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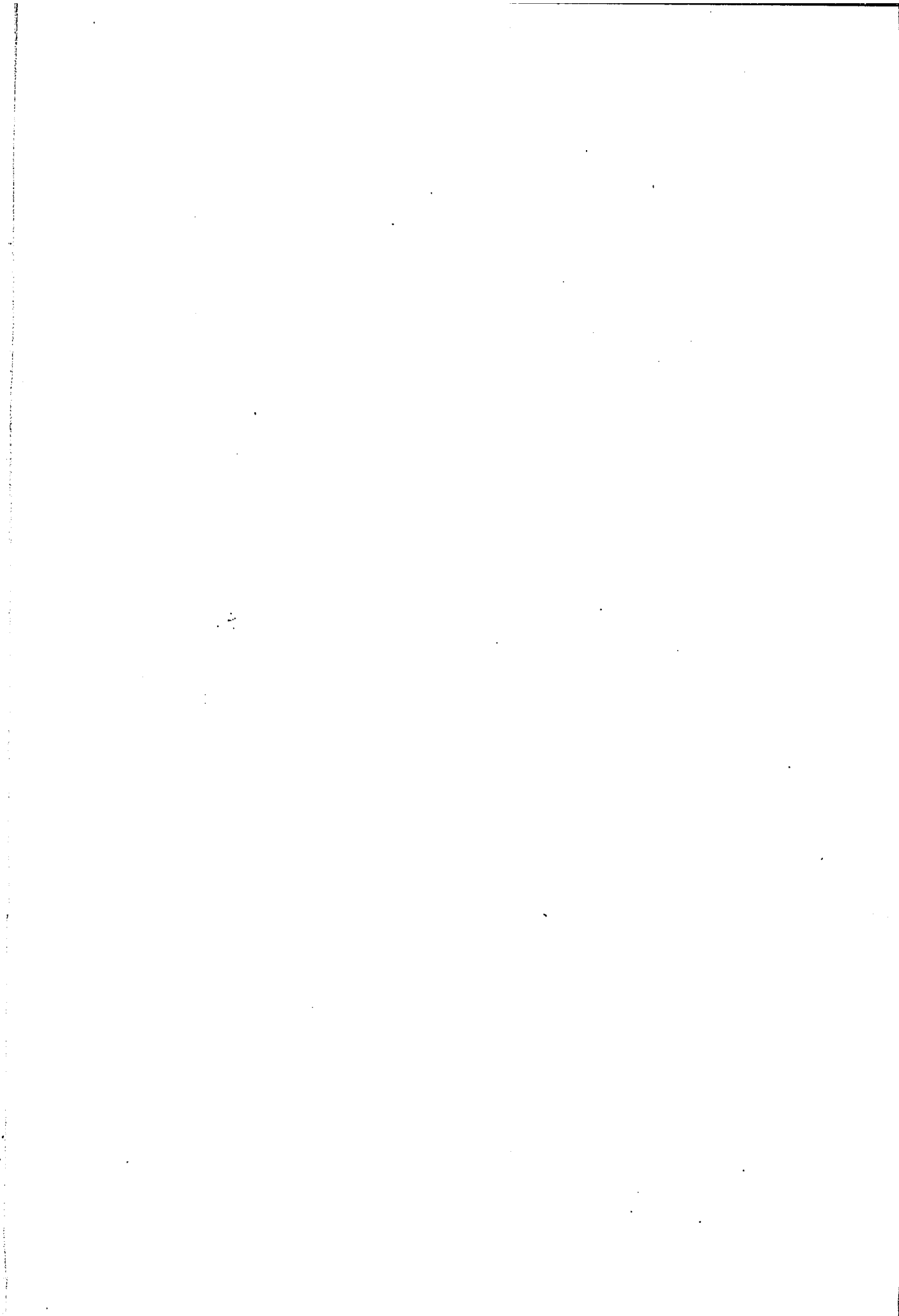
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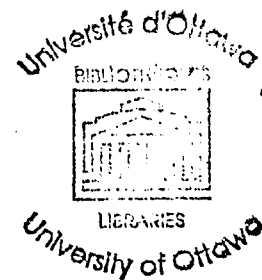
DIALECTICS AS AN APPROACH TO TEACHING
according to
ARISTOTELIAN-THOMIST PHILOSOPHY

by

Sister St. Michael of the Angels, C. N. D.
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Thesis presented to the Faculty of Philosophy
of the University of Ottawa
in partial fulfillment of the
degree of Master of Arts (Philosophy)

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Choosing the subject of a thesis can be a perplexing problem. Unless it springs from personal interest, it seldom is capable of motivating the long hours of research involved or of overcoming the inevitable difficulties a work of such a nature entails. Happily for the writer of this thesis the subject chosen grew out of two personal interests, logic and teaching. The particular part of logic, known as dialectics, captured the interest of the writer in its role as being a way to knowledge. Its consequent use as an approach to teaching was recognized, dimly at first, but sufficiently to challenge the writer to chose this subject, Dialectics as an Approach to Teaching, for a thesis.

The plan of this thesis follows a simple but natural order. In Chapter One the writer begins her investigation by making a careful analysis of Aristotle's main, but admittedly obscure, work on dialectics, the Topics. In Chapter Two a few steps in the history of dialectics are traced from the time of Aristotle to that of Saint Thomas. In Chapter Three the works of Saint Thomas are scrutinized for references to dialectics. Of special assistance to the writer in the development of this chapter was an article by J. Isaac, O. P., entitled, La Notion de dialectique chez Saint Thomas. Chapter Four consists of an

investigation on the nature of teaching. Here again the works of Saint Thomas were consulted, in particular, the De Magistro. In Chapter Five the relation between dialectics and teaching is brought into relief in the light of the investigation of the first four chapters. Also, in this chapter the main methods of teaching are examined for their dialectical character. In Chapter Six dialectical procedures used in teaching are studied. In Chapter Seven the applicability of dialectics to the teaching of philosophy is shown in some detail.

For valuable help and guidance in the writing of this thesis, the writer wishes to acknowledge a debt of gratitude to Reverend Marcel Patry, O.M.I. The writer, also, extends appreciation to her Superiors in the Congregation of Notre Dame for their encouragement and support. A special note of thanks is due to Sister St. Mary Johanna, C.N.D., for the assistance she gave in typing this thesis.

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CHAPTER I

DIALECTICS ACCORDING TO ARISTOTLE

Aristotle is often referred to as "the Father of Logic". To him we are indebted for the original form of logic, or, at least, the character of its outline. His treatises on logic were assembled together after his death in 322 B.C., and the collection later on came to be called the Organon, or instrument of science. The word logic was given to this study some 500 years later by Alexander of Aphrodisias.

The Organon consists of six different works of Aristotle on logic. These six books can be considered in three groups. The first two books, the Categories and On Interpretation, treat of the classification of isolated words and propositions; the two Analytics (Prior and Posterior) develop the notion of science and Aristotle's theory of the syllogism; the last two books, the Topics and On Sophistical Refutations concern the type of argumentation which deals with the probable and it also includes fallacious arguments.

It is in the Topics that Aristotle treats of dialectics. However, references are made to it in nearly all the books of the Organon and in his books on Metaphysics and Ethics. The Topics include eight books. The first book is considered to be his most mature book and his

latest in composition. In this book Aristotle comes nearest to a formulation of his doctrine on dialectics.

Because of this we shall focus our attention mainly on this book, but we shall also include a survey of the other seven books as well.

In an effort to expose the nature of dialectics Aristotle begins the Topics by distinguishing dialectical reasoning from that of demonstration. Demonstration, according to Aristotle, is a form of argumentation which proceeds from premises that are true and primary; dialectical reasoning, on the other hand, is a form of argumentation which reasons from "opinions that are generally accepted".¹ By "generally accepted" is meant that they are held by men commonly or by a majority of men or by experts in different fields. In regard to the former, demonstrative argument, the principles are adhered to because of their own truth and evidence; in regard to the latter, the principles are adhered to, not on the strength of their own truth and evidence, but upon their likelihood and upon their common acceptance by others.

Following this, Aristotle proceeds to enumerate the aims of dialectics which he regards as: "intellectual

¹Topics, I, 100a, 29.

exercise, casual encounters and the physical sciences".¹ The first aims at making the mind intellectually alert, disciplined and ordered to a plan of investigation about the subject. The second teaches one to regard questions from different points of view and to argue opinions on another's ground. The third refers to the aid dialectics is for science, especially the philosophical ones.

Concerning the third purpose of dialectics, Aristotle states that there are two ways in which dialectics is helpful to science: in the posing of apories and in the discussion of principles. The importance of these two ways calls for further study.

The posing of apories refers to the raising of difficulties on both sides of a question. Dialectics, in doing this, disposes the ground for a demonstrative resolution of the question, if this is possible. The role of apories is clearly explained by Aristotle in his Metaphysics:

For those who wish to get clear of difficulties, it is advantageous to discuss the difficulties well; for the subsequent free play of thought implies the solution of the previous difficulties, and it is not possible to untie a knot of which one does not know.²

¹Ibid., 101a, 25

²Metaphysics III 1, 995a, 23 - 30.

The use of dialectics in the discussion of principles is very necessary. The principles of a science cannot be demonstrated by that science as there is nothing prior to them in that science. Dialectics is needed to explain and defend the first principles of a science. Aristotle explains this in some detail in the Topics:

(Dialectic) has a further use in relation to the ultimate bases of the principles used in the several sciences. For it is impossible to discuss them at all from the principles proper to the particular science at hand, seeing that the principles are the prius of everything else: it is through the opinions generally held on the particular points that these have to be discussed, and this task belongs properly or most appropriately to dialectics; for dialectic is a process of criticism wherein lies the path to the principles of all inquiries.¹

Aristotle next differentiates between dialectical propositions and dialectical problems. Dialectical propositions form the premises of the dialectical syllogism; dialectical problems, on the other hand, are the subjects on which these reasonings take place. The elements from which propositions and problems are constructed are four in number: definition, genus, property, and accident. Aristotle gives a detailed explanation of why these are the elements. The following passage gives

¹Topics, 101a, 36 - 101b 3.

a concise summary of his ideas:

Since the dialectical syllogism proceeds from probable opinions and not from the principles or causes of the thing, it cannot manifest why the predicate of its conclusion belongs to the subject of its conclusion. Hence, it can only argue that the predicate belongs or does not belong, to the subject in some way. But the predicate, which belongs to a subject, is either convertible with that subject or not. And in either case, it either pertains to its nature or it does not. If it is not convertible with the subject and does not pertain to its nature we have the predicate accident. If it is not convertible with the subject and does pertain to its nature, we have the predicate genus. If it is convertible, but outside the nature, we have the predicate property. Lastly, if it is convertible and pertains to the nature, we have the predicate definition.¹

The purpose of Books II - VII is to examine the nature of these four elements and what must follow with respect to a thing if it comes under one of them. This examination is done by the topics, and the analysis is determined by the very nature of the elements. The word topics is derived from the Greek and means places. As used in this treatise of dialectics, it refers to "the places from which originate both the material and the formal elements in all dialectical and rhetorical discussion".² In the book of Rhetoric a distinction is

¹Duane H. BERQUIST, Descartes and Dialectics in Laval Théologique et Philosophique, Vol. XX, No. 2, 1964, p. 186.

²William M. A. GRIMALDI, S. J., The Aristotelian Topics in Traditio, Vol. XIV, 1958, p. 8.

made between particular and general topics. This distinction does not appear in the Topics but it is operative there. The particular topics refer to the varied aspects or focal points under which the subject may be viewed for a clearer understanding. The general topics refer to the modes of inference by which to advance this understanding to further conclusions.

Dialectical propositions and dialectical problems constructed from these four elements differ in the way in which they question these. The dialectical problem is an investigation into the composition of the objects signified in the proposition. It asks whether they are to be united or not. For example, Is habit the genus of virtue or no? is a dialectical problem. The dialectical proposition asks the answerer to agree or disagree to the probability of a predicate belonging to a subject. For example, Does it seem that habit is the genus of virtue or no? is a dialectical proposition. "The dialectical argument does not investigate this question but it proceeds from the answer given to conclude something else."¹

From the questioning aspect of dialectics it is obvious that questioning plays an important part in

¹BERQUIST, Laval Théologique et Philosophique, Vol. XX, No. 2, p. 187.

dialectical procedure. Aristotle recognized this fact and devoted a whole book of the Topics to a consideration of it. In Book VIII, he lays down the methods of questioning and he also includes ways of responding to different types of questions.

Having distinguished between propositions and problems in dialectics, Aristotle proceeds to define them. The dialectical proposition consists "in asking something that is held by all men, or most men or by the philosophers".¹ It also includes "views which are generally accepted"² or their "contraries"³ and "all opinions in accordance with the recognized arts".⁴ A dialectical problem, on the other hand, is "a subject of inquiry that contributes either to choice and evidence, or to the truth and knowledge either by itself, or as a help to the solution of some other such problem".⁵ In regard to the dialectical problem it is important to note that "there is a striving towards rather than a resolution because

¹Topics, 104a, 7.

²Ibid., 104a, 12.

³Ibid., 104a, 13.

⁴Ibid., 104a, 15.

⁵Ibid., 104b, 1 - 3.

dialectic proceeds from probable opinions which conflict with each other and which cannot resolve a question".¹

Aristotle lists four instruments or tools to be used in reasoning dialectically. The first and most important is to know how to choose the propositions from which to argue. The various ways of doing this are included in Chapter Fourteen of Book One of the Topics. The second tool is to be able to distinguish the various meanings of terms. This is dealt with in Chapter Fifteen of Book One. The third tool is to discover or find out the differences between things. These distinctions lead to a clearer knowledge of what a thing is since the ultimate part of a definition is a difference. The fourth tool is to consider the likeness between things. This tool is particularly useful in view of both inductive arguments and hypothetical reasonings and also in view of formulating definitions.

Reference to likenesses brings to our attention another species of dialectics, namely induction. Aristotle brings it into focus in two different places in the Topics. In one place he defines it as "a passage from individuals to universals".²

¹BERQUIST, Laval Théologique et Philosophique, Vol. XX, No. 2, p. 188.

²Topics, 105a, 13.

In another place he states that "in induction it is the universal whose admission is secured from particulars".¹ Induction thus starts from singulars, from sensible singulars, which are always in ceaseless change. Induction, of itself, cannot yield intelligible certainties, even in its upper limit. It can only give probable knowledge. For this reason Aristotle considered it a part of dialectics and linked it together with discursive reasoning from probable premises as a mode of probable knowledge.

Inductive argument has a particularly important application to-day in the experimental physical sciences. "The universal necessity of most statements in these sciences is neither evident nor certain, but only probable."² The importance of Aristotle's contribution in this regard is well expressed in the following passage:

Aristotle is praised by his severest critics for seeing more clearly than any other Greek philosopher the importance of induction as a distinct source of knowledge, no less productive than deduction.³

¹Ibid., 156b 15

²John A. CESTERLE, Logic, The Art of Reasoning and Defining, New York, Prentice Hall Inc., 1952, p. 184.

³James HOGAN, The Dialectic of Aristotle in Philosophical Studies, Vol. V, 1955, p. 8.

With this brief reference to induction we bring to an end our investigation of dialectics according to Aristotle's formulation of it in the Topics. At this point it would be advantageous to put into focus some of the main ideas of dialectics gleaned from our study. This will be profitable for the future bearing they have on what follows in this thesis.

First of all, the main idea that we must retain is that dialectics is a form of argumentation based on premises that are probable. It includes two modes of probable knowledge: discursive reasoning from probable premises and induction. In regard to the former the process means raising problems, arguing both sides of the question and thus paving the way for a demonstrative resolution of the question. It means also explaining and defending the first principles of any science since the first principles cannot be demonstrated. In regard to the latter, it means approaching closer and closer to a real explanation of things through their proper causes and thus it prepares the way for demonstration.

From this short summary it is evident that dialectics plays an important role as a preparatory step in the acquisition of science. A firm conviction of its importance in this regard and a knowledge of its procedure

are necessary if we wish to ascend from the level of opinion into the realm of ultimate truths.

As a final effort to penetrate even more into the nature of dialectics we would like to complete our investigation by making, first, a comparative study of dialectics and rhetoric and, secondly, a comparative study of dialectics and metaphysics. The likenesses and the differences between these disciplines were clearly delineated by Aristotle himself.

According to Aristotle, rhetoric is similar to dialectics for two reasons: its object is not determined but it applies to everything¹ and it can be understood without any specialized training in any other science.² There is, however, an essential difference between them in regard to the purpose of each. The purpose of dialectics is to refute the opposing one; the purpose of rhetoric, on the other hand, is simply to persuade those who are addressed to a favourable judgment.³

The close relationship between dialectics and rhetoric is not surprising and appears quite natural.

¹Rhetoric I, 1, 1355b, 8.

²Ibid., I, 1, 1355a, 24.

³Topics, 101b, 8.

It now remains to examine the relationship which exists between dialectics and metaphysics. At first glance, it would seem that they have nothing in common; a closer study reveals an intimate relationship between the two in many respects.

In the first place metaphysics is dialectical in its procedure. This is evinced in the aporematic way in which Aristotle proceeds in many parts of the Metaphysics, especially in Book E.

His method is aporematic. It is essential, he says, to start with a clear view of the difficulties of the subject, and with an impartial consideration of the pros and cons on each question. Accordingly a whole book (E) is devoted to such a presentation without any attempt to reach a dogmatic result.¹

Furthermore, his recourse to the opinions of other philosophers, especially Plato, his emphasis on distinction, and his preoccupation with the meaning of words also verify the dialectical method of his procedure.

Perhaps the greatest relation between dialectics and metaphysics lies in regard to their formal object. The object of metaphysics, because of its generality and its formal character, that is its attachment to the modes of affirmation, make it closely resemble the object of

¹W. D. ROSS, Aristotle's Metaphysics, Oxford at the Clarendon Press, 1928 I, LXXVII.

dialectics. Aristotle recognized this very clearly:

Dialecticians and sophists assume the same guise as the philosopher, for sophistry is apparent wisdom and dialecticians dispute about all things and being is common to all things. But evidently they dispute about these matters because they are common to philosophy. For sophistry and dialectics are concerned with the same class of things as philosophy.

But philosophy differs from the latter in the manner of its power and from the former in the choice, i.e., selection, of a way of life. For dialectics is in search of knowledge of what the philosopher actually knows and sophistry has the semblance of wisdom but is not really such.¹

In this text the identity of the object is thus indicated. The difference between dialectics and metaphysics is also noted in the last part of the text. It may be expressed as the interrogative character of dialectics:

Aristotle fait appel, dans le dernier texte que nous venons de rappeler, au caractère interrogatif de la dialectique: et il est vrai que ce n'est pas un caractère négligeable, car le dialecticien n'interroge pas pour la forme: il dépend des opinions de l'autre, il ne procède pas de façon dogmatique, mais utilise seulement ce qu'on veut bien lui concéder.²

Another difference is recognized in the fact that the dialectician is concerned with the verbal and logical coherence of principles and ideas whereas the metaphysician

¹Metaphysics, I 2, 1004b, 17 - 21.

²J. M. LE BLOND, Logique et Méthode Chez Aristote, Paris, Librairie Philosophique, J. Vrin, 1939, p. 54.

is preoccupied more with the objectivity of these:

En gros, cependant, il semble, qu'on puisse dire que le dialecticien s'attache plutôt à la cohérence verbale et logique . . . Le philosophe se préoccupe aussi de cette cohérence, des lois de l'affirmation et du discours: mais il y a considéré plutôt les lois d'une expérience générale, qui bien que générale demeure expérience. Il se préoccupe, plus que le dialecticien, de ce qu'on pourrait appeler l'objectivité des principes, des notions, que trouve et manie la dialectique.¹

As we come to the end of our short study of dialectics according to Aristotle the complexity of its nature and the wealth of meanings it contains are clearly manifest. It is obviously concerned with the probable and yet at the same time it is a method of attaining truth. On the one hand, it appears to be verbal, formal and grammatically inclined; on the other hand, it is concerned with reality. Clearly distinct from science, at the same time it precedes it and is a necessary preparation for it. As we continue to probe its meaning and development we shall discover new insights, new aspects and new applications for this dynamic branch of philosophy.

¹ID., p. 55.

CHAPTER II

SOME STEPS IN THE EARLY HISTORY OF DIALECTICS

In the first chapter we have endeavoured to plumb the nature of dialectics in the light of the writings of Aristotle with special reference to the Topics. Before proceeding to penetrate the meaning of dialectics according to Saint Thomas we propose to draw attention to some steps in the history of dialectics from the time of Aristotle to that of Saint Thomas. Such a perusal is necessary if we are to understand dialectics as it emerged at the beginning of the thirteenth century.

During the lifetime of Aristotle two schools of logic were distinguished, the Peripatetic school which he had founded, and the Stoic school which followed the teachings of the Megarians. The logic of these two schools differed greatly. The Stoic logic, although known as dialectic, corresponded to what is formal logic to-day. It also included a good deal of what would be considered epistemology and it involved grammar and linguistics as well.

For centuries these two schools existed side by side but gradually the Stoic school became the dominating influence. Perhaps this was due to Cicero who championed the Stoic school. Among his philosophical works was a small treatise called Topica, supposedly an adaptation of

Aristotle's Topics. However, there was little agreement between the two; it was rather a manual for the training of a Roman orator.

In the second century A.D., the famous physician, Galen, wrote a number of treatises about logic according to the Aristotelian point of view. A logical work, entitled Introduction to Dialectic, which was discovered in the nineteenth century, has been ascribed to him. This work was of great interest because it showed the influence of the two schools of thought.

In the fourth century, Marius Victorinus translated Aristotle's Categories and De Interpretatione. Amongst his other works he composed a commentary on Cicero's Topica. It is significant to note he was a teacher of Saint Jerome, and he also influenced the writings of Saint Augustine.

Of special interest is the meaning that Saint Augustine gave to the art called dialectica. Dialectica, for Saint Augustine, had a composite character for it combined the elements of both the Stoic and Aristotelian schools of logic. Marrou has pointed this out in the following passage:

Ce qu'il appelle dialectica présente un double aspect:
 a) conformément à l'usage stoïcien, c'est la

science de la méthode dont la science est fait; soit, puisque la science est rationnelle, l'étude des lois qui règlent les démarches de la raison, en un mot la logique;

b) mais elle est aussi, comme chez Aristote, la science, non plus théorique mais pratique, de la discussion; l'art de convaincre ou de confondre un adversaire.¹

Between the time of Saint Augustine and the beginning of the Carolingian renaissance there were two logicians worthy of note: Boethius (470-525) and Cassiodorus (480-575). Boethius' great contribution was his translation of the whole of the Organon of Aristotle. The last three of these books (some authors say four) fell into disuse shortly after his death. It was thought that their content was too difficult for the students of that time. Amongst his other works Boethius wrote a commentary on Cicero's Topica, and he composed five essays of his own on different branches of logic. These writings, together with his translations and other works, were introduced into the medieval educational curriculum.

The curriculum of these medieval times comprised the seven liberal arts. These included the study of grammar, rhetoric, and dialectics or logic which were referred to as the Trivium; and arithmetic, music, geometry, and

¹Henri-Irénée MARROU, Saint Augustin et la Fin de la Culture Antique, Paris, E. de Boccard, 1949, p. 195.

astronomy which were known as the Quadrivium. The liberal arts course was begun as early as the first century, B.C. The Roman writer, Terentius Varro, who died in 27 B.C., contributed to the organization of the liberal arts by his work, now lost, Disciplinarum libri IX. Besides the sciences already mentioned, he included that of medicine and architecture. This list of arts was given further approval and stability by Martianus Capella in his book, Satyricon libri IX. Martianus lived in Carthage and he wrote his book around the year 420 A.D. He sanctioned the writings of Varro but he excluded medicine and architecture from the course. Henceforth, the sciences were called the "seven liberal arts".

Cassiodorus, like Boethius, was also extremely influential during this period and he contributed much in the field of dialectics. He looked upon the art of dialectica as an instrument of disputation and the study of the syllogism. Dialectics was upheld by him as an instrument in the study of Scripture and the teaching and defending of Christian doctrine. He devoted a long chapter on dialectics in his well-known book, Institutiones.

The century and a half after Cassiodorus contributed little, if anything, to the development of

dialectics. During the end of the eighth century learning began to revive and a change of emphasis was evident in the curriculum of learning. The quadrivium diminished in importance to the trivium and grammar gained precedence over the other subjects of the trivium. Dialectics was relegated to the background and in some places it was not even taught. Alcuin, who was master of the palace school of Charlemagne, did contribute a work entitled Dialectica, but it was based on the categories of Aristotle with little attention given to a consideration of arguments.

Nor were the tenth and eleventh centuries more fruitful in the realm of dialectics. It is true that Saint Anselm, (1033 - 1109), contributed some works but his writings suggest the influence of Stoic thought rather than that of Aristotle.

During the eleventh and twelfth centuries dialectics received more and more importance. In theory, the seven liberal arts still held their place on the educational curriculum but, in practice, some of the arts were not taught and the order of instruction was often changed. There was much controversy about the different arts and, although dialectics was to the fore, in some schools little importance was paid to it.

Perhaps one of the most influential characters of this period was Peter Abelard (1079 - 1142). His greatest work, Sic et Non, paved the way for a greater use of dialectics. In this book he sets forth the disputed questions of the theology of his day. Then basing these problems on reason he shows his skill in solving these difficulties. Although this method later on was proved orthodox and, in fact, it was the method employed by Saint Thomas in the Summa, at the time it was open to much criticism. Abelard also wrote four books on logic, one of which was entitled Dialectica. It was based chiefly on the works of Boethius, but it was original in character.

The middle of the twelfth century witnessed an event of great importance in the history of dialectics. The whole of the Organon made its appearance into Europe, either in the old translations of Boethius or in new translations. In 1128, a certain James of Venice translated again the Topics, Analytics, and On Sophistical Refutations. These works appeared at Chartres (a prominent school of the twelfth century) in the year 1140 and were taught by Thierry, one of its well-known Chancellors.

The first medieval book which incorporated the teachings of the Organon was that of John of Salisbury

entitled, Metalogicon, and written in 1159. This book was written in defense of logic against the attacks of a critic.

Side by side with Peter Abelard as a defender of the dialectical method stands Peter Lombard. His aim to remain always orthodox and traditional allowed him to meet with more approval in the use of the new method. His greatest work was the Book of the Sentences (finished about 1150) which was a theological summa in four parts. This book formed a kind of text book of theology and it was lectured and commented upon by many theologians and philosophers. Perhaps the best known of these is the Commentary on the Sentences by Saint Thomas. Referring to the method used in Book of the Sentences De Ghellinck makes this remark:

Sans digressions délayées comme chez d'autres, l'oeuvre de Pierre Lombard est de marche correcte, claire dans son plan, attentive aux discussions dialectiques, soucieuse de noter tous les avis, suffisamment impersonnelle pour donner du jeu au commentaire des maîtres, et d'un bout à l'autre, à part une proposition christologique et quelques opinions de détail, rigoureusement orthodoxe.¹

One of the first to commentate Peter Lombard was Peter of Poitiers (1130? - 1205), the greatest of his disciples. He wrote five books of Sentences and also

¹J. DE GHELLINCK, S. J., Le Mouvement Théologique du XIIIe Siècle, Bruxelles, L'Édition Universelle, 1948, p229

Glossas on those of Lombard, Glossae super sententias.

In his Sentences he preferred questions which were open to discussion in Holy Scripture, disputabilia. This gave him an opportunity to use dialectics and to formulate the subject-matter in a systematic order. Speaking of his enthusiasm for the new method, Dr. Philip More states:

His Sentences show that he was completely won over to the dialectical spirit, the success of which had been assured by the introduction of Aristotle's complete Organon into the West. And, for this reason, it seems to me, he deliberately chose the questions in which dialectics could be used to best advantage.¹

With the new surge of learning and the increase in the number of students at this period it is not surprising that measures of organization would gradually result. This period saw the rise of universities. The greatest of all the medieval universities was that of Paris. At Paris three schools had been prominent: Saint Victor's, attached to the Church of the Canons Regular; Sainte-Genevieve-du-Mont, conducted first by seculars and later by canons regular; and Notre-Dame, the school of the Cathedral. According to one account the University of Paris was a result of the union of these three schools; according to another account, it originated in Notre Dame

¹Philip S. MOORE, The Works of Peter of Poitiers, Notre Dame, Indiana, 1936, pp. 45 - 46.

only. In 1200 the new University of Paris received its charter from Philip Augustus, and in 1231 it was officially recognized by the Pope in the Bull, Parens Scientiarum.

One of the most important events in the life of the University of Paris was the introduction of houses of study by the new religious orders. In 1217 the Dominicans established themselves in Paris and in 1229 they obtained a chair of theology. In the same year the Franciscans, who had come to Paris a few years after the Dominicans obtained a chair also.

The philosophical system of Aristotle, which was being known through the translations, was making its way into the Universities. At first it was looked upon with suspicion by the Catholic Church. The difficulty of reconciling Christian thought with pagan philosophy seemed unsurmountable. Furthermore, it was felt that the writings of Aristotle had lost their original purity through the interpretations, interpolations, and commentaries of the Arabs and the Jews. It is not surprising, then, to hear that the Church took a stand. In 1210 the Church forbade the teaching of Aristotle in Paris on pain of excommunication. Five years later, however, the Organon was permitted to be taught.

It is interesting to note the different works in logic that were prescribed for the Faculty of Arts. In a document published by Denifle, Chartularium Universitatis Parisiensis, and by him referred to the year 1252, we find the following works among those prescribed: Logica Vetus (the old Boethian text of a portion of the Organon, probably accompanied by Porphyry's Isagoge); Logica Nova (the new translation of the Organon; Gilbert de la Poree's Liber Sex Principiorum and Donatus' Barbarismus).¹

The first work to be written after the prohibition that debarred the study of Aristotle's works had been lifted was a general compendium of Theology by Alexander of Hales. An Englishman, he was the first to obtain the Franciscan Chair of Theology. In his work we find the scholastic method entirely developed. He modifies the method of Abelard's Sic et Non by introducing the tripartite of each question. This corresponded to the arrangement later used by Saint Thomas under the heads: Videtur quod non, Sed contra, and Respondetur ad lum, etc.

Another important contribution made in the thirteenth century to dialectics was the Summalae Logicales

¹H. DENIFLE, O. P., Chartularium Universitatis Parisiensis, Collegit, auxiliante Aemilio Chatelain, Parisiis, Delalain, 1889 - 1897, Vol. 1, p. 228.

of Peter of Spain (1210 - 1277). The dialectical character of this work is referred to in the following passage:

At the very beginning of the Summulae, Peter of Spain asserted that his entire work would have only the character of probability. For him, dialectic was the science which held the key to the principles of all methods. Knowledge of it was acquired prior to the knowledge of any of the other sciences, for dialectic discussed with probability the principles of all the other sciences. Consequently, any development which resulted from a discussion of the principles proper to these sciences had only the character of probability.¹

One aspect of dialectics that was on the ascendancy during the thirteenth century was inductive reasoning. Perhaps the first man to insist on the need for observation and experiment in the study of nature was Robert Grossseteste (1175 - 1253), lecturer at the Franciscan school in Oxford about 1224. His pupil, Roger Bacon (1214 - 1292), is remembered as being the forerunner of Francis Bacon in the advocacy of the empirical method.

No one showed more interest in empirical research during the thirteenth century than the great Saint Albert (1206 - 1280). He placed strong confidence in the value of observation and investigation and contributed

¹Joseph P. MULLALLY, The Summulae Logicales of Peter of Spain, Notre Dame, Indiana, 1945, p. c.

many writings on plants and animals. His work in empirical research, however, was only a part of his monumental contribution in both philosophy and theology. These writings have been published under the title Opera Omnia. His legacy in logic, and especially in dialectics, is considerable. His writings in this field included commentaries on the works of the old and new logic. Of special interest is his commentary on Aristotle's Topics. In the book Medieval Logic, Boehner has given a brief description of its content:

Topica is concerned with the dialectical rules of "principles" which enable one to arrive at probable solutions to various problems. Historically speaking, we are justified in regarding this rather strange logical work of Aristotle as the starting-point for the medieval theory of the "consequentiae" as well as the tract on the "Obligationes" (Art of disputation); for not only did the Topics provide rules for this art, but in their study of the enthymematic character of the inferences employed, the scholastics were gradually led to investigate the interrelationship of propositions under the broader aspects of extra-syllogistic inferences.¹

The man, however, who really surpassed all others in the thirteenth century was Saint Thomas Aquinas, the renowned pupil of Saint Albert. Although Saint Albert did not bequeath to him his interest in empirical research

¹Philotheus BOEHNER, O. F. M., Medieval Logic: an Outline of its Development from 1250 to 1400, Chicago, Univ. of Chicago, 1952, p. 4.

he exerted a strong influence on him. It was through him that he came in contact with the works of Aristotle and all the other great works that preceded him. This was a case, however, where the pupil surpassed the teacher. Saint Thomas had a genius for intellectual penetration and systematization. Within his short lifetime, (1225 - 1274), he wrote on nearly every aspect of philosophy and theology. Unfortunately, we must limit ourselves to a study of his contribution in the sphere of dialectics. The following chapter will be devoted to an investigation of his ideas in regard to this branch of philosophy.

CHAPTER III

DIALECTICS ACCORDING TO SAINT THOMAS

The thirteenth century may be said to mark the flowering of dialectics. Several factors contributed to this result. The first was the discovery of the books of the Organon, less than a century before, coupled with the astonishing rapidity with which they were translated and their phenomenal spread throughout the centres of learning in Europe. The acclaim, and even enthusiasm, with which these works were received by philosophers and theologians were other contributing factors to the success of dialectics. It is true that all the works of Aristotle were looked upon with suspicion at the beginning of the thirteenth century and were actually forbidden to be taught. It is interesting to note, however, that Aristotle's works on Logic were included in the first books to be lifted from the ban. The third factor, and perhaps the one that contributed most to the blossoming forth of dialectics, was the fact that it was held in high regard by the renowned philosopher and theologian, Saint Thomas Aquinas. The greatest tribute he paid it was his preference for the dialectical procedure in most of his didactic works.

It is, indeed, unfortunate that Saint Thomas did not write a commentary on the Topics, Aristotle's main

treatment of dialectics. However, in his Commentary on the Posterior Analytics he makes several references to this subject. He also refers to it in his Commentary on Metaphysics, in questions V and VI of his exposition of the De Trinitate of Boethius, and in questions X and XI of the De Veritate. Frequently throughout the Summa he makes brief comments on the subject of dialectics.

The fundamental notion of dialectics as a form of argumentation from probable premises to conclusions which were probably true was cited by Saint Thomas in his writings.¹ His insight into dialectics was not confined to this basic notion alone. Saint Thomas looked upon dialectics as the logical science of the method of discovery and as the art of applying the method of discovery in every domain, either by discussion or by any other similar procedure. In viewing dialectics in this way Saint Thomas was, basically, formulating in his own way the aims of dialectics as laid down by Aristotle in his Topics, especially the third one which refers to the aid dialectics is for science.² At the same time he was giving to dialectics a somewhat wider application in that he

¹1a - 11ae, q. 96, a. 1, ad 3; 1 Post. Analyt., lec. 1, n. 6.

²Topics, 101 a, 25.

viewed it as a method of discovery in every domain. Moreover, he gave dialectics a slightly different orientation in that his notion of dialectics is linked up with his theory of knowledge. In order, therefore, to understand the thomistic notion of dialectics it is necessary to investigate his theory of knowledge.

Before beginning this study it would seem in order, first of all, to place dialectics in its rightful position with regard to logic according to Saint Thomas. The question that arises at this point is: Did Saint Thomas consider dialectics to be identical with logic as many philosophers argued, or did he regard it as a part of logic?

The writings of Saint Thomas clearly indicate that he considered dialectics as a part of logic and not as identical with it. The following passage justifies this contention:

Secundo autem rationis processui deservit alia pars logicae, quae dicitur inventiva nam inventio non semper est cum certitudine, . . . Per huiusmodi enim processum quandoque quidem, ita non fiat scientia, fit tamen fides vel opinio propter probabilitatem propositionum ex quibus proceditur, quia ratio totaliter declinat in unam partem contradictionis, licet cum formidine alterius; et ad hoc ordinatur topica sive dialectica, nam syllogismus dialectus ex probabilibus est,

de quo agit Aristoteles in libro Topicorum.¹

Saint Thomas makes it clear in this passage that dialectics is "a second process of reasoning".² As such, it stands in contrast with demonstration, the first process of reasoning. Demonstration is a form of argumentation in the area of probability.

The question of the relation of dialectics and logic answered, we now focus our attention on the nature of dialectics itself from the thomistic viewpoint. Since the ideas of Saint Thomas on this subject are bound up with his theory of knowledge we shall start from this point.

Saint Thomas believed that knowledge is acquired in two different stages: a preparatory one, invention; a decisive one, the passing of a judgment.³ Once a person is seized with a sense of wonder⁴ about things he finds no rest until he has arrived at the essences of things.⁵

¹Post. Analyt., lect. 1, n. 6.

²Ibid.

³J. ISAAC, La Notion de dialectique chez saint Thomas, in Revue des Sc. ph. et th., Vol. XXXIV, 1950, p. 481 . . . "le savoir, pour saint Thomas, s'acquiert en deux temps: l'un préparatoire, d'invention; l'autre décisif, de critique."

⁴1a - 2ae, q. 3, a. 8.

⁵Comm. Theo. 104.

This goal is not reached without difficulties and suffering.¹ The words "quaerere scientiam", "inquisitio rationis" and many similar expressions testify that according to the teachings of Saint Thomas knowledge must be sought after before it is acquired.

The preliminary step to knowledge can be made in any one of three different ways. One can enlist the services of a teacher who will guide the pupil until such time as he can judge for himself. One can also take the opinions of others and, by discussion, with others or oneself, arrive at truth.² This is what Saint Thomas refers to as disputatio. In explaining the works of Aristotle, he often uses such expressions as: "procedit disputative" or "per modum disputationes".³ Finally, one can free himself from everyone and, without any help whatsoever, start on a research on his own in order to discover the unknown. This is what Saint Thomas terms inventio, that is, a method of invention, of discovery. Such expressions as "per inventionem propriam", "inveniendo" were often on the pen of Saint Thomas.

¹Ia - IIae, q. 38, a. 4, ad 1; Ia, q. 101.

²III Met., lec. 1, n. 338 - 345.

³For example, I Phy., lec. 10 to 12.

This latter method, inventio, whereby one acquires knowledge through personal research, was for Saint Thomas dialectics, properly so-called. In a wider sense dialectics also included the other two preparatory steps to knowledge. It embraced the method of the teacher in the classroom leading the pupil to truth. This relationship between dialectics and teaching, which is the focal point of this thesis, will become more evident after the nature of teaching has been analyzed in the next chapter.

Dialectics also included the method of discussion with others or with oneself prior to the acquisition of truth. In brief, we can say that, for Saint Thomas, dialectics was identical with the preparatory step to knowledge, be it through personal research, teaching, or discussion.

In order to understand dialectics in this role of being the preparatory step to knowledge, a glance at the part played by the judgment, the decisive element in the acquisition of knowledge, will lead, by contrast, to a deeper grasp of dialectics itself.

According to Saint Thomas, a judgment follows every discovery, be it by way of teaching, discussion, or personal research.¹ A judgment implies that, previous to

¹Ia, q. 117, a. 1; III Sent., dist. 33, q. 3, a. 1, sol. 3, n. 281.

it, conclusions have been reached.¹ These come before the pursuer of knowledge for examination.² This could be called a verification of an hypothesis which has for its foundation serious, cogent arguments. It results from a teaching accepted, opinions received, or a personal discovery made. The judgment that is made, at first, is held with fear of being mistaken.³ It remains to be verified. This verification takes place when the judgment is resolved in the light of the first principles.⁴ This is what Saint Thomas called a "resolutio",⁵ that is to say, an analysis.

Saint Thomas has explained this part of logic concerning the scientific judgment in the following way:

Est enim aliquis rationis processus necessitatem inducens, in quo non est possibile esse veritatis defectum; et per huiusmodi rationis processum scientiae certitudo acquiritur . . . Pars autem logicae quae primo deservit processui pars iudicativa dicitur, eo quod iudicium est cum certitudine scientiae. Et, quia iudicium certum de effectibus haberi non potest

¹10 De Ver., a. 8, ad 10.

²16 De Ver., a. 2.

³I Post. Analyt., lec. 1, n. 6.

⁴Ibid.

⁵III Sent., dist. 35, q. 2, a. 1, sol. 2, n. 117.

nisi resolvendo in prima principia, ideo pars haec analytica vocatur, idest resolutoria. Certitudo autem iudicii quae per resolutionem habetur, est vel ex ipsa forma syllogismi tantum, et ad hoc ordinatur liber Priorum Analyticorum qui est de syllogismo simpliciter, vel etiam cum hoc ex materia, quia sumuntur propositiones per se et necessariae, et hoc ordinatur liber Posteriorum analyticorum qui est de syllogismo demonstrativo.¹

The resolution of a judgment in the light of the first principles is not to be confused with the preliminary investigation. The analytic research, "inquisitio resolvens",² according to Saint Thomas, is the act of the scientific judgment. The mind, as it were turns in on itself and considers the preceding conclusions in the light of the first principles. Then it pronounces sentence³ by giving it a definitive assent. Once this is done, science results and there follows rest and contemplation.

Sciens vero¹ et cogitationem et assensum, sed cogitationem causantem assensum, et assensum terminantem cogitationem. Ex ipsa enim collatione principiorum ad conclusiones, assentit conclusionibus resolvendo eas in principia, et ibi figitur motus cogitantis et quietatur. In scientia enim motus rationes incipit ab intellectu principiorum, et ad eundem terminatur per viam resolutionis;

¹Post. Analyt., lec. 1, n. 5 - 6.

²II Sent., dist. 7, q. 1, a. 1, sol.

³Ia - IIae, q. 13, a. 1, ad 2.

et sic non habet assensum et cogitationem quasi ex aequo, sed cogitationem inducit ad assensum, et assensus quietat.¹

It is necessary to point out that this analytical research, this recourse to the first principles, is not the work of logic but pertains to the particular sciences. The theory belongs to logic but not the application. Thus this logical demonstration, as the analytical research is known as, is "locens docens", but "non utens".²

The important thing to note here is that the logical demonstration that we have just explained is essentially an instrument of verification and not of discovery. If recourse to it is indispensable in the acquisition of knowledge, no less indispensable are the preparatory steps of investigation leading to it. Together they bring about science. Analysis, on the one hand, is the logical science of demonstration; dialectics, on the other hand, is the logical science of invention or discovery. We have explained the former in some detail in order to throw greater light on the latter.

We have already seen that scientific demonstration is "logica doctrina" and "non utens". Dialectics, on the

¹14 De Ver., a. 1.

²II Post. Analyt., lec. 5, n. 4.

contrary, is both "logica doctrina" and "logica utens". It is the former because it teaches the way of arriving at the probable; it is the latter because it applies this method in every subject.

Licet autem dicatur quod philosophia est scientia, non autem dialectica et sophistica, non tamen per hoc removetur quin dialectica et sophistica sint scientiae. Dialectica enim potest considerari secundum quod est docens, et secundum quod est utens. Secundum quidem quod est docens habet considerationem de istis intentionibus, instituens modum quo per eas procedi possit ad conclusiones in singulis scientiis probabiliter ostendendas; et hoc demonstrative facit, et secundum hoc est scientia. Utens vero est secundum quod modo adiuncto utitur ad concludendum aliquid probabiliter in singulis scientiis; et sic recedit a modo scientiae . . . Et sic apparet quod quaedam partes logicae habent ipsam scientiam et doctrinam, et usum, sicut dialectica tentativa et sophistica, quaedam autem doctrinam, et non usum, sicut demonstrative.¹

The fact that dialectics is the method of invention in every subject is precisely what is new in the dialectics of Saint Thomas. We find this clearly stated in the Summa:

In speculativis una est dialectica una est ~~dialectica~~ inquisitiva de omnibus; scientiae autem demonstrativae, quae sunt iudicativae, sunt iudicativae, sunt diversae de diversis.²

¹IV Metaphys., lec. 4, n. 576 - 577.

²Ia - IIae, q. 57, a. 6, ad 3.

Thus dialectics is the method of invention not only for philosophy, but also for all the sciences. This is brought out clearly in the Second Analytics:

Pars autem logicae quae demonstrativa est, etsi circa communes intentiones versetur docendo, tamen usus demonstrativae scientiae non est in procedendo ex his communibus intentionibus ad aliquid ostendendum de rebus quae sunt subiecta aliarum scientiarum. Sed hoc dialectica facit, quia ex communibus intentionibus procedit arguendo dialecticus ad ea quae sunt aliarum scientiarum, sive sint propria sive communia, maxime tamen ad communia.¹

In maintaining that dialectics is the way to any science Saint Thomas is not confusing the ideal order with the order of reality. Dialectics, as has been stated, is only the preliminary step to knowledge. It is a search for knowledge from the exterior. "Dialectica est tentativa quia tentare proprium est ex principiis extraneis procedere."² In as much as it is dialectics, it has concern with probability. But this concern with probability is not limited to any particular field. In this way it is the way to any science. Science, however, is the fruit of demonstration and not of dialectics as such.

¹I Post. Analyt., lec. 20, n. 5.

²IV Met., lec. 4, n. 574.

In summing up the thomistic notion of dialectics we can say that, for Saint Thomas, dialectics was the logical science of discovery or invention and the art of applying this method to any science.

CHAPTER IV

THE NATURE OF TEACHING

Having investigated the nature of dialectics according to the writings of Aristotle and Saint Thomas, we now propose to make a philosophical inquiry into the nature of teaching. In doing so we shall restrict ourselves to the writings of Saint Thomas since his treatment of this subject, although by no means exhaustive, is deeply philosophical and intensely illuminating. In it is combined "the philosophy of the Greeks, the traditions of the Christian Church, and the genius of modern culture of an age in which the foundations of modern culture were laid."¹

Saint Thomas' treatment of teaching is found in one of his early works, Questiones Disputatae de Veritate, Question 11, De Magistro (1250--1259). It is treated again in the Summa contra Gentiles, Book II, c. 75 (1261-1264). It is also presented in a more summary form in the Summa Theologica, Part 1, Question 111, article one; and 117, articles 1 and 2.

In our study we shall confine ourselves for the most part to the work, De Magistro, since this is Saint Thomas' main treatment of the subject. The De Magistro is

¹E. A. PACE, St. Thomas' Theory of Education in Catholic University Bulletin, Vol. VIII, 1902, p. 291.

divided into four articles each of which begins with the word of interrogation utrum: Can one man teach another and be called master, or does this belong to God alone? Can we be said to teach ourselves in the proper sense of the word? Can man be taught by angels? Does teaching belong to the active or the contemplative life? For the purpose of this thesis we shall restrict ourselves to the study of the first question since it involves the nature of teaching as such.

The first question of whether one man or only God can teach was brought forward on two scores, one Scriptural and the other psychological. Each concluded, with seemingly justifiable reasons, that only God can teach.

Leaving aside the Scriptural objection in this thesis we shall concentrate on the psychological objection. First the acquisition of knowledge requires an intelligible species and it also requires intelligible light. Neither of these one man can confer on another.

In the body of the article Saint Thomas notes that there is this same difference of opinion in regard to three issues: the bringing of forms into existence, the acquisition of virtue and acquisition of scientific knowledge. There are two main opinions which effect all three issues. On the one hand, those who hold that changes

in the realm of nature are the work of extra-physical agencies, in like manner hold that habits of virtue were impressed upon the soul by a higher external influence and also that knowledge flowed into the mind from an outside force. On the other hand, there were those who held that knowledge is innate in the mind, and likewise that moral virtues are innate in the soul and that natural forms are latent in matter. According to this opinion, all that the external influence or agency does is to remove obstacles and to bring to light the latent endowments. Education consists in making the student aware of the knowledge he has within himself and learning is simply a case of remembering. This opinion has its roots in the teachings of Plato to whom teaching was encouraging the pupil to recall. It is also the teaching of modern educators, especially Dewey, for whom "rearranging is knowledge; knowledge was already in the student before he was taught."¹

Saint Thomas rejects both views and proposes a via media based on the teaching of Aristotle. He rests his explanation on the fundamental distinction between potency and act throughout the created universe. In regard to the physical order he maintains that natural forms pre-exist

¹Francis C. WADE, S.J., Causality in the Classroom in The Modern Schoolman, Vol. XXVIII, 1951, p. 139.

potentially in matter and are actualized by the action of external agents, and not through the first agent alone. In regard to the moral order he claims that certain inborn tendencies, "beginnings of the virtues",¹ are brought by exercise to their full development. Thus we see that the via media in the physical and moral order is an attempt to hold the balance between internal activity and changes brought about wholly from the external environment. We shall now look more closely into the corresponding theory of education.

Saint Thomas says that there pre-exist in the mind of man certain seeds of knowledge - rationes seminales. This expression, adopted from Saint Augustine has no exact equivalent in English. It means something more than mere potency and something less than actual existence or process. It is rather an initial endowment out of which further knowledge results.

The rationes seminales which pre-exist in the mind are the self-evident first principles of thought and being which spring from the first intercourse of man with the outside world. In these are contained, potentially all the particular items of knowledge, and the transition from

¹De Ver., Ques. 11, a. 1, c.

this first implicit knowledge to the more defined knowledge of each object constitutes the process of learning. It is here in aiding one to acquire this knowledge that the teacher plays his ministerial role:

Similiter etiam secundum ipsius sententiam in VI Ethicorum, virtutum habitus ante earum consummationem praeexistunt in nobis in quibusdam naturalibus inclinationibus quae sunt quaedam virtutum inchoationes sed postea per exercitium operum adducuntur in debitam consummationem.

Similiter etiam dicendum est de scientiae acquisitione; quod praeexistunt in nobis, quaedam scientiarum semina scilicet primae conceptiones intellectus, quae statim lumine intellectus agentis cognoscuntur per species sensibilibus abstractas sive sint complexa, ut dignitates, sive incomplexa, sicut ratio entis, et unius, et huiusmodi, quae statim intellectus apprehendit. Ex istis autem principiis universalibus omnia principia sequuntur, sicut ex quibusdam rationibus rationibus seminalibus. Quando ergo ex istis universalibus cognitionibus mens educitur ut actu cognoscat particularia quae prius in potentia et quasi in universali cognoscebantur tunc aliquis dicitur scientiam acquirere.¹

Saint Thomas continues by stating that there is a twofold way of going from potency to act. One way is when a thing is a passive potency and does not have within it the principle to bring it into act. For example, water does not become ice by itself but must be acted upon by some cooling agent. In the same way clay cannot become a

¹Ibid.

statue of itself but needs the action of the sculptor. Another way is when the thing in potency has an active principle which is sufficient to initiate its activity from within. In this second case the external agent is not absolutely necessary but has the role of an auxiliary.

Saint Thomas insists upon the fact that knowledge preexists in the learner potentially not in the purely passive way, but in the active sense. This is proven by the fact that a pupil can learn by himself. Saint Thomas calls this solitary growth discovery (inventio). In the ordinary course of events, however, the pupil needs to be aided by someone else and this is what is called learning by instruction (doctrina, on the part of the teacher and disciplina, on the part of the pupil).

Sicut ergo aliquis dupliciter sanatur:
uno modo per operationem naturae tantum,
alio modo a natura cum adminiculo medicinae;
unus quando naturalis ratio per seipsam
devenit in cognitionem ignotorum; et hic
modus dicitur inventio; alius, quando rationi
aliquis exterius adminiculatur, et hic modus
dicitur disciplina.¹

Saint Thomas then draws a comparison between the causality of the teacher in regard to the pupil and the causality of the doctor in healing a patient. A sick man is not in complete potentiality in regard to the

¹Ibid.

physician's help. The patient has within him an active principle which is the primary cause of his restoration to health; a doctor in healing a sick man merely assists nature to cure itself. The doctor's role is ministerial only. In like manner the teacher's role is that of co-operating with nature. "The teacher is the efficient cause of his own taught knowledge."¹ The teacher's role, although essential, is at the same time ministerial. His duty is to stimulate the self-activity of the student.

He accomplishes his task adjuvando et ministrando:

Quando igitur praeexistit aliquid in potentia activa completa, tunc agens extrinsecum non agit nisi adjuvando agens intrinsecum et ministrando ei ea quibus possit in actum exire; sicut medicus in sanatione est minister naturae, quae principaliter operatur, confortando naturam et opponendo medicinas, quibus velut instrumentis natura utitur ad sanationem.

Quando vero aliquid praeexistit in potentia passiva tantum, tunc agens extrinsecum est quod educit principaliter de potentia in actum; sicut ignis facit de aere, qui est potentia ignis, actu ignem.

Scientia ergo praeexistit in addiscente in potentia non pure passiva, sed activa; aliaq homo non possit per seipsum acquirere scientiam.²

When one acquires science through the help of another it is a case of art imitating nature. Therefore the art of teaching consists in observing the procedure

¹WADE, The Modern Schoolman, Vol. XXVIII, p. 145.

²De Ver. Q. 11, a. 1, c.

followed in the natural process of the acquisition of science and then imitating this process in the actual art of teaching:

In his autem quae fiunt a natura et arte, eodem modo operatur ars, et per eadem media, quibus et natura sicut enim natura in eo qui ex frigida causa laborat, calefaciendo induceret sanitatem, ita et medicus; unde et ars dicitur, imitari, naturam. Similiter etiam contingit in scientiae acquisitione, quod eodem modo docens alium ad scientiam ignotorum deducit sicuti aliquis inveniando deducit seipsum in cognitionem ignoti.¹

Saint Thomas then goes on to show exactly how the natural process is imitated in the art of teaching. The process of reasoning from general ideas and principles to particular applications and conclusions is the natural course of development. The teacher does exactly this in his own reasoning process. In teaching, the teacher then must place his own discursive reasoning before the pupil by means of signs. The pupil then makes use of these signs as instrumental aids in arriving at the knowledge of the unknown.

It is clear then that one man does not teach another as providing the intelligible species. The intelligible species are the result of the activity of the learner's own active intellect. The teacher supplies

¹Ibid.

the sensible signs from which the actual intelligible species are derived by the learner's intellect.

The second objection that one man cannot teach another because he cannot provide the intelligible light is resolved by Saint Thomas in the concluding part of the article. This light of reason, by which principles are known to us, is bestowed on man by God and is a certain likeness of the divine truth residing in man. Since all truth only has its efficacy in virtue of that light it is obvious that God alone teaches man as the principal agent:

Huiusmodi autem rationis lumen, quo principia huiusmodi sunt nobis nota, est nobis a Deo inditum, quasi quaedam similitudo increatae veritatis in nobis resultantis. Unde cum omnis doctrina humana efficaciam habere non possit nisi ex virtute illius luminis; constat quod solus Deus est qui interior et principaliter docet, sicut natura interior etiam principaliter sanat; nihilominus tamen et sanare et docere proprie dicitur modo praedicto.¹

While God teaches interiorly as a principal agent, man teaches the truth exteriorly in so far as he furnishes the sensible signs to aid the intellect of the learner in its function. ". . . sicut medicus quamvis exterius operetur, natura sola interior operante, dicitur facere sanitatem."²

¹Ibid., q. 11, a. 1 ad 7.

²Ibid.

Thus it is evident that in our search for knowledge we depend upon God, not only as the author of our existence but also in a more special way "as the source of those luminous principles to which we refer the findings of discursive thought."¹ He is the first and principal teacher and thus the teacher in his ministerial role co-operates with God in the work of education.

The exact steps the teacher takes in her ministerial role are not clearly defined in the De Magistro. We must go to the Summa for a precise delineation of the function of the teacher. Here we find that the steps the teacher takes are two: 1) supplying of propositions and examples; 2) guiding the student from principles to conclusions:

Ducit autem magister discipulum ex praecognitis in cognitionem ignotorum dupliciter. Primo quidem proponendo ei aliqua auxilia vel instrumenta, quibus intellectus eius utatur ad scientiam acquirendam: puta cum proponit ei aliquas propositiones minus universales, quas tamen ex praecognitis discipulus diiudicare potest; vel cum proponit ei aliqua huiusmodi ex quibus intellectus addiscentis manuducitur in cognitionem veritatis ignotae. Alio modo, cum confortat intellectum addiscentis; non quidem aliqua virtute activa quasi superioris naturae, sicut supra dictum est de angelis illuminantibus, quia omnes humani intellectus sunt unius gradus in ordine naturae; sed in quantum proponit discipulo ordinem principiorum ad conclusiones, qui forte

¹PAGE, The Catholic University Bulletin, VIII, p. 295.

per seipsum non haberet tantam virtutem collativam
ut ex principiis posset conclusiones deducere.¹

From this analysis of the teaching process according to Saint Thomas we can summarize his teachings in the following manner. To teach is to lead a disciple to new knowledge through discourse. This is the operation of the disciple himself with God as the principle teacher teaching internally and man, in an auxiliary role, teaching externally through the instrumentality of words.

Having analyzed the nature of teaching, we now arrive at the burden of this thesis--that of showing concisely the relationship between teaching and dialectics. This will be the purpose of the following chapter.

¹Summa Theol., I q. 117, a. 1, c.

CHAPTER V

RELATION BETWEEN DIALECTICS AND TEACHING

The preceding chapters have been devoted to an investigation of the two main ideas of this thesis, dialectics and teaching. It now remains to show the relationship between these two ideas. Once the nexus between the two becomes evident, the truth of the enunciation of this thesis which reads Dialectics as an Approach to Teaching will follow as an inevitable conclusion.

In order to accomplish this task it will be necessary to highlight the main ideas gleaned from our study which bear most directly on the issue at hand.

One of the main ideas that must be brought into relief is that of the nature of dialectics itself. According to Aristotle, we have learned that it is a form of argumentation in the area of probability. As such, it stands in contrast with demonstration which is a form of argumentation in the area of necessity. The former is a method of discovery, the latter is a method of proof. The fruit of the former is, and always will be, opinions more or less certain; the fruit of the latter is science. From the fact that dialectics, inasmuch as it is dialectics, has concern with probability it is not, and cannot be, limited to any particular field. Indeed, it may be considered the way to any science.

This concept of dialectics was upheld by Saint Thomas in the thirteenth century. He regarded it as a method of investigation, a method of discovery, and as a preparatory step to all knowledge. He considered it as such, not only in the field of philosophy, but also in every domain. The fact that he himself actually employed the dialectical method in his teaching and writing testifies to the importance that he attached to it. In truth, he looked upon it as an indispensable way in the pursuit of all science.

In our consideration of the nature of teaching we defined teaching as the art whereby one acquires science through the help of another. Since it is an art, it imitates nature. Nature, in this instance, would be understood as human reason. The art of teaching thus consists in observing the procedure followed by human reason in the acquisition of knowledge and imitating this process. We find this natural operation to be a discursive movement from old knowledge to new knowledge. In the art of teaching the teacher must imitate this natural procedure. He must, therefore lead the student, step by step, through the natural course which he himself has traversed in the acquisition of knowledge.

Here, we arrive at the very crux of the problem. Does not this process through which the teacher leads the pupil correspond with Aristotle and Saint Thomas' understanding of the meaning of dialectics? Is not the method used by the teacher in leading the pupil to knowledge that of dialectics? Finally, can we not infer from this that dialectics is an approach to teaching?

From the detailed analysis of dialectics that we have made, we have concluded that dialectics is a method of invention, of discovery and the preparatory step to all knowledge. In the proper meaning of the word it refers to the search for knowledge through personal research. In regard to the nature of teaching, we have concluded that in the art of teaching the teacher imitates the natural process which he or she has already gone through in the actual acquisition of the knowledge to be imparted. It now becomes evident that this natural procedure that the teacher follows is none other than what Saint Thomas has referred to as the method of invention, of discovery, which is dialectics properly so-called. We can therefore conclude that the teacher does make use of dialectics in helping another to acquire knowledge or science. Hence, we are justified in saying that dialectics is an approach to teaching. Indeed, we might go so far as to say that it is

the only logical approach to real teaching. Not to use the dialectical approach in teaching would be to indoctrinate rather than to teach. This idea is well expressed in the following passage:

A teacher who does not begin with the familiar world of the learner and who does not lead him in a consecutive way to what is unfamiliar and unknown is not teaching. He is indoctrinating.¹

Teaching, then, to be truly effective should employ the dialectical approach. Using this method the teacher leads the student, step by step, to discover the truth for himself. The road mapped out for him by the teacher is similar to the one he himself has traversed with the additional advantage of being more clear-cut, more certain. Ideas and experiences without a logical relationship have been sorted out and relevant ideas have been elucidated and pointed up.

Having examined the relationship between dialectics and teaching we now propose to examine the main methods used by the teacher in communicating knowledge to the student. We shall note the dialectical character of these methods and the extent to which it is used in each case.

¹Vincent E. SMITH, The School Examined, The Bruce Publishing Company, Milwaukee, 1960, p. 19.

According to Gilbert Highet in his well-known book, The Art of Teaching there are three methods of teaching. The first is the lecture. The second is the "question and answer" method which was introduced by Socrates. In the third method the pupils learn a prescribed lesson as preliminary work; the teacher, then, questions the pupils on this work and explains it more fully and in more detail.

In regard to the first method, that of lecturing, the teacher talks almost without interruption to the class. The class listens, takes down notes and facts worth noting but there is little or no discussion with the teacher. The essence of this type of teaching and its aim are a continuous flow of knowledge going from the teacher to the pupils.

In order for this method to become what teaching should be, the teacher must foresee and raise problems before he gives the answers; he must present the various opinions on the subject; he must set forth the objections against the right answer. Only after he has used this dialectical approach should he then present the truth. This method will only be successful if it is used in this way:

The lecture method can be a successful teaching instrument only if it is a kind of

imitation dialogue in which the teacher anticipates the difficulties and doubts of students and raises them in emphatic form before proceeding to the truth.¹

The lecture method at best will always remain less satisfactory than teaching by questions and answers which is the second method referred to. The "question and answer" method is not confined to one method but includes a variety of methods all of which are distinguished by the "question and answer" aspect of their general procedure. One such method is the problem method. The following chapter will be devoted, in large part, to a detailed analysis of its dialectical procedure. In this chapter we shall confine ourselves to a general description of the "question and answer" method. This is very well given in the following passage:

Here the teacher does not talk. He asks questions, and the pupil talks. But the questions are so arranged as to make the pupil conscious of his own ignorance, and to guide him towards a deeper truth, which he will hold all the more firmly because it has not been presented to him ready-made but drawn out of his mind by the joint efforts of his teacher and himself.²

It is very evident that this second method incorporates the real dialectical approach. Its aim is to

¹Id., p. 56.

²Gilbert HIGHET, The Art of Teaching, Alfred A. Knopf, Inc. and Random House, Inc., 1961, p. 88.

arouse in the child's mind a personal problem, a need, a puzzle, before it can assimilate the answer. This requires dialectical activity on the part of the teacher; it necessitates that the teacher be a good questioner. Good questioning stimulates the pupil and whets his appetite for the truth which he will enjoy on assimilation. From the time of Socrates to the present day the "question and answer" method of teaching has been regarded as one of the most effective ways of imparting knowledge. Its dialectical character is responsible, in large measure, for this recognition.

In the third method referred to the pupils learn a prescribed lesson as preliminary work; the teacher, then, questions the pupils on this work and explains it more fully and in more detail. The preliminary work done by the pupil in this method is really learning by discovery rather than learning by instruction. However, since it is teacher-inspired and teacher-guided it can be considered as learning by instruction in this case. Since learning by discovery is dialectics in the proper sense of the word, a teacher trained in its procedure will be able to lead the pupils effectively in the preliminary work. Once the preliminary work has been completed, the teaching part of this method then takes place. This teaching will be a

combination of both the "question and answer" method and the lecture method. Since these methods have been already discussed in some detail we shall not go into any further explanation of this method.

Thus we may conclude that there is a real relationship between dialectics and teaching. Indeed, we may say that teaching, if it is teaching at all, includes dialectics. It is that preliminary step in all good teaching whereby the pupil is lead from the known to the unknown and is disposed to accept the truth. The use and importance of dialectics in the teaching process is cogently expressed in the following statement:

To the extent that the dialectical method is applied as appropriate to the various stages and subjects of human education, learning will be successful, minds will be vital, and the thirst for truth will goad us to new springs of knowledge.¹

Of the three methods of teaching examined the "question and answer" method is most dialectical in character. This method, in reality, includes a variety of teaching procedures, the most dialectical of which is the problem method. In the following chapter we propose to investigate these teaching procedures, with special emphasis on the problem method. We shall also examine

¹SMITH, The School Examined, p. 57.

the method used in the teaching of science, the inductive method, since induction is another form of reasoning of which dialectics makes use.

CHAPTER VI

DIALECTICAL PROCEDURES USED IN TEACHING

In the last chapter we established the relationship between dialectics and teaching. We saw that the preparatory step through which the teacher leads the student in his quest for knowledge corresponds with the dialectical method as taught by Aristotle and Saint Thomas. The teaching procedure that adheres most closely to the dialectical method is that which is referred to as the "question and answer" method. This is a generic term, so-called from the characteristic note, dialectical questioning, which is its most distinguishing aspect. In reality it includes a variety of teaching methods, all of which employ in their procedure questions and answers. Perhaps the one which best illustrates the dialectical approach in teaching is what is termed as the problem method. In outlining it in a general way we shall note its close adherence to dialectics.

In using the problem method, the first thing the teacher does is help the student raise problems. Since the child is the principal agent in the teaching-learning process, his mind must be stimulated to learn. John Dewey can be credited with bringing to the fore this ancient Aristotelian axiom that learning usually begins with

problems.¹ The mind must first experience the need to know before it can make the answer its own. This art of raising problems was an important aspect of the Aristotelian topical method. The need for "problem thinking" is well expressed in these lines: "In our day this neglect of 'problem thinking' (as opposed to 'system thinking') could well limit our quest for truth."²

The problem that has been raised is expressed in a dialectical question. Such a question usually begins with "whether". This form of questioning has the advantage of leaving the problem open for discussion on both sides.

Since a problem would seem to imply a difficulty or obstacle, a clash, conflict or collision, of ideas or opinions or claims or interests, many teachers prefer to present their subject-matter in problematic form and to escape pontifical style and dogmatic tone after the manner of Saint Thomas by asking the question "whether" instead of stating a thesis at the outset. This would surely seem to be a desirable procedure because we Scholastics are often accused of smug complacency.³

This type of question, it is to be noted, was used by Saint Thomas at the beginning of most of the articles of the Summa. His preference for the dialectical

¹John DEWEY, How We Think, Boston, 1910, p. 68 ff.

²William M. A. GRIMALDI, S. J., The Aristotelian Topics in Traditio, Vol. XIV, 1958, p. 2.

³Daniel O'GRADY, Informal Logic and Didactics in Proceedings of the American Catholic Philosophical Association, Vol. XXIV, 1950, p. 77.

procedure in teaching is thereby attested.

The first thing about an article, as already noted, is that it begins with a question and that question is so framed as to admit of an alternative, either pro or con. This is accomplished by putting the question in a form that can be introduced by utrum . . . For framed so as to admit of, and even called for, opposite answers it reveals itself as a dialectical question.¹

Once the question has been posed the good teacher elicits opinions from the students. Failing this, he advances opinions pertinent to the problem. These opinions may be of popular belief or the statements of experts or principles taken from some art or profession or personal views that seem plausible. In fact, sometimes the teacher may use an opinion which he is even sure is wrong in order to see if the students can expose its falsity. It is here that teaching becomes involved with controversy. It is this note of being controversial which is so characteristic of dialectics. The very name "dialectics", is derived from the Greek word dialogic and means two in the opposition of dialogue or in question and answer.

Before proceeding with the discussion, a good teacher will make certain that the terms are carefully defined. By distinguishing the meaning of terms, the

¹Otto BIRD, How to Read an Article of the Summa, in The New Scholasticism, Vol. XXVII, 1953, pp. 133, 134.

teacher paves the way for an elimination of ambiguities and fallacies.

The attempt to find common ground for discussion often leads to a probing of the real significance of words employed and to a review of the interpretation and significance given to them.¹

In the course of the discussion, the teacher investigates the differences in the opinions given. This leads to a clearer knowledge of the nature of things. Many problems arise if these are overlooked. In a similar manner the teacher probes the likenesses there are in the opinions expressed. This is necessary since likeness is the foundation of definition, of induction, and of analogies.

It is interesting to note that the method the teacher uses in this procedure is similar to that used in complete demonstration, except that:

1. Instead of principles, opinions are advanced.
2. Many arguments for both sides of the question are brought forward.
3. The more probable side is concluded to and the inclusiveness of the proof is admitted and

¹Sister Rose Emmanuella BRENNAN, Dialectic in Philosophical Inquiry in Proceedings of the American Catholic Philosophical Association, Vol. XXIX, 1955, p. 253.

still needs to be cleared up before certitude will be possible is also recognized.

The teacher keeps in mind while using this method that its purpose is to prepare for demonstration whenever this is possible. The discussion should not go on endlessly but eventually the way should be paved for some statements which are certain.

From this analysis of the problem method it is evident how closely the good teacher follows the natural steps of dialectics. The necessity of following such a procedure, or one similar to it, in order to lead the student to truth cannot be overlooked. However, it must honestly be admitted that all teachers are not sufficiently trained in the art of dialectics to guarantee the general use of such a sound pedagogical procedure. Regret for this deficiency in the training of teachers and a hope that the future will bring more instruction along these lines are expressed in the following passage:

What teachers are now taught about problem solving is largely what has been lifted from a psychological version of the process of problem solving. The psychological description of problem solving contains standards by which to determine whether or not the thinking taking place in the process is dependable, rigorous and clear. For this reason a great deal of what passes for problem-thinking is little more than undisciplined thinking and discussion. No matter what style the teacher follows, or

what method he uses in his classroom work, it is extremely important that he understand the logic of instruction. For effective instruction it is just as essential that he understand the logic of teaching as it is that he understand the psychology of learning.¹

The problem method we have outlined is just one of the many dialectical approaches used in teaching. Other forms adhere more or less to the procedure indicated but stress one aspect more than the others. This is true of the discussion method which has been described as "that crackling interchange among students and with the professor wherein new ideas are verbalized and tested in the crucible of class discussion".²

Some dialectical procedures that the teacher employs in teaching are concerned more with learning by discovery than with learning by instruction. Since they are dialectical in form and are teacher-inspired and teacher-guided we include them as dialectical approaches in teaching. They include research assignments, debates, panel discussions, and symposiums. The use of these teaching forms will have the advantage of training the

¹B. Othanel SMITH, The Need for Logic in Methods Courses, in Theory into Practice, Vol. III, No. 1, Fall, 1964, p. 7.

²Brother ADELBERT, Bases of Teaching Methodology, Association of American Colleges Bulletin, Vol. XLIV, October, 1958, p. 426.

students in the dialectical method, that is, in thinking through problems, in gathering opinions from various sources, and in weighing them in the light of truth. Eventually, if this is possible, through their own investigation students who employ these procedures will be able to discover truth. Such an achievement will bring with it joy and satisfaction.

Another dialectical procedure used in teaching is the inductive method. This is the common method used in teaching the various sciences: ". . . the only way to teach science as science is to teach it inductively, leading the student from observation of concrete data to higher-order conclusions."¹

The general method of procedure in teaching science may be outlined as follows. A problem concerning some aspect of science is brought forward by the teacher. Probable explanations are advanced by the pupils or by the teacher himself. Experiments are then performed in the laboratory to verify what is the correct solution to the problem. The dialectical character of this type of teaching is vouched for in the following passage:

The gradual approach to the knowledge of physical natures is also a dialectical process.

¹Tad GUZIE, The Analogy of Learning, Sheed and Ward, New York, 1960, p. 202.

We cannot know the proper nature, principles, and causes of many concrete things in the physical order, but we can approach closer and closer to a real knowledge of them dialectically by proposing theories or probable explanations, and then verifying them through experimentation, making better theories that explain more than the former theories, again verifying them and so on.¹

The use of the inductive method in the classroom by the teacher has the advantage of training the student in the scientific method. Later on, if he should enter more advanced fields of science, this training will be most valuable.

If throughout the course of a year the teacher performs a large number of experiments, using the same general procedure and always explaining carefully what it is he is doing a student could be made to see a scientific modus operandi, a procedural pattern of handling scientific questions.²

We have attempted in this chapter to bring into focus some teaching procedures that are dialectical in character. From this brief study we have seen that the problem method of teaching resembles the dialectical procedure. Indeed, so closely does it follow the Aristotelian topical method that it can be said to be identical with it. The discussion method, which is a

¹John A. OESTERLE, Logic, The Art of Reasoning and Defining, New York, Prentice-Hall Inc., 1952, p. 184.

²GUZIE, The Analogy of Learning, p. 203.

variation of the problem method, is also a dialectical procedure. Other devices used in teaching, such as research assignments, debates, panel discussions and symposiums, are considered as dialectical procedures of teaching. The inductive method used in teaching the sciences brings into play another species of dialectical procedure.

The importance of the dialectical procedure in teaching is well summed up in the following passage:

From Socrates down to the beginning of modern times, the dialectical method was the favourite teaching device. As a method of presenting truth in a vital way, arousing the learner and enabling him to make knowledge his own, the disputed question of the Middle Ages has never been surpassed.¹

¹Vincent E. SMITH, The School Examined, The Bruce Publishing Company, Milwaukee, 1960, p. 50.

CHAPTER VII

DIALECTICS AS APPLIED TO THE TEACHING OF PHILOSOPHY

In Chapter Six we discussed, in a general way, the dialectical procedures used by the teacher in teaching. An analysis was made of the problem method and its close adherence to the dialectical procedure was noted. Other procedures in teaching cited as being dialectical in character included discussions, research assignments, debates, panel discussions and symposiums. The inductive approach which plays such an important part in the teaching of science was also seen to be dialectical in character.

In this chapter we propose to go a step further and to show how dialectics can be applied in the teaching of a particular subject. Since this is a thesis in philosophy, the application of dialectics in its teaching would be of special interest and significance.

At this point we propose, at the risk of being repetitious, to bring into focus again the main ideas of this thesis. In this way we hope to show clearly the applicability of dialectics to the teaching of philosophy.

Thus far, from our detailed study of dialectics we have come to realize that it is a somewhat complex idea with a variety of meanings. Fundamentally, however, it can be defined as a form of argumentation which reasons

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from opinions that are generally accepted. The subjects on which these reasonings take place are dialectical problems. Two types of dialectical argumentation can be distinguished, that of discursive reasoning from probable premises and induction. The latter type is a form of dialectics which passes from individuals to universals. The purpose of both these types of argumentation is to lead the mind as near as possible to truth. This idea is well expressed in the following passage:

From the knowledge of dialectical argumentation, we derive the more common notion of dialectical process, whether, in reasoning or in reality. In reasoning it means arguing both sides of a question and by so doing arriving at a resolution as to the more probable position or the one that more closely approaches the truth. As long as the process is only an approach to truth, it remains dialectical. In regard to the dialectical process in reality it concerns the method used by scientists in verifying theories and probable explanations through experimentation.¹

The notion of dialectics as being a process paving the way to truth was the way in which Saint Thomas conceived dialectics. He regarded it as a preparatory step to all knowledge and identified it, in its proper meaning, with the long and laborious search for knowledge carried out in personal research. He also regarded the preliminary

¹John A. OESTERLE, Logic, The Art of Reasoning and Defining, New York, Prentice-Hall Inc., 1952, p. 184.

discussions held with oneself or others as dialectical in character.

The point that is most pertinent to this thesis is the fact that Saint Thomas included the method carried out by the teacher in the classroom in leading the pupils to truth as dialectical. The reason for this is obvious. The end-purpose of teaching is the acquisition of knowledge on the part of the pupil. But this knowledge cannot be attained unless the pupil is lead through a preparatory step which would enable him to discover the truth for himself. This preparatory step through which the teacher leads the pupil is identified as dialectics.

Up to this point we have been reviewing the key notions of this thesis. We now propose to turn our attention to the purpose of this chapter, that of showing the applicability of dialectics to the teaching of philosophy. That our inquiry might be satisfactory and within certain limits we shall presume a common ground of agreement concerning the nature of philosophy. We shall define it as "the science of all things through their first causes under the light of natural reason".¹ We shall concentrate our efforts in showing how dialectics can be used

¹Henri GRENIER, Thomistic Philosophy, St. Dunstan's University, Charlottetown, 1948, Vol. 1, p. 14.

in its teaching.

In the last chapter we have seen that the problem method of teaching most clearly resembles the dialectical approach. In this method the first thing that the teacher does is to help the pupils raise problems. Does not philosophy lend itself ideally to this teaching method? In this course, more than in all others, the student is confronted with problems; indeed, the most basic problems of life: What is life? Is complete happiness attainable in this life or not? Is man responsible for his actions? This questioning aspect of philosophy is shown forth in the following passage:

Philosophy, like any other kind of knowledge, begins in ignorance. But the ignorance must be of a special kind. Not any kind will do, since ignorance as primitive cannot move itself. It must be an admiring ignorance, one that wonders and poses questions. To say that philosophy begins in wonder is to say that it begins in a question.¹

The teacher then in teaching philosophy must stimulate and train the students to raise problems. These problems are usually expressed in the form of questions. The ability to question is an important part of the dialectical procedure. Its value in the teaching-learning

¹Otto BIRD, Dialectic in philosophical inquiry, in Proceedings of the American Catholic Philosophical Association, Vol. XXIX, 1955, p. 238.

process cannot be underestimated.

To question well is a prelude to learning well. By learning to question the mind develops a critical attitude towards experience and one of the needs of our time is a more healthy critical spirit among our youth. Many students like to be told things rather than working them out. It is uncomfortable to have questions because the mind likes to close on truth. But questioning is the road to intellectual achievement, and when the mind, after proper questioning, closes on whatever truth it can attain, it will enjoy it more if only because it has better appetite.¹

The problems that the good teacher is able to evoke in the student must be student-centered; otherwise, the truth that he attains will not become his own. "The mind must have a personal problem before it can make the answer a personal assimilation."²

The problem having been posed, the next step is to advance opinions on both sides of the question. Although the teacher strives for personal thinking on the part of the students this thinking cannot be accomplished without having recourse to the opinions of other great thinkers concerning the problem at hand. This fact is borne out in the following lines:

Now in solving problems one does not have to be a pioneer. By this I mean that, just as in travelling it is prudent to make use of maps and charts as guides, so too in these mental journeys

¹Vincent E. SMITH, The School Examined, Milwaukee, The Bruce Publishing Co., 1960, p. 56.

²Id., p. 56.

the classic philosophers, who have considered the problems before us, serve as guides in our consideration.¹

A somewhat similar idea is expressed in the following passage:

As a philosopher I am a person, an I, and my philosophical thought is authentic only if it is my philosophical thought. Every person, however, is inserted in a history which is not personal, which he himself has not made. There is nothing we can do about this being-inserted and, therefore, I can never begin to think from zero, as it were, for others have thought before me and I am carried by their thought. I am in the stream of thought carried by tradition, if only because I speak its language and thus am imbued with the thoughts embodied in this language. It is impossible to think without language and impossible, likewise, to think without tradition.²

It does not follow from this that the student of philosophy has to abandon his own personal thought. He is also called upon to contribute his own opinions on the problem. His personal thought, no doubt, is coloured by the thinking of the past but it should also include a creative element, the result of an even deeper penetration of the problem at hand.

Once the problem has been formulated, the opinions, both traditional and personal, have been advanced, then the

¹Desmond J. FITZGERALD, The Teaching of Philosophy in a Catholic College, in Liberal Education, Vol. XLVIII, October, 1962, p. 385.

²William A. LUIJPEN, Existential Phenomenology, Duquesne University Press, Pittsburgh, Pa., 1962, p. 17.

most important part of the dialectical procedure takes place. It is at this point that the student must weigh the evidences and prepare himself to pass judgment. In order to do this effectively, the student must know and use the four tools or instruments laid down by Aristotle for reasoning dialectically. In the first place the student must be able to choose the propositions from which to argue. He must be able to distinguish the various meanings of words. He must be able to discover and find out the differences between the things about which he is arguing. Lastly, he must consider the likenesses between things. The use of these instruments will help the student to develop his critical abilities and it will enable him eventually to arrive at truth.

One's obligation is to the truth, not to a particular thinker, and every generation of students, nay, every student, has the obligation to examine critically the opinions or theories presented to him in a philosophy class.¹

It may happen that, for some of the problems posed in the philosophy class, truth is not possible of attainment, at least not at the present state of our knowledge. The teacher of philosophy should make the students aware of the interminability of some of the

¹FITZGERALD, Liberal Education, Vol. XLVIII, p. 385.

problems of philosophy. At the same time he should encourage his students to continue to probe these problems dialectically. Only in this way will progress in thought be made and truth eventually be reached. "In its interminability philosophy possesses one of the necessary conditions of progress.¹

Besides the interminable character of philosophy, the teacher of philosophy must be conscious of the social aspect of philosophy. This means that truth is not usually grasped as a whole by the students in the classroom. In most cases it is partially grasped by different students. It is the task of dialectics to bring these partial truths together and thus to pave the way for the reception of the whole truth by the student.

It is this partial character of man's grasp of the truth that makes philosophy a social enterprise. It is possible for many minds to see more than one. This will not necessarily always become actual, since one may succeed in obscuring the minds of many. But if many minds together grasp different aspects of the limitless truth, it will belong to philosophy to attempt bringing them together. To do so demands dialectic, since their first coming together is but the clashing of propositions, and the sorting of agreements and disagreements is a dialectical task.²

¹BIRD, Proceedings of the American Catholic Philosophical Association, Vol. XXIX, p. 245.

²Id., p. 243.

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In addition to the problem method used in the teaching of philosophy another method commonly used is the lecture method. Although this is a less satisfactory method of teaching than the problem method, nevertheless, if it is used with a dialectical approach, it is an effective method. In order to incorporate this approach in the lecture method the teacher must begin by stating the problem of the material at hand. The various opinions concerning the problem must be given and a critical evaluation of these opinions must be made. Only after these dialectical activities have been engaged in should the teacher present the truth. If this approach is used in the lecture method, real teaching, rather than mere indoctrination, will result.

Even at its best, however, the lecture method falls short in that it does not permit sufficient dialectical activity on the part of the students. Most departments of philosophy recognize this deficiency and remedy it by allowing for group discussions. In a three-hour-a-week course in philosophy the class breaks up into small groups for the "third hour" after the two lectures. In these small groups informal discussions of the matter presented by the lecturer take place. In the handling of these discussions, skill in the use of dialectics on the

part of the teacher is not only necessary but also indispensable.

Another supplement for the lecture type of teaching philosophy is the "tutorial". In this procedure three or four students are assigned, or choose, a topic on the subject matter of the course. These students meet with the teacher of philosophy, probably once a week, to report progress. It is the task of the teacher of philosophy to guide these students in their search for knowledge. In order to do this effectively the teacher must be a master of the art of dialectics.

From this study of the different methods used in the teaching of philosophy we can conclude that the dialectical approach is applicable to the teaching of philosophy. Indeed, we can conclude that it is an ideal method of teaching this subject and one most frequently used. The problem method which is used by many teachers of philosophy is really identical with the dialectical procedure as outlined by Aristotle in the Topics. The lecture method, another commonly used method of teaching philosophy, is at its best when it employs the dialectical approach. Its adjuncts, group discussions and the "tutorial" form part of the course in philosophy because of the dialectical activity they effect. At this point mention

should also be made of other dialectical procedures which at certain times are introduced into the philosophy program. These include debates, panel discussions, and symposiums. Research papers, which are assigned from time to time throughout the course, lend to the dialectical procedure in writing.

The important role played by dialectics in the teaching of philosophy is not limited to this branch of knowledge alone. We have already noted that dialectics is the preparatory step to all knowledge. Hence we can conclude that it can be used as an approach to the teaching of all subjects on the curriculum. Some subjects lend themselves more than others to this approach. This is true of the teaching of English¹ and history.² Even parts of mathematics can be dialectically approached.³ The inductive

¹Sister Mary AQUIN, I.H.M., Logic and English, in The Catholic Educational Review, Vol. XLIV, Mar. 1951, p.170.

See also, F. J. DONNELLY, S.J., Teaching the Art of Logic, in America, Vol. LXXVI, Jan. 4, 1947, p. 380.

See also, R. TRUVE, Elizabethan and Metaphysical Imagery, Chicago, 1947, C. XI, 3.

²Joseph A. NYBERG, Geometry, Logic and Social Studies, in The Social Studies for Teachers and Administrators, Vol. XXXIX, No. 3, p. 107.

³BIRD, Proceedings of the American Catholic Philosophical Association, p. 242.

method, which is a form of which dialectics makes use, is the procedure which is most effective in the teaching of science.¹ Even in the teaching of theology dialectics has a part to play.²

We have thus seen that dialectics is applicable to the teaching of philosophy, as well as to all other subjects on the curriculum. We can say with truth that dialectics is an approach to teaching. It consists in paving the way for the actual knowledge imparted by the teacher and assimilated by the student. Less important in the hierarchy of values compared to the knowledge that is acquired through teaching, nevertheless, it plays an important part in preparing the student for the receptivity of knowledge. Viewed in this light, it stands as the sine qua non approach of all good teaching.

¹Leo R. WARD, Scientific Method and the Nature of Man, in Proceedings of the American Catholic Philosophical Association, Vol. XXV, 1951, p. 104.

See also, Tad GUZIE, The Analogy of Learning, New York, Sheed and Ward, 1960, p. 202.

²Vincent E. SMITH, The School Examined, Milwaukee, The Bruce Publishing Company, 1960, p. 266.

See also, Duane H. BERQUIST, Descartes and Dialectics, in Laval Théologique et Philosophique, Vol. XX, No. 2, 1964, p. 200.

See also, Reverend S. RAYMOND, Effect of the Dialectic upon our view of Christ as Teacher, in The Catholic Educational Review, Vol. XLVIII, Nov., 1950. p.596.

The scope of this thesis has brought us into contact with two very important notions, dialectics and teaching. Having examined these two notions, we have been led to see the relationship between them. We have seen that dialectics is identical with the preparatory step in the art of teaching. It corresponds with the preliminary stage through which the teacher leads the pupil prior to the acquisition of knowledge. Viewed in this manner, dialectics is seen to be an approach to teaching. In fact, it may be considered to be the only approach to teaching, inasmuch as it is teaching. Not to use it would be to indoctrinate rather than to teach.

In the course of this study, the many advantages that result from using a dialectical approach in teaching have come to light. We have seen that it is a natural procedure. It leads the pupil through a discursive movement to the eventual summit of truth. Having passed through this process, at times long and involving difficulties, the pupil will come to experience joy and satisfaction in the attainment of truth. The dialectical approach tends to awaken in the pupil a sense of wonder and a questioning attitude towards life and the things of this world. It inclines the pupil to be open and receptive to truth and to pursue it energetically and perseveringly. Furthermore,

it engenders in him a sense of responsibility to contribute his own thoughts and ideas on different subjects. Finally, the dialectical approach in teaching initiates thinking and the critical evaluation of the problems of life.

In view of these many advantages, the importance of the use of the dialectical procedure in teaching needs no further justification. The unfortunate situation is, however, that many teachers are unaware of the benefits of employing such an approach. In fact, many teachers are sadly ignorant of the very notion of dialectics. How can they be expected to see the relationship between it and teaching?

This was not the case in the Middle Ages. At that time dialectics was regarded as the art of teaching. It was "equivalent to the course in educational methods".¹ It continued to be regarded in this manner until on into the seventeenth century when the Humanists introduced a new method, the grammatical or linguistic method. The emphasis was then placed on the study of language with stress being placed on printed words. Dialectics was relegated to the background.

¹Walter J. ONG, Educationalists and the Tradition of Learning in The Journal of Higher Education, Vol. XXIX, No. 2, February, 1958, p. 64.

Within the last few decades, however, it is encouraging to note that dialectical procedures are gradually wending their way back into the teaching process. Emphasis is being put on discussions, dialogue, and research. However, until dialectics is included in the training of teachers, it will still remain a lost art.

In conclusion, let us express the wish that the subject of dialectics be restored to its place of honour in our Universities and our Teachers' Training Colleges. For, only if teachers are trained in this discipline can we hope for a teaching that will broaden the horizons of knowledge.

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The enunciation of this thesis, Dialectics as an Approach to Teaching, contains two very important notions, dialectics and teaching. In order that the relationship between these two notions may be seen clearly we have chosen to devote the first few chapters of this thesis to a rather thorough investigation of the philosophical nature of each.

Our study of the nature of dialectics was initiated by going to the source of dialectics, that is, the writings of Aristotle. Here the subject of dialectics is treated by Aristotle in the fifth book of the Organon. This book, important but somewhat neglected, is referred to as the Topics. It includes eight books, in the first book of which Aristotle comes nearest to his formulation of the doctrine on dialectics.

In the Topics Aristotle defines clearly what is meant by dialectical reasoning. He refers to it as a form of argumentation from "opinions that are generally accepted".¹ He enumerates the aims of dialectics as that of: "intellectual exercise, casual encounters and the physical sciences".² He distinguishes between a dialectical proposition and a dialectical problem: the former

¹Topics, 100a, 29.

²Ibid., 101a, 25.

comprise the premises of the dialectical syllogism; the latter are the subjects on which these reasonings take place. He lists the elements from which the propositions and problems are constructed as: definition, genus, property, and accident. He treats of the important aspect of dialectics, that of questioning, in Book VIII of the Topics.

In the Topics, also, Aristotle makes mention of four instruments or tools to be used in reasoning dialectically. These include the choosing of propositions; the ability to distinguish the various meanings of terms; the ability to discover the differences between things and lastly the ability to consider the likenesses between things.

Mention of the last instrument, that is the ability to consider the likenesses of things, brings into focus the species of reasoning known as induction. Aristotle considered it as a form of reasoning of which dialectics makes use. He linked it together with discursive reasoning from probable premises as modes of probable knowledge.

The meaning of dialectics according to Aristotle having been investigated, a few steps in the history of dialectics from the time of Aristotle to that of Saint Thomas were then recalled. Perhaps the most significant

event was the translation of the whole of the Organon by Boethius (470 - 525 A.D.). Unfortunately, after his death the last three of these books, one of which was the Topics, fell into disuse. Dialectics continued to be taught in the universities but gradually its importance dwindled. It was not until the middle of the twelfth century that the importance of dialectics was restored. This was brought about by the fact that the Organon was rediscovered and made its appearance into Europe either in the old translations of Boethius or in new translations. By the thirteenth century dialectics had reached its flowering. It was recognized and used by many of the great philosophers of that time, not the least of whom was the renowned Saint Thomas Aquinas.

Although Saint Thomas did not write a commentary on the Topics, he referred frequently to dialectics in his writings. Saint Thomas regarded dialectics as the logical science of the method of discovery and as the art of applying this method of discovery in every domain. His notion of dialectics is linked up with his theory of knowledge. He believed that knowledge is acquired in two stages: a preparatory one, invention; a decisive one, the passing of a judgment. The first step was what he understood by dialectics. Properly so-called, it consisted of

ABSTRACT

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the long and laborious search for knowledge by personal research. It also included the preliminary discussions held with oneself or with others. The point that is pertinent to this thesis is that it likewise included the method carried out by the teacher leading the pupil to truth. This becomes more evident when the nature of teaching has been examined.

The nature of teaching claimed our attention next. We restricted ourselves to the writings of Saint Thomas, in particular the De Magistro, because of the philosophical treatment given to teaching in this work.

According to Saint Thomas, when one acquires science through the help of another it is a case of art imitating nature. The art of teaching consists in observing the procedure followed in the natural process of the acquisition of science and then imitating this process in the actual art of teaching. The process of reasoning from general ideas and principles to particular applications and conclusions is the natural course of development. In teaching, the teacher must place his own discursive reasoning before the pupil by means of signs. The teacher thus supplies the sensible signs from which the actual intelligible species are derived by the learner's intellect.

We have now come to the heart of the thesis, that of showing the relationship between dialectics and teaching. From our study of the nature of each, this relationship becomes evident. In teaching, the teacher goes through the natural process that he or she went through in acquiring the truth to be imparted. This natural process of going from the known to the unknown is really to make use of a method of discovery. It is what Saint Thomas referred to as inventio. In other words it is what he understood as being dialectics. Thus we see that the teacher does make use of dialectics in helping another to acquire knowledge. It is the preparatory step through which the teacher leads the pupil prior to the acquisition of knowledge. It is seen to be an approach to teaching, indeed, the only real approach to teaching inasmuch as it is teaching. Not to use it would be to indoctrinate rather than to teach.

Methods of teaching were then examined for their dialectical character. The "question and answer" method was seen to be most dialectical in its approach. This method may be considered to include a variety of different methods of teaching, all of which have in common the characteristic note of dialectical questioning. The method of

problem thinking is perhaps the one that adheres most closely to the dialectical procedure as outlined in the Topics. Other dialectical approaches used in teaching include research assignments, debates, panel discussions, and symposiums. The inductive method used in the teaching of science is also a dialectical procedure.

The applicability of the dialectical approach in the teaching of philosophy was then studied in some detail. It was seen that philosophy lends itself ideally to this approach. The method of problem thinking can be used to great advantage in the teaching of philosophy. The lecture method which is frequently used is at its best when it employs the dialectical approach. Its adjuncts, group discussions and the "tutorial" were noted to be dialectical in character.

The many advantages of using the dialectical approach in teaching were cited in the conclusion of the thesis. The hope was expressed that the subject of dialectics be restored to its place of honour in our Universities and our Teachers' Training Colleges.

ERRATA

p. 14, line 6 "discours" instead of "dicsours"

p. 61, line 20 "Scholastics" instead of "Scolasties"

p. 31, par. 1. Last sentence should read:

"Demonstration is a form of argumentation
in the area of necessity; dialectics, on
the other hand, is a form of argumentation
in the area of probability."