THE RESOLUTIVE AND COMPOSITE MODES

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Propositions

I. "Eorum quae sunt a casu, causa est intrinseca; eorum vero quae sunt a fortuna, causa est extrinseca."

II. "Involuntaria dupliciter dicitur: scilicet vel illa quae fiunt per violentiam, vel illa quae fiunt per ignorantiam."

III. "Singulare materiale pro hoc statu non est directe cognoscibile ab intellectu."

IV. "A sophista differt philosophus electione vel voluptate idest desiderio vitae."
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I

COMMON NOTION
OF RESOLUTION AND COMPOSITION

In the present chapter we shall make an effort to
discover in a general way and summarily what is meant
by the terms 'resolution' and 'composition'. In so do­
ing we shall have recourse to the signification given
to these expressions in every-day language. In no
sense must what immediately follows be taken as an his­
torical excursus into the philology of words; nor should
it be regarded as a determination of the premises upon
which we hope to rest our thesis:—except, perhaps, the
explication of the quid nominis be considered a prin­
ciple of discourse. For we shall be engaged, presicely,
in an attempt to discover and clarify the quid nominis
of resolution and composition. The present chapter may
be regarded as an introduction to our problem, provided
we take 'introduction' in the very litteral sense of
being the easiest way to get into the thick of the pro­
blem proposed for our solution.

The determination of the quid nominis of resolution
and of composition is somewhat complicated by the fact
that in current usage these two processes are generally
called 'analysis' and 'synthesis' respectively. As a
matter of fact, however, 'resoluto' and 'composition'
represent nothing more than the Latin rendition of their
Greek equivalents '__________' and '__________'.
We shall consider each set of terms separately as they
occur in current usage.

When a practical man tells us that he must analyze what he calls 'the situation' before he acts, he seems to be telling us that 'the situation' as it presents itself to him immediately is too complicated a thing to be understood readily. There must be something more simple in terms of which that 'situation' can be explained. When the child in school is asked by his teacher to analyze a sentence or a paragraph or a verse, there is no mistaking that it is the parts, the constituents—in any case, what are more simple—that are being asked for. There seems always to be the assumption that the sentence or verse, taken as wholes, are known with difficulty if their parts are not clearly disengaged.

Popular notions of clinical psychoanalysis may be vague and weighted down with false images, but the common belief that what is being sought there is some simple explanation of abnormally complicated conduct is exact.

Modern experimental science and the so-called social sciences that apply statistical methods have also appropriated the term 'analysis' while preserving pretty much the same signification as that given to the term by popular usage. When a chemist sets himself the task of analyzing a sample of a liquid taken from an unlabeled
bottle, he wants to know into what constituent parts—if any—the sample before him can be broken down. Like the child parsing his sentence, the chemist, too, has the same implicit faith that, knowing the parts, the whole will be more manifest. The economist, too, speaks of analysis. Confronted with a mass of confused figures, he sets to work to disentangle them. Adopting whatever points of view his interests in the crude figures may dictate, he puts order into them by grouping, by putting what are similar together and so distinguishing them from what are dissimilar. In a word, he simplifies what was complicated and confused.

Modern applied science has done much to popularize the term 'synthesis' and especially its cognate form, 'synthetic'. Although for the most part ignorant of the technical problems involved in the production of synthetic rubber, for example, the popular notion is still quite exact when it understands that synthetic rubber is a construct—a composition produced by human engenuity rather than by nature's own. This does not mean that the popular notion must necessarily attribute simplicity or deny composition to natural processes; it means only that the popular imagination as seized upon what is, indeed, quite characteristic of artificial synthetics: they are built up from simple ingredients by human art.

But the term 'synthesis' is also used in a context
that is speculative rather than practical. For instance, the experimental scientist frequently calls his theories 'syntheses'.

It would seem, then, that we have to do with analysis when we attempt to discover what is simple in relation to what is complex. On the other hand, when we proceed by assembling simple constituents or parts in order to a whole we are said to synthesize.

However, there are recognized usages of the term 'analysis' that do not seem to conform to the processus just described. The economist, for instance (and indeed other scientists as well) sometimes employs the term analysis in another sense. When an economist explains a given phenomena by attributing it to a given set of causes, he is said 'to analyze' and the relation of cause to effect that he has described is called an 'analysis'. When he sets down, for instance, the causes of an economic depression it is customary to call his attribution of effects to causes an 'analysis'. Obviously, there is more involved here than a simple breaking down of a complex whole. The economist is not merely saying that this complex phenomena--an economic depression--breaks down into such and such factors; he is saying that such and such factors are responsible for this or
that aspect of the general economic catastrophe. Off hand, the use of 'analysis' as descriptive of this process seems difficult to justify, if analysis should always proceed in the direction of what is more simple. The economist would seem here, rather, to be moving in the direction of what is more complex, viz. the depression.

There does not seem to be a comparable ambiguity in the current usage of 'synthesis'. And yet the persistent employment of the term in the distinct realms of 'making and doing' on the one hand and of 'knowing' on the other gives rise to the question whether the meaning of synthesis in the practical order is other than its meaning in the speculative order.

The same question arises with respect to analysis. We have seen that we speak of an analysis in the realm of operation and of art when we investigate the means or ways of going about things. We saw too that the chemist—in a purely speculative pursuit—analyses a given compound. Is there room here to distinguish in the common notion of analysis a meaning that applies exclusively to the practical order and another that applies exclusively to the speculative order?

We shall also have to investigate whether within the speculative order analysis has not more than one meaning: for we have seen that 'analysis' is used to
to describe not only the process of disengaging what is simple, but also to ascribe the cause of a given effect.

2.

The terms 'resolution' and 'composition' remain in contemporary usage with a great deal of the signification they possessed in Scholastic usage. 'Resolution', for us, frequently consignifies some determination of the will: a 'resolution' is usually thought of as a fixed purpose to do or perform some act whether by a society—as in convention—or by an individual—as at the beginning of a New Year. Such resolutions are normally conceived as the best or simplest ways of arriving at some end. The end itself is presumed to have played a determinative role in deciding the will to one resolution rather than another. Seen in this way, the end becomes something complex, while what is decided upon or resolved is rather more simple of achievement: it is the first step toward the realization of the end.

From its almost exclusive restriction to describing the will as determined to a given course of action, the word 'resolution' now carries the consignification of that determination itself; so that the expressions 'to pursue a course of action with great resolution' or
'to be highly resolved to see a matter through' lay stress upon the degree of adherence of the will to the performance of an action. It will be clear from what follows that this special meaning need not concern us here.

Current usage, however, supplies numerous instances wherein 'resolution', its cognates and derivatives are employed without implicating the will. When two men, in the face of a common intellectual problem, hold conflicting views, under certain conditions they are said 'to resolve their differences'. The conditions under which such resolution may take place are numerous. The disputants may, for example, discover that their separate views were merely cases of a more general regularity; again, one of the parties to the controversy may not have seen clearly all the aspects of the problem; so that his solution was not sufficiently simple to explain the whole of the problem; again, either one of the disputants may have gone beyond the purview of the science in which the given problem is considered: thus, an argument about grammar that bases itself on the physiology of the vocal organs. In any case, the disputants have moved from a certain complexity toward what is more simple; and by disengaging what is truly simple they have reached agreement or 'resolved' their differences.

Similarly, we speak of 'solving' problems in
in whatever matter. Probably the most obvious instance of this usage is to be found in simple arithmetic. The elements given in an ordinary arithmetical problem can be viewed as something complex which cannot stand unless the missing element be found. From an investigation of the parts of the complex and their relations we discover the missing element. Normally, when the missing element has been found we say that we have 'the answer' to our problem, or that we have 'solved' the problem. Thus far, the meaning of 'solve' here seems to be pretty much the same thing as the meaning of resolution in the instance given immediately above.

The term 'composition' is commonly met with in the domain of human making and doing; for when we compose we assemble things, we put them together; we unite things that in themselves are simple, or at least, are relatively so. We speak of the artist composing a picture, a statue, a poem, a symphony. The composition here involved is not merely a juxtaposition of various material constituents such as paint, or words or sound notations, but these things are composed according to an idea which the artist has thought out in advance and which controls the whole composition. The term 'composition' has taken on various special and technical con-significations as it is employed in the different arts—v.g., in painting. Yet there is a basic signification
that persists throughout these special applications of the word. When we compose we proceed from what—in relation to the whole that is ultimately constituted—is simple and move in the direction of what is complex.

What seems now to emerge from all that has been said thus far is this: 'Resolution' is a processus whereby the mind, first considering something complex and whole, moves on to a consideration of what is simple in that complex whole; 'composition' involves a movement from the simple to the composite and whole.

However, when we were dealing with the word 'analysis' above we noticed that it has a meaning in ordinary usage that seems to involved a movement from what is simple to what is complex, from cause to effect. The term 'resolution' or 'solution' seems, in a certain context, to have a similar signification. In the example given above of resolution taken from arithmetic, we cannot be sure that our arithmetical problem has been solved unless we have 'proved' the answer, unless the element we have discovered is able to explain the whole. When the discovered element accounts for each of the given elements, then we say that the problem has been 'solved' or 'resolved'. Thus, 'solution' or 'resolution' in this instance seems to presume that the simple ele-
ment has been discovered and it proceeds, with the 'answer' as principle, to explain whatever else in the problem. Ordinary usage permits us to call this processus of proof a 'solution' or 'resolution'. Yet the processus itself does not seem to realize immediately the common notion that we attributed to resolution above: for proof does not seem to proceed from the complex to the simple, but rather it seems to proceed in the contrary direction.

We must see whether 'resolution' belongs to these different processes in precisely the same way.

Moreover, the terms 'resolution' and 'composition' seem to be used both in the realm of action and making as well as in the realm of knowing. (It will be recalled that we were confronted by the same thing when we spoke of analysis and synthesis.) Practically, we may resolve to embark upon a stated course of action; we may resolve to do this rather than that. Speculatively, we resolve some whole into its parts. In the order of making we assemble or compose parts suitable to the construction of some whole; or we posit an act which is an initial step in a train of actions ordered to a given end. And if 'proof' proceeds, as it seems to, from something simple to something composite, we shall be able to speak of composition in the speculative
order also.

We shall be obliged, then, to see if 'resolution' and 'composition' differ when spoken of in the diverse orders of making and doing and of knowing. We shall also have to see whether there is more than one sense of resolution within the order of knowing or of speculation.

In at least three places St. Thomas refers to what we have called the common notions of 'resolution' and 'composition'. In his commentary In Boetium de Trinitate we find the following:

"Sic igitur quod rationalis consideratio ad intellectualem terminatur secundum vim resolutionis, in quantum ex multis ratio colligit unam et simplicem veritatem. Et rursum, intellectualis consideratio est principium rationalis secundum viam compositionis, et inventionis, in quantum intellectus in uno multa comprehendit."(1)

A little later in the same text we find the same thing, but this time more clearly stated:

"Quandoque enim ratio, ut prius est dictum, procedit de uno in alium secundum rem ut quando est demonstratio per causas, vel per effectus extrinsecus, componendo quidem proceditur a causis ad effectum, resolving ad autem, cum proceditur ab effectibus ad causas, eo quod causae sunt effectibus simpliciores, et magis immobiliter et uniformiter permanentes."(2)

The same doctrine is found again in the Prima Pars. Since we shall have reason to consider this text in considerable detail later, it will suffice to cite here only those lines that presently concern us:
"...procedere enim a causis in effectus, est processus compositivus, nam causae sunt simpliciores effectibus. Si autem id quod est prius in cognitione, sit posterius in esse, est processus resolutorius; utpote cum de effectibus manifestis judicamus, resolvendo in causas simplices."(3)

Finally, in commenting on a passage of Aristotle's in the first book of the Ethics, St. Thomas makes his position clear both with respect to the ways in which resolution and composition proceed and with respect to the realms in which these latter are to be found:

"Et quia secundum artem demonstrativae scientiae, oportet principia esse conformia conclusionibus, amabile est et optabile, de taliibus, idest tam variabilibus, tractatum facientes, et ex ximilibus procedentes ostendere veritatem, primo quidem grosse id est applicando universalia principia et simplicia ad singulare et composita, in quibus est actus. Necessarium est enim in qualibet operativa scientia, ut procedatur modo composito. E converso autem in scientia speculativa, necesse est ut procedatur modo resolutorio, resolvendo composita in principia simplicia."(4)

Thus the compositive mode moves from the simple to the complex, while the resolutive modes moves, contrariwise, from the complex to the simple. The former is found in the practical order, while the latter is encountered in the speculative order.
II

THE SPECULATIVE AND THE PRACTICAL

In the preceding chapter we say that current usage recognizes 'resolution' and 'composition' as, generally, contrary movements of reason: the one going in the direction of what is simpler, the other going in the direction of what is complex. We saw, too, that St. Thomas uses these common notions of the resolutive and compositive modes approvingly. At the same time, however, we noticed that there are certain uses of resolution and composition that do not seem to fall under the common notions thus defined.

We propose now, in order to approximate more closely to a real definition of resolution and of composition, to abandon the investigation of language in favor of an inquiry into the diverse realms in which these modes are thought to be found. For we have seen that current usage tends generally to speak of resolution or analysis in the order of knowing only, while it makes use of composition or synthesis especially in the order of making or doing. We have cited a text from St. Thomas' commentary on the Ethics that gives plausibility to the current practice of attributing the resolutive mode to the speculative order, the compositive mode to the practical order.

With the view, then, of penetrating more deeply in-
to the modes of proceeding, it seems useful to attempt at this juncture an investigation of the doctrine of the speculative and the practical. For if the speculative is characterized by the resolutive mode and the practical by the compositive mode, it seems reasonable to assume that an inquiry into these two kinds of knowing must tell us something about their respective modes of proceeding.

The present chapter we shall devote to the general doctrine of the speculative and the practical as it is found in some well-known texts of St. Thomas. We shall, first of all, set down the basic distinctions to be made between these two kinds of knowledge. Subsequently, reviewing those passages wherein St. Thomas alludes to the modes by which the speculative and the practical proceed, we shall attempt to formulate, if possible, a more precise, a more determinate notion of the resolutive and compositive modes.

In his commentary on the de Trinitate of Boethius, St. Thomas, first noting that the speculative intellect differs from the practical intellect by diverse ends, goes on to distinguish speculative knowledge from practical knowledge according to diverse objects.

"Respondeo dicendum, quod theoricus, sive speculativus intellectus, in hoc proprie ab
It will be necessary to remark here that the diverse ends which differentiate the speculative and practical intellects are each of them ends in the proper sense. However, truth, end of the speculative intellect, is an end for the will only in so far as it is the perfection of the intellect; whereas the good, or operation or work, are properly the ends of the will itself. (2)

Thus, since the speculative and the practical intellects have different ends, they are specified by diverse objects. Speculative knowledge is specified by a non-operable object, practical knowledge by an operable object. As John of St. Thomas reminds us, this is a diversity of formal objects because it involves diverse abstraction and diverse immateriality upon which the
formal diversity of the sciences rests.

"...practicum et speculativum important differentias intra genus intelligendi; nam differentia secundum diversam rationem objecti intelligibilis, id est, secundum diversam immaterialitatem seu abstractionem, quae ad rationem formalem et essentialem intra genus intellectivum pertinent. Quod autem sic different, constat: quia objectum ut speculabile solum importat et attingit objectum secundum rationem quidditatis suae, et eorum quae quidditatem consquantur; ideoque respicit veritatem abstrahendo ab exercitio existendi. At vero practicum respicit objectum ut stat sub exercitio existendi, et quantum ad ipsam executionem; ergo concernit id quod speculatio reliquit, et a quo abstrahit; ergo diversa est abstractio objecti unius et alterius, et diversa immaterialitates; ergo et diversa intelligibilitas essentialear, quia essentialis ratio intelligibilitatis ab immaterialitate sumitur." (3)

However, with respect to operable objects of practical knowledge it is possible to have two very different kinds of knowledge. We may, for example, know 'house' through a definition stating its genus ad differentia; such knowledge would never help us to build a house. Further, even if we possessed the knowledge whereby a house might be built—if we were architects, for example,—it is conceivable that we might have no intention of exercising such knowledge. Thus even though speculative and practical knowledge are distinguished formally in terms of diverse objects, an adequate account of the speculative and the practical requires that the way in which an object is known and the intention of the knower be considered.
St. Thomas notes the effect of the mode of proceeding and of the intention of the knower in several well-known passages. However, the two following citations will prove quite adequate for our limited purposes here. In the Prima Pars we read:

"Dicendum quod aliqua scientia est speculativa tantum, aliqua practica tantum, aliqua vero secundum aliquid speculativa et secundum aliquid practica. Ad eundem evidentiam, sciendum est quid 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 definendo et dividendo et considerando universalia praedicta ipsius. Hoc siquidem est operabile modo speculativo considerare, et non secundum quod operabilia sunt: operabile enim est aliquid per applicationem formae ad materiam, non per resolutionem compositi in principia universalis formalis. Tertio, quantum ad finem; nam 'intellectus practicus dixerat fine a speculativo', sicut dicitur in III De An. Intellectus enim practicus ordinatur ad finem operationis; finis autem intellectus speculativi est considerationis veritatis. Unde, si quis aedificator 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. Scientia igitur quae est speculativa ratione ipsius rei scitae, est speculativa tantum. Quae vero speculativa est secundum modum vel finem, est secundum quid speculativa et secundum quid practica. Cum vero ordinatur ad finem operationis, est simpliciter practica." 

This text distinguishes the speculative from the practical from the point of view of speculative knowledge. The following passage from de Veritate makes precisely the same distinctions while adopting the point of view of practical knowledge.
"Respondeo 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 Metaphys. Aliqua vero cognitio, practica dicitur ex ordine ad opus: quod continet dupliciter. Quandoque in actu: quando scilicet ad aliquod opus actu ordinatur, sicut artifex praecoeptae forma proponit illam in materiam inducere; et tunc est actu practica cognitio, et cognitionis forma. Quandoque vero est quidem ordinabilis cognitio ad actum, non autem actu ordinatur; sicut cum artifex exco- gitat 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 repus illis quae non sunt natæ 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. Sunt autem quaedam quae possunt separari secundum intellectum, quæ non sunt separabilia secundum esse. Quando autem consideratur res per intellectum operabilis distinguendo ab invicem ea quæ secundum esse distinguish non possunt, non est practica cognitio nec actu nec habitu, sed speculativa tantum; sicut si artifex consideret domum investigando passiones ejus, genus et differentias, et hujusmodi, quæ secundum esse indistincte inveniuntur in re ipsa. Sed tunc consideratur res ut est operabilis, quando in ipsa consideratur omnia quæ ad ejus esse requiruntur simul. Et secundum hos quatuor modos cognitio divina se habet ad res: ......." (5)

These texts put us in a position to disengage the distinct kinds of speculative and practical knowledge. If a non-operable or what cannot be ordered to operation we can have a speculative knowledge only: speculative simply (simpliciter) according to the language of the text from the *Summa*. In such knowledge we contemplate the truth
for its own sake. Obviously, its mode is speculative—"per resolutionem compositi in principia universali". It is likewise clear that pursuing such an object, speculatively, we cannot intend operation.

It is this knowledge that is simply speculative which is further distinguished according to the degrees of formal abstraction into the Science of Nature(6), Mathematics and Metaphysics(7).

Accidentally, however, this simply speculative knowledge can be practical in so far as from it one might take occasion for practical reflection which might issue in action. St. Thomas remarks(8) that a man might use the doctrine of the immortality of the soul as a remote occasion for operation.

There is, however, another kind of speculative knowledge which St. Thomas, in the text cited above from the Summa, characterizes as speculative secundum quid and practical secundum quid. This may be of two kinds. First, an operable object may be considered speculatively, "definiendo et dividendo et considerando univerdalia praedicata ipsius(9); or, in the words of the text from de Veritate, separating secundum intellectum what cannot be distinguished secundum esse. This knowledge will be, again, in the language of de Veritate,
(10), an object orderable but not ordered to operation. Here the operable—object of practical knowledge—is considered as though it were not operable at all. It goes without saying that the end of the knower in this kind of knowledge can only be the truth absolutely, just as it was in the case of knowledge speculative simpliciter. Since in mode and end it is speculative, though it has an operable for object, this type of knowledge remains essentially speculative.

However, this essentially speculative knowledge is, according to the text from the Prima Pars, practical secundum quid. Even though its object is not known in a practical way, yet it is an operable and as such it is the material, though not the formal, object of practical knowledge. For this reason, what is here called essentially speculative knowledge may be called also radically practical.

Secondly, an operable object may be considered practically—that is qualiter posset fieri, considering all those things that are simultaneously necessary in order that the object exist, without, however, the knower intending the operation itself. Thus the object and the mode of proceeding are operable; only the end of the knower remains speculative. This is the kind of knowledge that the text from de Veritate
calls practical virtute. Thus because it considers an operable as operable, it is called formally practical knowledge. Nevertheless, according to the text from the Prima Pars(11), this kind of practical knowledge can be called speculative secundum quid: not, this time, because the mode is speculative, but rather because the end of the science itself does not actually engage the intention of the knower: the end of the knower remains speculative, while the end of the science is practical. For, with Cajetan, we must distinguish the end of the science from the end of the knower:

"Circa hanc partem adverte primo quod practicum et speculativum hic sumitur non solum ut sunt conditiones scientiae secundum se, sed etiam ex parte scientia. Et propterea dicitur quod ars domificativa non intendentis domificare, est speculativa ex fine, et practica ex modo et objecto: glossandum est enim de fine ex parte scientis, et non ipsius scientiae. Quoniam si loquimur de fine ipsius scientiae, ipsa est etiam practica ex fine; quoniam finis ejus est domificatio. Et hoc si adverteris, deludes irrisiones adversariorum(12).

Formally or virtually practical knowledge has as object the operable as operable which is defined by an order to esse: "operabile est aliquid per applicationem formae ad materiam". (13) Even though it may not be intended by the knower, the operable as such can achieve its actuality only in execution. Hence John of St. Thomas says that the end of the knower, which gives to
formally practical knowledge a secundum quid speculative character, is accidental:

"D. Thomam distinguere practicum et speculativum, quando sunt differentiae essentiales ex parte objecti seu finis intrinseci; at vero speculativum et practicum secundum quid, id est, quantum ad aliquem modum seu conditionem extrinsecam pertinentem ad usum et exercitium scientiae, ita quod non solum scientia sit practica sed etiam intentio ususque scientiae practicus sit, et cuj applicatatione ad opus: ex hac parte distinguui potest practicum et speculativum accidentaliter. Itaque quando d. Thomas dicit considerationem aliquam esse speculativam ex fine, et posse esse practicum ex fine, idque docet esse practicum et speculativum secundum quid: loquitur de speculativo et practico ex parte scientis, seu quantum ad intentionem et usum scientis non ex parte scientiae et secundum specificationem ejus. Cum vero dicit, quod quando ordinatur ad finem operationis, est simpliciter practica, ly simpliciter non est idem quod absolute et quantum ad substantiam; hoc enim habet ex fine scientiae, seu ex parte objecti secundum se; sed ly simpliciter est idem quod omnibus modis, quia tunc, tam ex parte scientiae quam ex parte scientis, practica est."(14)

The secundum quid speculative character of formally practical knowledge has a counter part in the purely speculative order: for we have seen that simply speculative knowledge can be the remote occasion for operation. It will be recalled that we named this accidentally practical knowledge. For this reason we might be permitted to call formally practical knowledge, in so far as it retains something of the speculative—viz. no intention of acting—accidentally speculative knowledge.
Finally, there is the type of knowing that is wholly or completely practical—the practical *tantum vel simpliciter* of the text from the *Prima Pars*, the practical *in actu* of *de Veritate*. Here all three criteria of practical knowledge are satisfied: the object is an operable; it is known in an operable mode and its operative end is accepted as his own by the knower. And, as John of St. Thomas points out in the text cited above, completely practical knowledge is practical *simpliciter* understanding this 'simpliciter' not merely in the sense of 'essentially' or 'specifically', but as 'in every way'; for formally practical knowledge is, as we have seen, essentially or specifically practical, although it is not so 'in every way', since it does not engage the end of the knower.

The kinds of speculative and practical knowledge and their inter-relations may be presented more clearly in the following schematization.

**SPECULATIVE**

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<td>a) Non-operable object</td>
</tr>
<tr>
<td>(II) Essentially</td>
<td>a) Operable object</td>
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<tr>
<td>(III) Accidentally</td>
<td>a) Operable object</td>
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**SPECULATIVE**

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<td>(I) Simpliciter (not orderable to work)</td>
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**PRACTICAL**

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<tr>
<td>(III) Accidentally</td>
<td>a) Operable object</td>
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**PRACTICAL**

<table>
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<tr>
<th>Practical mode</th>
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<tbody>
<tr>
<td>(I) Simpliciter (not orderable to work)</td>
<td>(II) Essentially</td>
<td>(III) Accidentally</td>
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<tr>
<th>End: truth absolute</th>
<th>End: truth absolute</th>
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<td>Accidentally (I)</td>
<td>Formally (II)</td>
<td>(in actu)</td>
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We are now in a position to examine more closely the distinct modes of proceeding attributed to speculative and practical knowledge in the texts cited above.

It should be said at once that specifically diverse modes of proceeding in knowledge constitute essential differences, or, rather are reduced to essential differences and not merely to accidental ones: "nam modus cuiusque actionis consequitur formam quae est actionis principium(15). Thus, John of St. Thomas shows that the mode of proceeding in a science is reduced to the formal principles of its object.

"...Nec solum differunt(i.e. practicum et speculativum)penes diversos modos, scilicet una modo resolutivo, altera modo compositivo; nam isti modi necessario reducuntur ad diversam immaterialitatem et abstractionem objecti, ut ostensum est, et consequenter ad deversam intelligibilitatem; ex hoc autem sumitur, non solum modalis, sed etiam essentialis et formalis differentia in genere intelligibili."(16)

John of St. Thomas points out the same relation between the mode of proceeding and the formal object of a science in his introductory treatise to Logic(17) where he shows that logic is a speculative science because it proceeds according to resolutive principles.

According to our analysis of the types of speculative and practical knowledge we find that the knowledge we have called speculative simpliciter and speculative essentialiter proceed per resolutionem compositi in prin-
cipia universalia formalia", or, again,"definiendo, dividendo et considerando universalia praedicata. This is the knowledge which in the terminology of the text from de Veritate is described as being neither ordered nor orderable to work—except as a remote principle, as we have seen. Simply speculative knowledge is neither ordered nor orderable to operation because its object is in no way operable by us. Essentially speculative, i.e. radically practical, knowledge, however, is not ordered to work because, even though its object is an operable, those things are distinguished in it by the intellect which secundum esse cannot exist separately. It is as if "an artist considers a house by investigating its proper passions, its genus, differentia, etc."; for these things are found in the thing existing in re in an unseparated state. We may add here another designation of the speculative or resolutive mode that St. Thomas enunciates when he replies to the ninth objection in the article from de Veritate: to proceed speculatively is to define and to show the nature of something.(18)

The knowledge that is here called formally practical and the knowledge denominated completely practical are represented as proceeding in a direction opposed to that of the two types of speculative knowledge. For these practical knowledges do not consider separately what are
required inseparably secundum esse; rather, they consider all those things that are simultaneously necessary in order that their object exist. Again, St. Thomas says that to consider the good practically is to consider the good as good; but the good as good has the nature of an end of motion or of operation. It is for this reason that, as we read in the text cited above from the Prima Pars, to know practically is to know qualiter posset fieri. Consequently, to know practically is to know an operable as operable, i.e. as it can be brought into existence by operation: 'nam operabile est aliquid per applicationem formae ad materiam' (21). Formally practical knowledge will then consist in the knowledge of a form that can be applied to a work; completely practical knowledge will be of those forms that one actually intends to apply. There are other formulations of the same doctrine. Both forms of practical knowledge know "per modum operandi" (22). Again, both formally and completely practical knowledge know the rationes operis" (23).

It would seem, then, that according to the general doctrine of the distinction of speculative and practical knowledge, to proceed resolutely is to proceed by abstracting the universal formal principles of objects (whether operable or non-operable); or, which comes to the same thing, to define the object according to genus
and differentia, to divide it and to demonstrate its proper passions. To proceed compositively, on the other hand, is to proceed in the direction of the physical existence of the object, to effect things by the application of form to matter.

We see immediately that these more explicit determinations of resolution and of composition remain well within the more general descriptions given of them in the previous chapter. For to proceed toward formal principles is indeed to proceed toward what is more simple; while to proceed toward the physical existence of an object is certainly to move in the direction of what is more complex.

We are now in a better position to judge of the truth of John of St. Thomas' statement that the modes of proceeding are dictated by the formal objects of the sciences. For we have seen that an operable as such is defined by the operations that can bring it into existence: "Operabile est aliquid per applicationem formae ad materiam". A non-operable, on the other hand, is defined by the principles that constitute its essence and from which flow certain necessary attributes. A formal knowledge of an operable will, then, proceed by way of principles that direct its execution in esse rei; whereas a formal knowledge of a non-operable will pro-
ceed according to principles that state the nature of the thing only, abstracting entirely from actual existence.

But we have seen that to know something "per modum operandi" or "qualiter posset fieri", to know all that is simultaneously necessary for the existence of an object is to know in a compositive mode. Therefore to know an operable as operable, to know an operable formally is to know it compositively. This is why an operable, known as operable, has its own end (finis scientiae) exclusively of the end of the knower (finis scientiae). The end of the principles of an operable taken as such is the positing of the operable object in existence. Now doubt, knowledge that is only formally practical does not suffice for the existence in re of the operable object; but formally practical knowledge has the condition that it can be posited in existence if the appetite were so disposed.

We have seen, too, that to know something according to those things that can be separated secundum intellectum only is to know in a resolutive mode. But the definition stating the essential principles of a thing is separable secundum intellectum only. Hence the resolutive mode is dictated by the formal object.

However, a number of difficulties arise the moment we formulate the resolutive and compositive modes in the
manner just enunciated. In the first place demonstration propter quid seems to create a difficulty for our definition of the resolutive mode. For demonstration propter quid is the most perfect instrument of speculative science: science is knowledge through demonstration and, above and beyond all, through demonstration propter quid, the requirements for which are set down by Aristotle with such great exigence in the Posterior Analytics. Now the most cursory examination of those requirements will reveal that the principles of a propter quid syllogism must contain the cause of the effect which is expressed in the conclusion. Thus it is that our science may be defined as a "conclusionum per discursum a causis in effectus"(24). The propter quid syllogism proceeds from cause to effect, from what is simple to what is complex, and not from some composite to the universal formal principles of that composite. It would seem, then, that propter quid demonstration proceeds compositively, even though it is found exclusively in speculative science. How can the resolutive mode be attributed to speculative science if the most perfect instrument of that science proceeds compositively?

Another difficulty arises when we consider the great differences that separate the two types of practical knowledge. We pointed out above that completely practical knowledge introduces the efficacious appetite as a new principle in the determinations of the practical intellect.
But formally practical knowledge does not imply the intervention of the efficacious will; it does not require that the knower accept as his own the operation which is the object of formally practical knowledge: for a person may know how a house is built—perhaps, even, how this house should be built—without ever intending to build.

This basic distinction between the two forms of practical knowledge founds two others that serve to emphasize the profound difference existing between formally practical and completely practical knowledge. Completely practical knowledge is extra limites intellectus: the determinations of the practical intellect in completely practical knowledge are arrived at in virtue of the object of the will, the bonum ut bonum, actually exercising its function of object of the will. Formally practical knowledge, on the other hand, remains intra limites intellectus. The determinations of the intellect in formally practical knowledge are made, indeed, in virtue of a principle that is the end understood formally, i.e., the good as good; but the end, taken formally, as it is a principle of formally practical knowledge, is not yet an end or a good for the knower—at any rate it is not considered as such. Hence it remains in the intellect, although it is always potentially an object of the will.
Finally, the truth of formally practical knowledge is a speculative truth, while that of completely practical knowledge is a practical truth. Because the principle of formally practical knowledge is only potentially an object for the will—i.e. that which can be elected by the will—the conclusions of formally practical knowledge are judged by relation to what-is. Completely practical knowledge, however, since it involves the efficacious exercise of the object of the will, the good as such will be actually the principle of this kind of practical knowledge. It will be true or false, not by conformity with what is, but by conformity with rectified appetite.

The question now arises whether the compositive mode belongs to both types of practical knowledge in the same way. From what we have seen thus far the question does not appear to admit of a ready answer. On the contrary, the formulæ descriptive of the compositive mode seem to be concerned with completely practical knowledge only: for they appear to describe a processus ordered exclusively to the existence of their object. Existence, however, requires a faculty other than the intellect: it requires the efficacious exercise of the will. But we have seen that only completely practical knowledge implies the operation of the will efficaciously moved by the end. And yet the compositive mode is ascribed to both completely prac-
tical and to formally practical knowledge. It would seem, then, that thus far our notion of composition, like our notion of resolution, is not sufficiently penetrated in order to show us how the compositive mode is open to application in the whole domain of practical knowing.

There remains to be considered a difficulty that seems to call into question the whole distinction of the speculative and practical in so far as it is based upon diverse modes of proceeding. We refer to the Aristotelian doctrine of counsel. There can be no dispute about the practical character of counsel: it is, certainly, at least, formally practical. And yet Aristotle, in the third book of the *Ethics* shows that counsel proceeds resolutively. St. Thomas, commenting on this passage of the *Ethics* and again in an article in the *Prima Secundae*, teaches the same doctrine. In the commentary on the *Ethics* we read:

"Et dicit quod ideo causa, quae prima est in operatione, est ultima in inventione, quia ille qui consiliatur videtur inquirere, si­cut dictum est, per modum resolutionis cujus­dam. Quemadmodum diagramma, quae est de­scriptio geometrica, in qua qui vult probare aliquam conclusionem oportet quod resolvat conclusionem in principia quousque pervenit ad principia prima indemonstrabilia. Omne autem consilium est quaestio, id est inquis­itio quaedam, etai non omnis quaestio, id­est inquisitio, sit consilium, sicut inquis­itio mathematica. Sola enim inquisitio de operabilibus est consilium. Et quia con­silians resolutive inquirit, necesse est
Quod quod ejus inquisitié perducatur usque ad id quod est principium in operatione, Quia id quod est ultimum in resolutione, est primum in genera-
tione sive in operatione."(26)

Again, and more determinately, we read in the Prima Se-
cundae:

"Dicendum quod in omni inquisitione oportet in-
cipere ab aliquo principio. Quod quidem si, sicut est prius in cognitione, ita etiam sit prius in esse, not est processus resolutorius,
sed magis compositivus; procedere enim a cau-
sis in effectus, est processus compositivus,
nam causae sunt simpliciores effectibus. Si
autem id quod est prius in cognitione, sit
posterius in esse, est processus resolutorius;
upote cum de effectibus manifestis iudicamus,
resolvendo in causas simplices. Principium
autem in inquisitione consilii est finis, qui
quidem est prior in intentione, posterior ta-
men in esse. Et secundum hoc, oportet quod
inquisitio consilii sit resolutiva, incipi-
endo scilicet ab eo quod in futuro intendi-
tum quousque perveniatur ad id quod statim
agendum est."(27)

And, what seems still more serious, the response to
the first object in this same articl seems to deny the
compositive mode to all, save completely practical know-
ledge. But let us cite the objection and then St. Thomas'
reply:

"Counsilium enim est de his quae a nobis aguntur
Sed operationes nostrae non procedunt modo re-
solutorio, sed magis modo compositivo, scilicet
de simplicibus ad composita. Ergo consilium non
semper procedit modo resolutorio.

Ad Primum Ergo. Dicendum quod consilium est de
operationibus. Sed ratio operationum accipitur
ex fine; et ideo ordo ratiocinandi de operationi-
bus, est contrarius ordini operandi."(26)

Notice that St. Thomas does not deny the minor in the
objection; rather he distinguishes the minor by pointing out the difference between the order of reasoning about an operable and the order of operation. The order of reasoning about operables, however, would seem to be the whole order of practical knowing that falls short of the imperium of prudence. If, then, there is an opposition between the order of reasoning about operables and the order of operating according as the one proceeds resolvently and the other compositive-ly, we are forced to the conclusion that all formally practical knowledge—including counsel—is resolventive in mode.

To the above texts it would be well to add those in which St. Thomas, following Aristotle, shows that the practical intellect proceeds a posteriori ad prius. From among these latter we cite the following passage from the commentary on the third book of the de Anima.

"Et manifestum est, quod omnis appetitus est propter aliquid. Stultum enim est dicere, quod aliquis appetat propter appetere. Nam appetere est quidam motus in aliud tendens. Sed illud aquis est appetitus, sicut appetibilis, est principium intellectus practici. Nam illud, quod est primo appetibile, est finis a quo incipit consideratio intellectus practici. Cum enim volumus aliquid deliberare de agendis, primo supponamus finem, deinde procedimus per ordinem ad inquirendum illa, quae sunt propter finem; sic procedentes semper a posterius ad prius, usque ad illud, quod nobis imminet primo agendum. Et hoc est quod ultimum de actione intellectus practici, est principium actionis; ideo illud, unde debemus actionem incipere..."(29)

But to begin from an a posteriori principle is, as St. Thomas points out in the text cited above from the
Prima Secundae, to proceed, not compositively, but resolutively: for to proceed from a principle prior in knowledge only is to proceed a posteriori, is to proceed from something complex.

It does not seem to be an exaggeration, then, to say that the texts cited immediately above throw into confusion the more determined notions of resolution and of composition arrived at in the present chapter. Our failure to extricate ourselves from the difficulties they present suggests that we have not sufficiently clarified our notions of resolution and of composition; for if we possessed the formal definitions of these processes we should be able to solve the difficulties raised with respect to them. It remains for us therefore to observe at closer range the manner in which speculative and practical discourse proceed.
In order now to answer the difficulties raised toward the end of the last chapter we shall be required to clarify further and make more exact our notions of the resolutive and compositive modes. Our analysis of the general doctrine of the speculative and the practical has added some precision to the common notions that arose from our investigations in the first chapter. We now propose to penetrate more deeply into the procedures of speculative and practical knowledge. How, precisely, do speculative and practical knowledge proceed in order to achieve their objects?

More precisely still, we intend to investigate demonstrative and practical discourse. We have seen that demonstration propter quid is the highest perfection of speculative knowledge. If, then, we mean to observe the differences in the modes of proceeding of practical and speculative knowledge, doubtless, these differences will be seen to best advantage where we find the perfection of each of these orders. Thus when St. Thomas wants to distinguish the speculative from the practical in the full rigor of that distinction he frequently refers to the speculative as "in demonstrativis" or "in necessari-
is, while the practical is designated as "in iis quae
fiant propter aliquid", or "in practicis" or "in opera-
tivis"(1).

The present chapter we shall devote to a study of
discourse in demonstrativis, while discourse in practi-
cis we shall reserve for the fourth chapter.

When, in the Summa Contra Gentiles(2), St. Thomas
considers whether separated substances know singulars,
he compares our mode of proceeding in knowledge with
that of the angels:

"Species rerum intelligibiles contrario ordine
perveniunt ad intellectum nostrum, et ad intell-
ectum substantiae separatae. Ad intellectum enim
nostrum per viam resolutionis, per ab-
stractionem a conditionibus materialibus et indivi-
dualibus: unde per eas singularia cognosci non
possunt a nobis. Ad intellectum autem substanti-
ae separatae perveniunt species intelligibiles
quasi per viam compositionis: habet enim species
intelligibiles ex assimilatione sui ad primam
intelligibilem speciem intellectus divini, quae
quidem non est a rebus abstracta, sed rerum fac-
tiva."

It would be well to dwell for a moment upon the
salient features of the doctrine of the natural know-
ledge of the angels; we shall by this means see the
full import of the contrast between human and angelic
modes of knowing suggested by the text just cited.
The angelic intellect is not obliged to compose and divide, to form affirmative or negative propositions about the objects that it knows naturally (3). Neither is it required that the angelic intellect proceed from one thing known to another discursively (4). The immediate reason for these two characteristics of angelic knowledge is that the intellect of the separated substance is not in potency with respect to what it knows naturally (5). Composition and division imply that an intellect does not at once comprehend everything involved in a given quiddity or nature; discourse implies that the mind is in potency with respect to the comprehension of conclusions. Because the angelic intellect is not in potency to what it knows naturally, because "in prima apprehensione potest inspicere quidquid in eo virtute continetur" (6), the angelic mind neither composes nor divides, nor does it make discourse. What is the reason for this actuality of intellectual substances in face of objects known to them naturally? We find the answer to this question in the text cited above from the Summa Contra Gentiles (7): angels do not receive their intelligible species from things; but, rather, they receive them by infusion from God simultaneously with the reception of their intellectual natures. These species, a Deo inditas (8), participate the very ideas, the rationes factivae, by which God creates natural things.
sequently, the intelligible species that are connatural to the angelic mind are prior to natural things. This is why St. Thomas, following St. Augustine, can say that what exists from all eternity in the Divine Word flows out upon creatures in a two-fold way.

"...sicut Augustinus dicit, II Super Genesim ad Litt., ea quae in Verbo Dei ab aeterno praeexitur, dupliciter ab eo fluxerunt: uno modo, in intellectum angelorum; alio modo ut subsisterent in propriis naturis. In intellectum autem angelicum processerunt per hoc quod Deus menti angelicae impressit rerum similitudines, quas in esse naturali produxit..."(9)

The human intellect in relation to material things finds itself in precisely the opposite position to that of the angels: it is posterior to things; it must submit itself to things as to a measure; it must accept its intelligible species from them(10). Whence it is that, in contrast to the angelic mode of knowing, it is natural for us to proceed "ex sensibus ad intelligibilia, ex effectibus ad causas, ex posterioribus in priora"(11). And because of its posteriority to things, the human mind is potential with respect to the determination, the actuality of things. Because the human mind does not possess from the beginning, as angels do, the species of material things, human intellective cognition must begin with an act wholly unknown to the natural mode of knowing found in separated substances. The human intellect must abstract intelligible species from material things as
these latter are represented in the imagination through sense. Thus what the angels know by infused species we must strive to acquire by abstraction.

"Dicendum quod si angelus acciperet cognitionem rerum materialium ab ipsis rebus materialibus, opor-
tieret quod faceret eas intelligibles actu, abstrahendo eas. Non autem accipit cognitionem earum a rebus materialibus; sed per species actu intelligibles rerum sibi connotate; sicut intellectus no-
ter seconundus species quae intelligibles facit abstrahendo." (llb)

In the text quoted above from the *Summa Contra Gentiles* St. Thomas characterizes this effort of the human intellect to arrive at intelligible species as proceeding "per viam resolutionis, per abstractionem a conditionibus materialibus et individuantibus". (12) Let us consider, then, for a moment St. Thomas' account of abstraction.

Formally, to know is to be other (esse aliud) as other. (13) For human knowledge, however, the definition is stated more properly when it is put as a "becoming other". (14) But as we have seen, this 'other' precedes our minds; the principles by which it can be known are in it or can be had only through it. It is for us to discover its order--not to make it, as God does, nor to know that order even before it exists, as angels do. Now since things antecedent upon us, we are completely dependent upon them for our knowledge. Further, our first contact with things comes by way of sense experience whose objects are composed with matter and individuating material conditions. But matter and its conditions are principles of un-
intelligibility; for 'materia propter debilitatem sui esse, qua est in potentia eius tantum non potest esse principium agendi' (16). As a consequence, sense knowledge from which intellectual knowledge takes its origin, is only potentially intelligible. In order to become actually intelligible the objects of sense knowledge must be lifted, so to speak, out of matter and material conditions. (17) The act whereby the intellect achieves this immateriality is called abstraction.

"Cognoscere vero id quod est in materia individuali non prout est in tali materia est abstrahere formam a materia individuali, quam repraesentant phantasmata." (18)

Strictly speaking both the first and second operations of the mind use a certain abstraction in their respective ways of proceeding. (19) But because the second operation is concerned with the esse of a thing, the very definition of truth prevents the second operation from abstracting what are required for the esse rei; for abstraction in this operation implies that a predicate exists separately from a given subject. Thus according to the second operation of the mind abstraction or separation can be made only in those things that exist separately in re. The first operation of the intellect interests itself in the quid est only, the nature of the thing, its intelligible species or form. It states nothing with respect to the actual existence of its objects. It proceeds to disengage formalities that can be understood or defined without reference to other formalities. Abstraction in this
latter sense is the sole object of the investigation that we are here undertaking.

With respect to the abstraction of the first operation of the mind, i.e., "per modum simplicis et absolutae considerationis" (20), St. Thomas distinguishes a twofold abstraction:

"...Una quidem secundum quod universale abstrahitur a particulari, ut animal ab homine, Alia vero secundum quod forma abstrahitur a materia: sicut forma circuli abstrahitur per intellectum ab omni materiali sensibili." (21)

These two abstractions represent the ways in which the mind acts in face of the twofold composition found in things: for we cannot speak of abstraction in the proper sense unless the things abstracted secundum intellectum are found composed secundum rem (22). But in things we find that forms are composed with matter and wholes are composed with their parts. The abstraction of form from matter corresponds to the composition of matter and form in things and is called Formal Abstraction. The abstraction of the universal from the particular corresponds to the composition of a whole with its parts and is called Total Abstraction.

Although, as we shall see later, total abstraction affects and influences our every attempt to abstract formally, we shall set aside for the present all considerations of the abstraction of a universal from particulars in order to concentrate our attention upon formal abstraction.

The proper object of the human intellect is the quid-
dity of sensible things (23). But we have seen that sensible things, as they exist in \textit{re}, are only potentially intelligible: there is a lack of proportion between the thing in its entitative order and the immateriality of the human intellect. Things must first become known to sense and to imagination; even as they are therein represented they are surrounded by the material conditions that individuate them and make them unknowable to our minds. With these remarks serving as preface, let us see how St. Thomas explains the act of abstraction.

"...Habet enim anima intellectiva aliquid in actu ad quod phantasma est in potentia: et ad aliquid est in potentia quod in phantasmatisbus actu invenitur. Habet enim substantia animae humanae immaterialitatem, et, sicut ex dictis (cap. 68) patet, ex hoc habet naturam intellectualem: quia omnis substantia immaterialis est huiusmodi. Ex hoc autem nondum habet quod assimileetur hic vel illi rei determinate, quod requiritur ad hoc quod anima nostra hanc vel illam rem determinate cognoscat: omnis enim cognition fit secundum similitudinem cogniti in cognoscente. Remanet igitur ipsa anima intellectiva in potentia ad determinatas similitudines rerum cognoscibilium a nobis, quae sunt naturae rerum sensibilium. Et has qui dem determinatas naturas rerum sensibilium praesentant nobis phantasmat\textsuperscript{a}. Quae tamen nondum pervenerunt ad esse intelligibile: cum sint similitudines rerum sensibilium etiam secundum conditiones materiales, quae sunt proprietates individuales, et sunt etiam in organis materialibus. Non igitur sunt intelligibilia actu. Et tamen quia in hoc homine cuius similitudinem praesentant phantasm\textsuperscript{a}, est accipere naturam universalem demudatam ab omnibus conditionibus individuantibus, sunt intelligibilia in potentia. Sic igitur habent intelligibilitatem in potentia, determinationem autem similitudinis rerum in actu. E contrario autem erat in anima intellectiva virtus activa in phantasm\textsuperscript{a}, faciens ea intelligibilia actu: et haec potentia animae vocatur in-
tellectus agens. Est etiam in ea virtus quae est in potentia ad determinatas similitudines rerum sensibilium: et haec est potentia intellectus possibilis." (24)

Thus the agent intellect by the act of abstraction seizes the nature of sensible things, strives to possess what is intelligible in them. In so doing it must neglect nothing that constitutes the object-perceived in the phantasm—as a nature, quiddity or definition: "Definitio enim notificat essentiam rei, quae non potest sciri nisi scientur principia" (25). Thus formal abstraction issues in objects that are actual and intelligible; because formal abstraction separates from matter which is potential and therefore an obstacle to our science. With formal abstraction our science, as distinguished from our simple knowledge (26) properly begins; for it is according to the diverse degrees of formal abstraction that the speculative sciences are distinguished.

"Sicut Phil. dicit in tertio de An., sicut separabil- es sunt res a materia, sic et quae circa intellectum sunt. Unumquodque enim intention est intelligibile inquantum est a materia separabile. Unde ea quae sunt secundum naturam a materia separata, sunt se- cundum seipsa intelligibilis actu; quae vero a no- bis a materialibus conditionibus abstracta, fiunt intelligibilia actu per lumen nostri intellectus agentis. Et, quia habitus alienius potentiae dis- tinguuntur specie secundum differentiam ejus quod est per se objectum potentiae, necessae est quod hab- itus scientiarum quibus intellectus perfectur, etiam distinguuntur secundum differentiam separa-
tionis a materia; et ideo philosophus in sexto Metaphysicorum distinguat genera scientiarum secundum diversum modum separationis a materia. Nam ea, quae sunt separata a materia secundum esse et rationem, pertinent ad Metaphysicum; quae autem sunt separata secundum rationem et non secundum esse pertinent ad Mathematicum; quae autem in sui ratione concernunt materiam sensibilem, pertinent ad Naturalem.(27)

And because the definition states the intelligible species of things, and definitions are principles of science(28), we can say that as definitions express different relations to matter they specify diverse sciences. Thus our scientific knowledge may be said to take its beginning from species or quiddities or definitions formally abstracted from matter and material conditions. And as species, quiddities or definitions may be diversely related to matter, we recognize a diversity of sciences.

We have now seen that our intellect, beginning from things as they affect the senses and are represented in the imagination, rises to a knowledge of the quiddity of things. It is this process that St. Thomas calls a via resolutionis in the text cited above from the second book of the Summa Contra Gentiles. Again in the Prima Pars we find the following:

"Sed intellectus noster potest in abstractione considerare quod in concretione cognoscit. Et si enim cognoscat res habentes formam in materi, tamen resolvit compositum in utrumque et considerat ipsam formam per se(29)."

Again in the Compendium Theologiae St. Thomas says:

"Est enim duplex resolutio quae fit per intellectum. Una secundum abstractionem formam a materia...Alia vero resoluto est secundum abstractionem universalis a particulari..."(30)
Finally, in the Quaestiones Quodlibitales (31) St. Thomas explains in great detail the resolutive character of the processus whereby we are assisted in coming to a knowledge of the quiddity of things:

"Nam intellectus humanus natus est rerum quidditatem comprehendere; in quibus cognoscendis naturaliter procedit sicut in cognosendis conclusionibus complexis. Insunt enim nobis naturaliter quaedam principia prima complexa omnibus nota, ex quibus ratio procedit ad cognoscentiam in actu conclusiones quae in praeditis principiis potentialiter continentur, sive per inventionem propria, sive per doctrinam alienam, sive per revelationem divinam; in quibus omnibus modis cognoscentis homo iuratur ex principiis naturaliter cognitos: vel ita quod ipsa principia cognita ad cognitionem acquirendam sufficiret adminiculatibus sensu et imaginatione, sicut cum aliquam cognitionem acquirimus per inventionem vel doctrinam; vel ita quod principia praedita ad cognitionem acquirendam non sufficiant; nihilominus autem in hujus modo cognoscentis principia dirigunt, in quantum inveniuntur non repugnare principiis naturaliter cognitos: quod si esset, intellectus nullus modo eis asseniret, sicut non potest dissentire principiis. Et similiter in intellectu insunt nobis etiam naturaliter quaedam conceptiones omnibus notae, ut entis unius, boni, et huiusmodi, a quibus eodem modo procedit intellectus ad cognoscentiam uniuscujusque rei, per quem procedit a principiis per se notis ad cognosendas conclusiones; et hoc vel per ea quae quis sensu perceperit; sicut cum sensibile proprietates alienae rei concipio illius rei quidditatem; vel per ea quae ab alio quis audit, ut cum laicos qui nesit quid sit musica, cum audit aliquam artem esse per quam discit canere vel psallere, concipit quidditatem musicae, cum ipsa praesciat quid sit ars, et quid sit canere; aut etiam per ea quae ex revelatione habentur ut est in his quae fidei sunt. Cum enim credimus aliquid esse in nobis divinitus datum, quo affectus noster Deo unitur, concipimus caritatis quidditatem, intelligentes caritatem esse donum Dei, quo affectus Deo unitur, praecognoscentes tamen quid sit donum et quid affectus, et quid unio. De quibus etiam quid sint, scire non possimus, nisi resolvendo in aliqua prius nota; et sic quousque perveniamus usque ad primas conceptiones humani intellectus, quae sunt omnibus naturaliter notae."
Once the intelligible species or quiddity is possessed we are far from being in the position of angelic minds who from their creation contemplate the rationes factivae. On the contrary, as we have already indicated, abstraction of the species or definition, marks for us only the beginning of scientific knowledge; for "besides scientific knowledge there is its originitive source which enable us to recognize definitions." Our knowledge begins in potentiality and potentiality besets it at every step along the way. We have seen that the angels, without composition and division, without discourse, know in the intelligible species that are congenital to them everything that can be attributed to the latter and everything that follows from such attribution. But human intelligible species, those that we acquire by abstraction, are possessed in a certain potentiality. We are not referring now to the potentiality that belongs to our species because they are affected by total abstraction: that is another consideration that we shall be required to recall presently, but, as yet, is not in question. At the moment we are referring to the fact that our intelligible species, once abstracted, must be put into propositions and discourse in order to be adequately understood. St. Thomas summarizes this doctrine in the following passage from the Summa:

"Dicendum quod intellectus humanus necesse habet intelligere componendo et dividendo. Cum enim intellectus humanus exeat de potentia in actum, similitudinem quandam habet cum rebus generabilibus, quae non statim perfectionem suam habent, sed eam successive acquirunt. Et similiter intellectus humanus non stat-

..."
im in prima apprehensione capi perfectam rei cognitionem; sed primo apprehendit aliquid de ipsa, puta quidditatem ipsius rei, quae est primum et proprium objectum intellectus; et deinde intelligit proprietates et accidentia et habitudines circumstantes rei essentiam. Et secundum hoc necesse habet unum apprehensum alii componere et dividere; et ex una compositione et divisione ad aliam procedere, quod est ratiocinari." (33)

In other words, the intelligible species resulting from our abstraction are, as has been already seen, quiddities, natures, or causes whose statements constitute definitions. But causes are not known as causes unless they are known in relation to their effects. To know scientifically (scire simpliciter) requires that the object be known in seipso, i.e., in what it itself has of being and of truth. It is in this way that we distinguish scientific knowledge from sophistry which is scire in alio or per accidens and secundum quid. For the Sophist insists that, because he knows a quiddity or cause, by that fact he know everything that happens to the quiddity or cause: thus, since he knows Corsicus, and knows, further, that Corsicus is approaching, he, therefore, knows 'approaching' (34). In order to avoid this error, St. Thomas tells us that science simpliciter requires that we apply the causes of things to their effects: otherwise our knowledge remains in potency and preserves a certain per accidens character.

"...scire aliquid est perfecte cognoscere ipsum, hoc autem est perfecte apprehendere veritatem ipsius: eadem enim sunt principia esse rei et veritatis ipsius, et patet ex II Metaphysicae. Oportet igitur
scientem, si est perfecte cognoscens, quod cognoscet causam rei scitae. Si autem cognosceret causam tanti, nondum cognosceret effectum in actu, quod est scire secundum quid et quasi per accidens. Et ideo oportet scientem simpliciter cognoscere etiam applicationem causae ad effectum."(35)

The application of causes or definitions stating the quod quid est of something cannot take place apart from a discourse wherein we pass from the knowledge of the definition to the knowledge of something else:—a conclusion in which a property is attributed to a subject. Now this application of quiddities or causes is compositive in mode since it begins with what is simple and concludes to what is complex.

However, as St. Thomas points out, the conclusion can be known in two ways:

"...discursus talis est procedentis de noto ad ignorantiam. Unde manifestum est quod, quando cognoscitur primum, adhuc ignoratur secundum. Et sic secundum non cognoscitur in primo, sed ex primo. Terminus vero discursus est, quando secundum videtur in primo, resolutis effectibus in causas: et tunc cessat discursus."(36)

For, once the mind arrives at a proposition that follows from the principles there still remains the task of judging that proposition(37). The intellect cannot adhere to a proposition with certitude apart from a judgment of it. Now in all completely human sciences judgment depends upon evidence(38); for it is evidence that determines the intellect to accept one part of a contradiction with certitude(39). As a consequence the mind will be able to attach itself to the conclusion of a discourse on the condition that there is evidence for the connection of the subject and predicate. Let us see now how this kind of evidence is attained.
"Cum autem ab assentiendo sententia dicatur quae ut dicit Isaac, est determinata acceptio alterius partis contradictionis, oportet quod qui assentit, intellectum ad alterem partem contradictionis determinet. Quod quidem contingit tripliciter, secundum trium intellectus nostri considerationem.

Potest enim uno modo considerari intellectus nostri secundum se. Et sic determinatur ex presentia intelligibilis, sicut materia determinatur ex præsentia formae. Et hoc quidem contingit in his quæ statim lumine intellectus agentis intelligibilia sunt, sicut sunt prima principia quorum est intellectus, et similiter determinatur judicum sensitiae partis ex hoc quæ sensibile subjacet sensui quorum principalior et certior est visus. Et ideo praedicta cognitio intellectus vocatur visio.

Alio modo potest considerari intellectus nostri secundum ordinem ad rationem quæ ad intellectum terminatur, dum resolvendo conclusiones in principio per se nota, eam certitudinem efficit. Et hic est assensus scientiae..."(40)

"...Certitudo nihil aliud est quam determinatio intellectus ad unum. Tanto autem major est certitudo, quanto est fortius quod determinationem causat.

Determinatur autem intellectus tripliciter, ut dictum est.---In intellectu enim principiorum causatur determinatio ex hoc quod aliquid per lumen intellectus sufficienter inspici per ipsum potest.---In scientia vero conclusionum causatur determinatio ex hoc quod conclusio secundum actum rationis in principia per se visa resolvitur."(41)

Thus in demonstrativis, that is to say in science understood properly, certain judgment is had through evidence (visio); but science, as distinct from intellectus principiorum(42) demands that this evidence be procured through a resolution of the conclusions into the principles(43). For "ea quæ in ista principia resolvere possimus per rationem dicuntur videri, sicut ea quæ scimus demonstrative probata. (44) It is in this resolution that, as St. Thomas tells us in the text cited above(45), the conclusion is seen in the principles and that by its means discourse rests. For when the
speculative intellect succeeds in manifesting that the conclusion is involved in the very notion of the principles, evidence for certain judgment is achieved and the speculative intellect rest in its end which is the truth simpliciter.(46)

But in order to thus rest in the truth the intellect must examine the conclusion, its subject and predicate, their relation to one another in the light of the principles or causes found in the premises(47). When the examination shows that the predicate belongs necessarily to the subject because the definitive species expressed in the premisses are such that they require the relation, we say that the proposition has been resolved. We have shown that the intelligible connection of subject and predicate derives from the intelligibility of their causes; we have measured(48) an effect by the only adequate law or rule an effect knows, viz. its cause. Hence it is that

"certitudo scientiae tota oritur ex certitudinem principiorum: tunc enim conclusiones per certitudinem sciuntur, quando resolvuntur in principia...ex quo tamen nos certitudinem scientiae non acciperemus, nisi inesset nobis certitudo principiorum in quae conclusiones resolvuntur."(49)

It is only as a result of the resolution of the conclusion to the principles that a scientific habitus attains its object. The object of a science is the complex conclusion—not taken in whatever way, but only as manifested, as illated or proved. The conclusion taken only as a proposition wherein an attribute is predicated of a subject is
merely the material object of a science: its formal object is the proposition as illuminated by and seen in the principles.

"Dicendum quod cuiuslibet cognoscitivi habitus objectum duo habet, scilicet id quod materialiter cognoscitur, quod est sicut materiale objectu; et id per quod cognoscitur, quod est formalis ratio objecti. Sicut in scientia geometriae materialiter scita sunt conclusiones: formalis vero ratio sciendi sunt media demonstrationis, per quae conclusiones cognoscentur."(50)

It is for this reason that Cajetan is justified when he states that the ratio of science taken absolutely is "conclusiones scibiles in alio, id est in principiis"(51).

We shall, perhaps, be in a better position to judge of the nature and importance of the resolution of which we are speaking if we turn our attention for a moment to that type of discourse in which the above resolution does not take place. In the first place this resolution is one of the differences that distinguish science from faith; for it is, as we have seen, through this resolution that the conclusions of science participate in the self-evidence of first principles.

"Quaecumque autem scientur proprie accepta scientia, cognoscuntur per resolutionem in prima principia, quae per se praesto sunt intellectui; et sic omnis scientia in visione rei praesentis perficitur. Unde impossible est quod de eodem sit fides et scientia."

Again, when St. Thomas wants to distinguish the gift of prophesy from scientific knowledge he has recourse to the same doctrine that we found expressed above in the passage from de Veritate.
"In intellectu igitur humano lumen quoddam est quasi qualitas vel forma permanens, scilicet lumen essenti- ale intellectus agentis, ex quo anima nostra intell- ectualis dicitur. Sic autem lumen propheticum in propheta esse non potest. Quicumque enim aliqua cognoscit intellectuali lumine, quod est ei effectum quasi connaturali ut forma in eo consistens, oportet quod de eis fixam cognitionem habeat; quod esse non potest nisi ea inspiciat in principio in quo possunt cognosci: quando enim non fit resolutio cognitorum in sua principia, cognition non firmatur in uno, sed apprehendit ea quae cognoscit secundum probabilita- tem quandam utpote ab aliiis dicta: unde necessae ha- bet de singulis aceptionem ab aliiis habere. Sicut si aliquis nesciret geometriae conclusiones ex prin- cipii deducere, habitum geometriae non haberet; sed quaecumque de conclusionibus geometriae sciret, ap- prehenderet quasi credens docenti, et sic indigeret ut de singulis instrueretur: non posset enim ex qui- busdam in alia pervenire firmiter, non facta resolu- tione in prima principia."(53)

In the following passage from the commentary on the de Trin- itate of Boethius St. Thomas contrasts the demonstrative dis- course with which we have been concerned up to now with dia- lectical discourse.

"Alio modo dicitur processus rationalis ex termino in quo sistitur procedendo. Ultimus enim terminus ad quem rationis inquisitio perducere debet, est intellectus prin- cipiorum, in quae resolvendo judicamus; quod quidem quando fit, non dicitur processus, vel probatio, sed demonstration. Quando autem inquisitio rationis usque in ultimum terminum non perducit, sed sistitur in ip- sa inquisitione, quando scilicet quaerenti adhuc re- manet via ad utrum libet, et hoc contingit quando per probabiles rationes proceditur, quae natae sunt facere opinionem et fidem, non autem scientiam: et sic ratio- nalis processus distinguitur contra demonstrativum. Et hoc modo procedi potest rationabiliter in qualibet scientia, ut ex probabilibus paretur via ad necessari- as conclusiones: et hic est alias modus logicae, quo logica utitur in scientiis demonstrativis, non quidem ut est docens, sed utens:..(54)
The success or failure of the mind to resolve the conclusion into the principles founds the distinction between demonstrative science and opinion; or, since in demonstrative science the mind achieves certain judgment, resolution to principles is the basis for the distinction between certain and merely opiniative or propable discourse. Again, since the discourse that remains 'ad utrumlibet' is dialectical, the success or failure of our resolution to principles distinguishes the dialectical habitus from the habitus of science. (55)

Finally, in another passage from de Veritate, St. Thomas shows even more explicitly how resolution to principles distinguishes a scientific habitus from the habitus of dialectic which he here calls the ratiocinative. Further, because the following text insists upon the function of the quiddity in the resolutive mode, it provides an excellent resumé of the second and third stages—i.e., the application of the quod quid est, and resolution to principles—that are required for scientific knowledge.

"Scientificum autem et ratiocinativum diversae quidem potentiae sunt, quia quantum ad ipsam rationem intelligibilis distinuuntur. Cum enim actus alicujus potentiae se non extendat ultra virtutem sui objecti, omnis operatio quae non potest reduci in eadem rationem objecti, oportet quod sit alterius potentiae, quae habeat aliam objecti rationem. Objectum autem intellectus est quod quid est, ut dicitur in III de Anima: et propter hoc, sicut intellectus extenditur quantum potest extendi virtus ejus ad quod quid est: per hanc autem primo ipsa principia cognita fiunt, ex quibus cognitis ulterius ratiocinando pervenitur in conclusio notitiam: et hanc potentiam quae ipsas conclusiones in quod quid est nata est resolvere, Philosophus scientificum appelat. Sunt autem quaedam in quibus non est possibile talium resolutionem facere ut perveniat usque ad quod quid est, et hoc propter incertitudinem sui esse; sicut est in contingentibus inquantum contin-
We shall have recognized in the considerations thus far made upon the abstraction of quiddities or causes, their application, and the resolution of conclusions to quiddities or principles what St. Thomas so frequently describes as the "circle" in our mode of knowing. For, unlike separated substances and rather after the fashion of generable and corruptible things, the human intellect acquires science through a kind of movement (56). Of course, this is not movement in the strict sense, because it is an actus perfecti (57), rather than the actus imperfecti by which movement in the strict sense is defined.

Now, the circular movement of our mode of knowing is variously described. Sometimes St. Thomas speaks of the circle that begins in the intellect; sometimes he speaks of the circular movement that begins in sense. In order to understand these two ways of speaking about the circle in our mode of knowing we shall have to recall a distinction already referred to earlier: knowledge simpliciter or absolutely, begins in sense; our science, however, begins in the universal propositions of the intellect (58). Knowledge simpliciter is the order of the singular to the universal; science is in the universal only.
"Sed dicendum est quod hic loquitur de ordine singularis ad universale simpliciter, quorum ordinem oportet accipere secundum ordinem cognitionis sensitivae et intellectivae in nobis. Cognitio autem sensitiva est in nobis prior intellectiva, quia intellectualis cognitio ex sensu procedit in nobis. Unde et singularare est prius et notius quam universale. In I autem Physic, non ponitur ordo universalis ad singulare simpliciter, sed magis universalis ad minus universale, ut puta, animalis ad hominem et sic oportet quod quoad nos universalius sit prius et magis notum". (59) (60)

In the realm of purely intellectual knowledge the description of the circle in our mode of knowing prescinds from the act of abstraction; the latter is set aside because it has its origins, as we have seen in sense knowledge. From this point of view the circle in human knowledge is a kind of movement from the quiddity—i.e. from intellectual principles—to conclusions that are implied in the principles; and, again, a movement resolving the conclusions into the principles. It is in this way that the circle of our knowing is said to go from intellect to intellect:

"...ratiocinatio hominis, cum sit quidam motus, ab intellectu progreditur aliquorum, scilicet naturaliter notorum absque investigatione rationis, sicut a quodam principio immobili; et ad intellectum etiam terminatur, inquantum iudicamus per principia per se naturaliter nota, de his quae ratiocinando inveniantur." (61)

Again, within the order of intellectual knowledge St. Thomas refers to the movement from principles to conclusion as a via inventionis vel inquisitionis, while the resolution of the conclusion into the principles is called, appropriately, a via judicium.
"Intelligere enim est simpliciter veritatem intelligibilem apprehendere. Ratiocinari autem est procedere de uno intellecto ad aliud, ad veritatem intelligibilem cognoscentiendum. Et ideo angeli, qui perfecte possident secundum modum suae naturae cognitionem intelligibilis veritatis, non habent necesse procedere de uno ad aliud sed simpliciter et absque discursu veritatem rerum apprehendunt, ut Dionysius dicit, VII cap. de Div. Nom. Homines autem ad intelligibilem veritatem cognoscentiendum perveniunt procedendo de uno ad aliud, ut ibidem dicitur; et ideo rationales dicuntur. Patet ergo quod ratiocinari comparatur ad intelligere sicut moveri ad quiescere, vel acquirere ad habere, quorum unum est perfecti, aliud autem imperfecti. Et quia motus semper ab immobili procedit, et ad aliquid quietum terminatur, inde est quod ratiocinatio humana secundum viam inquisitionis vel inventionis procedit a quibusdam simpliciter intellectis, quae sunt prima principia; et rursus in via iudicii resolvente redit ad prima principia, ad quae inventa examinat."(62)

In the text just cited we find that the via judicium is described as proceeding resolutively. The via inventionis, on the other hand, is composite in mode:

"...intellectualis consideratio est principium ratiocinialis secundum viam compositionis, et inventionis, in quantum intellectus in uno multa comprehendit."(63)

Hence within the limits of purely intellectual knowledge there is what might be termed a twofold act: the first has for end the discovery of conclusions. This is the discourse which we saw above involves application of principles or quiddities and proceeds compositively. The other has for end the manifestation of judgment of the conclusion; it is in this act that the mind resolves conclusions into their causes.

However, when St. Thomas does not limit himself to intellectual knowledge alone, when he wants to include in his
description of our circular mode of knowing not only what belongs to the intellect alone, but also what it derives from sense, he introduces into his account the act of abstraction and immediately 'invention' and 'judgment' take on new meanings. For from this point of view abstraction becomes an *inventio* in the sense of discovering principles; and what we have called the application of principles in order to discover conclusions becomes a *judicium*. Judgment in this latter sense, as we shall see presently, includes both the act whereby the mind applies principles and the act whereby it resolves conclusions into their principles. In other words the *judicium* of this second point of view is nothing less than the "circle" found in purely intellectual knowledge; that is to say it is demonstration.

Here are two texts expressing this new point of view taken from St. Thomas' commentary on the *de Divinis Nominibus* of Dionysius:

"Est autem considerandum quod in nobis est duplex compositio intellectus. Una quidem quae pertinet ad inventionem veritatis; alia vero quae pertinet ad judicium. Inveniendo quidem quasi congregantes, ex multis ad unum procedimus, sive multa dicantur diversa sensibilia, per quorum experimentum universalem cognitionem accipimus, sive multa dicantur diversa signa, ex quibus ratiocinando ad talem veritatem pervenimus... In iudicio vero procedimus ab aliquo communi principio ad praedicta multa et divisibilia sive particularia sui effectus et signa..."

"Veritas enim esistentium radicaliter consistit in apprehensione quidditatis rerum, quam quidditatem rationes animae non statim apprehendere possunt per seipsam, sed diffundunt seapér proprietates et effectus qui circumstant rei essentiam, ut ex his ad proprium veritatem ingrediantur. Haec autem circulo quodam efficient, dum ex proprietatibus et effectibus causas inveniunt, et
ex causis de effectibus judicant. Et quia mentes angelicae secundum unitam et simplicem considerationem veritatem inspiciunt, deficiunt ab eis animae inquantum per divisionem et multitudo variarum rerum diffunduntur ad veritatis cognitionem. Sed tamen in hoc ipso quod multa in unum convolvere possunt, sicut cum ex multis effectibus et proprietatibus perveniunt ad cognoscendum re essentiam, intantum dignae habentur animae ut homines habeant intellectus quodammodo angelis aequales, scilicet secundum proprietatem et possibilitatem animarum. Inquisitio enim rationis ad simplicem intelligentiam veritatis terminatur, sicut incipit a simplici intelligentia veritatis, quae consideratur in primis principiis." (64)

Thus when we view the whole scope of the process of knowing, we see that it proceeds from sense, and, by abstraction, to quiddities or definitions, and from these latter to conclusions that are, finally, resolved into the definitive principles. Then abstraction must be viewed as a way toward discovering principles and causes; the other two movements, that of the application of the causes in order to know conclusions and of the resolution of the latter into their principles, are grouped together under the simple designation, judgment. Here, obviously, judgment stands for the two acts that earlier in this chapter, we found necessary for every demonstration.

In the fourth article of the sixth question in his commentary on Boethius' de Trinitate, St. Thomas indicates still another way of considering the entire movement of speculative discourse from sense to judgment.

"...in scientiis speculativis semper proceditur ex ali-quo prius noto tam in demonstrationibus conclusionum, quam in inventionibus etiam definitionum. Sicut enim ex propositionibus praeacognitis aliquis devent in co-gnitionem conclusionis, ita ex conceptione generis, et
differentiae, et causarum rei aliarum devenit in cognitionem speciei; hoc autem non est possibile in infinitum procedere, quia sic omnis scientia periret et quantum ad demonstrationes et quantum ad definitiones, cum infinita non sit pertransire. Unde omnis consideratione scientiarum speculativarum reducit in aliqua principia, quae quidem homo non habet necesse addiscere, aut invenire, ne oporteat in infinitum procedere, sed eorum notitiam naturaliter habet, et huiusmodi sunt principia demonstrationum indemonstrabilia...in quae omnes demonstrationes scientiarum reducantur, et eorum primae conceptiones intellectus, ut entis, unius, et huius modi, in quae oportet reducere omnes definitiones scientiarum praedictarum. Ex quo patet quod nihil potest sciri in scientiis speculative, neque per viam definitionis, neque per viam demonstrationis, nisi ea tentum ad quae praedicta naturaliter cognita se extendunt."(65)

What St. Thomas here calls the via definitionis, ordered to discovering definitions or intelligible species, is equivalent to the movement whereby, from many sensibles or signs we acquire a universal knowledge of the truth.(66) Again, it is the discourse that proceeds resolutely from the properties and effects of things toward their essences; (67) for "the end of someone defining is the resolution of the defined into its principles".(68) What in the present text is termed a via demonstrationis finds its counterpart in the judicium of the texts from de Divinis Nominibus.

Finally, St. Thomas has, in at least two other places, summarized the steps in our acquisition of scientific knowledge. These passages are of particular interest for us because they employ, in their description of the whole movement of human knowing, the terms whose definitions we are seeking in this essay. The first of these texts is to be found in the commentary on the first book of the Politics.
"...Modus autem hujus artis est talis: quod sicut in aliis rebus ad cognitorem totius necesser est dividere compositum usque ad incomposita, idest usque ad indivisibilia quae sunt minime partes totius (puta ad cognitionem orationem, necesser est dividere usque ad litteras et ad cognoscendum corpus naturale mixtum, necesser est dividere usque ad elementa): sic, si consideremus ex quibus civitas componatur, magis poterimus videre de praemissis regimindibus quid unumquoque sit secundum se et quid different ad invicem et utrum aliquid secundum unumquodque eorum possit artificialiter considerari. In omnibus enim ita visemus quod si quis inspiciat res secundum quod orientur ex suo principio, optime poterit in eis contemplari veritatem. Et hoc sicut est verum in aliis rebus, ita etiam est verum in his de quibus intendimus. In his autem verbis Philosophi considerandum est quod ad cognitionem compositorum primo opus est via resolutionis, ut scilicet dividamus compositum usque ad individua. Postmodum vero necessaria est via compositionis, ut ex principiis individibus jam notis dijudicemus de rebus quae ex principiis causantur". (69)

We might add here also the following short passage from St. Thomas' prologue to the Politics. While it does not designate the procedures as resolutive or compositive, there can be no doubt that St. Thomas is here describing the same mode of knowing that he considers later in the first book of the Politics.

"Sicet enim scientiae speculativae quae aliquo toto considerant, ex consideratione partium et principiorum notitiam de toto perficiunt, passiones et operationes totius manifestando; sic et haec scientia principia et partes civitatis considerans de ipsa notitiam tradit, partes et passiones et operationes ejus manifestans: et quia practica est, manifestat insuper quomodo singula perfici possunt: quod est necessarium in omni practica scientia."

The second text is taken from the commentary on the second book of the Metaphysics.
...hoc ostendit difficultatem quae est in consideratione veritatis, quia non possumus habere circa veritatem totum et partem. Ad cujus evidentiam considerandum est, quod hoc dixit omnibus esse notum, per quod in alia introitum. Est autem duplex via procedendi ad cognitionem veritatis. Una quidem per modum resolutionis, secundum quam procedimus a compositis ad simplicia, et a toto ad partem, sicut dicitur in primo Physicorum, quod confusa sunt prius nobis nota. Et in hac via perficitur cognition veritatis, quando pervenitur ad singulas partes distincte cognoscendas. Alia est via compositionis, per quam procedimus a simplicibus ad composita, qua perficitur cognition veritatis cum pervenitur ad totum. Sic igitur hoc ipsum, quod homo non potest in rebus perfecte totum et partem cogno sce, ostendit difficultatem considerandae veritatis secundum utramque viam.(70)

This passage from the Metaphysics is of special importance because it is followed by an explanation wherein St. Thomas gives the reason for the twofold via in the processus of human knowledge(71). In that explanation it will be seen immediately that our peculiar way of knowing demands a certain resolution completed by a composition. Because we are the lowest in the order of intellectual beings, because we are in potentiality with respect to what is most knowable, we must begin to know by abstraction(72). And since we abstract from what is given to sense and imagination, the quiddities or essences that we are able to discover by abstraction can only be those that belong to sensible substances.

Returning now to the text just cited, let us note, in the first place that these passages are descriptive of the whole processus of our knowledge as it begins in sense and rests ultimately in the actual knowledge of causes. What St. Thomas here calls the via resolutionis is clearly the
work of abstraction that we have dwelt upon in the earlier part of the present chapter: it is the *via inventionis* of the definition, of principles and causes that we saw to be identifiable with the same act of abstraction. The *via compositionis* mentioned in the texts now under consideration is the *via judicium* which follows the *via inventionis* when the latter signifies the discovery of principles, i.e. when it refers to the act of formal abstraction. We have seen, however, that the *via judicium* in this latter sense involves two acts: the application of principles in order to find conclusions, and the resolution of conclusions to their principles in order to judge the conclusions. As a consequence these two acts of the mind will be included in the *via compositionis* of the texts from the *Politics* and the *Metaphysics*.

These two *viæ* represent what the intellect must strive to do when faced with knowing whatever thing: it must discover the *quid est*, the nature or substance of the thing in so far as is possible; it must then demonstrate the proper passions of that thing(73). We arrive at the *quid est* from the accidents that surround the object. In its turn the *quid* must enable us to come to a scientific knowledge of the proper passions; and if it should fail to do this, the statement of the *quid*, or the definition, is remote and dialectical, but not a real definition—which is always "ex propriis et ex essentialibus"(74).

If, now, we revert to the text from *de Trinitate*(75)
wherein the processus of scientific knowledge is divided into a *via definitionis* and *via demonstrationis*, we shall see that the former corresponds to the resolutive process described in the texts just cited from the *Politics* and the *Metaphysics*. The *via demonstrationis* is the equivalent of the compositive process. The *via resolutionis*, then, will consist in the search for principles and causes or quiddities: the *via compositionis* will involve all those things which we found to be necessary for demonstration.

It is possible at this point that someone might object to designating the *inventio* or discovery of definition as a resolutive processus. For, when we were discussing the "circle" in our human mode of knowing as this is found within the limits of purely intellectual knowledge, *inventio* or discovery proceeded from principles or causes to conclusions or effects. It was, therefore, a compositive processus.

St. Thomas shows us how to face this problem in an article in the *Prima Secundae* where he points out that inquisition or invention can be taken in two ways depending upon the kind of principles with which the inquisition begins.

"Dicendum quod in omni inquisitione oportet incipere ab aliquo principio. Quod quidem si, sicut est prius in cognitione, ita etiam sit prius in esse, non est processus resolutarius, sed magis compositivus; procedere a causis in effectus, est processus compositivus, nam causae sunt simpliciores effectibus. Si autem id quod est prius in cognitione, sit posterior in esse, est processus resolutarius; utpote cum de effectibus manifestis judicamus, resolvendo in causas simplices.(75)"
Now, since the discovery of the intelligible species, or definition, i.e. formal abstraction begins from sense knowledge and consists precisely in an effort to discover causes, this processus cannot have as principle something that is prior in esse. Hence nothing prevents us from designating abstraction as a kind of resolutive inventio or inquisition—provided, of course, that the inventio or inquisition is regarded as merely preparatory to the act wherein the quiddity is grasped by the mind. For definitions or quiddities, once their terms are recognized, are per se known; quoad nos, however, a certain inquisition is frequently necessary in order that the meaning of the terms be recognized.

But only the discovery that begins from the quiddity or cause is properly designated as compositive in mode. This, however, is not a discovery of species or definitions, but rather, as we have seen, a discovery of conclusions. Further, when St. Thomas, speaking of the whole movement of our knowledge, calls abstraction an invention and the two succeeding acts taken together judicium he must necessarily understand the discovery of conclusions to be compositive in mode. For unless the discovery of conclusions begins with a cause that is prior in esse, there can be no subsequent resolution into causes and consequently no judgment in the strict sense.

We may, therefore, distinguish in the via resolutionis and the via compositionis the following three acts. There is first of all a resolution of some confused whole, of ef-
fects, of objects present to sense and imagination from which the simple quiddities or causes are abstracted. These latter are then composed with, or applied to, effects—an operation wherein we attach a predicate to a subject in order to form a conclusion. Finally, the conclusion is shown to resolve into its causes or principles.

Considering these three acts separately, we see that the two that are denominated by the resolutive mode—i.e., the first and third—actually fulfill the common notion of resolution described in the first chapter. For since both move toward causes, to that extent they both move toward something simple. Similarly, each of them proceed from what is complex in comparison to the causes to which they are ordered. The resolution of abstraction proceeds from the complex of sense knowledge and from effects and accidents, while the resolution that is ordered to judgment begins from a complex conclusion(77).

The composition involved in this speculative discourse—i.e., the second of the three acts mentioned above—fulfills the common notion of the compositive mode: for it proceeds from causes to effects, from something simple to what is complex. However, it does not fulfill the more determinate notion of composition disengaged in the last chapter. It is not ordered to the existence of things. It is rather an instrument of, and ordered to, resolution. For we compose propositions in a discourse with a view to resolving the conclusions of the discourse into their causes.
We are now in a position to reply to the objection raised in the previous chapter concerning demonstration propter quid. It was there objected that, while demonstration propter quid belongs uniquely to speculative science, it yet seems to proceed compositively, a priori, from causes to effects. We now know that the whole efficacy of a propter quid demonstration or a priori proof is taken from the fact that its conclusion can be resolved into its principles. In other words a propter quid demonstration involves an inquisition that proceeds compositively, i.e., from principles that are prior in esse, from the causes of the connection of the subject and predicate in the conclusion. In this way the resolution of the conclusion of such a compositive inquisition is guaranteed in advance.

However, it is especially by taking the above three acts as a single processus that we best see the strictly resolutive character of demonstrative discourse. It will be remembered that in our outline of the stages of demonstrative knowledge we pointed out that discourse belonged to the human mode of knowing exclusively: we saw that because of the potentiality of our minds we are unable in the first grasp of the quiddity of things to penetrate all that belongs to them. As a consequence we are obliged to use the quiddities or definitions of things as principles in a discourse in order to see what is further implied in them by way of conclusions. The resolution of the conclusion into the principles is required in order to guarantee the certitude of the discovered conclusion. In this latter resolu-
tion the conclusion is seen to share the intelligibility, the immateriality and the certitude of the principles. Hence we see that the composition and resolution that follow the abstraction of the quiddity are in function of this latter. Nevertheless, because of the essentially potential character of the quiddities formally abstracted, demonstrative discourse is denominated resolutive in mode on account of the resolution of the conclusions to principles. For here discourse ceases and the end of the speculation is attained.

As a consequence we see how exactly St. Thomas' formulae — "definiendo et dividendo et considerando universalia praedicata ipsius" (78), or "per resolutionem compositi in principis universalia formalia"—describe the resolutive mode. For, in effect, these formulae do nothing more than state in other terms the via resolutionis and the via compositionis of the texts from the Politics and Metaphysics. Thus also to consider an object speculatively is the same thing as to treat that object in the resolutive mode; because a speculative consideration of whatever object obliges the mind to define it and to show its nature (79) which is precisely what the resolutive mode sets itself to achieve. Finally, we see that resolution is exactly defined as an order to causes. For science is perfected in the scientific judgment which requires that conclusions be seen in their causes: "Certum iudicium de re aliqua maxime datur ex sua causa." (80)
Up to the present we have limited our considerations to formal abstraction and to the acts of the intellect that follow upon what is formally abstracted, viz., inquisition of conclusions and judgment. Our presentation of the successive steps in the movement of our scientific knowledge would lose perspective and become false if we were to neglect total abstraction and its influence upon the processus of speculative discourse. Besides, as we shall see, the doctrine of total abstraction will help to clarify still more our notions of resolution and composition.

We have seen that that abstraction is called total which considers a universal, a whole as separated from particulars, singulars or subjective parts. When, for instance, we consider 'man' abstracting from 'Socrates', 'Plato', etc. or when we consider 'animal' abstracting from 'man' and 'brute' we are abstracting totally. It will be necessary to consider briefly how this abstraction differs from formal abstraction.

Total abstraction occurs when the mind considers something that belongs to the very nature of its inferiors without at the same time attending to everything that falls under their definitions. Thus 'animal' is abstracted totally because it considers something that belongs commonly to 'man' and 'brute'—i.e. sensibility—while it sets aside from its consideration something else that is proper to 'man', i.e., rationality. Formal abstraction, on the other hand, is order-
ed to the separation of everything that belongs to the nature or definition of its object from whatever is material in it. Hence it is that from total abstraction there results only one complete concept, viz. the whole that is abstracted; for the inferiors from which abstraction is made cannot be understood unless the whole is posited in their definition. And because total abstraction prescinds from the differences that things require in order to be, the single concept which is the product of total abstraction has only a logical unity. (81). Formal abstraction, however, gives rise to two complete concepts: both the abstracted and that from which abstraction is made are understandable without each other. The example given by St. Thomas is that of "circle" abstracted from "bronge" (82).

Again total abstraction occurs when the mind separates from its object those things that actually specify it:—thus the more these latter are abstracted the more potential the object abstracted becomes; hence less intelligible in se, less in act secundum se. Formal abstraction, on the other hand, is precisely ordered to separating all that is actual and intelligible from what is potential and material. Because of these diverse tendencies of the two abstractions we can say that what is abstracted by formal abstraction is actual, distinct and intelligible, while total abstraction makes for potentiality, confusion and unintelligibility. Further, the more abstract an object is according to formal abstraction the more knowable it is in se; but what is more abstract according to total abstraction is only more know-
able quoad nos. (83)

Total abstraction, then, is ordered to what is potential, confused, common and universal-in-predication only: for the more abstract an object is by total abstraction the more it is predicable, since the number of its inferiors increases (84). Formal abstraction is ordered to what is actual, clear, proper and universal-in-causation (85). Yet, St. Thomas in the text cited above from Compendium Theologiae calls both of these abstractions resolutive in mode.

In order to reply adequately to this difficulty it will be necessary to recall that we have no direct intellectual knowledge of material singulars. This does not mean that singulars are beneath the consideration of our intellect—far from it. Intelligences more perfect than our own can know singulars in their very singularity (86). But because matter is the principle of the singularity, of the individuality of things, and because, in order to know at all, we must abstract from matter, we are by this very fact obliged to relinquish all claims to a direct scientific knowledge of material singulars and seek our science in the universal. Total abstraction is a condition that attaches to our way of knowing. Hence it is that when we speak of what is more intelligible or less intelligible in relation to total abstraction, we are speaking not of intelligibility secundum se, as in the case of formal abstraction, but of intelligibility quoad nos.

Hence when we say that total abstraction is a resolu-
tion we mean that through total abstraction we pass from what is in itself less intelligible for us—the parts, the singulars, the particulars—to what is more intelligible for us—the universal, the whole.

However, from the point of view of what is more intelligible in sé, we are actually going from what is more knowable, more determined to what is less knowable and more potential. From this latter point of view total abstraction is rather compositive in mode: for, in effect, our universals are posterior to things: they are constructions, so to speak, that are absolutely necessary conditions of our way of knowing. However, total abstraction is defined by relation to our mode of knowing. Thus understood formally it is a passage from the less to the more intelligible—quoad nos—and as such fulfills the notion of resolution.

Every formal abstraction is affected by the influence of total abstraction, so that the quiddities, the formal principles that we are able to abstract formally are always in communi, general, unpenetrated with respect to the subjective parts that are only virtually contained in them. It is because of the influence of total abstraction that our science, for the most part, must begin with the most universal, the most common principles and proceed by discovery and demonstration toward what is proper to each individual species. For even though our science begins with universal common principles, it is perfected only when it knows the species specialissimae.
"Scientia autem quae habetur de re tantum in universali, non est scientia completa secundum ultimum actum, sed est medio modo se habens inter puram potentiam et ultimum actum. Nam aliquis sciens aliquid in universali, scit quidem aliquid eorum actu quae sunt in propria ratione eius: alia vero sciens in universali non scit actu, sed solum in potentia. Puta, qui cognoscit hominem solum secundum quod est animal, solum scit sic partem definitionis hominis in actu, scilicet genus eius: differentias autem constitutivas speciei nondum scit actu, sed potentia tantum. Unde manifestum est quod complementum scientiae requirit quod non sitatur in communibus, sed procedatur usque ad species: individua enim non cadunt sub consideratione artis; non enim eorum est intellectus, sed sensus." (91)

This processus from vague, common, universal principles toward the proper knowledge of species St. Thomas calls the ordo determinandi of a science, i.e., the order of considering the different matters that fall under the contemplation of a particular science.

Now with respect to the ordo determinandi a difficulty presents itself analogous to the one found when we were considering total abstraction. St. Thomas speaks of the 'application' of common principles of the Eight Books of the Physics to the more concrete considerations of the heavenly bodies, generation and corruption, etc. (94). Cajetan speaks of universal wholes 'composed' and 'not composed' with their subjective parts (95). Does the ordo determinandi, the order toward concretion in a science, proceed compositively?

In order to reply to this question we must distinguish by re-introducing the notions that helped us solve our difficulty when we were determining the mode of total abstraction.

From the point of view of what is more known, or intelligible in se, the order of determination goes from a confused, potential whole to a knowledge of the single species.
It goes from what is in se least intelligible, the universal in praedicando, to what, in the order of nature, is most intelligible, the species specialissimae(97). Viewed in this way, the order of determination is resolutive in mode, proceeding as it does from something complex, something whole toward what is simple—the proper principles of each species. However, it must be noted that this is resolution in the general or common sense only; it is not the resolution that we found characteristic of demonstration propter quid: even though this latter resolution takes place at each level in the order of determination, as we have seen(98).

Be that as it may, however, we do not consider the ordo determinandi properly until we see it in relation to our own mode of knowing. For, as we have seen, this order is demanded because of the potentiality of our intellect. From this latter point of view, the order of determination proceeds from what is more simple, more knowable quoad nos toward what is more knowable in se and secundum naturam, but less knowable and more complex quoad nos. Thus formally considered the order of determination is compositive in mode. But it must be insisted upon, again, that this composition has nothing to do with the compositive inquisition that proceeds the resolution in every propter quid demonstration. For, in the latter the mind proceeds compositively from causes that are in se more simple. In the order of determination we proceed from what is more simple quoad nos only. It is for this reason that the order of determination, considered in se, proceeds resolutively—understanding resolution in the general or common notion described in the first chapter.
From these considerations we can see immediately how badly founded is the position of those who see in the ordo determinandi of Aristotelian physics, for example, an instance of a purely deductive science of nature. The composition and resolution which are absolutely necessary for science in the strict Aristotelian sense are not the same things in the order of determination and in demonstration.

In what has proceeded we sought to observe the resolutive and compositive modes at work in the discourse of demonstration and in the discourse of determination. It will be observed that these considerations are descriptive of the processus within a single science; they say nothing of the relation of one demonstrative science to another.

However, we noted briefly above that the speculative sciences were distinguished according to diverse abstractibility, or what come to the same thing, according to diverse immateriality or modes of definition. We saw, accordingly, that as objects may be related in three distinct ways to matter there are three distinct modes of definition and therefore the distinct sciences of the Philosophy of Nature, Mathematics and Metaphysics. Now, in several places St. Thomas speaks of resolution and of composition with regard to the relation of these sciences one to another.

Perhaps the most explicit treatment of this relation is to be found in the commentary on the de Trinitate of Boethius.
where St. Thomas shows that it is characteristic of Metaphysics to proceed according to an intellectual, as distinguished from a rational mode. The reason that St. Thomas gives for the intellectual processus of wisdom is, briefly, the following: since all rational processes must resolve to the intellect, and since inferior sciences and especially the Philosophy of nature proceeds rationally and resolves to wisdom; therefore wisdom proceed intellectually. However, in order to see the full force of St. Thomas' doctrine here it will be necessary to institute a much closer analysis of this text.

St. Thomas first defines the rational and intellectual processes, and then attributes the one to the human intellect, the other to God preeminently, but also to the angels secondarily. To proceed rationally is to proceed toward the truth diffusively, progressing from many accidents and signs, and from these gathering one simple knowledge. It is because man must thus be concerned with the many that, in comparison with God and the angels, his mode of knowing is defective. For God, by comprehending His essence, knows all. The angels, as we have seen, through the intelligible species given to them seize in those simple truths all that the angelic mind is capable of knowing in them. The human mode of knowing, however, becomes assimilated to the angelic mode in so far as our minds are able to grasp some one simple truth— even though this has been achieved by passing through the many. Hence, St. Thomas concludes this first part of the argument:
"Sic igitur patet quod rationalis consideratio ad intellec
tualem terminatur secundum viam resolutionis, in quan-
tum ex multis rationibus colligit unam et simplicem
veritatem. Et rursum intellectualis consideratio est
principium rationalis secundum viam compositionis et
inventionis, in quantum intellectus in uno multa com-
prehendit. Illa igitur consideratio, quae est termin-
us totius humanae ratiocinationis, maxime est intelli-
gualis consideratio: tota autem rationis considera-
tio resolventis in omnibus scientiis, ad cognitione-
em divinae scientiae terminatur."(103)

St. Thomas then goes on to explain how all the other sciences
resolve to divine science or wisdom: first in the order of
those things that are not only principles but are also com-
plete natures.(104)

"Quandoque enim ratio, ut prius est dictum, procedit
de uno in aliud secundum rem, ut quando est demonstra-
tio per causa, vel per effectus extrinsecos, componen-
do quidem proceditur a causis ad effectum; resolvendo
cum proceditur ab effectibus ad causas, eo quod causae
sunt effectibus simpliciores, et magis immobile et
uniformiter permanentes. Ultimus igitur terminus re-
solutionis in hac via est cum pervenitur ad causas
supremas maxime simplices, quae sunt substantiae sep-
aratae."(105)

Second, in the order of those things which are not complete
natures in themselves but only principles of natures(106).

"Quandoque vero proceditur de uno in aliud secundum
rationem, ut quando est processus secundum causas in-
trinsecas. Componendo quidem, quando formis maxime
universalibus in magis particularia proceditur: re-
solvendo autem, quando e converso, eo quod universal-
ius est simplicius. Maxime autem universalia sunt,
quae sunt communia omnibus entibus, et ideo terminus
resolutionis in hac via ultimus est consideratio en-
tis, et eorum quae sunt entis in quantum hu§usmodi." (107)

St. Thomas then concludes that since separated substances
and what are common to all beings constitute the subject
matter of wisdom, it is clear that the latter is especially
intellectual. Further, because wisdom considered in se pro-
ceeds intellectually, which is to say compositively, it
offers principles to inferior sciences and defends them; this is why it is called First Philosophy. But because it considers things that quoad nos are less knowable, because we must come to knowledge of them through a rational processus, wisdom, as a purely intellectual consideration, is learned after the other sciences. It is at the term of the rational process found in the Philosophy of Nature and of the other sciences. For this reason it is called Metaphysics "quasi transphysica quia post physicam resolvendo occurrit" (108).

We find here the doctrine of the *via resolutionis* and of the *via compositionis* that elsewhere was used to describe the discourse within a single science now employed to manifest the movement from the lower sciences to wisdom. Just as there formal abstraction resolved in the sense that it discovered causes, definitions or middle terms, so here all of the inferior sciences are viewed as ordered to the discovery of first causes--separated substances--and the most universal forms or principles by resolution (109). Obviously this does not mean that there is not demonstrative knowledge in the sciences inferior to Metaphysics; we have seen that these resolve their conclusions into their own proper principles. However, the proper principles of each of the lower sciences are judged and defended by Metaphysics: they resolve into the first principles of being and the first causes; "unde convenienter (sapientia) iudicat et ordinat de omnibus quia iudicium perfectum et universale non potest nisi per
resolutionem ad primas causas" (110).

But widom secundum se, according to its very nature, proceeds intellectually. We have seen that to know in a manner proper to the intellect belongs primarily to God, but secondarily and in a certain fashion to angels also. Further, in the text analyzed above we have seen that to know according to the mode proper to the intellect is to know compositively. In order, then, to understand more adequately the compositive mode let us reflect here briefly upon the matter of God's knowledge of created things.

To know intellectualiter or compositively is to know by way of what is prior in esse, to know causes, as we have already seen. God not only knows causes: his knowledge is the cause of things.

"In omni autem scientia est assimilatio scientis ad scitum; unde oportet quod vel scientia sit causa sciti, vel scitum sit causa scientiae, vel utrumque ab una causa causetur. Non potest autem dici quod res scitae a Deo sint causa scientiae in eo; cum res sint temporales, et scientia Dei sit aeterna, temporale autem non potest esse causa aeterni. Similiter non potest dici quod utrumque ab una causa causetur; quia in Deo nihil potest esse causatum, cum ipse sit quidquid habet. Unde relinquitur quod scientia ejus sit causa rerum. Sed e converso scientia nostra causata est a rebus, in quantum, scilicet, est a rebus accipimus. Sed scientia Angelorum non est causata a rebus, neque causa rerum; sed utrumque est ab una causa; sicut enim Deus formas universales influit rebus, ut subsistant; ita similitudines earum influit mentibus angelorum ad cognoscendum res." (111)

God knows things outside of himself in the manner that an artist knows his art-work (112). Now an artist may have a twofold knowledge of an art-work: one, according to which
he excogitates the form of his work and intends actually to impose it upon matter; another, in which, excogitating the form, he has, however, no intention to employ it actually. To the first of these forms of human practical knowledge corresponds the knowledge whereby God knows things that are, were, or will be posited in existence; thus it includes God's science of approbation and of vision (113). To the second corresponds the knowledge whereby God knows what is not now, nor ever was, nor shall be. This St. Thomas tells us, is included in God's science of simple intelligence (114). Hence concerning created things God has what we called in the second chapter of this essay a completely practical knowledge and a formally practical knowledge which, as we there noted, is also speculative secund-quid. Speaking of this latter type, St. Thomas says that

"Deus potest cognitionem habere aliquorum non entium; et horum quidem quorumdam...quae nec fuerunt, nec sunt, nec erunt, quae sit sicque quae quidem facta et disposuit, habet quidem speculativam cognitionem; et quamvis possit dicit quod intueatur ea in sua potentia, quia nihil est quod ipse non possit, tamen accommodatus dicitur quod intueatur ea in sua bonitate, quae est finis omnium quae ab eo fluent; secundum, sicque quod intueatur multis alios modos esse communicationis proprie bonitatis, quem sit communicata rebus existentibus, praeteritis, praesentibus, vel futuris; quia omnes res creatae ejus bonitatem sequare non possunt, quantumcumque de ea participare videantur." (115)

The knowledge, then, that God has of things is, indeed, the cause of them, but not without the intervention either actually or potentially of the Divine Will. For, as St. Thomas reminds us, knowledge, taken in itself, is not an active cause.
"Sciendum tamen, quod scientia inquantum scientia, non dicit causam activam, sicut nec forma inquantum est forma; actio enim est ut in exeundo aliquid ab agente; sed forma inquantum hujusmodi habet esse in perficiendo illud in quo est, et quiescendo in ipso; et ideo forma non est principium agendi nisi mediate virtute; et in quibusdam quidem ipsa forma est virtus, sed non secundum rationem formae; in quibusdam autem virtus est aliud e forma substantiali rei, sicut videmus in omnibus corporalibus, a quibus non prograduntur actiones nisi mediantibus aliquidibus suis qualitatibus. Similiter etiam scientia significatur per hoc quod est aliquid in sciente, non ex hoc quod aliquid sit a sciente; et ideo a scientia nunquam procedit effectus nisi mediente voluntate, quae de sua ratione importat influxum quamdam in volita; sicut a substantialia nunquam exit actio nisi mediente virtute, quamvis in quibusdam sit idem voluntas et scientia, ut in Deo; in quibusdam autem non, ut in aliis. Similiter etiam a Deo, cum sit causa omnium prima, procedunt effectus mediantibus causis secundis; unde inter scientiam Dei, quae est causa rei, et ipsam rem causam inventur duplex modum: unum ex parte Dei, scilicet divina voluntas; aliud ex parte ipsarum rerum inquantum ad quosdam effectus, scilicet causae secundae, quibus mediantibus proveniunt res a scientia Dei. Omnis autem effectus non solum sequitur conditionem causae priuae, sed etiam mediae; et ideo res scientae a Deo procedunt ab ejus scientia per modum voluntatis, et per modum causarum secundarum; nec oportet quod in omnibus modum scientiae sequantur."

Since, therefore, God knows things intellectually or compositively—always removing the imperfections implicit in our mode of knowing; and since God's knowledge of things has some determinate relation to His will, we must conclude that the compositive mode formally requires either the actual or potential intervention of the will for its perfection.

With respect to the angelic intellect we have already seen that it participates the rationes factivae through the species which God infuses into it in order that it may know. The angel is not required to proceed resolutely, from many to one, from what is posterior to what is prior. It is only reason that must progress toward wisdom in this way. In so
far as angelic intelligences know in a way proper to the intellect, as this is distinguished from reason, we may say that the angel knows compositively. He begins to know at a point where our knowledge arrives only after a long resolutive process.

However, angelic knowledge is not, as we have seen, the cause of things. Nevertheless, the participations of the rationes factivae which are the principles of angelic knowledge represent the universe that God willed to create. It is for this reason that angels enjoy a speculative knowledge of things that resembles in mode a practical knowledge.

"...dicendum quod est triplex universale. Quoddam quod est in re, scilicet natura ipsa, quae est in particularibus, quamvis in eis non sit secundum rationem universalitatis in actu. Est etiam quoddam universale quod est a re acceptum per abstractionem, et hoc posterior est re; et hoc modo formae angelorum non sunt universales. Est etiam quoddam universale ad rem, quod est prius re ipsa, sicut forma domus in mente aedificatoris et per hunc modum sunt universales formae rerum in mente angelica existentes, non ita quod sint operativae, sed quia sunt operativis similes, sicut aliquis speculative scientiam operativam habet. (117)

In contrast to the divine and angelic modes of knowing, man attains first causes only on condition that he painfully traverse the lower sciences, resolving particular causes into more universal causes (118). And only at the end of this resolutive processus do we begin to know in a manner similar to that of separated substances.

We began this investigation into the mode of proceeding of demonstrative discourse by citing a passage from the Summa
Contra Gentiles which ascribed intelligible species to human knowledge by way of resolution; at the same time, it attributed intelligible species to angelic intelligences "quasi modo compositivo". We now see what this means: we understand that what the angels possess by infusion, we must acquire in a way that resembles the growth of generable things.

But what is of especial importance for us is that we see that the resolutive mode is defined by its term. For in whatever connection we have viewed resolution, we have seen that its term is always something more intelligible than that from which the resolutive processus began. More determinately still, we have seen that the resolutive mode is ordered to causes. We saw that formal abstraction issues in causes, that demonstration manifests conclusions in causes. We saw that total abstraction terminates in something more intelligible for us and a cause of our science. Further, when we considered the ordo determinandi of the matters within a science from the point of view of what is more knowable in se, we saw that it is resolutive in mode and terminates at the proper—as distinguished from the common and universal (in predication) causes of things. Finally we have just seen that the sciences inferior to wisdom resolve into first causes.

Hence it is that perfect speculative science—demonstrative science—demands the resolutive mode. Speculative science has for end the end of the intellect as such which is the truth absolutely, perfect certitude. But certitude is found
in causes rather than in effects and in first causes above all others.

"...ex quibus intellectus certitudinem accipit, videntur esse intelligibilia magis. Unde, cum certitudine scientiae per intellectum acquiratur ex causis, causarum cognitio maxime intellectualis esse videtur. Unde illa scientia, quae primas causas considerat, videtur esse maxime aliarum regulatrix."

(118)

Again:

"Sicut Philosophus dicit in decimo Ethicorum, ultima felicitas hominis consistit in optima hominis operatione quae est supremae potentiae, idest intellectus, respectu optimi intelligibilis. Quia vero effectus per causam cognoscitur, manifestum est quod causa secundum sui naturam est magis intelligibilis quam effectus: etsi aliquando quod nos effectus sint notiores causis, propter hoc quod ex particularibus sub sensu cadentibus universalium et intelligibilium causarum cognitionem accipimus. Oportet igitur quod, simpliciter loquendo, primae rerum causae sint secundum se maxima et optima intelligibilia, eo quod sunt maxima entia et maxima vera, cum sint alii essentiae et veritatis causa...quamvis hujusmodi causae primae sint minus et posterius notae quoad nos...Oportet igitur quod ultima felicitas hominis quae in hac vita haberi potest, consistat in consideratione primarum causarum; quia illud modicum quod de eis sciri potest, est magis amabile et nobilis omnibus his quae de rebus inferioribus cognoscis possunt...Et inde est quod philosophorum intentio ad hoc principaliter erat, ut per omnia quae in rebus considerabant ad cognitionem primarum causarum perveniret. Unde scientiam de primis causis ultimo ordinabant, cujus considerationi ultimum tempus suae vitae deputarent..."(119)

With respect to the compositive mode we see that it is a processus that begins from causes. However, since the compositive mode requires for its perfection some relation to the will; and since there is no such relation in our speculative knowledge, the compositive mode referred to in the description of our demonstrative discourse, like the compositive science of the angels, shares only the common, and not
the more determinate notion of composition. For this latter we shall have to seek, as our brief consideration of Divine knowledge indicated, among human practical, rather than speculative, discourse.
IV

DISCOURSE IN PRACTICIS

We have just studied demonstrative discourse and we have seen in what sense it is resolutive in mode and how its resolution is accompanied by and achieved through a certain composition. We have now to face the major difficulty raised toward the end of the second chapter: since demonstrative or speculative discourse proceeds resoluto-y and practical discourse compositively, how is it possible for counsel to proceed resoluto-y(1), since it is an instance of practical discourse?

In order to answer this question we shall adopt the same method employed in the proceeding chapter where we reached a definition of resolution by examining demonstrative discourse. Here we shall undertake an analysis of practical discourse with a view to reconciling, if possible, the two propositions: practical science proceeds compositively(2); the discourse of counsel proceeds resoluto-y. First we shall investigate the discourse of counsel and subsequently the discourse of formally practical science.

When we were considering demonstrative discourse we saw that its principle was a quiddity, a real definition. In practical discourse the end holds place of a
principle. Like a principle of demonstration, the end is accepted in practical discourse. What is thus true for all practical discourse is true of counsel: we do not take counsel concerning ends. Here, as elsewhere in practical discourse, ends are assumed; counsel is concerned with discovering those operations that must be done in view of the end assumed. Although counsel is undertaken with a view to operation, not all operations, however, will fall under the investigation of counsel, but only those that we can perform. Further, not even every operation that we can perform is subject to counsel; for there are ends that can be achieved by means that are determined in advance; such, for example, are the operations at the disposal of an artist with respect to the work he sets for himself. Counsel has a function to perform only "de his... in quibus oportet nos praedeterminari qualiter fiunt quia non sint in se certa et determinata". In a word, counsel has a work to perform where there is a doubt concerning what to do or how to do it. Consequently, counsel implies that there are several ways of operating: for if there were only one way, it would be a via determinata and there could be no doubt; although counsel may be taken as to the manner in which that determined means may be used.
Keeping these conditions well in mind, let us now see how counsel proceeds. In his commentary on the
Ethics, St. Thomas explains the way in which counsel proceeds in the following terms:

"Ostendit de quibus et quomodo sit inquisitio consilii. Circa quod tria ponit. Quorum primum est quod supposito aliquo fine, prima intentio consiliantium est qualiter, idest quo motu vel actione possit pervenire ad illum fine; et per quae instrumenta oportet moveri vel agere ad finem, puta per equum vel navem. Secunda autem intentio est quando ad finem aliquem per plura potest veniri, sive instrumenta, sive actiones, per quid eorum facilius et melius perveniat. Et hoc pertinet ad judicium in quo quandoque aliqui deficiunt bene se habitantes in inventione viarum ad finem. Tertia autem intentio est sicontingit quod per unum solum instrumentum vel motum vel per unum optime perveniat ad finem, ut procuretur qualiter per hoc ad finem perveniat. Ad quod requiritur constantia et solicitudo. Et si id per quod est deveniendum ad finem non habeatur in promptu, operetiasque ulterius propter quid haberipossit. Et similiter de illo, quousque perveniat ad causam quae occurrit primo in operando, quae est ultima in inventione consilii(8)

St. Thomas then goes on to explain, what we have already seen at the end of the second chapter(9), that this processus of counsel is resolutive in mode. It is precisely here that the difficulty arises: counsel has for principle an end from which it proceeds toward the means. Now we have seen that the end in praxicis holds the place of the cause or the quiddity, or definition in demonstrativis. Therefore, the end would seem to be a cause and the discovered means would seem to be effects.
However, if counsel proceeds resolutively, the end cannot have the nature of a cause, nor can the means be effects; since the common notion of resolution requires that the processus be from what is composite toward what is simple; but causes are always more simple than effects(10).

In order to answer this difficulty we shall have to recall a distinction that divides the whole of the practical order:—the distinction between the Order of Intention and the Order of Execution(11). The order of intention is the order of the final cause(12), of the efficacy of the end as such(13); while the order of execution is the order of the efficient cause both in relation to finding the means and of ultimately applying them to operation. In the order of intention the end is a cause and is efficacious with respect to the simple love of the end, complacency in it and, finally, intention of the end in view of means that may not yet be known at all(14). Because in this order the end is a cause, simple volition, imperfect fruition and intention are effects and find their explanation in the goodness of the end which exercises its causality by diffusing itself, by "pouring itself out" upon the will. Everything that is subsequently intended formally is as an effect of the radical intention whose cause is
The order of execution is the order of the causal-
ity of the agent with regard to the means. It begins
after the efficacious intention—the intention that looks
to the end as it must be sought by and relatively to,
the means(15). But since this radical intention is made
without a determinate knowledge of the means, the will
cannot love the means thus indeterminately known. As
a consequence the will can be related to the means in
two ways. First, in order to love them and possess them
effectively which is achieved in election; second, in
order to possess them really in effectu which is begun in
the imperium. But just as simple volition in the order
of intention requires a motive, so election in the order
of execution. And since election is an act by which the
will chooses to pursue one means determinately in pre-
ference to others, the radical intention that concludes
the ordo intentionis is insufficient; for this latter is
consistent with only a very vague knowledge of the means.
Therefore, in order that the will be disposed determinate-
ly to one means rather than another, election must be
illuminated by counsel and judgment, or, which is the same
thing, the determination of counsel. Election, however,
bears upon the means in view of the end(16); it looks to
the means as causes of the end which, from the point of
view of election, is an effect of the means.
Hence we see that counsel is in the order of execution where the means are considered as causes, and not in the order of intention where the end is the cause. And since counsel is an instrument for illuminating the choice of means by the will in election; and since election is concerned with means as causes and with the end only as an effect, the discourse of counsel will have as principle the end considered as an effect, while its conclusion will be the means considered as causes of the end.

Further, it is clear that counsel is in that part of the order of execution that serves to discover means in order that they be loved and elected—\textit{and not} in that part that, beginning with \textit{imperium}, posits the means really in order to actually possess the end.

Because in the discourse of counsel the conclusion states a cause, Aristotle can compare a syllogism that concludes a true proposition from false premisses with an act that is bad, not with respect to the end, but with respect to the means. St. Thomas explains this comparison by having recourse to the distinct orders of intention and of execution.

"Licet enim in intentione finis sit sicut principium et medius terminus, tamen in via executionis quam inquirit consiliator, finis se habet sicut conclusio, et id quod est ad finem sicut medius terminus. \textit{Manifestum est autem quod non dicitur recte syllogizare qui veram conclusionem per falsum medium concluderet; unde consequens est quod non vere eubulia, securum dum quam aliquis adipisitur finem quem oportet,
non autem per viam per quam oportet" (17)

Consequently, if we confine ourselves to the order of intention only, to proceed from the intention of the end to the intention of the means is to proceed compositively. For in that order the end has the ratio of cause and the means have the ratio of effect. It is because he is speaking of this order that St. Thomas in *de Veritate* (18) can speak of the resolution of the intention of the means to the intention of the end: much in the same way we speak of the resolution of a conclusion into its causes *in demonstrativis*. But in the order of execution the reverse is the case: in this order the end has the ratio of effect; not, certainly, an effect here and now existing, but a possible effect preserving an intentional existence which the will would posit *in re*. Thus the end in the order of execution is the complex effect existing priorly in our knowledge (19); but with regard to its physical existence, it is effected in being actually only after a long process wherein its causes must be discovered and put into operation. The means, however, in the order of execution are defined as causes, for they are prior not only in knowledge but *in esse* as well (20). Hence in this order to proceed from an end to means is to proceed from what is prior in our knowledge to what is prior *in esse*, from an effect to causes; it is to proceed, therefore, resolutely from the complex to the simple.
"Principium autem in in quisitione consilii est finis, qui quidem est prior in intentione, posterior tamen in esse. Et secundum hoc, optet quod inquisitio consilii sit resolutiva, incipiendo scilicet ab eo quod in futuro intenditur, quousque perveniatur ad id quod statim agendum est." (21)

Counsel, then, proceeds from something composite, complex and continues until it arrives at something simple; it discourses from an end considered as an effect to means considered as causes. From this point of view counsel moves in the direction of a certain propter quid (22). In this sense counsel resembles the operations of the artist when he excogitates the idea of an artwork; for here the artist is in search of a certain quiddity. As St. Thomas points out (23), we may know the quiddity not only of sensible things and of objects whose effects alone are immediately known to us, but also the quiddities of artificial things that are non sensible, but only possible:

"Tertio modo cognoscit essentias artificialium nunquam visorum, investigando ex proportione finis ea quae exiguntur ad illud artificiatum".

Similarly, counsel is an effort to know the operations which are the media or causes of the existence of a known end: it is an effort to define the end by the operations that will bring the end about, and "inventio eorum quae sunt agenda" (24).

In order the better to understand how counsel is or-
dered to knowing causes we have only to advert to the virtue by which the operation of counsel is perfected—the virtue of eubulia. At the end of St. Thomas' commentary on the nature of this virtue in the sixth book of the Ethics we find eubulia defined as "rectitudo consilii ad finem bonum simpliciter per vias congruas et tempore convenienti"(25). Again in the third book of the Sentences occurs the following definition: "rectitudo consilii quoniam inquiritur convenientibus mediis secundum debitum tempus et alias circumstantias"(26). Eubulia is a virtue which is ordered, then, to finding media that are fitting to a given end: it achieves this by reasoning and inquiring(27). From this point of view, we may compare the work of counsel in the practical order with the search for middle terms in the speculative order—a work which Aristotle attributes to the virtue of solertia(28).

Our counsel is terminated when we arrive at some cause that we can immediately put into execution. When this happens we say that the findings of counsel are judged and the discourse or inquisition of counsel is terminated.

"Et dicit, quod ideo determinatio consilii praecedet electionem, quia oportet, quod post inquisitionem consilii sequatur judicium de inventis per consilium. Et tunc primo eligitur id quod prius est judicatum. Et quod judicium rationis consequatur inquisitionem consilii, manifestat per hoc, quod unusquisque qui inquirit consiliando qualiter debeat operari, desistit a consiliando, quando inquisitionem suam resolvendo perducit ad id quod ipse potest operari. Et si plura potest operari, quando reduxit in antecedens, idest in quod ei primo operandum occurrit. Et hoc est quod eligitur, scilicet quod primo operandum occurrit."(29)
Hence judgement and the termination of the discourse of counsel are materially the same thing. For since counsel is ordered to operation, and operation is in the singular, the proper principle of some singular operation is not only the end, but the end seen in the concrete singular act that can be performed immediately. For, while counsel, since it is an inquisition or inventio, may proceed according to improper and extrinsic principles, it is always required that judgment be made in virtue of proper principles. This is why Aristotle can assimilate the resolution characteristic of speculative science to the resolution of counsel: for both of them resolve to indemonstrables:

"Causa, quae prima est in operatione, est ultima in inventione, quia ille qui consiliatur videtur inquirere, sicut dictum est per modum resolutionis cujusdam. Quamadmodum diagramma quae est descriptio geometrica, in qua qui vult pro­bare aliquam conclusionem oportet quod resolvat conclusionem in principia quousque pervenit ad principia prima indemonstrabilia. ...Et quia consilians resolutive inquirit, necesse est quod ejus inquisitio perducatur usque ad id quod est principium in operatione, quia id quod est ultimum in resolutione, est primum in generatione sive in operatione"(31)

Hence speculative resolution is made to primary, self-evident principles, but the resolution of counsel, however, is made to principles of operation which are singular operables, "quod oportet accipere ut principium in agentiis; cujus quidem extremit non est scientia, quia non pro-
batur ratione, sed ejus est sensus...non quidem illo quo sentimus species propriorum sensibilium...sed sensus interiori, quo percipimus imaginabilia"(32). For in practical discourse there is, as we have noted, a twofold principle(33): the end, which is a universal and holds the place of the major proposition, and the individual singulars which hold the place of the minor proposition(34). Just as in demonstrativis, reason, having resolved a conclusion into its causes, has evidence in the light of which it judges the truth of the conclusion, so in practicis, counsel, resolving to what can be done immediately in view of an end, the interior sense, the vis cogitativa(35), sees in the concrete singular a certain fittingness with respect to the end. In this vision it has evidence and therefore a basis for judgment. And because the judgment of counsel depends upon the vis cogitativa, hence it is that he who has the habitus of judging well practically is said to be a man of 'good sense'(36).

This is why also in agibilis the opinion of experienced persons must be respected; for they have "experientiam visum, id est, rectum judicium de operabilis, vident principia operabilium"(37). Because, too, singulars are principles in the practical order, someone lacking the science about the universal but experienced in the singulars may be able to operate to better advantage than he
who knows the universal—only (38). For it is only through the singular that the universal end can move toward operation. (39)

Before examining the resolutive mode ascribed to counsel we would do well at this point to take a closer look at the discourse of formally practical science. It will be recalled that formally practical science has an operable for object and that it proceeds per modum operandi, but that the knower has no intention of operating. The object of such a science is indeed an end, although not actually exercising its function of end, because not actually willed by the knower. However it can be willed. It is a possible. Such a formally practical science is moral philosophy.

"Est autem considerandum quod sicut supra dicitum est prudentiac non est in ratione solum, sed habet aliquid in appetitu. Omnia (id est politica, oeconomia et monastica) ergo de quibus his fit mentio in tantum sunt species prudentiae, inquantum non in ratione sola consistunt, sed habent aliquid in appetitu. In quantum enim sunt in sola ratione, dicuntur quaedam scientiae practicae, scilicet ethica, oeconomia et politica." (40)

Now every science, practical as well as speculative, seeks causes (41). But because of the differences of their objects—the one operable, the other inoperable—there must be differences in the kind of causes these sciences investigate.
"...in speculativis scientiis in quibus non quaeritur nisi cognitio veritatis, sufficit cognoscere quae sit causa talis effectus. Sed in operatione, operationibus, talis effectus a tali causa sequatur.

Dicit ergo, quod presens negotium, scilicet moralis philosophiae, non est propter contemplationem veritatis, sicut alia negotia scientiarum speculativarum, sed est propter operationem. Non enim in hac scientia scrutamur quid sit virtus ad hoc solum ut sciamus hujus rei veritatem; sed ad hoc, quod acquiretes virtutem, boni efficiamur. Et hujus rationem assignat: quia si inquisitio hujus scientiae esset ad solam scientiam veritatis, parum esset utilis. Non enim magnum quid est, nec multum pertinent ad perfectionem intellectus, quod aliquis cognoscat variabilem veritatem contingentium operabilium, circa quae est virtus. Et quia ita est concludit, quod necesse est per scrutari circa operationes nostras, quales sint fiendae. Quia, sicut supra dictum est, operationes habent virtutem de dominium super hoc, quod in nobis generentur habitus boni vel mali". (42)

Moral philosophy will, then, be assimilated in mode of proceeding to the mode of counsel in so far as the discourse of moral science, beginning from a possible object, seeks the operations and movements that can bring that object into existence. If moral science sometimes seems to investigate causes in a speculative manner, by defining and demonstrating, it does this only to the extent that knowledge of this kind is necessary in order to know practically (43); for the practical is always founded upon some speculative knowledge. But within a practical science, speculative considerations are strictly limited to the ends of practical knowing.
Moral science as practical proceeds toward causes of operations, toward principles whereby we may direct our actions. For practical knowledge is a cause and rule of those things that we are able to do, and moral science, as a type of practical knowledge, has for end, not knowledge itself, but the work or the operation. (44) And because moral philosophy seeks to treat of these principles and rules of action doctrinally, it must, necessarily, remain in the universal. Further, because it is ordered to direct our operations which are in the singular and thus infinitely variable, moral science will not have the same certitude as speculative science (45). Singular actions in their wide variability, however, are beyond doctrine; they can be regulated only by the prudence of each person. And although it is uncertain in its very universality, and incapable of regulating action in its infinite variability, yet moral science will strive to come as close as possible to such regulation "ut aliquid auxilium super hoc homini conferamus, per quod scilicet dirigatur in suis operibus" (46).

Hence the mode of proceeding in moral science is resolutive in the same way that counsel is resolutive, i.e. it proceeds from something that can be done in the direction of the operations and movements that are re-
quired in order that that thing be. In other words, the discourse of moral science will proceed from a possible effect to the causes of that effect. Of course, moral science will always maintain a degree of universality above that of counsel.

And as counsel is terminated by judgment that sees in a singular action a certain fittingness with respect to the end, so the discourse of moral science is concluded when it arrives at an operative cause which man, taken ut in pluribus, is able to posit actually. This is why a wide experience of human affairs is indispensable to the moralist(47); for unless he takes into account what happens for the most part in human actions he will never be able to conclude his discourse in a practical way.

In the seventh book of the *Metaphysics* Aristotle explains the mode of proceeding in another formally practical science, Medicine(48). St. Thomas' commentary on this passage of Aristotle's is a lucid and detailed account of the same resolutive mode that we have recognized in counsel and in moral science. Even at the risk of further over-loading the present essay—already badly weighted down with texts—it will be necessary to cite the greater part of St. Thomas' very important description of the mode of proceeding in medicine.
Aristotle is explaining the way in which artificial things are generated. The active principle of an artificial product is the factive species which is in the mind of the artist. By factive species is meant the quiddity of whatever thing art can produce; the quod quid erat esse of house, for example. Thus the species of art-works, in contrast to the species of natural things, are first in our minds and are principles and causes of the existence of the art-work. Here 'health' is adopted as an example through which this general doctrine is explained and amplified.

"Dicit ergo quod, cum sanitas quae est in anima, sit principium sanitatis quae fit per artem, ita fit sanitas in material aliquo intelligente quod sanitas est 'hoc', scilicet vel regularitas vel aequalitas vel adaequatio calidi, frigidi, humidi et sicci. Et ideo necesse est, si sanitas debet contingere, quod hoc existat, scilicet regularitas vel aequalitas humorum. Et si regularitas vel aequalitas debet esse, oportet quod sit calor, per quem humores reducantur ad aequalitatem; et ita semper procedendo a posteriori ad prius, intelliget illud quod est factivum caloris, et quod est factivum illius, donec reducatur ad aequalitas quod est ultimum, quod ipse statim posset facere, sicut hoc quod est dare talem potionem; et dum motus incipiens ab illo quod statim potest facere, nominatur factio ordinata ad sanandum.

Patet ergo, quod sicut in naturalibus ex homine generatur homo, ita in artificialibus accidit quodammodo ex sanitate fieri sanitatem, et ex domo domum; scilicet ex ea quae est sine materia in anima existens, illa quae habet material. Ars enim medicinalis, quae est principium sensationis, nihil est alius quam species sanitatis, quae est in anima; ars aedificativa est species domus in anima. Et ista species sive substantia sine materia, est quam dixit supra quod quid erat esse rei artificiatae."
Aristotle then introduces a distinction with which we are already somewhat familiar: the distinction between the orders of reasoning about operables and the order of operation (50). Here these diverse orders within the practical are founded upon diverse principles: the species of the operable which is the principle of reasoning about it, and that which can be done immediately which is the principle of operation.

"Ostendit quomodo diversimodo accipitur principium in actionibus artis: et dicit quod in generationibus et motibus artificialibus est aliqua actio quae vocatur intelligentia, qua incipit ab hoc principio, quae est species rei fiendae per artem. Et haec operatio pretenditur, ut supra dictum est, usque ad illud quod est ultimum in intentione, et primum in opere. Et ideo illa actio quae incipit ab ultimo, ad quod intelligentia terminatur, vocatur factio, quae est motus jam in exterior materiam." (51)

The reader will recognize in the 'intelligentia' and the 'factio' of the lines just cited the two ways in which the agent cause may be related to the means in the order of execution. 'Intelligentia' or reasoning about an operable represents in effect the relation of the efficient cause to the means in order to love and elect them; while 'factio' or the order of actual operation is equivalent to that relation of the agent to the means in the order of execution whereby he seeks to posit the means in re.
And because Aristotle and St. Thomas are here speaking of art whose operation works a transformation in matter, the order of operation is called a 'factio'. However, in the moral sciences where operations do not pass into exterior matter but remain in the agent, the order of operation will be an 'actio'.(51)

Finally, St. Thomas's text goes on to show that each stage, from the quiddity of 'health' in communi down to what must be done here and now—each of these is a species gradually approximating the operative species that will ultimately direct the first executive operation.

"Et sicut diximus de actione artis respectu formae, quae est ultimus finis generationis artificialis, similes est de omnibus aliis intermediiis. Sicut ad hoc quod convelescat, oportet quod adaequentur humores. Hoc igitur ipsum quod est adaequari, est unum de intermediiis, quod est propinquissimum sanitati. Et sicut medicus, ad hoc quod faceret sanatatem, incipiebat considerando quid est sanitas: ita, ad hoc quod faciat adaequationem, oportet quod scieat quid est adaequatio; videlicet quod adaequatio est hoc, 'scilicet debita proportio humorum in respectu ad naturam humanam. "Hoc autem erit si corpus fuerit calefactum;" quando scilicet quis infirmatur propter defectum caloris. Et iterum oportet quod scieat quod quid est hoc, scilicet salefieri: sicut si dicatur quod salefieri est immutari a medicina calida. Et, 'hoc' scilicet dare medicinam calidam, existit statim in potestate medici, et est 'jam in ipso,' idest in potestate ejus, ut talem medicinam det.

Sic igitur patet, quod principio faciens sanatatem, unde incipit motus ad sanandum, est species, quae est in anima, vel ipsius sanitatis, vel aliorum intermedium, per quae acquiritur sanitas. Et hoc dico, si sanatia fiat ab arte. Si autem fiat alio modo non erit principio sanitatis species quae est in anima; hoc enim est proprium in operationibus artis."(52)
Must we conclude now that not only counsel but also formally practical science proceeds resolutively in the same way that demonstrative science proceeds resolutively? If so, what becomes of the distinction between speculative and practical science based upon the mode of proceeding? And, since these diverse modes were shown to derive from diverse formal principles, what becomes of any distinction at all between the speculative and the practical? If formally practical science and counsel proceed resolutively in the same way that demonstrative science proceeds, what does St. Thomas mean when he says that the practical proceeds compositively?

It shall have been noticed, doubtless, long before now that the resolution we have just found in counsel and formally practical discourse is not to be identified with the resolution characteristic of the demonstrative syllogism. Demonstration propter quid, as we have seen, is the perfect instrument of speculative knowledge; it achieves its end in the formal conclusion:--the conclusion seen as inhering necessarily in its causes; through it we have perfect judgment in which the speculative intellect attains its end in the absolute truth. The speculative intellect which at the outset of its
vestigation was in wonderment about the cause of a
given effect rests, as a result of demonstration, in
a judgment whose subject and predicate are united by
a cause that the speculative intellect knows. But
this perfect speculative judgment cannot, as we have
seen, be had unless the mind can resolve the conclu-
sion into its principles or causes.

"Est autem considerandum quod in omni iudicio
ultima sententia pertinet ad supremum iudica-
torium; sicut videmus in speculativis quod ul-
tima sententia de aliqua propositione datur
per resolutionem ad prima principia. Quandiu
enim remanet aliquod principium altius, adhuc
per ipsum potest examinari id de quo quaeri-
tur; unde adhuc est suspensum iudicium, quasi
nondum data finali sententia." (54)

It was this resolution that we saw in the last chapter
to be characteristic of demonstrative discourse.

However, in order that there be resolution of this
kind, it is necessary that it be preceded by a discourse
the principles of which are true, primary, immediate,
prior, more known in themselves and causes of the con-
cclusion (55). If the premisses of a discourse fulfill
these conditions, then the conclusion of such a discourse
will follow necessarily; it will resolve into the pre-
misses and the conclusion will be known scientifically.
Therefore, in order to have the resolutive mode in the
perfect sense that is peculiar to speculative science,
there must be the preceding compositive discourse found exclusively in demonstration *propter quid*. In other words, in order that there be the resolution that is characteristic of speculative or demonstrative discourse, the principles of that discourse must proceed with a *priori* or absolute necessity: that is to say, they must state a material, a formal or an efficient cause.(56). In demonstration, conclusions(consequents) are necessary because the principles(antecedents) are prior and necessary and state the causes the effects of which are to be found in the conclusion.(57)

These conditions are not fulfilled by practical discourse, the principle of which is, as we have seen the end taken as an *effect*: for the end is the *rule* and the measure of those things which are on account of the end. But the end, principle of practical discourse, unlike the principles of demonstrative discourse, is something that is *going to be*, or *may be*(58); it is not something that is—except intentionally for the one who discourses about it practically. This is why, as we have seen, the end in practical discourse is a *finis-effectus*. From the point of view of what is more knowable *in se* the end is a consequent, and only from the point of view of what is more knowable *quoad nos* is the end an antecedent. Thus the end is a principle of ratiocination only(59). And because it is posterior and more known *quoad nos* only, the end as principle of practical dis-
course gives rise to a conclusion that is only a posteriori or hypothetically necessary: the means stated in the conclusion will be necessary if the end is to be achieved.

"...sententia sive judicium de rebus agendis est circa contingentia, quae a nobis fieri possunt in quibus conclusiones non ex necessitate sequuntur ex principiis necessariis absoluta necessitate, sed necessariis solum ex conditione, ut, Si currit, movetur."(60)

The conclusion of a practical discourse, stating the means that are fitting to a given end, does not however, resolve back into that end which is the principle of the discourse. For as we have seen the end is a consequent, the means the antecedent. If the consequent is to be, it is required that the antecedent be, but if the antecedent is, it does not necessarily follow that the consequent will be. Hence the resolutive mode that we found demoting the perfect speculative discourse has no place in practical discourse. In effect, practical discourse is a movement between two different kinds of principles—the end-as-effect, principle of ratiocination and the conclusion which is a principle of action. If the conclusion of our practical discourse followed analytically from the end, it would mean that once the principle of action were posited the realization of the end would be guaranteed in advance: its achievement would be absolutely necessary. This, however, would be to take
human actions out of the contingency that everywhere characterizes them

"...in executione operis, ea quae sunt ad finem se habent ut media, et finis terminus. Unde sicut motus naturalis interdum sistit in medio et non pertingit ad terminum; ita quandoque operatur aliquis id quod est ad finem, et tamen non consequitur finem. Sed in volendo est e converso nam voluntas per finem devenit ad volendum ea quae sunt ad finem; sicut et intellectus devenit in conclusiones per principia, quae media dicuntur. Unde intellectus aliquando intelligit medium, et ex eo non procedit ad conclusionem. Et similiter voluntas aliquando vult finem, et tamen non procedit ad volendum id quod est ad finem." (61)

Although practical discourse cannot be denominated resolutive in the particular sense that characterizes demonstration propter quid, still it participates the common notion of resolution, since, in seeking causes of action or of making, it seeks what is simple by relation to the complex finis-effectus. If, however, we wanted to find an analogy of this latter kind of resolution in the speculative order, we should be obliged to seek it, not in demonstration, but in that discourse we so frequently must rely upon in order to find quiddities or definitions in speculative science. The reason for this assimilation is, of course, that both discourses are ordered to causes, to what is simple. Again, the resolution found in practical discourse may be assimilated to that found in probable arguments; for the principles of probable discourse are always better known quod ad nos, but in se, they are less known and therefore complex. St.
Thomas himself seems to make this comparison in a passage in his commentary on the *de Trinitate* of Boethius.

In response to the fourth objection of the first article, question six, St. Thomas says that moral science proceeds according to a certain rational processus. He has already this processus in the body of the article in the following terms:

"Alio modo dicitur processus rationalis ex termino in quo sistitur procedendo. Ultimus enim terminus, ad quem rationis inquisitio perducere debet, est intellectus principiorum, in qua resolvendo judicamus: quod quidem quando fit, non dicitur processus, vel probatio naturalis, sed demonstratio. Quando autem inquisitio rationis usque in ultimum terminum non perducit, sed sistitur in ipsa inquisitione, quando sic praeliss evoluti adhuc manet via ad utrumlibet, et hoc contingit quando per probabiles rationes proceditur, quae natae sunt facere opinionem et fidem, non autem scientiam: et sic rationalis processus distinguitur contra demonstrativum. Et hoc modo procedi potest rationabili in qualibet scientia, ut ex probabilibus paretur via ad necessarias conclusiones..."

Now it is precisely this rational process that St. Thomas attributes to the practical discourse of moral science. Thus, when moral science, and all practical discourse for that matter, is said to proceed resolvently, resolution must be taken only in a general sense, i.e. as proceeding from something complex to something simple. But resolution in the strict sense which it has in *demonstrativis* is opposed to the resolution of practical discourse wherein we reason about an operable as such.
It is in view of the resolutive process that is found in practical discourse and in the discourse that is frequently necessary in order to discover causes in speculativis that the scholastic adage "quod est ultimum in resolutione, est primum in compositione" (62) applies to both the speculative and practical orders. For science in the strict sense must begin with a knowledge of principles, i.e., definitions, quiddities which demonstration propter quid applies, as we have seen, compositively; and by way of the compositive mode in demonstration propter quid, conclusions are resolved into their principles. Thus the speculative is denominated resolutive in mode by its term.

The resolution of practical discourse, however, is ordered to and terminated by a real composition in the order of execution. For "in practicis non est ultimum in cognitione, sed in operatione, quae est finis" (63). It is for this reason that we can speak of a twofold conclusion in practical inquisition: one, a judgment remaining in the reason determining counsel; the other, in the will which is the conclusion of election. This latter, St. Thomas tells us, is a conclusion by similitude only, "quia in speculativis in ultimo statur in conclusione, ita in operativis ultimum statur in operatione". (64)
Practical discourse is an operation of the intellect working in the service of the will; in practical discourse the intellect operates for an end that is not its own, but, rather, the end of the will which is the good as such. Practical discourse takes as its principle an operable which is properly the end of the will. As for the intellect, considered in relation to its own proper end which is the truth, it would not be concerned with objects operable by us were it not for the necessity imposed upon us to act and to make. The causes at which the resolution of practical discourse arrives are so immersed in the contingent that they have no interest for the speculative intellect. Thus it can only be in view of operation that the intellect discourses practically.

But the good, end of the will, is not like truth, found in the intellect: the good is in things. For this reason the will does not rest in the causes or principles of action or of making discovered by practical discourse. To possess the rationes operis or principles of action, is, with regard to the end of the will, to be in potency to the attainment of the end of the will. Because the will is not perfected except by the real attainment and possession of the operable object, the conclusion of practical discourse or the forms of the practical intellect must be commanded to operation by reason. This is the act of imperium in which lies the perfection of prudence: actus ejus consistit in applicatione consiliatorum et judicatorum ad operandum"(66).
It is in this precept of the practical reason that we find the perfection of the compositive mode; for herein we find the real application of form to matter. Whatever precedes imperium—the formally practical discourse of moral science, e.g., counsel and judgment—is ordered to the command by which reason orders that such and such forms, such and such principles of action be put into motion.

"Ad rationem enim pertinet praecipere quod faciendum est, quia aliae vires obedient aliquali-ter rationi. Ratio autem non praecipit nisi in se perfecta sit quantum ad id quod est sui ipsius, sicut nec aliqua res movit ante sui perfectionem. Perfectio autem rationis practi-cae, sicut et speculativae, consistit in duc-seilicet in inveniendo et judicando de inven-tis... Sed quia in operabilia cognitio ordinatur ad opus, ideo et consilium et judicium ad consiliatis ad praeceptum de opere reducitur si-cut ad finem". (67)

St. Thomas tells us in the prologue to the Politics that nature, among other things, offers an exemplar operandi to practical reason. But how does nature operate?

"Procedit autem natura in sua operatione ex simplicitibus ad composita; ite quod in eis quae per operationem naturae fiunt quod est maxime compositum est perfectum et totum et finis aliorum, sicut appareat in omnibus totis respectu suarum partium. Unde et ratio hominis operativa ex simplicibus ad composita procedit tamquam ex imperfectis ad perfectum. Cum autem ratio humana disponere habeat non solum de eis quae in usum hominis veniunt, sed etiam de ipsis hominibus qui ratione reguntur, in utrisque procedit ex simplicibus ad compositum". (68)

Thus, it is clear that the compositive mode(from simple to composite)is found perfectly in that part of the practical that involves real execution of the means.
The order of reasoning about the means, of excogitating practical forms or principles, however, requires the resolutive mode. It is to be noted however that as practical science and counsel resolve toward principles of action or of making, they become more and more concrete, more and more involved in the contingent, closer and closer to the singular in which action takes place.

We saw, however, in the second chapter of the present essay, that St. Thomas attributes the compositive mode not only to completely practical knowledge, but also to formally or virtually practical science. Our own conclusion here, that counsel and moral science and medicine (instances of formally practical science) proceed resolutively, would seem to be in contradiction with that statement of St. Thomas'.

It will be recalled, however, that in the second chapter we remarked that the speculative and the practical imply differences *intra genus intelligendi*; therefore, they are distinguished by diverse immateriality or abstractibility; as a consequence they differ by diverse formal objects. The formal object of the speculative order is the cause, or, more precisely, the effect seen in the cause; while the formal object of the practical is the operation or work or the construction of the object. We also saw that diverse modes of proceeding in the speculative and practical orders are dictated by these diverse formal objects: the whole of the speculative order proceeds in the direction of knowing causes, while the
practical proceeds in the direction of producing the object and establishing it outside of its causes. As a consequence, the whole of the speculative proceeds toward what is simple; the practical, however, proceeds toward what is complex. Hence it is that St. Thomas attributes the resolutive mode to all simply and essentially speculative knowledge; whereas he denominates all formally practical science and completely practical knowledge as compositive in mode.

Now, within the practical order we have distinguished the order of reasoning about an operable and the order of actually doing or making; the former we saw to be resolutive in mode, while the latter is compositive. However, both orders are specified by the same formal object, i.e. the operable object as such. In so far, then, as the formal object dictates the mode of proceeding, both the order of reasoning about an operable and the order of executing an operable are compositive in mode. Nevertheless, the order of reasoning about an operable—the order of all formally practical science and of counsel—proceeds by manifesting its conclusions through a certain resolutive discourse that is, as we have seen, opposed to the resolution found in demonstrative science.

Similarly, while the whole of the speculative order is specified by a simple object and is, therefore, resolutive in mode, nevertheless, we have noted that there is a compositive discourse involved in every propter quid de-
monstration, proceeding, as it does, from causes to effects. The compositive discourse of demonstration, however, does not prevent the whole of the speculative order from being denominated resolutive in mode; for this composition takes place within an order that is specified by a simple object: the composition is ordered to the knowledge of something simple. So, too, the resolution found in formally practical science and counsel is specified by and ordered to something composite.

The two orders—of reasoning about an operable resolutely and of positing the operation compositively—taken together are denominated by the compositive mode because of their formal object or term. For we consider an object practically when we think of it "as the end of movement or of operation" (69). As we saw in the second chapter an operable is not properly known unless the actions and movements that go to realize it are known. The operable as such is defined by those movements: "de operabilia perfecta scientia non habitus, nisi scientur inquantum operabilia sunt" (70). But the mind, as we have seen, may be related in two ways to the operable object: first, in order to know the operations that go to bring it into existence; and, second, in order to posit the operation in re. It has already been noticed that the first of these orders is resolutive in mode and is ordained to the second. The second, however is compositive in mode, for its end is the operable existing in re. Yet, because both of these aspects of the practical are specified by the
same formal object or term, taken together they are
denominated compositive in mode; even though the first,
taken in itself, proceeds by a certain resolution in
the general sense.

Hence it is that St. Thomas distinguishes(72) the
order of reasoning about an operable from the order of
actually operating, and attributes to them opposite modes
of proceeding: to the former he attributes the resolutive
mode, to the latter, however, the compositive. But be­
cause the order of reasoning about an operable and the
order of real operation have the same formal objects or
terms, the two orders taken together are denominated
compositive in mode:—just as in demonstration propter
quid, the composition of causes and principles to effects
stated in the conclusion is ordered to the resolution of
effects to principles or causes. It is from this latter
resolution that the whole of the speculative order is
denominated.

From these considerations the profound opposition
between the discourse of speculative science and that
of practical science appears. Speculative science,pro­
ceeding compositively from causes to effects, from prin­
ciples to conclusions, resolves the effects or conclusions
into their causes or principles. And because this resolu­
tion can be made successfully, it follows that the conclu­
sions are necessary absolutely and the mind rests in ab­
solute certitude. But the discourse of practical science,
manifesting its conclusions resolutely--from finis-effectus
to causes of the effect—cannot resolve its conclusions back into their principles. Such conclusions, therefore, have only an hypothetical or a posteriori necessity and cannot give rise to absolute certitude.

It is well, then, to understand quite formally the Complutensis when they tell us that the resolutive mode belongs to the speculative and compositive mode to the practical on account of the principal acts of these two orders(73) And even though the same designations—'resolution' and 'composition'—are used in the speculative as in the practical, it is necessary to understand that these terms do not mean precisely the same thing when employed in these diverse orders. For we have seen that there is a resolutive mode in a common or general way every time there is a movement from what is complex or composite to what is simple, from an effect to cause. Resolution in this sense is found in the practical as well as in the speculative; for we have seen that practical discourse proceeds from ends-as-effects to means, considered as causes. But there is a meaning of the resolutive mode that adds something over and above this common or general sense; it is this particular sense that belongs to the perfection of speculative knowing. In a special sense the resolutive mode means that effects expressed in conclusions are seen in the causes of those effects. And because in such a vision certain truth—the end of the speculative intellect—is attained, the whole of the speculative order is denominated by the resolutive
mode, taken in this strict sense, even though every effort of the speculative intellect does not attain ultimate resolution.

Similarly, there is a compositive mode in a common or general sense that is realized in both the speculative and practical orders: any movement from what is simple to what is complex, from causes to effects. This general sense of composition is found in the discourse of demonstration *propter quid*, since its principles are causes of the effects expressed in the conclusion. But that composition is composition in the strict sense which denominates the practical order and is found perfectly in completely practical knowledge where the reason commands that a form be applied to matter.

Hence we can say that the speculative proceeds *modo resolutorio* in the strict sense, but not without a certain composition in the loose sense. The practical proceeds *modo compositivo* but must be prepared for by a processus that taken in itself is resolutive in the common or loose sense.
NOTES

Chapter I

(1) *In Boetium de Trinitate*, qu. VI, art. 1, ad tertium quæstionem, corp., ed. Mand.

(2) *Ibid*.

(3) *Summa Theologia, Ia-IIae*, qu. 14, art. 5, c

Chapter II

(1) In Boet. de Trin.; qu. V. Art. 1, corp.

(2) cf. La Doctrine du Speculatif et du Practique, by M. Henri Picette, Laval Theologique et Philosophique, vol. I, no. 1, 1945, pp53-54

(3) John of St. Thomas, Cursus Theologicus, In qu. I primea partis, Disp. 2, art. 10, no. 5; ed. Solemnnes, pp393-6.

(4) S.T., Ia, qu. 14, art. 16, c.

(5) Quaestiones Disputatae, de Veritate, qu. 3, art. 3, c.

(6) It ought to be noticed, however, that the object of the science of Nature is a non-operable quaod nos only and not absolutely. "Cependant, tout objet d'intelligence qui s'éloigne de la pure actualité de Dieu, donc tout objet moins immatériel de quelque façon que ce soit, implique déjà un ordre à la subjectivité, c'est-à-dire à la matérialité prise au sens large. Tout objet dont l'existence n'est pas de la raison même à son essence, pourra être objet de connaissance pratique... Donc tout objet qui n'est pas sous tous les rapports absolument nécessaire, c'est-à-dire toute créature, peut être objet de connaissance pratique....

On peut donc trouver en tout créature un rapport de matéri-lité de l'ordre de la quiddité. Et à mesure que nous nous éloignons de l'immatérialité, l'objet devient de plus en plus opérable dans la ligne de la quiddité. Dans les créatures proprement matérielles, la formabilité touchera la substance même des êtres...

Donc, à mesure que nous nous éloignons de la pure immatérialité où le 'quod quid est' et l'être sont identiques, nous nous trouvons en face d'objets qui sont de plus en plus purement opérables, donc de plus en plus objets de connaissance pratique....

C'est pour cette raison qu'une profonde connaissance speculative des choses naturelles est pour nous impossible. Car ces choses sont d'une part opérables principalement, et d'autre part nous ne pouvons en avoir une connaissance pratique."—II. Henri Picette, opus cit. pp. 59-60.

It is for this reason, too, that Aristotle in De Partibus Animalium (Bk. I, ch. 1) distinguishes the Science of Nature from the other speculative sciences: "The mode of necessity, however, and the mode of ration-ication are different in natural science from what they are in the theoretical sciences; of which we have spoken elsewhere (cf. Phys. Bk. I, St. Thomas' comm., lectio 15). For in the latter the starting-point is that which is; in the former that which is to be. For it is that which is yet to be—health, let us say, or a man— that, owing to its being of such and such characters, necessitates the pre-existence or previous production of this and that..."
antecedent; and not this or that antecedent which, be
cause it exists or has been generated, makes it nec-
essary that health or a man is in, or shall come into,
existence."

(7) cf. In Bost. de Trin., loc. cit.; Meta., Lib. VI, Lectio
1; Phys., Lib., I, Lectio 1, nos. 1 and 2

(8) de Veri., loc. cit.

(9) S.T., loc. cit.

(10) de Veri., ibid.

(11) Ibid.

(12) Caetan in Ia, qu. 14, art. 16.

(13) S.T., ibid.

(14) John of St. Thomas, opus cit., loc. cit, no. 5, p. 399.

(15) S.T., Ia, qu. 85, art. 4, ad. 2


(17) John of St. Thomas, Cursus Philosophicus, ed. Reiser,

(18) de Veri., loc. cit, ad. 9

(19) Ibid. corp.

(20) Ibid. ad. 9

(21) S.T., Ia, qu. 14, art. 16

(22) de Veri., ibid., corp.

(23) de Veri., qu. 2, ar. 8, corp.

(24) S.T., Ia-IIae, qu. 14, art. 1


(27) S. T., Ia-IIae, qu. 14, art. 5, corp.

(28) Ibid., ad. 1.

(29) In Aristotelis Librum de Anima Commentarium, Lib. III, 
lectio 15, no. 821
Chapter III

(1) *Phys. II, lectio 15; S.C.G. III, c. 97, no. 12; Ia-IIae, qu. 49, art. 4, ad. 1.*

(2) *S.C.G., II, c. 100.*

(3) *S.T., Ia, qu. 58, art. 4*

(4) *Ibid., art. 3*

(5) *Ibid., art. 1*

(6) *Ibid., art. 4, c.*

(7) The same doctrine is to be found in the *prima pars, qu. 55, art. 2, c et ad. 1.*

(8) *Ibid., qu. 57, art. 2, c.*

(9) *Ibid., qu. 56, art. 2, c; qu. 55, art. 2, ad. 1.*

(10) *de Veri., qu. 1, art. 4, c; qu. 2, art. 1, c; art. 8, c et ad. 1.*

(11) *I. Sent. disp. 17, qu. 1, art. 4, sol.:"esse quae per esse suum non sunt in materia, quantum in se est, sit maxime nota; sed quoad nos sunt difficilima ad cognoscendum: propter quod dicit Phil. (II Meta.) quod intellectus noster se habet ad manifestissima naturae, sicut oculos vespertillioni ad lucem solis. Cujus ratio est quia cum intellectus noster potentialis sit in potentia ad omnia intelligibilia, et ante intelligere non sit in actu aliquod eorum; ad hoc quod intelligat actu, oportet quod reducatur in actum per species accepta a sensibus illustratas lumine intellectus agentis; quia, sicut Phil. (III de Anima)dicit, sicut se habent colores ad visum, ita se habent phantasmata ad intellectum potentialen. Unde cum naturale sit nobis procedere ex sensibus ad intelligibilia, ex effectibus in causas, ex posterioribus in priora, secundum statum vitae... etc."

(11b) *S.T., Ia., qu. 57, art. 1, ad. 3*

(12) For other passages describing abstraction as a resolutive process, cf. *Ia, qu. 12, art. 15, ad. 3; de Veri., qu. 3 art. 3; Comp. Theol., caps. 61 et 62.*

(13) *Ia, qu. 14, art. 1*

(14) *Ia, qu. 80, art. 1*

(15) *Eth. I, lectio 1, no. 1*

(16) *de Veri., qu. 2, art. 5, c.*

(17) *Ia., qu. 14, art. 1*
(18) Ibid., qu. 85, art. 1, c.
(19) Ibid., ad. 1; In Boet. de Trin., qu. 5, art. 3
(20) Ia., qu. 85, art. 1, ad. 1.
(21) Ia., qu. 40, art. 3, c; cf. also In Boet. de Trin., qu. 5 art. 3.
(22) Ibid., loc. cit.
(23) de Anima, III, lectio 8; de Div. Nom., c. 7, lectio 2, ed. Mandonnet, pg. 525; de Veri, qu. 15, art. 2, ad. 3; Ia., qu. 85, art. 1, c; art. 8, c.
(24) S.C.G. II, c. 77, no. 2.
(25) de Anima, I, lectio 1, no. 10.
(27) De Sensu et Sensato, lectio 1, no. 1
(28) "Sciendum est igitur quod cum omnis scientia sit in intellectu, per hoc autem aliquid fit intelligibile in actu quod aliquid a materia; secundam quod aliqua diversimode se habent ad materia ad diversa scientiae pertinent. Aursus, cum omnis scientia per demonstrationem habetur, demonstrationis autem medium sit definitio; necesse est secundum diversum definitionis modum scientiae diversificationi"—Phys. I, lectio 1, no. 1
(29) Ia., art. 4, ad. 3, qu. 12
(30) Comp. Theol., c. 62.
(31) Quaestiones Quodlibitales, qu. 8, art. 4; cf. de Veri., qu. 2, art. 1, c.
(33) Ia., qu. 85, art. 5, c.
(35) Ibid., no. 5
(36) Ia., qu. 14, art. 7, c.
(38) "Illa autem videri dicuntur quae per seipsa movent intellectum nostrum vel sensum ad sui cognitionem"—Ila-IIae, qu. 1, art. 4, c. It may be of two kinds: 1) ab ipso ojecto quod est per seipsam cognitionem sicut patet in principis primit, quorum est intellectus; 2) per aliud cognitionem sit ut per conclusionibus, quarum est scientia". (Ibid.) We are said to have evidence per seipsa of those things which of themselves move the in-
tellext or sense to a knowledge of themselves. But apart from the simple objects that, per seipsum, move our intellect, and of which the intellect has immediate evidence in the first principles, we are said to have evidence of conclusions of a discourse per alius in science.--cf. Ibid.

(39) III. Sent., disp. 23, qu. 2, art. 3, sol. III.
(40) II. Sent., disp. 24, qu. 2, art. 2, sol. I.
(41) Ibid., art. 3, sol. III.
(42) For the intellect has judgment also, but without resolution: the intellect grasps the truth of a proposition in the terms themselves. But scientific judgment, i.e., the judgment that terminates a demonstrative discourse, requires resolution to principles. "Judicium non est proprium rationis, per quod ab intellectu distinguat possit; quia etiam intellectus judicat hoc esse verum, illud falsam. Sed pro tanto judicium rationis attribuitur, et comprehensio intelligentiae quia judicium in nobis ut communiter fit per resolutionem in principia, simplex autem comprehensio per intellectus.--

(43) It is for this reason that the art of judging is called 'analytica' or 'resolutoria'; "eo quod indicium est cum certitudine scientiae. Et quia indicium certum de effectibus haberi non potest nisi resolvendo in prima principia ideo pars haecl id est, judicative quae deservit processui necessitatem inducenti) Analytica vocatur, id est resolutoria"--Analy. Post. I, lectio 1, no. 6. And because the certitude of judgment possessed through resolution may be either from the form of the syllogism or from its matter (i.e., necessary and per se propositions), the art of judging or judicative logic is a science perfecting the mind both with respect to resolution to the formal principles of the sign—the syllogism—in Prior Analytics; and with respect to resolution to the formal principles of the thing signified in Posterior Analytics.

(44) III Sent., dist. 24, art. 2, sol. I.
(45) Ia., qu. 14, art. 7, c.
(46) And since the definition is the middle term and principle of propter quid demonstration, it may also be said that judgment is had when a conclusion is resolved to the definition. Further, since the definition is a statement of the quiddity, something may be said to be know scientifically when reduction is made to the quiddity. This "happens in demonstrations in which there is not error".--Ia., qu. 17, art. 3, ad. 1.
(47) Ia., qu. 79, art. 8; de Veri., qu. 13, art. 1; III Sent. disp. 35, qu. 2, art. 2, sol. I.
Thus simple knowledge or the order of the singular to the universal has its origin in sense; and every complete explanation of human knowing will have to account for the contribution made by sense. Science, however, begins in the universal; it assumes the whole order of the singular to the universal.

From these two different points of view we can speak of diverse termini of resolution. This is why sometimes St. Thomas says that all our knowledge resolves to sense. "...Judicium non dependet tantum a receptione speciei, sed ex hoc quod ea de quibus judicatur, examinantur ad aliquid principium cognitionis, sistit principia[AL ea in principia]resolvendo...sed quia primum principium nostrae cognitionis de quibus iudicamus: unde Phil. dicit in III Coel. et Mundi, quod complementum artis et naturae est res sensibilis visibilis, ex qua debemos de aliis indicare; et similiter dicit in VI Ethic(cap. vii,in fin.) quod sensus sunt extremi sicut intellectus principiorum'; extrema appelans illa in quae fit resolucio iudicantis."--de Veri., qu. 13, art. 3, ad. 2; cf. also, Ibid., ad. 3.

Here, obviously, St. Thomas is speaking of the whole order of human knowing from sense knowledge, through the universal, and back again to sense by resolution.

Sometimes, however, St. Thomas says that our science resolves variously (de Trin., qu. 6, art. 2, c.): the Philosophy of Nature resolves to sense, Mathematics to the imagination and Metaphysics to the intellect. Here he speaks only of the order of purely intellectual knowledge or science that depends upon principles variously related to matter. Fundamentally, however, resolution to sense is primary.
(61) \textit{Ia.}, qu. 79, art. 12, c; cf. also, \textit{ibid.}, art. 9; \textit{de Veri.}, qu. 15, art. 1, c.

(62) \textit{Ia.}, qu. 79, art. 8, c; cf. also, \textit{ibid.}, art. 12, c; \textit{de Veri.}, qu. 14, art. 1, c; qu. 15, art. 1, c; qu. 17, art. 1, c; qu. 20, art. 1, c; qu. 10, art. 8, ad. 10; \textit{Analy. Post.}, I, lectio 1; John of St. Thomas, \textit{C.T.}, ed. Vives, Vol. VI, pg. 640, no. 21 et sq.

(63) \textit{de Trin.}, qu. 6, art. 1, ad Tertiam. It is this \textit{inventio} which, in \textit{Analy. Post.}, I, lectio 1, St. Thomas compares to those operations of nature which succeed "ut in pluribus". And since \textit{inventio} does not achieve certitude always with necessity, the discovered conclusion must be judged by resolution to first principles.

(64) \textit{Expositio super Dionysium, de Divinis Nominibus}, c. 7, lectio 2; ed. Mansionnet, pp. 523-524, 525-526.

(65) \textit{de Trin.}, qu. 6, art. 3, c.


(67) \textit{Ibid.}, pp. 525-526.

(68) \textit{Meta.}, VIII, lectio 15, no. 1615.

(69) \textit{Politics}, I. Lectio 1, no. 5. With reference to this text it will be necessary to remark that the "elements" which result from the resolutive process must be here (and through out the present essay) taken in a general sense. For, taken strictly, an element "est ex quo componitur in primo et est in eo" (Phys., I, lectio 1, no. 5). But "element" may also be understood largely: "Elementorum aliorum corporum est, in quod alia corpora dividuntur seu resolvuntur. Non enim quaelibet causa potest dici elementum, sed solum illa quae intrat rei compositionem. Unde universalia elementa sunt materia et forma, ut patet in I Physic. Quae tamen non sunt corpora: hic autem intendit Philosophus de elementis quae sunt corporae" in de Coelo, lectio 8, no. 6.

(70) \textit{Meta.}, II, lectio 1, no. 287.

(71) \textit{Ibid.}, nos. 279-287.

(72) \textit{Ibid.}, no. 285.

(73) \textit{de Anima}, I, lectio 1, no. 15.

(74) \textit{Ibid.} Hence the conditions that every definition is required to fulfill: "Et dicit quod in definiendo locum, intentio nostra debet ad quatuor attendere, quae quidem necessaria sunt ad definitionem perfectam. Primo quidem ut ostendatur quid sit locus; nam definitio est oratio
indicans quid est res. Secundo, ut solvantur quae-
cumque opposita sunt circa locum: nam cognitio verit-
tatis est solutio dubitatorum. Tertium est, quod ex
definitione datae manifestantur proprietates loci, quae
insunt ei; quia definitio est medium in demonstratione,
qua proprie accidentia demonstrantur de subjectis.
Quartum est, quod ex definitione loci erit manifesta
cause, quare aliqui discordaverunt circa locum; et
omnium quae sunt opposita circa ipsum. Et sic pul-
cherrimae definitur unumquodque."—Phys., IV, lecto 5,
no. 3, cf. also de Anima, I, lectio 9, no. 137.

(75) Ia-IIae, qu. 14, art. 5, c.
(76) cf. texts cited above from comm. on de Div. Nom.
(77) Ia-IIae, qu. 14, art. 5, c.
(78) Ia., qu. 14, art. 16, c.
(79) de Veri., III, 3, ed. 9.
(80) Ila-IIae., qu. 9, art. 2, c.
(81) M. Charles De Koninck, Introduction à l'étude de l'âme
in Précis de psychologie thomiste by M. L'Abbé Stanis-
las Cantin, Québec, Université Laval, 1948.
(82) Ia., qu. 40, art. 1.
(83) Phys., I, lectio. 1.
(84) The potentiality in terms of which the totally abstract-
ed whole is defined is a potentiality of predication;
its whole actuality is to-be-predicated; cf. M. Charles
De Koninck, op. cit., loc. cit.
(85) The object that is formally abstracted contains its
parts actually; cf. M. Charles De Koninck, ibid.
(86) SC.G. II, c. 100.
(87) The singulars, the subjective parts that are known to
sense and from which abstraction is made totally are
in se more intelligible because they have more of being
(cf. Phys. I, lectio 1, no. 7). It is only quad nos
and with respect to our scientific knowledge that these
parts are unintelligible. Total abstraction, prescind-
ing from the specific differences of things, prescinds
at the same time from their in se intelligibility in
order to achieve a universality where they become more
intelligible quoad nos. It is for this reason that,
abstracting from specific differences that connote
greater being, total abstraction issues in a potential
whole, i.e., a whole that contains its subjective parts
only virtually or potentially. This is why it is call-
ed 'confused' rather than 'composite'(cf. Ibid. no. 8;
 cf. also Note sur la première leçon du premier livre
"...universale dupliciter potest considerari. Uno modo secundum quod natura universalis consideratur simul cum intentio universalitatis, ut scilicet unum et idem habeat habitudinem ad multa, proveniat ex abstractione intellectus, oportet quod secundum hunc modum universale sit posterius. Unde in I de An. (I—402b7) dicitur quod "animal universale aut nihil est, aut posterius est". Sed secundum Platonem, qui posuit universalia subsistentia, secundum hanc considerationem universale esset prius quam particularia, quae secundum eam non sunt nisi per participationem universalium subsistentium, quae ducentur ideae—la., qu. 85, art. 3, ad. 1.

"...universale secundum quod accipitur cum intentionis universalitatis, est quidem quodammodo principium cognoscendi, prout intentio universalitatis consequitur modum intelligendi qui est per abstractionem. Non autem est neesse quod omne quod est principium cognoscendi, sit principium essendi... etc"

(88) Phys., I, lectio 1; Ia, qu. 85, art. 3.

(89) In Lib. Aris. Meteor., I. lectio 1, no. 1; cf. also de Veri., qu. 2, art. 4, c; qu. 12, art. 1, ad. 1 in Contra.

(90) Phys., I, lectio l, no. 5; cf. also, Ia, qu. 85, art. 3; de Anima II, lecto 1, no. 211; Cajetan, comm. de Ente et Essentia, Prooemium; John of St. Thomas, C.P., Vol. II, Phil. of Nat. I P, qu. 1, art. 3; M. Charles De Koninck, op. cit, p. xxvii et sq.

(91) The reason for this order is sometimes presented as one of economy, i.e., in order to avoid the repetition of general principles when the knowledge of singular species is being sought in the order of concretion(cf. De Faribus Animalium, I, chap. i.). However, if we ask ourselves why, for each species in the order of concretion, it is necessary to know the common or general principles, we shall see that the reason from economy hides a more profound truth.

In knowing we must begin with what is more known to us; but what is more know to us is the confused, the common, i.e., the universal. Therefore, it will be necessary for us to begin from the universal as from a confused whole and proceed toward singular species as toward the subjective parts of the whole. For there is an opposition between what is more known to us and what is more knowable in itself, between what is more certain for us and what is more certain naturally; and because
A thing is more knowable in so far as it has more of being, that will be more known naturally which is more in act, e.g., separated substances. But since we know by passing from potency to act, what will be first known to us will be what is at the other extremity from separated substances, i.e., what is potential. Thus material sensibles, intelligible only in potency, are first known to us absolutely. Separated substances, however, as we shall see, are known only at the end of all our scientific processus.

To know something potentially, i.e., to know a think in such a way that there remains something unpenetrated, unexplained, is to know it indistinctly and in a certain confusion. Those propositions are known confusedly "which contain in themselves something in potency and indistinct". Now universals are confused in this way. "...Quia universalista continent in se sua species in potentia, et qui scit aliquid in universalia scit illud indistincte; tunc autem distinguish eius cognitione, quando unumquodque earum quae continentur potentia in universalia acta cognosciatur; qui enim scit animal, non scit rationale nisi in potentia. Prius autem est scire aliquid in potentia quam actu; secundum igitur hunc ordinem addiscendi quo procedimus de potentia in actum, prius quod nos est scire animal quam hominem". —Phys. I., lectio 1, no. 7.

Within this order of determination, however, and at each level of its diminishing universality as it progresses in the order of concretion, demonstrative discourse, from principles to conclusions, is sought. the order of determination, nevertheless, is the order of the universality of the principles and matters treated in a given science; it begins with what is more universal in predicando, what is more confused, more common, and moves toward what is proper and distinct. But demonstrative discourse is always of distinct knowledge (cf. John of St. Thomas, C.P., Vol. II, ed. Reiser, pg. 27, reply to 1st Difficulty).

(94) In Lib. de Coelo et Mando, Prooemium, no. 3.
(95) Caj. in de Ente et Essentia, Prooemium.
(96) In Lib. de Sensu et Sensato, lectio 1, no. 2.
(97) Bien que les choses naturelles soient en elles-mêmes peu intelligibles comparées aux êtres séparés de la matière elles restent elles-mêmes plus intelligibles qu'elles ne le sont d'abord pour nous. Quand nous les disons plus intelligibles en soi, nous les disons par rapport à la connaissance indéterminée que nous en avons à l'origine."—M. Charles De Koninck, Méthodologie Scientifique, II Partie, Les Sciences Physico-Mathématiques, Section II.
(98) cf. note no. 93.
(99) de Trin., qu. 6, art. 1, ad Tertiam quaestionem.
For these two modes, cf. de Veri., qu. 15, art. 1, c.

For the imperfect intellectuality of reason, cf. Ia., qu. 58, art. 3, c; qu. 79, art. 4, c; de Veri., qu. 2, art. 1, ad. 4; de Malo, qu. 16, art. 5, c.

de Trin., loc. cit, ad Primam quaestionem.

Ibid., art. 5, qu. 4.

Ibid., art. 1, qu. 6, ad Tertiam, ed. Parma.

Ibid., art. 5, qu. 4.

Ibid., art. 1, qu. 6, ad Tertiam.

Ibid.; cf. also Meta., Prooemium.

It is for this reason that St. Thomas, in the prooemium to the Metaphysics, tells us that wisdom gets the same metaphysics because it considers being and what follows upon being: "Haec enim transphysica inveniuntur in via resolutionis, sicut magis communia post minus communia." A little later in the commentary itself he tells us that in the order of science (ad investigationem naturalium proprietatum et causarum), what is less common or universal (in causando) is first known, "eo quod per causas particulares, quae sunt unus generis vel speciei, pervenimus in causas universales."—Meta., I, lectio 2, no.44.

In other words (cf. Ia., qu. 79, art. 9) temporal things are the means whereby we come to a knowledge of what is eternal. By way of a certain resolutive inventio we arrive at a knowledge of the eternal principles in the light of which we are able to judge and dispose what is temporal. Beginning from principles that are more known to us we proceed resolutely toward what is more known in itself. But Wisdom, judicative and ordering all things, possessing what is more knowable it itself, judges and orders compositively.

Ille-IIiae., qu. 9, art. 2, c.

"...Certum iudicium de re aliqua maxime datur ex sua causa. Et ideo secundum ordinem causarum oportet ordinem judiciorum; sicut enim causa prima est causa secundae ita per causam primam indicatur de causa secundae. De causa autem prima non potest indicari per aliam causam. Et ideo iudicium quod fit per causam primam est primam et perfectissimum. In his autem in quibus aliquid est perfectissimum, nomen commune generis appropriatur his quae deficiunt a perfectissimo, ipsi autem perfectissimo adaptatur alium speciale nomen, ut patet in logicis....quia ergo nomen scientia importat quamdam certitudinem iudicii, ut dictum est (art. 1, ad. 1); si quidem certitudo iudicii
fit per altissimam causam habet speciale nomen quod est sapientia; dicitur enim sapientia in unoquoque genere qui novit altissimam causam illius generis, per quam potest de omnibus indicare. Simpliciter autem sapiens dicitur qui novit altissimam causam simpliciter, scilicet Deus. Et ideo cognitio divinarum rerum vocatur sapientia. Cognitio vero rerum humanorum vocatur scientia, quasi communi nomine importante certitudinem iudicii appropriato ad iudicium quod fit per causas secundas."—IIae-IIae, qu. 9, art. 2, c.

(111) de Veri., qu. 2, art. 14; cf. also Ia, qu. 14, art. 8.
(112) Ia, qu. 14, art. 8; de Veri., qu. 1, art. 2; qu. 2, art. 4; art. 5.
(113) Ia, qu. 14, art. 8 et 9.
(114) Ia, qu. 14, art. 9, c.
(115) de Veri., qu. 2, ar. 8, c.
(116) de Veri., qu. 2, art. 14, c.
(117) II. Sent., disp. 2, qu. 3, art. 2, ad. 1.
(118) Meta., Prooemium; cf. also de Veri., qu. 1, art. 1, ad. 5.
Chapter IV

(1) cf. Eth., III, lectio, 8; Ia-IIae, qu. 14, art. 5, c.
(2) Eth., Lib. I, lectio, 3, no. 35.
(3) Ibid., lectio 8.
(4) Ibid., lectio 7; Ia-IIae, qu. 14, art. 2, c.
(5) Eth., III, Lectio 7, no. 465; Ia-IIae, qu. 14, art. 3, c.
(6) Eth., loc. cit., no. 467; cf. also Ia-IIae, qu. 14, art 4, c; III Sent, disp. 35, qu. 2, art. 4, qua 1.
(7) Ia-IIae, qu. 14, art. 4, ad. 1.
(8) Eth., III, lectio 8, no. 475.
(9) cf. chapter II, pg. 32.
(10) Cajetan raises this difficulty in his commentary on article five of the fourteenth question, prima secundae; his solution can be found there. For John of St. Thomas' treatmen—which, in substance, we shall follow—cf. his Cursus Theologicus, Ia-IIae, qu. XIV, Notanda Istâs Quaestiones, nos. 13 and 14, ed. Vives, pg. 579.
(11) Cf. Prima Secundae, qu. 1, art. 4; qu. 3, art. 3, ad. 3; Eth., VI, lectio 6, no. 1231; Cajetan, in Ia-IIae, qu. 16, art. 4, comm. no. ii; John of St. Thomas, op. cit., Isagoge, ed. Solemnes, pp. 165-6; in qu. XIX primae partis, disp. 25, art. 1, no. 11bis et sq., pg. 143 et sq.; disp. 27, art. 2, pg. 341 et sq.
(12) "...influer causae finalis est appeti et desiderari. Et ideo sicut secondarium agens non agit nisi per virtutem prini agens existentum in eo; ita secundarius finis non appetitur nisi per virtutem finis principalis in eo existentum; prout scilicet est ordinatum in illud vel habet similitudinem ejus".—de Veri., qu. 22, art. 2, c; cf. also Ia-qu. 44, art. 1.
(13) cf. Cajetan's comm. in Ia, qu. 12, art. 1, ad. 4.
(14) Ia-IIae, qu. 12, art. 4, ad. 3.
(15) Ibid.
(16) Ibid.
(17) Eth., VI, lectio 8, no. 1231.
Finis...in operabilibus rationem principii tenet in speculativis autem scientiis non perficitur judicium rationis nisi quando resolvuntur rationes in prima principia; unde nec in operabilibus perficitur nisi quando fit reductio usque ad ultimum finem: tunc enim solum modo ratio ultimum sententiam habet de operando: et haec sententia est consensu in opus. Et inde est quod consensus in actum attribuitur rationi superiori; quae finem ultimum respicit; sed delectatio, sive delectionis compleencia, sive consensus, attribuitur ab Augustino rationi inferiori"—de Veri., qu. 15, art. 3, c.

...in executione operis, ea quae sunt ad finem se habent ut media, et finis ut terminus. Unde sicut motus naturalis interdum sistit in medio, et non pertinuit ad terminum; ita quandoque operatur aliquis id quod est ad finem, et tamen non consequitur finem. Sed in volendo est e converso nam voluntas per finem devenit ad volendum ea quae sunt ad finem; sicut et intellectus devenit in conclusiones per principia, quae media dicuntur. Unde intellectus aliquando intelligit medium, et ex eo non procedit ad conclusionem. Et similiter voluntas aliquando vult finem, et tamen non procedit ad volendum id quod est ad finem."—Ia—IIae., qu. 8, art. 3, ad. 3.

(19) Ia—IIae, qu. 14, art. 5, c.
(20) Ibid.
(21) Ibid.
(22) cf. Eth., III, lectio 8, nos. 418 and 475.
(23) III. Sent., disp. 23, qu. 1, art. 2
(24) IIa—Ilae, qu. 51, art. 2, ad. 2
(25) Eth., VI, lectio 8, no. 1234.
(26) Disp., 33, qu. 3, art. 1, sol. 3.
(27) Ibid., sol. 4.
(29) Eth., III, lectio 9, no. 484.
(30) Ia—Ilae, qu. 57, art. 6, ad. 3.
(31) Eth., III, lectio 8, no. 476.
(32) Eth., VI, lectio 7, no. 1214.
Hence it is that in demonstrative discourse the conclusion is necessary in such a way that if it is false the principles are false. The conclusion, predicking a proper passion of a subject, must be true because the essence or quiddity of the latter demands that proper passion (cf. Ia-IIae, qu. 14, art. 6, c.). This is why we can say that we have to do with the resolutive or analytical mode in the strict sense whenever there is per se predication involved (cf. Analy.
Post., I, lectio, 35, no. 2). The case is not the same for practical discourse, however; for the means are not always such that without them the end cannot be had (cf. Ia-IIae, qu. 14, art. 6, ad. 1). And even if the means exist, it does not follow that the end will be.

(58) cf. de Partibus Animalium, I, ch. i.

(59) Phys., II, lectio 15, no. 15.

(60) Ia-IIae., qu. 13, art. 6, ad. 2.

"...non semper ex principiis ex necessitate procedit conclusio sed tunc solum quando principia non possunt esse vera si conclusio non sit vera. Et similiter non oportet quod semper ex fine insit homini necessitas ad eligendum ea quae sunt ad finem: quia non omne quod est ad finem, tale est ut sine eo finis haberi non possit; aut, si tale sit, non semper sub tali ratione consideretur."--Ibid., ad. 1.

(61) Ia-IIae, qu. 8, art. 3, ad. 3.

(62) cf., v.g. Mete., V, lectio 4, no. 799.

(63) Ila-IIae, qu. 52, art. 4, ad. 3.

(64) de Veri., qu. 22, art. 15, ad. 2.


(66) Ila-IIae, qu. 47, art. 8, c.

(67) III Sent., disp. 33, qu. 3, art. 1, sol. 3, c.

(68) Politics, prologue.

"...duplex est ordo naturae: unus secundum viam generationis et temporis: secundum quam viam ea quae sunt imperfecta et in potentia, sunt priora. Et hoc modo magis commune est prius secundum naturam; quod apparat manifeste in generatione hominis et animalis; nam 'prius generatur animal quam homo', ut dicitur in libro de Gen. Anim.(II, iii, 736b2). Alius est ordo perfectioris, sive intentionis naturae; sicut actus simpliciter est prius secundum naturam quam potentia et perfectum prius quam imperfectum. Et per hunc modum minus commune est prius secundum naturam quam magis commune, ut homo quam animal; naturae enim intentio non sistit in generatione animalis, sed intendit generare hominem".--Ia, qu. 85, art. 3, ad. 1.

(69) de Veri., qu. 3, art. 3, ad. 9.

(70) Ia, qu. 14, art. 16, ad. in contra.

(71) Ibid., c.

(72) Ia-IIae, qu. 14, art. 5, ad. 1.

(73) cf. Logic, Prooemium, qu. 1, art. 5.