

nature, the term nature being taken generally. Of the former we are said to have practical knowledge and of the latter only speculative knowledge.

In the Prima Pars, question XIV, article XVI, St. Thomas shows some of the differences between speculative and practical sciences:

Respondeo dicendum, quod aliqua scientia est speculativa tantum, aliqua practica tantum, aliqua vero secundum aliquid speculativa, et secundum aliquid practica.

Ad cuius evidentiam sciendum est quod aliqua scientia potest dici speculativa tripliciter: primo, ex parte rerum scitarum, quae non sunt operabiles a sciente, sicut est scientia hominis de rebus naturalibus, vel divinis; secundo, quantum ad modum sciendi, ut puta si aedificator consideret domum definiendo et dividendo, et considerando universalis praedicata ipsius; hoc siquidem est operabilia modo speculativo considerare, et non secundum quod operabilia sunt: operabilia enim est aliquid propter applicationem formae ad materiam, non propter resolutionem compositi in principia universalis formalis; tertio, quantum ad finem; nam intellectus practicus differt fine a speculativo, sicut dicitur in III De Anima, text. 49; intellectus enim practicus ordinatur ad finem operationis; finis autem intellectus speculativo est consideratio veritatis. Unde si quis aedificator consideret qualiter possit fieri aliqua domus, non ordinans ad finem operationis, sed ad cognoscendum tantum, erit quantum ad finem speculativa consideratio, tamen de re operabili, scientia igitur quae est speculativa ratione ipsius rei scitae, est speculativa tantum. Quae vero speculativa est vel secundum modum, vel secundum finem, est secundum quid practica. Cum vero ordinatur ad finem operationis, est simpliciter practica. (18)

St. Thomas shows here that a science can be speculative for three reasons. The first and most fundamental of these is taken from the object of the science. If the object is not operable by us, the only kind of knowledge of it open to man

is speculative knowledge. The fact that the object is a non-operable imposes at the same time a speculative mode and a speculative end. On the other hand, an object which is in itself an operable can be known by a practical science or by a science which is speculative either by virtue of its end or by virtue of its mode. The operability of the object does not prohibit its being known speculatively. If the end is the truth rather than a work the science is speculative; if the mode is resolute instead of compositive again the science is speculative, i.e., secundum quid.

It is evident that St. Albert has distinguished speculative and practical science by their objects, and this is very formal; for the object is what specifies any habitus. But St. Thomas has pointed out that the object is not the sole reason for denominating a science speculative or practical. Let us pursue this point further:

Respondetur dicendum, quod sicut dicitur in III de Anima... intellectus practicus differt a speculativo fine: finis enim speculativi est veritas absolute, sed practici est operatio ut dicitur in II Metaphysicae. Aliqua vero cognitio practica dicitur ex ordine ad opus: quod contingit dupliciter. Quandoque in actu, quando scilicet ad aliquid opus actu in materiam inducere; et tunc est actu practica cognitio, et cognitio ad actum, non tamen actu ordinatur; sicut cum artifex excogitat formam artificii, et scit per modum operandi, non tamen operari intendit; et certum est quod est practica habitu vel virtute, non actu. Quando vero nullo modo est ad actum ordinabilis cognitio, tunc est semper speculativa; quod etiam dupliciter contingit. Uno modo, quando cognitio est de rebus illis quae non sunt natae produci per scientiam cognoscentis, sicut nos cognoscimus naturalia; quandoque vero res cognita est quidem operabilis per scientiam, tamen non consideratur ut est operabilis; res enim per operationem in esse producitur. (17)

According to this text speculative and practical knowledge are each subject to a twofold division. Practical knowledge is either practical knowledge in actu or in habitu. The former is called completely practical knowledge, while the latter is formally or essentially practical knowledge. (18) In each case the object is known in modo operandi; that is, the thing is known according to its manner of making or doing. The carpenter who has formally practical knowledge or completely practical knowledge of a house knows the order in which it must be constructed and the sizes and shapes of its various parts together with the proper manner of putting them together. Both sciences are the same in mode and object, hence, the difference between the two lies in the actual making; or, in other words, they differ in end. In formally practical knowledge the house is not intended to be made here and now and there is no movement of the will; but in completely practical knowledge the knower actually operates in conformity to his science.

Similarly, there is a twofold division of speculative knowledge taken from a difference in the material object. Some science is speculative because the object is not operable. Natural things cannot be made by human art and are, therefore, the object of speculative science only. On the other hand, an object which is in itself operable can be considered in a speculative manner. The mode and end are speculative in each of these two kinds of knowledge. But in one instance the object itself is an operable and in the other it is not.

Knowledge which is speculative by reason of mode and end but which bears upon an operable object is also called radically practical knowledge.

It will be noted from the last citation that when there is a difference in ends there is also a difference in intellects, which in turn gives rise to the difference between formally and completely practical knowledge. We repeat:

Respondetur dicendum, quod sicut dicitur in III de Anima... intellectu practicus differt a speculativo fine; finis enim speculativi est veritas absolute, sed practici est operatio ut dicitur in II Metaphys...(19)

The speculative and practical intellects differ in their ends; for the speculative intellect terminates in the truth absolutely, while the practical intellect terminates in an opus. In opus, moreover, is a good which is the object of the appetite. We can say, then, that the practical intellect is the speculative intellect extended to include the formal object of the appetite. The two are not distinct faculties. This distinction of the speculative and practical intellects will allow us to point out more forcefully the difference between formally practical knowledge and completely practical knowledge. It has already been shown that they differ in that the former is practical in habitu whereas the latter is practical in actu.

It will be recalled from our quotation from the

Prima Pars that

.....(quando) aedivicator consideret qualiter  
posset fieri aliqua domus, non ordinans ad finem  
operationis, sed ad cognoscendum tantum, erit  
quantum ad finem speculativa consideratio, tamen  
de re operabili. (20)

Hence, completely practical knowledge differs from formally  
practical knowledge in the way that the practical intellect  
differs from the speculative intellect; namely, by the end.  
But, it may be objected, the end of each is the same, for  
both are ordered to an opus. This is the point we wish to  
clarify.

When St. Thomas says that the speculative and practical  
intellects are distinguished by their ends it is necessary  
to note that there are two ends to be considered: the end  
of the knower and the end of the science:

Circa hanc partem advertere primo quod practicum  
et speculativum hic sumitur non solum ut sunt  
conditiones scientiae secundum se, sed etiam ex  
parte scientis. Et propterea dicitur quod ars  
demonstrativa non intendit demonstrare, sed  
speculativa ex fine, et practico ex modo et  
objecto: glossandum est enim de fine ex parte  
scientis, et non ipsius scientiae. Quoniam si  
loquamur de fine ipsius scientiae, ipsa est  
etiam practica ex fine: quoniam finis eius est  
demonstratio. Et hoc si adverteris, deludes  
irrationes adversariorum. (21)

The reason for this distinction is to be found in the end  
itself, which can be considered either as object or as end:

Ad primum respondetur distingui sine dubio rationem objecti et finis, ut supra diximus, et differunt penes diversa officia et respectus. Est enim munus objecti specificare actum tanquam principium extrinsecum, a quo pendet actus in sua specificatione, unde objectum invenitur tam in eo, quod est finis, quam quod non est finis, tam respectu potentiae appetentis quam cognoscentis; in omnibus enim actibus specificatio est ab objectis. At vero munus finis non est specificare seu determinare id, quod ad speciem et constitutionem rei pertinet, sed terminare et ultinare ea, quod pertinet ad exercitium et executionem rei fiendae; nullus enim movetur ad aliquid faciendum vel exequendum, nisi sibi ponatur finis operationis et motus, alias maneret infinitus et impertransibilis, si non peneretur sibi aliquid, ubi sisteret et quiesceret. Et ideo finis importat bonitatem seu perfectionem sistentem et terminantem motum, et sic moventem, ut in se sistatur, et sic diffundit suam bonitatem non propagando illam efficienter, sed praebendo id, ad quod efficientiae motus terminetur. (22)

The end considered as object is that which specifies an habitus. Under this aspect completely practical knowledge and formally practical knowledge do not differ because it is the operable as operable which specifies each. If they are to be distinguished it must be from the end considered as mover, and this is their point of difference. Completely practical knowledge is practical in not only because the object moves the knower to produce the work; the end acts formally as an end. It is the only kind of knowledge which is in the practical intellect, for the speculative and practical intellects are distinguished not by the end of the science but by the end of the knower, which is to say the end as moving. The speculative intellect is concerned with the good of the intellect, the true. This is the end which moves the knower.

The object of the practical intellect, however, is the verum relatum ad opus, (23) the true which is related to a work, for practical knowledge is not sought for its own sake but for something else. It is ordered to a work; the work is its end. Hence, the end which moves the knower is the good of the appetite, or the good as good. And it is because its end is the truth alone and not the good that formally practical knowledge is speculative in a certain respect. It remains intra limites intellectus and its truth is speculative. Its object, however, is still an operable considered as such. Although the knowledge is not practical in act, it is, nevertheless, practical in habitu, and the object is considered insofar as it is something that falls under the domination of the knower. The object is something that can be made, and, therefore, is essentially distinct from the objects which are the principle concern of the speculative sciences:

Bien que l'activité de l'appétit ne soit pas engagée dans la connaissance qui n'est que formellement pratique, l'appétit comme tel, l'appétit comme faculté qui peut passer à l'acte, entre déjà dans cette connaissance. Autrement on ruinerait toute connaissance pratique à sa racine. Par conséquent, lorsqu'on dit que la science qui n'est que formellement pratique est retenue intra limites intellectus, il faut s'entendre. Elle ne représente pas la fin en tant que motrice, elle ne comporte aucun acte de l'appétit, mais elle porte déjà sur un objet spécifique de l'appétit. Sous ce rapport elle est déjà tournée vers le dehors; il y a déjà ordre à ce qui ne peut avoir d'acte qu'en dehors des limites de l'intelligence. L'actuelle position au dehors ne vient pas déterminer l'ordre vers le dehors en tant qu'ordre vers le dehors. Cet ordre est essentiel à toute connaissance pratique puisque toute connaissance pratique a son principe dans le bien comme bien. (24)

These remarks serve to bring out the one way in which these two kinds of practical knowledge differ. They are alike in object and mode but differ in end.

It will be recalled that St. Albert holds philosophy to be concerned with all truth. But we must make certain distinctions, for philosophy is concerned with all speculative truth, but it is not concerned with practical truth. The nature of practical truth needs to be made clear. (25)  
Cajetan is our source for this distinction:

II. Ad hoc dicitur quod, quia intellectus practicus convenit cum speculativa in actu cognitionis, et differt in actu directionis; differentia practici a speculativa non penes cognoscere, sed penes dirigere attenditur. Ideo veritas intellectus speculativi consistit in cognoscere: veritas autem intellectus practici in dirigere. Et sic veritas intellectus speculativi consistit in hoc, quod cognoscere adequatur rei cognitae: veritas autem intellectus practici consistit in hoc, quod dirigere adequatur principio directiva. - Ut autem habetur IX Metaphys., principium determinativum, ac per hoc directivum, actus ad operandum, est appetitus. Cum igitur unumquodque ita se habeat ad veritatem sicut ad entitatem, directionis actus, proprius intellectus practici, et quoad esse et quoad veritatem, pendet ab appetitu. Et hoc liquet.

III. Sed quoniam in littera dicitur quod pendet ex appetitu recto, scito quod rectitudo ista non est uniformiter accipiendae. Directio namque vera intellectus practici in agibilibus, attenditur penes conformitatem ad appetitum rectum rectitudine finis moralium, quae est bonitas moralis. Directio autem vera intellectus practici in factibilibus, attenditur penes conformitatem ad appetitum rectum rectitudine finis artificialium: quod non est appetitum esse bonum moraliter, sed esse rectum, idest tendere in rectum finem. In animi enim arte est dare finem rectum, et non rectum. (26)



As the commentator points out, speculative truth is the adequation of the intellect to the thing, while practical truth is the adequation of the intellect to right appetite, or, in other words, an appetite which is well-disposed in respect to its end. In each case the intellect is said to be true when it is conformed to its measure; in speculative truth the measure is reality, and in practical truth the measure is the appetite.

The point that interests us, however, is the following: In speculative knowledge truth is the end which moves and attracts, therefore, it is the term of the knowledge. The intellect rests when it is in possession of the truth. In completely practical knowledge, however, the end which moves is the good of the work, hence, the activity of the Agent does not cease until it is posited in existence. The conformity of the intellect to a well-disposed appetite is presupposed to the work; and hence, practical truth is not the term of knowledge but the principle. It is the measure of the work, and for that reason the work is said to be true when it is in conformity with the intellect. The intellect is a measure which is at the same time measured, as was pointed out in our exposition of chapter I. Practical truth, moreover, is found only in completely practical knowledge which can be either artistic or prudential. But neither art nor prudence can be called a philosophical habitus. Philosophy is concerned with knowledge, hence, its object is the truth which is a term.

### III. THE DIVISION OF PHILOSOPHY

In the course of supporting those who hold logic to be a part of philosophy, St. Albert points to the traditional manner in which it is divided as a sign of the fact that logic is to be included as one of its parts.

Adhuc autem hujus signum dicunt, quod apud Peripateticos philosophia in tres partes prima divisione divisa est, in physicam scilicet generaliter dictam, et ethicam generaliter dictam, et rationalem similiter acceptam. Dico autem physicam generaliter dictam, quae comprehendit et naturalem et disciplinalem et divinam. Ethicam autem generalem, quae in se continet et monasticam et aeconomicam et civilem. Rationalem autem generalem quae comprehendit omnem modum deveniendi de noto ad ignotum quocunque modo: Quod per multa genera probationum fit, ut in sequenti ostenditur. Manifestum est igitur, quod logica aliqua pars est philosophiae. (27)

Tradition divides philosophy into three parts:

physical science, moral science, and logic. Each of these has parts into which it is further divided. For example, the physical sciences are natural philosophy and metaphysics. Moral philosophy includes ethics, economics (in the Aristotelian sense), and politics. This division continues to be generally accepted, at least by those of the Scholastic Tradition, and it was held to be legitimate by St. Thomas himself.

In order to manifest this last point, it must be recalled that in the course of our exposition of chapter I,

we cited a text from St. Thomas to the effect that the object of the intellect (order) is fourfold. This fourfold order gives rise to four distinct genera of disciplines:

Et quia consideratio rationis per habitum perficitur, secundum hos diversos ordines quos proprie ratio considerat, sunt diversae scientiae. Nam ad philosophiam naturalem pertinet considerare ordinem rerum quem ratio humana considerat sed non facit; ita quod sub naturali philosophia comprehendimus et metaphysicam. Ordo, autem quem ratio considerando facit in proprio actu, pertinet ad rationalem philosophiam, cuius est considerare ordinem partium orationis adinvicem, et ordinem principiorum adinvicem et ad conclusiones. Ordo autem actionum voluntariarum pertinet ad considerationem moralis philosophiae. Ordo autem quem ratio considerando facit in rebus exterioribus constitutis per rationem humanam, pertinet ad artes mechanicas. (28)

It will be noted that this division of the sciences corresponds to the one given by St. Albert in the text cited above except in one instance. St. Albert makes no mention of the mechanical arts. The reason for the difference is evident enough. St. Albert is dividing philosophy, whereas St. Thomas is dividing the object of the intellect simpliciter, and he is not immediately concerned with what the study of philosophy must include. This, however, is St. Albert's problem; consequently, he makes no mention of the mechanical arts.

The principles of practical sciences are the various ends to which they are ordered. But some ends are ultimate and others are not. Hence, only those ends which are ultimate in some order will be principles of practical philosophical studies, otherwise philosophy would be extended to include all the practical knowledge open to man. The mechanical arts are

not ends in themselves but are ordered to the material good of man, and in respect to their use they fall under the domination of prudence. There is no one ultimate material opus which is an end to which all other opera are ordered; therefore, there is no single general treatment of the mechanical arts which could be a separate part of philosophy. They are all ordered to an end which is the concern of moral philosophy. They are considered only to the extent that moral science is concerned with all the virtues which perfect man, and because moral science cannot enter into detail on the infinity of things which fall under its very general consideration, the mechanical arts remain outside the providence of philosophy except for their general definition and a treatment of their common nature.

If the term philosophy is to be understood in this comprehensive manner, it cannot be given a real definition. That is why the ancients were content to call it the amor sapientiae. There is no real genus common to all of its parts, and such definitions as "certain knowledge through causes", or "knowledge through ultimate causes" are definitions of parts of philosophy only. Hence, we must be content with only a nominal definition of the term; let us expand this point a bit:

Quelle conception les scolastiques se font-ils du philosophe, depuis le Moyen-Age? Pour eux, le philosophe n'est sûrement pas l'homme de lettres; ce n'est pas non plus le mathématicien, ni l'homme de science; ce n'est même pas le sociologue. Mais alors, qui donc est-il? Sans doute, le philosophe est celui qui étudie la philosophie, mais qu'est-ce que la philosophie? La philosophie? me direz-vous; ouvrez n'importe quel manuel et vous l'apprendrez dès la première page! Depuis des générations, en effet, aucun des manuels n'a manqué de nous donner ce qu'ils appellent tous une definition réelle de la philosophie; savior, "une connaissance certaine par les causes"; ou encore, "connaissance certaine par les causes ultimes". Par ailleurs, ils divisent la philosophie en logique, philosophie de la nature, en métaphysique et morale.

Pourtant, si nous nous donnons la peine de réfléchir un peu, cette définition et cette division de la philosophie ne nous paraîtront pas aussi évidentes qu'elles veulent l'être dans la pensée de leurs auteurs. En effet, si nous disons que la philosophie est une connaissance par les causes ultimes, il faudra de toute nécessité réserver cette définition à la seule métaphysique, car seule elle considère les causes ultimes. D'autre part, si nous supprimons de la définition le mot "ultime" et ne retenons que ceux-ci, savior "connaissance certaine par les causes", nous ne voyons pas bien pourquoi on rejette de la philosophie la mathématique, car celle-ci est non seulement une connaissance par causes mais elle est aussi au dire de Saint Thomas, la connaissance la plus certaine pour nous. Enfin, dire de la philosophie qu'elle est une connaissance certaine, c'est dire en somme que la science morale n'est pas une partie de la philosophie, autrement comment expliquer que Saint-Thomas ne cesse de répéter que la philosophie morale procède "figuraliter, idest verisimiliter". Disons-nous donc tout simplement que la philosophie est une connaissance par causes? Mais alors, pourquoi en exclure la poétique et la rhétorique?(29)

The author of this article rejects the definitions of philosophy which are proposed by the modern scholastics. If philosophy be defined as knowledge through ultimate causes,

then only metaphysics is philosophy; for it alone can attain the ultimate universal causes. On the other hand, if the definition be simply certain knowledge through causes, then we must explain why we have left out mathematics and by what license we include the moral sciences. Mathematics is the most certain of all the natural disciplines; on the other hand, moral science gives only probability. We are forced, therefore, to be content with a nominal definition of philosophy:

.....ce n'est pas sans raison qu'Aristote et Saint Thomas se sent toujours contentes d'une definition nominale de la philosophie, celle de Pythagore: "amor sapientiae". Pour eux la philosophie est un amant de la sagesse. Cette definition n'a pas le seul merite d'etre la seule qu'on puisse donner de la philosophie; elle a encore et surtout le tres grand merite de dire exactement ce qu'est la philosophie, et d'embrasser tout ce que celle-ci comprend veritablement, tout ce qu'elle comprenait pour les anciens. Pour ceux-ci, en effet, le philosophe n'est pas celui qui possede deja la sagesse et n'a plus qu'a en jouir, car la sagesse est divine et seul Dieu la possede de facon parfaite et durable. Le philosophe, c'est celui qui est a la recherche des causes, et en derniere analyse des causes ultimes, sans exclure les autres causes. Pour eux la philosophie est l'intelligence speculative orientee vers les causes ultimes comme vers un terme, allant des "notissima simpliciter" connus des sens jusqu'aux "notissima secundum se". Comment en serait-il autrement, puisque nous dependons des choses, que nous sommes mesures par elles; bien plus nous connaissons par le ministere des sens, et la philosophie, tout en poursuivant la recherche des causes ultimes, ne peut jamais se passer de la certitude des sens, laquelle est pour nous la plus forte. Aussi bien, la sagesse metaphysique depend, et dans son acquisition et dans sa nature meme de sagesse, de toutes les disciplines inferieures, y compris les arts liberaux. Et c'est precisement tant qu'ordonnees a la sagesse, vers laquelle elles doivent tendre, que ces disciplines inferieures et particulieres sont parties de la philosophie.

C'est tout cela qu'exprime la definition d'Aristote, 'amor sapientiae', savoir la grande diversite en meme temps que l'unite d'ordre de la recherche philosophique. Et le debut de sa Metaphysique n'est qu'une manifestation, du reste admirable, de cette definition.

Pour Aristote et Saint Thomas toute connaissance speculative par causes est philosophique. Le philosophe se distingue du seul artiste.(30)

"The love of wisdom", even though it is only a nominal definition, expresses exactly what philosophy is. Philosophy is the desire for and the seeking of wisdom; wisdom which depends upon the inferior disciplines not only in the order of acquisition but also in its very nature of wisdom, for the wise man judges all things.

Hence, for the ancients the philosopher was distinguished only from the artist, whose object is a work rather than speculative truth.

the various kinds of principles from which an argument can

#### IV. THE DIVISION OF LOGIC

In this chapter St. Albert gives the division of that part of logic which deals with the third operation of the intellect. Let us read what he says:

Est igitur logica una partium philosophiae generaliter dictae, quae omnis admirabilis intendit comprehendere veritatem secundum modum, secundum quem possibile est comprehendere eam ex propriis principiis ejus quod admiratur. Hoc enim variatur secundum uniuscujusque scientiae proprietatem. Sicut enim in philosophia reali secundum diversitatem diffusionis(31) (quae medium in demonstratione est) variatur philosophia, sic in logicis sive rationalibus secundum variationes ratiocinationis variatur scientia, hoc est, sciendi modus.(32).

Sciences are diversified according to their principles. That part of philosophy which can be denominated the philosophy of the real is subdivided according to a mode of defining proper to each of its parts. In a somewhat similar manner, logic can be divided into parts, not on the basis of a different immateriality, but by virtue of a difference in the principles from which one can argue, St. Albert points out the various kinds of principles from which an argument can proceed:

.....Si enim ratio procedit ex signis facientibus praesumptionem, erit logicae generalis pars una quae rhetorica vocatur. Si autem procedit ex fictis facientibus delectationem vel abominationem, erit alia pars logicae quae vocatur poesis vel poetica. Si autem procedit ex causis essentialibus et propriis, erit alia pars quae vocatur demonstrativa. Si ex his quae fiuntur et non sunt, erit pars alia quae vocatur sophistica. Si autem ex cautelis provocantibus respondentem doceat procedere, erit alia pars logicae generalis quae vocatur tentativa: et sic facile est de omnibus aliis intelligere.(33)



The demonstrator proceeds from proper and essential causes; the dialectician proceeds from probable and common reasons; the rhetorician proceeds from signs; the poet proceeds from a fiction (metaphor) which convinces by representing its object as delectable or reprehensible. Each of these can cause discourse, for the mind can pass from them to the unknown. The termination of each is an enunciation which the mind accepts or rejects. However, in each case the mind is determined to the conclusion in a different manner, and this difference in firmness with which the mind adheres to the conclusion gives us the species of discourse; in other words, certitude is the principle of the division: (34)

Pars autem Logicae, quae primo deservit processui, pars Iudicativa dicitur, eo quod iudicium est cum certitudine scientiae. Et quia iudicium certum de effectibus haberi non potest nisi resolvendo in primo principia, ideo pars haec Analytica vocatur, idest resolutoria. Certitudo autem iudicii, quae per resolutionem habetur, est, vel ex ipsa forma syllogismi tantum, et ad hoc ordinatur liber Priorum analyticorum, qui est de syllogismo simpliciter; vel etiam cum hoc ex materia, quia sumuntur propositiones per se et necessariae, et ad hoc ordinatur liber Posteriorum analyticorum, qui est de syllogismo demonstrativo.

According to the text just cited, there are several

Secundo autem rationis processus deservit alia pars Logicae, quae dicitur Inventiva. Nam inventio non semper est cum certitudine. Unde de his quae inventa sunt, iudicium requiritur, ad hoc quod certitudo habeatur. Sicut autem in rebus naturalibus, in his quae ut in pluribus agunt, gradus quidam attenditur (quia quanto virtus naturae est fortior, tanto rarius deficit a suo effectu), ita et in processui rationis, qui non est cum omnimoda certitudine, gradus aliquis invenitur, secundum quod magis et minus ad perfectam certitudinem acceditur. Per huiusmodi enim processum, quandoque quidem, etsi non fiat scientia, fit tamen fides vel opinio propter probabilitatem propositionum, ex quibus proceditur: quia ratio totaliter declinat in unam partem contradictionis, licet cum formidine alterius, et ad

hoc ordinatur Topica sive Dialectica. Nam syllogismus dialecticus ex probabilibus est, de quo agit. Aristoteles in libro Topicorum. ... Quandoque vero, non fit complete fides vel opinio, sed suspicio quaedam, quia non totaliter declinatur ad unam partem contradictionis, licet magis inclinetur in hanc quam in illam. Et ad hoc ordinatur Rhetorica. Quandoque vero sola existimatio declinat in aliquam partem contradictionis propter aliquam repraesentationem, ad modum quo fit homini abominatio alicuius cibi, si repraesentetur ei sub similitudine alicuius abominabilis. Et ad hoc ordinatur Poetica; nam poetae est inducere ad aliquod virtuosum per aliquam decentem repraesentationem. Omnia autem haec ad Rationalem Philosophiam pertinet: inducere enim ex uno in aliud rationis est.

Tertio autem processui rationis deservit pars Logicae, quae dicitur Sophistica, de qua agit Aristoteles in libro Elenchorum. (35)

On the basis of certitude St. Thomas divides discourse into the certain, the probable, and the defective; and within the probable there can be distinguished several grades. According to the manner in which the intellect is determined to one part of a contradiction, logic can be divided. It is the business of logic to bring about the determination of the intellect; hence, the manner in which it achieves its end is a proper basis for its division.

According to the text just cited, there are several species of discourse. First, there is the pars iudicativa in which is found the certitude of science, or the perfect determination of the intellect. This part of logic is called analytics, and because the certitude of judgment which is had through resolution depends upon both the form and matter of the syllogism, the Analytics are divided into the Prior Analytics and the Posterior Analytics; the former considers

only the syllogistic form while the latter treats the matter of the scientific syllogism or demonstration. A demonstration generates a conclusion which is seen to be necessary, and which is accepted without any fear that its contradiction might be true.

The probable syllogism differs from demonstration, not by its form, but in its matter which is not necessary and which cannot generate a certain conclusion. In this kind of a syllogism the mind is obliged to accept one part of a contradiction; but it does so with the realization that the other part may be true. The probable syllogism gives a conclusion which can be verified ut in pluribus. St. Thomas calls this part of logic Inventiva, because there is an inquisition but no resolution to first principles.

Another part of rational philosophy is rhetoric. The instrument of the rhetorician is the enthymeme which is distinguished in the above text by the fact that it generates only suspicion by which the mind is inclined to one part of a contradiction but not totally as in the probable syllogism. Lastly, St. Thomas says the instrument of the poet is the metaphor, for it is the business of the poet to dispose his listener to virtue by means of an image or representation which portrays its object as good or evil, and by this means gains the assent of the intellect. These, then, are the species of discourse. The sophistical argument,

although it is discourse, does not lead to the truth. It generates a false conclusion. The treatise on this kind of argument manifests the various kinds of fallacies.

Because the certitude or probability of the conclusion depends upon the certitude or probability of its principles, a closer examination of the different principles of discourse will be in order.

Demonstration and the dialectical syllogism are both syllogistic arguments, but demonstration differs from dialectics in that it proceeds from principles and causes of things, and hence gives certain knowledge; whereas dialectics proceeds from principles which are extrinsic to that about which knowledge is being sought and therefore generates only probable conclusions.

Different autem ab invicem. Philosophus quidem a dialectico secundum potestatem. Nam majoria virtutia est consideratio philosophi quam consideratio dialectici. Philosophus enim de praedictis communibus procedit demonstrative. Et ideo ejus est habere scientiam de praedictis et est cognoscitivus eorum per certitudinem. Nam certa cognitio sive scientia est effectus demonstrationis. Dialecticus autem circa omnia praedicta procedit ex probabilibus; unde non facit scientiam, sed quandam opinionem. (36)

According to St. Thomas the philosopher (who uses demonstration) differs from the dialectician in power. The effect of demonstration is certain knowledge, whereas the dialectical argument leads to opinion. The reason why demonstration gives certain knowledge is found in the fact that it proceeds from proper principles. Proper principles of science are

causes which are not only causes of our knowledge of things, but they are first of all causes of things themselves. They are causes which are primo and per se responsible for a thing insofar as it is such a thing, and because they are causes in rerum natura they are also causes of knowledge. For example, a demonstration about isosceles triangle which proceeds from the definition of isosceles triangle is an argument from the form or essence of the thing known. The essence is at the same time the cause of the triangle and the cause of our knowing the triangle. However, a demonstration from the definition of triangle does not conclude to anything about isosceles triangle except inasmuch as it is considered only as triangle and not as isosceles triangle. Triangle is a genus in respect to isosceles, equilateral, etc.; and from a cause of the genus one cannot argue to a property of the species. The cause and the property inferred from it must be coextensive in their universality, and this is signified by primo. Also, the principle must be per se in relation to the conclusion in order to be a proper principle. A per se principle is one in which the subject is in some way the cause of that which is attributed to it. Hence, man is rational is a proposition which can serve as a per se principle because the nature of man is the cause of his rationality.

Not only must the principles of demonstration be causes, but they must also be necessary. Science is about those things which are necessary (the necessary is that which must

be so and cannot be otherwise), and a demonstrative syllogism proceeds from necessary principles. The argument manifests a necessary connection between subject and predicate in the conclusion, a connection which is seen by virtue of the principles which generate the conclusion, and therefore the intellect totally accepts one part of a contradiction with no fear of the other's being true; this is perfect certitude.

The dialectical syllogism, on the other hand, is opposed to demonstration, because it proceeds to probable conclusions from principles which are not causes of the thing. The reason for this difference between demonstration and dialectics is the following:

.....ens est duplex: ens scilicet rationis et ens naturae. Ens autem rationis dicitur proprie de illis intentionibus, quas ratio adinvenit in rebus consideratis; sicut intentio generis, species et similia, quae quidem non inveniuntur in rerum natura, sed considerationem rationis consequuntur. Et huiusmodi, scilicet ens rationis, est proprie subjectum naturae 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. Philosophus igitur ex principiis ipsius procedit ad probandum ea quae sunt consideranda circa huiusmodi communia accidentia entis. Dialecticus autem procedit ad ea consideranda ex intentionibus rationis, quae sunt extranea a natura rerum. (37)

The principles of a dialectical argument are second intentions, or the beings of reason which are the subject of logic. The properties which belong to a thing in its state of being known are used to conclude something about it in reality. The

principle is an ens rationis while the conclusion bears upon an ens naturae. The ens rationis, since it is something which accrues to the object in its state of being known, is an extrinsic principle in relation to the thing about which knowledge is being sought. It is also something common, because anything that can be known or which is in the intellect, is by that fact the subject of second intentions. All things have some properties in common which result from their state in the soul. Hence, when it is said that the dialectical syllogism is ex communibus, it must not be understood to mean that it proceeds from principles which are real causes of properties common to all entia naturae. Such a procedure is proper to the metaphysician. The dialectical syllogism proceeds from second intentions which are common to all things in their state of being known, and the community here is of a different order.

Furthermore, an argument which proceeds from a principle which is a being of reason is not only extraneous and common, but also it can only be probable. It is by the very fact that the principle is extraneous that it can generate only a probable conclusion, for the certitude of science is properly caused by the determination of the thing itself. Hence, even though the principle be certain inasmuch as it is a conclusion of a demonstration in logic, nevertheless, when it is applied to ens naturae it does not cause a certain conclusion.

To manifest this point, it is important to note that dialectics can be considered as it is docens and as it is utens:

Licet autem dicatur, quod Philosophia est scientia non autem dialectica et sophistica, non tamen per hoc removetur quin dialectica et sophistica sint scientiae. Dialectica enim potest considerari secundum quod est docens, et secundum quod est utens. Secundum quidem quod est docens, habet considerationem de latis intentionibus, instituens modum, quo per eas procedi possit ad conclusiones in singulis scientiis probabiliter ostendendas; et hoc demonstrative facit, et secundum hoc est scientia. Utens vero est secundum quod modo adjuncto utitur ad concludendum aliquid probabiliter in singulis scientiis; et sic recedit a modo scientiae. Et similiter dicendum est de sophistica; quia prout est docens tradit per necessarias et demonstrativas rationes modum arguendi apparenter. Secundum vero quod est utens, deficit a processu verae argumentationis. (38)

Dialectics as it is docens, proceeds demonstratively to certain conclusions bearing upon the mode of procedure to be used in probable matter. As it is utens, however, it employs the beings of reason as principles in arguments bearing upon any matter. What is known is one and the same in logica docens and utens, but in one instance (logica docens) what is known is known as a term of knowledge, whereas in the other (logica utens) what is known is known as a principle of further knowledge. Logica docens employs principles which are entia rationis to conclude something about entia rationis; logica utens employs an ens rationis to conclude something about ens naturae. Only the dialectics and the sophistics can be distinguished this way:



Sed in parte logicae quae dicitur demonstrativa, solum doctrina pertinet ad logicam, usus vero ad philosophiam et ad alias particulares scientias quae sunt de rebus naturae. Et hoc ideo quia usus demonstrativae consistit in utendo principiis rerum, de quibus fit demonstratio, quae ad scientias reales pertinet, non utendo intentionibus logicis. Et sic apparet, quod quaedam partes logicae habent ipsam scientiam et doctrinam et usum, sicut dialectica tentativa et sophistica; quaedam autem doctrinam et non usum, sicut demonstrativa. (39)

All science uses logic in some way, but a demonstrative science does not use the Posterior Analytics in the same manner that the dialectician uses the science of dialectics. To use something in the order of knowledge is to proceed from it to the knowledge of something else. Principles are used. But principles can be either entia naturae or entia rationis. The demonstrative sciences use entia naturae in order to know entia naturae. They do, however, employ logic to order concepts, etc., but it serves them solely as an instrument. Dialectics, however, uses that which the reason fashions as the principle of an argument to conclude something about entia naturae. Logic plays not only the role of instrument but supplies the very principles of the argument.

Let us now consider the enthymeme, which is not a syllogistic form of reasoning:

.....in rhetoricis, ...persuasio fit per entymema aut per exemplum; non autem per syllogismum vel inductionem completam, propter incertitudinem materiae circa quam versatur, scilicet circa actus singulares hominum, in quibus universales propositiones non possunt assumi vere. Et ideo utitur loco syllogismi, in quo necesse est esse aliquam universalem, aliquo entymemate et similiter loco

inductionis, in qua concluditur universale, aliquo exemplo, in quo proceditur a singulari, non ad universale, sed ad singulare. Unde patet quod sicut enthymema est quidam syllogismo detruncatus, ita exemplum est quaedam inductio imperfecta. Si ergo in syllogismo et inductione proceditur ex aliquo praecognito, oportet idem intelligi in enthymemate et exemplo.(40)

The syllogism differs from the enthymeme in having at least one universal premiss, for without universality there can be no consequence. But the enthymeme is an instrument which is proportioned to an extremely indeterminate matter in which there can be no universality - i.e., singular human acts. The enthymeme, therefore, concludes without a consequence, and for this reason an attempt can always be made to refute it. This kind of an argument does not impose a necessary or even a probable conclusion; the mind assents only with suspicion.

However, it appears that Aristotle contradicts us, for in the Prior Analytics, at the end of book II, he defines the enthymeme as a "syllogism starting from probabilities or signs". It must be noted that in this definition the genus of enthymeme is syllogism (syllogism is defined in terms of formal logic) and the proper difference of the enthymeme is taken from its matter. Hence, because the proper difference is extrinsic to the genus it cannot be said to divide it essentially; therefore, it does not give us a true species. If the enthymeme were truly a syllogism it could be defined in terms of the form it would have, but

because it is not a true species of syllogism its matter must enter into the definition of it. However, an enthymeme which proceeds from a necessary sign has the universality necessary for a consequence, and it is demonstrative in the sense that its conclusion is certain. On occasion the demonstrator can use such an enthymeme. But for the most part signs are not necessary, and therefore there is no consequence and no syllogism in the strict sense. We can conclude, then that syllogism signifies in a twofold manner: 1) the strict sense, in which there is a perfect syllogistic form common to the dialectical and demonstrative syllogism; 2) the large sense which is equivalent to argumentation, and which includes the enthymeme as one of its species. Therefore, because there is no universality in the enthymeme (unless it proceed from a necessary sign) it is proportioned to the needs of the rhetorician whose argument bears upon singulars about which there can be no certitude but only suspicion.

This section would not be complete without a few words on the metaphor, which St. Albert calls a fiction, and which is the principle of poetic discourse.

It will be recalled that St. Thomas called the metaphor a decentem representationem which the poet uses as an instrument for disposing his listener to virtue. The poet does not generate certitude nor any kind of probability but only a certain exaltatio. The poet represents something as good

or evil and in so doing generates desire or repugnance in his listener. The listener accepts one part of a contradiction rather than the other, but does so by virtue of a motion of the appetite. The listener wills the good, and the intellect is moved because the appetite is first attracted. Poetry is ordered to the moral rather than the intellectual perfection of man.

However, poetry is still a kind of discourse. The poet attempts to persuade the listener of the truth of some proposition - for example, divorce is an evil - by presenting an image which moves the appetite. From the image the listener is led by means of the appetite to the conclusion which the poet intends to manifest. There is a true cognitio ex alio in poetry.

## V. THE PRINCIPLE OF THE DIVISION OF PHILOSOPHY

Up to this point we have been concerned with showing in what sense the term philosophy must be understood if logic is to be a part of it, and our time has been occupied with some of the problems that arise within the division of philosophy. St. Albert, however, has given a reason at the very end of chapter II which furnishes us with the principle according to which philosophy is divided, and this will be the object of our present consideration. In order to expose his doctrine it will be most convenient to begin by quoting part of the text with which we are concerned:

Horum autem quae dicta sunt, rationem ponit Avicenna dicens res omnes tripliciter esse accipiendas, scilicet quod primo accipiantur in essentiae suae principii: secundo in esse quod habent in singularibus propriis: tertio autem secundum quod acceptae sunt in intellectu. Multa enim secundum essentiae suae principia separata sunt a motu et a materia quae tamen secundum esse sunt vel possunt esse in motu et materia, sicut substantia, unitas, identitas, multitudo, et diversitas, et alia huiusmodi, quae quidem in essentiae suae principia ingenerabilia et incorruptibilia sunt: et hoc modo secundum Platonem sunt rerum principia formalia, propter quod ingenerabilia et incorruptibilia talia Plato esse dicit. Et si talia dicantur generari vel corrumpi, hoc non erit nisi secundum accidens, hoc est, secundum esse quod habent in generatis et corruptis. Acceptio autem rei secundum esse quod habet in suppositis, erit secundum existentiam illorum suppositorum, et secundum definitionem quam habere possunt secundum esse quod habent in illis. Acceptio autem rerum secundum quod sunt in intellectu, est secundum cognitionem quam habent, non secundum quod in se sunt, sed secundum quod acceptae sunt per intellectum...(41)

According to St. Albert, the esse of all things can be accepted in a threefold manner: 1) in essentia suae principis, or, in other words, according to the definition which exposes a thing's quiddity or nature; 2) in esse quod habent in singularibus propriis, or according to the esse things have in individuals; 3) secundum quod acceptae sunt in intellectu, or according to their state in the mind. These are the three ways in which things can be the object of knowledge. Considered according to their nature or definition all things universally are the object of the speculative intellect and speculative science. Only a few objects can be considered in their singularity, and in that instance they are the object of the practical intellect and specify either the virtue of art or prudence. On the other hand, all things have an intentional existence, and considered in this way they are the object of logic.

There is one point here which must be elaborated: singulars can be the object of speculative knowledge but not speculative science. The end and perfection of speculative science is the true and the certain, which can be had of only that which is necessary. The singular and contingent, however, is opposed to the necessary and the certain, and the intellect is subject to error in respect to it on account of the objects movement or change. But practical science, on the other hand, is concerned with an opus, and it must consider singulars to the extent that they are subjects

of an order which the knower intends to impose upon them.

They are known not insofar as they are caused by nature, but only to the extent that they are objects of human causality:

.....Est autem considerandum quod quia contingentium cognitio non potest habere certitudinem veritatis repellentem falsitatem, ideo quantum ad solam cognitionem pertinet, contingentia praetermittuntur ab intellectu qui perficitur per cognitionem veritatis. Est quidem utilis contingentium cognitio secundum contingentia divisi tractans de intellectualibus virtutibus solum secundum quod subiaciuntur humanae operationi. Unde et solum scientiae practicae sunt circa contingentia, inquantum contingentia sunt, scilicet in particulari.(42)

That which is singular and contingent can be considered as such only to the extent that it is an operable. Let us now return to the text we have been citing from St. Albert:

.....Et secundum omnes istos tres modos sunt etiam consequentia accidentia quae vocantur propriae passionis ipsius. Et sic quolibet istorum modorum trium philosophia de ipsis intendit acquirere veritatem. Et hoc est per ductum rationis aliquem qui ad logicam pertinet. Res enim prout habent esse in anima, accidentia habent propria, sicut aliquid esse notum apud hominem, et aliquid esse ignotum: et cum comparata ad invicem in aliquo se conjungant, erit via rationis, procedendo de noto ad ignotum, per comparisonem noti ad ignotum secundum convenientiam vel differentiam noti ad ignotum. Ex quo comprehenditur, quod unum componitur cum alio, et praedicatur de illo: vel unum dividitur ab alio, et removetur ab ipso: secundum enim hunc modum devenitur de uno in alterum. Hoc igitur modo logica est de intentione philosophiae generalis.(43)

On the basis of the three modes of existence which things can have, it is possible to divide philosophy. The different parts of philosophy will be concerned with the

accidents proper to things in their various modes of existence. Logic, then, will have as its object those accidents which accrue to a thing in its intentional existence in the soul. Let us note that we can find the same doctrine in St. Thomas:

.....Natura autem vel essentia sic accepta potest dupliciter considerari: Uno modo, secundum naturam et rationem propriam, et haec est absoluta consideratio ipsius: et hoc modo nihil est verum de ea dicere, nisi quod conveniat sibi secundum quod huiusmodi; unde, quidquid aliorum sibi attribuitur, falsa est attributio: v.g. homini, in eo quod est homo, convenit rationale et animal et alia quae in ejus definitionem cadunt; album vero vel nigrum vel quodcumque huiusmodi quod non est de ratione humanitatis, non convenit homini in eo quod est homo. Ideo si quaeratur utrum ista natura possit dici una vel plures, neutrum concedendum est: quia utrumque est extra intellectum humanitatis, et utrumque potest sibi accidere. Si enim pluralitas esset de ratione ejus, nunquam posset esse una, cum tamen una sit secundum quod est in Socrate. Similiter, si unitas esset de intellectu et ratione ejus, tunc esset una et eadem natura Socratis et Platonis, nec posset in pluribus plurificari.....(44)

St. Thomas begins by considering the nature or essence absolute or secundum se. Viewed in this way the nature is neither one nor many. In itself it implies neither an order to singulars (multiplicity) nor an order to unity (universality), but it is in potency, to each. If the essence secundum se were many, it could not be one and universal; and contrarily, if it were one or universal secundum se, it would be incapable of a multiple existence in individuals. The nature or essence of a thing when it is seen in this way is the object of a speculative consideration. In addition it is the concern of



science dealing with the real, for the nature secundum se is what St. Albert calls a consideration of the object in essentiae suae principiis.

However, the absolute state of the nature is only one of the ways in which it is the object of knowledge, for one can also consider it according to the esse which it has, not absolutely, but in hoc vel illo. Seen in this way accidents can be predicated of the nature, not by virtue of its definition, but because of that in which it is:

.....Alio modo consideratur, secundum quod habet esse in hoc vel illo: et sic de ipsa praedicatur aliquid per accidens ratione ejus in quod est, sicut dicitur quod homo est albus, quia Socrates est albus, quamvis homini non convenit in eo quod est homo. Haec autem natura habet duplex esse: unum in singularibus, aliud in anima; et secundum utrumque consequuntur accidentia dictam naturam. Et sic in singularibus habet multiplex esse secundum propriam considerationem, scilicet absolutam, nullum isotrum esse debet; falsum enim est dicere quod natura hominis, inquantum hujusmodi, habeat esse in hoc singulari; si enim esse in hoc singulari conveniret homini inquantum est homo, non esset unquam extra hoc singulare; similiter, si conveniret homini, inquantum est homo, non esse in singulari nunquam esset in eo. Sed verum est dicere quod homo, inquantum est homo, non habet quod sit in hoc singulari vel in illo. Patet ergo quod natura hominis absolute considerata abstrahit a quolibet esse, ita quod non fiat praecisio alicujus eorum; et haec natura sic considerata est quae praedicatur de omnibus individuis. Non tamen potest dici quod ratio universalis conveniat naturae sic acceptae; quia de ratione universalis est unitas et communitas. Naturae autem humanae neutrum eorum convenit secundum suam absolutam considerationem: si enim communitas esset de intellectu hominis, tunc in quocumque inveniretur humanitas inveniretur communitas; et hoc falsum est, quia in Socrate non invenitur communitas aliqua, sed quidquid est in eo individuaturn est. (46)

What St. Thomas says above provides us with two other states of the thing corresponding to the doctrine enunciated by St. Albert: first, an esse in singulars, according to which the object is multiple; and secondly, an esse in the intellect, according to which it is one and universal; hence we find the same principle of division in St. Thomas.

Because the accidents belonging to an object in its state of being known have no real existence but only an intentional one, they are called entia rationis. They are objects of the mind which, because they are considered ad modum entis, are denominated entia rationis. Moreover, an ens rationis can be either a negation or a relation of the reason, (46) but logic is concerned only with entia rationis which are relations of the reason. The nature of the subject of logic is treated rather extensively by John of St. Thomas in his Cursus Philosophicus, and we will not spend much time on it here. However, it might be well to bring out the essential points:

*Respondens dicendum, quod sicut realis ratio consistit in ordine rei ad rem, ita ratio rationis consistit in ordine intellectum: quod quidem dupliciter potest contingere. Uno modo secundum quod iste ordo est adinventus per intellectum, et attributus ei quod relative dicitur; et huiusmodi sunt relationes quae attribuntur ab intellectu rebus intellectis, prout sunt intellectuales, sicut relatio generis et speciei; has enim relationes ratio adinvenit considerando ordinem intellectum ad invicem. Alio modo secundum quod huiusmodi relationes consequuntur modum intelligendi, videlicet quod intellectus intelligit aliquid in ordine ad aliud; licet*

illum ordinem intellectus non adinveniat, sed magis ex quadam necessitate consequatur modum intelligendi. Et huiusmodi relationes intellectus non attribuit ei quod est in intellectu, sed ei quod est in re. Et hoc quidem contingit secundum quod aliqua non habentia secundum se ordinem, ordinate intelliguntur; licet intellectus non intelligat ea habere ordinem, quia sic esset falsus.(47)

A relation of the reason, then is a relation of things in their state of being known. Such relations, moreover, are subject to a twofold division. One kind of relation of the reason follows upon the human mode of knowing, and is not attributed to things according to their intentional existence, but as they are in re. This order is not discovered(48) by the intellect but is imposed upon it from a certain necessity which follows upon the very nature of the intellect itself. However, the intellect does not understand things to have this order, but rather it knows them according to an order which is not real but an ens rationis. The relations of the reason which are the subject of logic, however, are those which the intellect discovers in its concepts and which is attributed to the concepts themselves. This order can be a relation of concept to concept or concept to thing, and in each instance it belongs to the consideration of the logician. Hence, the ens rationis which is a relation of the reason is the formal subject of logic.

These relations of the reason are also called second intentions. Intention here means the object of the intellect, or that towards which the mind tends; a known object in its

state of being known is an intention. Intention in this instance is not used to denote an act of the will. Moreover, we can speak of first and second intentions. A first intention is the nature which is known or anything belonging to it, whereas second intentions are those accidents which accrue to the first intentions and result from the first intention's being known. The object represented in the first intention belongs to some particular science which considers it inasmuch as it represents some object. Only logic considers it as something intentional:

Manifestum est etiam, quod species intelligibiles, quibus intellectus possibilis fit in actu, non sunt obiectum intellectus. Non enim se habent ad intellectum sicut quod intelligitur, sed sicut quo intelligit. Sicut enim species, quae est in visu, non est quod videtur, sed est quo visus videt; quod autem videtur est color, qui est in corpore; similiter quod intellectus intelligit est quidditas, quae est in rebus; non autem species intelligibilis, nisi inquantum intellectus in seipsum reflectitur. Manifestum est enim quod scientiae sunt de his quae intellectus intelligit. Sunt autem scientiae de rebus, non autem de speciebus, vel intentionibus intelligibilibus, nisi sola scientia rationalis. Unde manifestum est, quod species intelligibilis non est obiectum intellectus, sed quidditas vel intellectus. (49)

It should be stressed that when we say that sciences consider first intentions, what is meant is that the first intention considered as this or that quiddity is the object of some science. The entire intentional order (which is opposed to the real) falls under the consideration of logic. The first intention is the foundation of second intentions (as has been pointed out), and to the extent that the fundament of a logical

relation (second intention) must be considered in order to know the relation itself, logic will be obliged to concern itself with first intentions. But the difference in its treatment is that these intentions are considered as intentions and not as things, and hence they fall within the domain of the logician.

Formal subject is a term which has been used rather frequently in the course of this dissertation, and it would be well to manifest what it signifies:

.....In qualibet scientia differunt subjectum et objectum, et in utroque potest inveniri id quod est formale, et quod est materiale. Objectum scientiae est aliquid complexum, scilicet id quod per scientiam manifestatur tanquam illatum et probatum, scilicet conclusiones, ut docet S. Thomas (II-II q.1, a.1): scientia enim non cognoscit, nisi probando et inferendo. Quod autem inferitur et probatur, est conclusio illata: conclusio autem est aliquid complexum, in quo aliquod praedicatum dicitur de aliquo subjecto; et illa propositio seu conclusio illata dicitur objectum scibile, id est id quod scitur et inferitur in aliqua scientia. Subjectum autem est illud de quo in conclusione praedicata aliqua seu passiones inferuntur et probantur; et quia conclusio illata inferitur ex aliis prioribus propositionibus, quae circa idem subjectum aliquid continent, ex quo tanquam per connexionem inferitur id quod in conclusione praedicatur: ideo principia et conclusiones in scientia circa idem subjectum versantur; sed in principiis praedicantur ea quae sunt per se nota, sicut praedicata essentialia seu definitiones, quae non probantur per aliud medium: in conclusione autem ea quae ex istis inferuntur, scilicet passiones.

2. Distinctio autem materialis et formalis in objecto et subjecto ex eo explicatur, quod objectum materiale est illa propositio quae per illationem probatur et scitur tanquam veritas illata; formale vero est ratio illa sub qua, et per quam illustratur et manifestatur talis conclusio: quae utique in principiis inferentibus

invenitur tamquam in medio probativo conclusionis. Et de hoc jam supra diximus, in theologia esse revelationem virtuale[m], id est, principia fidei quatenus habent rationem medii probativi alicujus conclusionis. Subjectum materiale est res illa, de qua aliquid demonstratur in aliqua scientia; formale vero est illa habitudo, seu ratio, secundum quam subjecta illi considerantur in tali scientia; et illud subjectum cui primo et per se convenit talis habitudo, dicitur subjectum principale seu attributionis:.....(60)

According to the commentator there is a distinction between subject and object, which in turn can be distinguished as formal subject, material subject, formal object, and material object. The object of any science is a conclusion, and the conclusion can be considered simply as a proposition in which case it is the material object, or it can be considered according to the middle term which is responsible for its generation. Considered this way as something inferred, the formal object is the ratio sub qua, or the light according to which the conclusion is known. This light is none other than the intelligibility or immateriality of the object.

The subject of a science is the subject of the conclusions, and the material subject is that thing about which something is demonstrated. For example, man, animal, plant, etc., are material subjects of natural philosophy. But because a science can have many conclusions and many subjects there must be something which is common to them all if they are to be said to belong to one science. This is the formal subject, which is defined as that which is attained in the science. It is the ratio or formality according to which

things are considered. For example, mobility is the ratio or formality which is attained in every demonstration in natural philosophy, and therefore ens mobile is its formal subject. No matter what the material subject may be it will always be known by the natural philosopher inasmuch as it is mobile in some way.

In conclusion, then, it should be remarked that St. Albert's treatment of this problem is in accord with the doctrine of St. Thomas. Also, it has been shown that he has established in a very formal manner the proper subject of logic. The accidents belonging to things in their state of being known are the subject of logic. In a later chapter, St. Albert goes into a more detailed discussion of the subject of logic, some aspects of which will be considered in more detail when that chapter is considered.

## FOOTNOTES, Chapter II

1. St. Albert, Opera Omnia, T.I. cap.2, p.2.
2. St. Thomas, In Boethium de Trinitate, q.5, a.1.
3. St. Thomas, In I Physicorum, lect.1, n.1.
4. St. Thomas, Ia, q.16, a.1, c.
5. St. Thomas, Questiones Disputatae de Veritate, q.22, a.11, c.
6. St. Thomas, In III Sententiarum, D.27, q.1, a.4.
7. God's Knowledge, however, is not received.
8. St. Thomas, In II De Anima, lect.12, n.377.
9. St. Thomas, Questiones Disputatae de Veritate, q.2, a.5.
10. St. Thomas, In I Physicorum, lect.1, n.2.
11. Cajetan, In de Ente et Essentia: Proemium (ed. Marietti), p.6.
12. John of St. Thomas, Cursus Philosophicus, T.I, pars II, q.4, a.1, p.347b33.
13. John of St. Thomas, op. cit., q.3, a.5, p.335a41.
14. John of St. Thomas, op. cit., q.1, a.3, p.235a29.
15. St. Albert, op. cit., cap.2, p.3, para. which concludes as follows: "certum est in his speciebus, prout dicitur, etc."
16. St. Thomas, Ia, q.14, a.16.
17. St. Thomas, Questiones Disputatae de Veritate, q.3, a.3.
18. J. de Monleon, "Note sur la division de la connaissance pratique", Revue de Philosophie (Paris 1939), Vol. XXXIX. The terminology applied to the species of practical knowledge is explained in this essay, and we refer the reader to it.
19. See footnote 17.
20. See footnote 16.
21. Cajetan, In Primum partem, q.14, a.16.



22. John of St. Thomas, Cursus Philosophicus, T. II, q.13, a.1, p.273b16.
23. St. Thomas, Questiones Disputatae de Veritate, q.22, a.10, ad quartum.
24. Henri Pichette, "Considerations sur quelques principes fondamentaux de la doctrine du speculatif et du pratique", Laval Theologique et philosophique (Quebec 1945), Vol. I, n.1.
25. Practical truth is defined as the conformity of the intellect to right appetite: ".....Verum autem intellectus practici accipitur per conformitatem ad appetitum rectum;....." (St. Thomas, I-II-IIae, q.57, ad quartum.
26. Cajetan, In Primam Secundae, q.57, a.5.
27. St. Albert, op. cit., cap.2, p.3.
28. St. Thomas, In I Ethicorum, lect.1, n.1.
29. Quoted from an essay entitled "Ou'est ce que la philosophie?" by Alphonse-Masie Parent.
30. ibid.
31. Read: "definitionis".
32. St. Albert, loc. cit., p.4.
33. ibid.
34. Certitude is to be taken as a genus which includes as species, certitude in the strict sense, probability, etc.
35. St. Thomas, In I Posteriorum Analyticorum, lect.1, n.8.
36. St. Thomas, In IV Metaphysicorum, lect.4, n.574.
37. ibid.
38. ibid.
39. ibid.
40. St. Thomas, In I Posteriorum Analyticorum, lect.1, n.12.
41. St. Albert, op. cit., cap.2, p.4.
42. St. Thomas, In VI Ethicorum, lect.3, n.1152

43. St. Albert, loc. cit.
44. St. Thomas, De Ente et Essentia, cap.3.
45. ibid.
46. St. Thomas, Questiones Disputatas de Veritate, q.21, a.1, c.
47. St. Thomas, Questiones Disputatas de Potentia, q.7, a.11, c.
48. This should not be construed to mean that the intellect is ignorant of the fact that there is such an order, nor that it does not know the nature of it; for such is not true. Logical relations are said to be "adinventus", because they are the object of a certain inquisitio, terminating in science. Such is not true of the other relations of the reason.
49. St. Thomas, In III De Anima, lect.8, n.718.
50. John of St. Thomas, Cursus Theologicus (ed. Solesmes), T.I, D.2, a.11, p.402.

## EXPOSITION OF CHAPTER III

### THE NECESSITY AND UTILITY OF LOGIC

As is evident from the title of this chapter, there are two topics to be considered: the necessity of logic, and its utility. The division of the chapter is, therefore, manifest and needs no elaboration.

The many arguments for the necessity of logic which are found in St. Albert's text are too numerous to be quoted here. In addition there is an element which is common to them all which gives the ratio of every argument - logic is always shown to be necessary on account of an end. It is our purpose in this exposition to limit the discussion to a short, general treatment of the nature of the necessity of logic, which is a necessitas ex fine. This topic is treated at length by John of St. Thomas in his Cursus Philosophicus and there is little point in giving more than a brief summary of his work. Likewise, the utility of logic will warrant only a few words.

#### I. THE NECESSITY OF LOGIC

The necessary is that which cannot be otherwise, and in book V, lesson VI, of the Metaphysics, St. Thomas distinguishes two kinds of necessity: necessarium absolute and necessarium secundum quid. Absolute necessity is from a cause

intrinsic to the thing; namely, its form, matter, or essence. Necessity secundum quid is from an extrinsic cause, either efficient or final. The necessity of logic is one which comes from the final cause; it is, therefore, an extrinsic necessity.

It has been pointed out several times that logic is a science which is sought, not for its own sake, but on account of something else. It is not an end, but it is ordered to an end. Hence, its necessity is from the end, for all things which are ordered to an end have their necessity from it:

"Necessitas autem cuiuslibet rei ordinatae ad finem ex suo fine sumitur;" (1) Necessitas ex fine, moreover, can be

simpliciter or secundum quid depending on whether or not that which is said to be necessary is ordered to the esse or the bonum esse of that which is the end. The necessarium simpliciter can be doubly distinguished: simpliciter in omnia modis, and simpliciter sine addito as John of St. Thomas calls it. That which is simpliciter in omnia modis is required for the thing always and under all conditions. The necessarium simpliciter sine addito is not always and under all conditions required for the esse of the thing; for example, respiration is not always necessary for man. When the fetus is still in its mother's womb there is no respiration; but, nevertheless, respiration is still simpliciter necessary because once the child is born it cannot be conserved in being unless it breathes.

It is simpliciter necessary, moreover, because it is the esse and not bene esse which is dependent upon respiration.

The question, therefore, is whether logic is necessary sine addito or in omnis modis; for it is sufficiently manifest that logic is required for more than the bene esse of science.

Logic is not necessary in omnis modis but only sine addito.

We have already touched upon this briefly when the artificial nature of logic was exposed. According to St. Thomas there are three species of good: the bonum honestum, the bonum utile, and the bonum honestum. The mind can posit an act of science without the art of logic, otherwise logic itself could not be, since it, also, is a science. A conclusion can be generated which is true and about which the knower is convinced without the aid of the logical art; but the perfect state of science involves a perfect knowledge of the conclusion and an ability to meet all objections, and for this logic is required. A conclusion is something known by discourse, is precisely what logic is. Considered as a good logic is and discourse is an operation of the mind which generates an intellectual virtue sought on account of other intellectual new knowledge. If the knower is unable to defend his conclusions it is for the other science. Hence, since the greatest happiness open to man is an act of metaphysics, and science is imperfect. Hence, the whole art of logic will be required for the perfect state of science. It is in this sense that logic is said to be necessary for science, and the other speculative sciences.

these questions belonging to the quid sit.

## II. THE UTILITY OF LOGIC

When St. Albert speaks of the utility of logic, he does so in relation to happiness which is an operation according to perfect virtue. Virtue, moreover, is spoken of in relation to the good. Hence, to seek to know the utility of logic in relation to happiness is to know to what species of good it belongs.

According to St. Thomas there are three species of good: the bonum honestum, the bonum delectabile, and the bonum utile.<sup>(2)</sup> Of these species the bonum honestum and the bonum delectabile are sought for themselves, and are properly ends. The bonum utile is sought for something else and is more properly something which is ad finem. Hence, to say that logic is useful is to imply that it is a good which is not sought for itself but on account of something further. This is precisely what logic is. Considered as a good logic is an intellectual virtue sought on account of other intellectual virtues. It is for the other science. Hence, since the greatest happiness open to man is an act of metaphysics, and metaphysics is a science which depends upon logic, logic will be said to be a useful good because it is ordered to metaphysics and the other speculative sciences.

This terminates those questions pertaining to the an est of logic. The second half of this dissertation will deal with those questions belonging to the quid est.

FOOTNOTES, Chapter III

1. St. Thomas, In I Posteriorum Analyticorum, lect.1, n.8.
2. St. Thomas, Ia, q.5, a.6, c.

