitate, q. 6, a. 1.
3. Cf. S. Thomas, In VII Metaph., lect. 3, nn. 1308, 1315, 1316; In VIII Metaph., lect. 1, nn. 1661, 1685.
4. Chaps. 10 and 11.
5. Chap. 12.
6. Chaps. 13 - 16.
7. In VII Metaph., lect. 17, n. 1648.
8. In VIII Metaph., lect. 1, n. 1681.
9. Ibid., n. 1686.
10. "Est autem definitio oratio, quae significat quid res sit." Aristoteles, Topica, Lib. I, cap. 5, 101 b38. St. Thomas likewise refers to the definition in similar terms. Besides the numerous texts in his commentary on the Metaphysics, cf. In I Sent., dist. 33, q. 1, a. 1, ad 1; Contra Gentes, Lib. II, cap. 93.
11. As St. Thomas explains: "Et quod id quod quid erat esse, non sit nisi ejus quod est aliquid, ex hoc patet: quod quidem quid erat esse, est quod aliquid erat esse. Esse enim quid, significat esse aliquid. Unde illa quae non significant aliquid, non habent quod quid erat esse. Sed quando aliquid de aliquo dicitur, ut accidens de subjecto, non est hoc aliquid: sicut cum dico, homo est albus, non significatur quod sit hoc aliquid, sed quod sit quale. Esse enim hoc aliquid convenit solis substantiis. Et ita patet, quod album et similia non possunt habere quod quid erat esse." In VII Metaph., lect. 3, n. 1323.

12. "In his autem in quibus aliquid est perfectissimum, nomen commune generis appropriatur his quae deficiunt a perfectissimo, ipsi autem perfectissimo adaptatur aliud speciale nomen, ut patet in logicis. Nam in genere convertibilium illud quod significat quod quid est, speciali nomine definitio vocatur; quae autem ab hoc deficiunt convertibilia existentia nomen commune sibi retinent, scilicet quod propria dicuntur." S. Thomas, IIa-IIae, q. 9, a. 2, corp.

13. Cf. Joannes a Sto Thomas, Curs. Phil., I (Reiser), p. 371: "Ratio autem huius non est difficilis, quia illud constitutum ex accidente et subiecto constat ex rebus diversorum praedicamentorum, scilicet substantia et accidente. Haec autem non possunt convenire in unam quidditatem et definitionem, quia definitio et quidditas constant ex genere et differentia. Ubi autem sunt plura praedicamenta, sunt plura genera; praedicamentum enim est series generum et specierum et diversa praedicamenta diversa genera et differentias habent et consequenter diversas species seu quidditates. Ergo ex rebus diversorum praedicamentorum non componitur una quidditas et unum definibile constans ex uno genere et differentia; ergo est per accidens."

14. In VII Metaph., lect. 4, n. 1334.

15. Cajetanus, In De Ente et Essentia, cap. 7, (ed. Laurent) n. 135, p. 218: ". . . quaecumque diffiniuntur necessario per aliquod quod est extra eorum essentiam, habent diffinitionem incompletam, diffinitio enim talium non completur per intrinseca sed eget extrinseco additamento; sed accidentia diffiniuntur necessario per aliquod, quod est extra eorum essentiam, oportet siquidem in eorum diffinitione poni subiectum, ut dicitur VII Metaph.: ergo accidentia habent diffinitionem incompletam."

16. Cf. S. Thomas, In II Sent., disp. 35, q. 1, a. 2, ad 1. Joan. a Sto Thoma, Curs. Phil., I, p. 374.

17. Cf. S. Thomas, In VII Metaph., lect. 4, nn. 1339-41; also De Ver., q. 16, a. 1, ad 8: "Homo albus non potest definiri definitione propria, qualis est definitio substantiarum quae significant unum per se; sed potest definiri definitione quadam secundum quid, in quantum ex subiecto et accidente fit unum secundum quid; et talis unitas sufficit ad hoc quod unum nomen possit imponi."

18. Cf. Cajetanus, In De Ente et Essentia, cap. 7, n. 152, pp. 241-44, where the author discusses in what way this statement must be understood in order to be true. In general,

every accident has a proper subject in the sense of a subject which bespeaks a basic aptitude to receive and sustain that accident and not in the sense of a subject which is always in act with respect to the accident.

19. Cf. Joan. a Sto Thomas, Curs. Phil., I, p. 397.

20. "Accidens dupliciter potest accipi. Uno modo abstracto; et sic consideratur secundum propriam rationem; sic enim assignamus in accidentibus genus et speciem; et hoc modo subjectum non ponitur in definitione accidentium ut genus, sed ut differentia, ut cum dicitur, Simitas est curvitas nasi. Alio modo possunt accipi in concreto; et sic accipiuntur secundum quod sunt unum per accidens cum subjecto; unde sic non assignantur eis nec genus nec species, et ita verum est quod subjectum ponitur in definitione accidentis ut genus." S. Thomas, De Ver., q. 3, a. 7, ad 2.

". . . concreta accidentium non definiuntur quidditative nisi ratione sui formalis, cui essentialia sunt praedicata, quae in definitione ponuntur. Concretum autem ut conflatum ex subiecto et accidente solum definitur definitione quid nominis, ut cum dico: 'Album est habens albedinem'." Joan. a Sto Thoma, Curs. Phil., I, p. 502. Cf. also ibid., I, p. 397 b40 - 398 a20.

In commenting on the Posterior Analytics, Cajetan explains very well how the difference in the mode of signification can affect the manner of defining. Only the definition of the accident as signified in abstracto is a definition of an accident secundum exigentiam suae naturae simpliciter. In the definition of the accident in concreto, the subject is placed in the definition in recto, whereas the subject, since it is something extra essentiam, should strictly speaking be placed ut additum in the definition, i.e., in obliquo. In I Post. Anal., cap. 4, p. 312.

21. Curs. Phil., I, p. 375. Cf. also ibid., I, p. 102.

22. In V Metaph., lect. 22, nn. 1121-27. Cf. also S. Thomas, In I Peri., lect. 4, n. 5.

23. Cf. S. Thomas, In VII Metaph., lect. 9, n. 1477. Cajetanus, In De Ente et Essentia, cap. 7, n. 135, p. 218; cap. 2, n. 24, p. 43. S. Thomas In II De Anima, lect. 1, n. 213. We should note at this point that a form can be defined in relation to a subjectum formatum or a subjectum informatum. When the soul is defined as the act of an organic body, the latter is as a subjectum formatum. Cf. S. Thomas, Q.D. De Anima, a. 1, ad 15.

24. Cf. S. Thomas, De Ente et Essentia, cap. 1; In V Metaph., lect. 10. The unity of this nature as considered absolutely in itself which is the basis of the unity of the definition is described as a negative formal unity. It is a unity "quantum ad negationem divisionis per principia formalia." Positive unity comes to the nature only as it exists in the individual or in the intellect. Cf. Joan. a Sto Thomas, Curs. Phil., I, p. 323, p. 331. Cajetanus, In De Ente et Essentia, cap. 4, n. 61, p. 94.
25. Cf. Cajetanus, In De Ente et Essentia, cap. 3, n. 40, p. 61.
26. S. Thomas, In I Sent., disp. 25, q. 1, a. 1, ad 2. Cf. also S. Thomas, De Ente et Essentia, cap. 3, and Cajetanus in loco, (ed. Laurent), nn. 41-43, pp. 63-65. St. Thomas, In VII Metaph., lect. 12, n. 1548.
27. "Pro intellectu horum nota quod significatum formale nominis ad praesens est perfectio seu forma determinate et primo explicata per illud nomen. Materiale vero est id quod sub nominis significatione cadit non primo." Cajetanus, In De Ente et Essentia, cap. 3, n. 45, p. 67.
28. S. Thomas, In III Metaph., lect. 8, n. 433: "Similiter etiam nec genus per se sumptum, potest praedicari de differentia praedicatione per se. Non enim genus ponitur in definitione differentiae, quia differentia non participat genus, ut dicitur in quarto Topicorum. Nec etiam differentia ponitur in definitione generis: ergo nullo modo per se genus praedicatur de differentia." Cf. also Cajetanus, In De Ente et Essentia, cap. 3, n. 45, p. 68.
29. In De Ente et Essentia, cap. 3, n. 46, p. 69.
30. Ibid., p. 70.
31. Thus Cajetan can say: "Homo ergo secundum suum formalem intellectum seu conceptum acceptus non est animal neque rationale, sed ex animali et rationali. Et sicut dictum est de homine, qui est species, ita dicito de animali quod est diffinitio: animal enim rationale secundum suum formalem conceptum, non est animal neque rationale sed ex animali et rationali: differt namque formalis conceptus animalis rationalis a conceptu formali animalis et a conceptu rationalis sicut totum a partibus."
32. S. Thomas, In Boetium De Trinitate, q. 4, a. 2, p. 83: "Aliquid igitur invenitur commune in utroque similitudine, quod in una substernitur imperfectioni, et in alia perfectioni,

sicut materia substernitur actui et privationi, et ideo materia simul accepta cum hoc communi, est adhuc materialis respectu perfectionis, et imperfectionis praedictae, et ex hoc materiali sumitur genus, differentia vero ex perfectione et imperfectione praedicta. Sicut ex hoc communi materiali, quod est habere vitam, sumitur hoc genus quod est animatum corpus: ex perfectione vero superaddita, haec differentia, sensibile; ex imperfectione vero, haec differentia insensibile; et sic diversitas talium materialium inducit diversitatem generis, sicut animalis a planta. Et propter hoc dicitur materia esse principium diversitatis secundum genus. . ."

33. Cf. Joan. a Sto Thoma, Curs. Phil., I, p. 402. S. Thomas, Q.D. De Spirit. Creat., a. 1, ad 24.

34. Joan. a Sto. Thoma, Curs. Phil., I, p. 389: "Genus est universale respiciens (vel aptum respicere, si fundamentaliter tradatur) plura specie distincta in quid."

35. S. Thomas, In De Trin., q. 4, a. 2: "Sciendum tamen quod cum illud materiale, unde sumitur genus, habeat in se formam et materiam, logicus considerat genus solum ex parte ejus quod formale est, unde ejus definitiones dicuntur formales, sed naturalis considerat genus ex parte utriusque. Et ideo contingit quandoque quod aliquid communicat in genere secundum logicum, quod non communicat secundum naturalem. Contingit enim quandoque quod illud de similitudine primi actus quod consequitur res aliqua in materia tali, aliud consequitur sine materia, aliud in alia materia omnino diversa. Sicut patet quod lapis in materia quae est secundum potentiam ad esse, pertingit ad hoc quod subsistat, ad quod idem pertingit sol secundum materiam, quae est in potentia ad ubi, et non ad esse, et angelus omni materia carens. Unde logicus inveniens in his omnibus illud ex quo genus sumebat, ponit omnia haec in uno genere substantiae. Naturalis vero et metaphysicus qui considerant principia rerum, omnia non inveniunt convenientia in materia, dicunt ea differre genere, secundum hoc quod dicitur X Metaphysi., quod corruptibile et incorruptibile differunt genere, quorum est materia una et generatio ad invicem."

Ibid., q. 6, a. 3: "Logicus enim considerat absolute intentiones, secundum quas nihil prohibet convenire immaterialia materialibus, et incorruptibilia corruptibilibus. Sed naturalis et philosophus primus considerant essentias, secundum quod habent esse in rebus, et ideo ubi inveniunt diversum modum potentiae et actus et per hoc diversum modum essendi, dicunt esse diversa genera."

S. Thomas, In X Metaph., lect. 12, n. 2142: "Genus autem, physice loquendo, a materia sumitur. Unde supra dictum est, quod ea quae non communicant in materia, sunt genere diversa. Logice autem loquendo, nihil prohibet quod convenient in genere, in quantum convenient in una communi ratione, vel substantiae, vel qualitatis, vel alicujus hujusmodi."

36. Q.D. De Anima, a. 7, ad 18; In X Metaph., lect. 10, nn. 2120-23; In V Metaph., lect. 22, nn. 1121-23. Where one of the differences is a privative term (e.g., irrational) it departs necessarily from the perfection of a true difference as defined by Cajetan from Aristotle: ". . . verae differentiae appellantur differentiae positivae non extraneae contrariae inter se convertibiles cum his quorum sunt differentiae." Cajetan, In De Ente et Essentia, cap. 6, n. 133, p. 215.

37. In Boet. De Trin., q. 4, a. 2; Q.D. De Anima, a. 7, ad 17.

38. Q.D. De Anima, a. 7, ad 16; De Ente et Essentia, cap. 6; In VIII Metaph., lect. 3, n. 1720; In II Sent., disp. 3, q. 1, a. 5; Opusculum De Natura Generis, cap. 5, (Opuscula Omnia, ed. Mandonnet), Vol. 5, p. 229: "Illae ergo substantiae simplices nullum genus subalternum habent: et ideo unica differentia sufficit earum perfectioni, quia non colligitur earum perfectio ex multis et diversis divisionibus generum et conjunctionibus differentiarum: et tanto perfectior est earum natura, quanto plura unite et in uno simplici habet."

39. Cf. Cajetanus, In De Ente et Essentia, q. 6, n. 131, pp. 209-11.

40. Ibid., n. 133, p. 215: "Cum enim intelligentiae careant genere subalterno, ut S. Thomas in tractatu de natura generis testatur, eo quod perfectio earum ex pluribus conjunctionibus differentiarum non consurgit, sicut perfectio specierum in istis inferioribus, quibus non sufficit genus commune et differentia, omnes immediate sub uno genere continebuntur; et sic genus earum, si veris differentiis ad illas descendere debet, oportet multimembrem fieri divisionem nobis ignotam: quod si bipartita divisione contrahendum erit, alteram simpliciter necesse est esse non veram, quia privativam; alteram propter debilitatem intellectus nostri ad nullam propriam earum differentiam ascendere potentis, necesse quoque est esse non veram."

41. Cf. S. Thomas, Q.D. De Anima, a. 7, corp. and ad 17; Quaest. Quodlib., I, a. 6; ibid., IX, a. 6, ad 3.

42. Cf. also Aristoteles, Metaphysica, Lib. V, cap. 24-27.

43. Cf. S. Thomas In VII Metaph., lect. 12, nn. 1537-44.

44. Ibid., n. 1549.

45. Ibid., nn. 1556-58. Cajetan explains in what sense there is not a nugatio when the superior parts constituting the difference of man as an essential whole are given: ". . . quia in

diffinitione oportet explicite ponere superiora omnia usque ad ultimam differentiam, et tamen posteriorem implicite quodammodo claudere priorem (ut patet, cum dicitur, animal est substantia animata sensibilis) ideo in diffinitione universalis explicavit de omni, et per se. Nec ob hoc sequitur nugatio, quia ad nugationem non sufficit qualiscunque inclusio unius in altero, sed exigitur, quod unum includatur formaliter, et intrinsece in conceptu formali alterius. Unde dicere animal rationale non est, nugatio, quia animal ut additum in conceptu rationalis cadit et similiter dicere nasus simus et similia." In I Post. Anal., cap. 5, p. 326.

46. Cf. S. Thomas, In VIII Metaph., lect. 5; In I Peri., lect. 8, nn. 10-11.

47. Cf. Cajetanus, In De Ente et Essentia, cap. 6, n. 131, pp. 212-13.

48. Ibid., p. 213. Cf. also Joan. a Sto Thomas, Curs. Phil., I, p. 503.

49. Cf. S. Thomas, In VIII Metaph., lect. 5, n. 1763. Cajetanus, In De Ente et Essentia, cap. 4, n. 56, pp. 85-90.

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