CONTRADICTION AND THE GROWTH OF REASON

The opposition of contradiction and the statement about contradiction are necessary for the growth of reason and its knowledge. Indeed, it could be said that the whole growth of reason depends upon these two seeds. To show that this is so and why it is so is the goal of this paper. This goal is a contribution to beginning well in philosophy. But before pursuing our particular goal, we should see how it is only a part of the whole task of beginning well:

> Nothing is more necessary and nothing is more difficult in philosophy than to begin well. For everything else depends upon the beginning and yet the beginning is hard to see or acquire.[1]

The beginnings of philosophy are partly in reason (and the senses) and partly in the will (and feelings or emotions).[2] We can subdivide the beginnings in reason (and the senses). They are either about things or about how we know them. The beginnings of philosophy in reason *about things* can be called the *seeds* of philosophy while a knowledge of the way and order in which we know and the proper dispositions of the will (and

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[1] Plato and Aristotle and Thomas Aquinas often speak of the importance and difficulty of the beginning. See, for example, Plato: *Laws*, Book VI, 753e; *Republic*, Book II, 377a-b; *Cratylus*, 436c-d; Aristotle: *Nicomachean Ethics*, Book I, 1098a 33 - 1098b 8; *About the Universe* (*De Caelo et Mundo*), Book One, Chapter 5, 271b 4-18; *About Sophistical Refutations*, Chapter XXXIV, 183b 16-28. Thomas: *In I Ethicorum*, Lectio XI, nn. 137-138; *In I De Caelo et Mundo*, Lectio IX, nn. 96-97.

[2] The above texts speak of the importance of beginning well in the context of beginnings in reason, but we cannot forget that both Plato and Aristotle noted that wonder (which is in the will and emotions) is the beginning of philosophy (Plato in the *Theaetetus* and Aristotle in the *Metaphysics*). And indeed, the *philosopher* is named from the disposition of his will (the love of wisdom, whence he differs from the sophist).

emotions) help us to acquire these seeds and grow from them. The way we know includes the way beginnings become known and also how we proceed from these beginnings. And the application or non-application of our reason, and how it is applied, depend upon the dispositions of will and emotions.

Among the beginnings of philosophy *about things*, a special importance attaches to the opposition of contradiction and the statement about contradiction. For these two (the opposition of contradiction and the statement about contradiction) are *almost* the first seeds of the whole growth of reason. Before we can begin to see the truth of this statement, we must understand what it means. The meaning of a statement depends, of course, upon the meaning of its parts. Hence, we must begin there.

THE MEANING OF OUR STATEMENT

Contradiction[3] is one of the four kinds of opposition distinguished in the *Categories:*

> One thing is opposed to another in four ways: either as those towards another, or as contraries, or as lack and having, or as affirmation and negation. To speak in outline: as towards another, for example, double to half; as contraries, for example, bad to good; as lack and having, for example, blindness and sight; as affirmation and negation, for example, is sitting and is not sitting.[4]

Aristotle gives an explanation of these four in the rest of Chapter Ten and Chapter Eleven of the *Categories* which the reader may wish to consult sometime.

The *statement about contradiction* can be stated thus: it is impossible for the same to belong and not to belong to the same at the

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[3] The Greek word is *antiphasis*. See *Metaphysics*, Book , 1018a 20

[4] *Categories*, Chapter 10, 11b 16-23

same time and in the same way.[5] Or, it is impossible for the same thing to be and not to be at the same time and in the same way.

The word *grow* can and should be carried over from the body to the soul and the mind or reason. For we know and name what cannot be sensed by likeness to what can be sensed. Shakespeare touches upon this carrying over in beautiful words:

> For nature crescent does not grow alone
> In thews and bulk, but as this temple waxes,
> The inward service of the mind and soul
> Grows wide withal.[6]

And the central thinker in human thought, Heraclitus, tells us: "The soul has a reason which makes itself grow."[7] And Empedocles says: "But come listen to my words. For learning will surely cause your mind to grow."[8] It is striking in these passages how the mind or reason or soul is said to grow rather than knowledge. Everyone sees that knowledge is said to grow or increase, but not everyone sees well that reason and the soul can be said to grow also. For the reason or understanding in act is the understood in act. Thus, reason grows by knowing *more* things or by knowing the same thing *more;* for reason is in some way what it knows. Hence, the Philosopher says that the soul is in some way all things by its reason and the senses.[9]

And as the word *grow* is carried over to reason, so also is the word *seed*. Antiphon touches upon this carrying-over:

> The first thing, I believe, for mankind is education. For whenever someone has made a beginning correctly in anything, it is likely that the end will also come about

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[5] Aristotle, *Metaphysics*, Book G, 1005b 19-20

[6] *Hamlet*, Act I, Sc. 3

[7] DK 115

[8] DK 17

[9] Aristotle, *De Anima*, Book G, Chapter 8, 431b 21-22

> correctly. And as is the seed one has sown in the ground, so also are the things one ought to expect will come forth. And when one sows a noble education in a young body, this lives and blooms through the whole of life, and neither rain nor drought destroys it.[10]

Thomas Aquinas compares the beginning to a seed which is also small in size, but great in power:

> The beginning, although it be small in size, is nevertheless great in power, just as from a small seed is produced a great tree; and thus it is that what is small in the beginning, is multiplied in the end, because it stretches out to all that to which the power of the beginning extends, whether this is true or false.[11]

The likeness involved in carrying over the word *seed* is fourfold. A seed is (1) a beginning (2) that is natural (3) small in size (in comparison to what proceeds from it) but (4) great in its power (which is measured by what it give to). Reason grows from such seeds.

We say that the opposition of contradiction and the statement about contradiction are *almost* the first seeds of the growth of reason since being itself (and non-being) are before our understanding of the opposition of being and non-being and the impossibility of being and not-being at the same time in the same way. For as Thomas (following Avicenna) teaches us, *being* is what first falls into reason (and then non-being).[12] But since the opposition of contradiction is between being and

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[10] DK 60

[11] *In I De Caelo et Mundo*, Lectio IX, nn. 96-97: "principium, etsi sit modicum in magnitudine, est tamen magnum virtute, sicut ex modico semine producitur magna arbor: et inde est quod illud quod est modicum in principio, in fine multiplicatur, quia pertingit ad totum id ad quod se extendit virtus principii, sive hoc sit verum vel falsum".

[12] Thomas Aquinas, *De Ente et Essentia*, Proemium, Marietti Edition, Rome, 1948, p.: "ens autem et essentia sunt quae primo in intellectu concipiuntur, ut dicit Avicenna in *Metaphys.*, (lib. I, c. 6)" (However, the

non-being and the statement about contradiction is also about being and non-being, it is not hard to see how close these are to the beginning of reason's knowledge.

THE TRUTH OF OUR STATEMENT

We are now in a position to begin to show the truth of our original statement: the opposition of contradiction and the statement about contradiction are almost the first seeds of the whole growth of reason. We can show this, not all at once, but in three parts. First, it can be shown that the opposition of contradiction is the beginning of all definition, division and distinction. Second, it can be shown that the statement about contradiction is the beginning of all statements and that all statements are judged by the statement about contradiction. Third, it can be seen how the opposition of contradiction and the statement about contradiction are seeds of the most important discoveries.[13] There is a common beginning for seeing that the opposition of contradiction is the beginning and cause of all opposition (and, hence, of all distinction and especially formal

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being which first falls into our reason is not the universal being of Metaphysics, but being considered in sensible things. In the *Summa Theologiae*, Prima Pars, Q. 87, art. 3, Ad 1, Thomas explains: "obiectum intellectus est commune quoddam, scilicet ens et verum, sub quo comprehenditur etiam ipse actus intelligendi. Unde intellectus potest suum actum intelligere. Sed non primo, quia nec primum obiectum intellectus nostri, secundum praesentem statum, est quodlibet ens et verum; sed ens et verum consideratum in rebus materialibus, ut dictum est; ex quibus in cognitionem omnium aliorum devenit." Hence, men naturally think at first that whatever is must be somewhere; that is, in some place, which is a property of bodies.

[13] We can also see from this how the whole of logic presupposes the opposition of contradiction and the statement about contradiction since definition and division and distinction pertain to the logic of the first act of reason; statements, to the second act; and the logic of the third act was divided into the *scientia iudicandi* and the *scientia inveniendi.*

distinction which is based on some kind of opposition) and for seeing that the statement about contradiction is a beginning of all statements.

THE COMMON BEGINNING

In the Book Two of the *Metaphysics*, Aristotle made the famous statement that "that is itself most of all such by which the same belongs to others".[14] When the same belongs to many because of one of them, it belongs most of all to this cause. Thomas state this in his commentary thus: "Unumquodque inter alia maxime dicitur, ex quo causatur in aliis aliquid univoce praedicatum de eis; sicut ignis est causa caloris in elementatis".[15] We also find this in the *Posterior Analytics* where Aristotle is showing that the premisses are more known and more certain than the conclusion. He says that "always that by which each belongs, belongs more to that; as that is more loved through we love".[16] Thomas state this thus: "Propter quod unumquodque et illud est magis; sicut si amamus aliquem, propter alterum; ut si magistrum propter discipulum, discipulum magis amamus."[17] We can put this more into English thus: If the same belongs to two things, but to one of them because of the other, it belongs more to the cause. For example, if hot is said of fire and the air, but of the air because of the fire, the fire is hotter than the air. If sweet belongs to sugar and to coffee, but to coffee because of the sugar, the sugar is sweeter than the coffee. This beginning is important in every part of philosophy. In logic: if known is said of or belongs to the premisses and the conclusion, but to the conclusion because of the premisses, then the premisses are more known than the conclusion. Indeed, if they were not more known than the conclusion, we would not use them to prove the conclusion. In ethics: if good or desirable is said of the end and the means (such as health and medicine), but of the means because of the end (as medicine is desirable because of health), then the end is better and more desirable than the

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[14] *Metaphysics*, Book A Elatton, 993b 24-26

[15] *In II Metaphysicorum*, Lectio II, n. 292

[16] *Posterior Analytics*, Book I, 72a 29-31

[17] *In I Posteriorum Analyticorum,* Lectio VI, n. 55

means (as health is better and more desirable than medicine). Indeed, if the end were not more desirable than the means, we would not desire the means for the sake of the end. In natural philosophy: if mover is said of the unmoved mover and the moved mover, but of the latter because of the former, the unmoved mover is most of all the mover.

But one can also reason in the reverse direction: that is, one can reason from something to which the same belongs in a lesser way to that to which it belongs most of all and that that to which it belongs most of all is the cause of the same belonging to others.[18] Thomas gives the reason for this and also how one can reason from the more and the less to the most as their cause:

> What belongs to something by its nature and not by another cause, is not able to be lessened and weak. For if something essential is subtracted from, or added to a nature, already it will be another nature: just as happens in numbers, in which a unit added or subtracted varies the species. If, however, the nature or what it is of the thing remaining whole, something is found to be lessened, it is already clear that it does not simply depend upon that nature, but upon something else, by whose distance it is lessened. What therefore belongs less to something than to others, does not belong to it from its nature only, but from another cause. That therefore will be a cause of all in some genus to which most of all belongs the predication of that genus: whence we see that what is most hot is the cause of heat in all hot things, and what is most bright is the cause of all that is bright. [19]

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[18] Thomas also often proceeds in this way. For example, *Summa Theologiae*, Q. 2, Art. 3, Corpus: "Quod autem dicitur maxime tale in aliquo genere, est causa omnium quae sunt illius generis" and *Summa Contra Gentiles,* Liber II, Caput XV: "Illud igitur erit causa omnium in aliquo genere cui maxime competit illius generis praedicatio"

[19] *Summa Contra Gentiles*, Liber II,Capitulum XV, in 2nd argument:: "Quod alicui convenit ex sua natura, non ex alia causa, minoratum in eo et deficiens esse non potest. Si enim naturae aliquid essentiale subtrahitur vel additur, iam altera natura erit: sicut et in numeris accidit, in quibus unitas addita vel subtracta speciem variat. Si autem, natura vel

If we find that the air is increasingly less warm or hot as we move away from the fire, it is clear that the warmth or heat of the air does not belong to it because it is air. Since the nature of the air is the same whether near or far from the fire, if the air was warm because of its nature only, it would be the same everywhere. The warmth or heat of the air is caused by what is most warm or hot, the fire. If we find that the air is less bright or darker as we move away from the candle, and yet the nature of air is the same everywhere, it is clear that the brightness of the air does not simply depend upon the nature of air, but upon what is most bright, the flame of the candle. Another text of Thomas on this very important beginning is in order here:

> ...when something is found to have been partaken of by many in diverse ways, it is necessary that it be attributed to all those in which it is more imperfectly found from that in which it is found most perfectly. For those which are said positively more and less have this by a more distant or nearer approach to something one: for if it belonged to each of them from itself, there would be no reason why it would be found more perfectly in one than in another; just as we see that fire which is in the extreme of heat, is the source of heat in all hot things. [20]

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quidditate rei integra manente, aliquid minoratum inveniatur, iam patet quod illud non simpliciter dependet ex illa natura, sed ex aliquo alio, per cuius remotionem minoratur. Quod igitur alicui minus convenit quam aliis, non convenit ei ex sua natura tantum, sed ex alia causa. Illud igitur erit causa omnium in aliquo genere cui maxime competit illius generis praedicatio: unde et quod maxime calidum est videmus esse causam caloris in omnibus calidis, et quod maxime lucidum causam omnium lucidorum."

[20] *De Potentia* , Q. 3, Art 5, corpus, in secunda ratio: "...cum aliquid invenitur a pluribus diversimode participatum oportet quod ab eo in quo perfectissime invenitur, attribuatur omnibus illis in quibus imperfectius invenitur. Nam ea quae positive secundum magis et minus dicuntur, hoc habent ex accessu remotiori vel propinquiori ad aliquid unum: si enim unicuique eorum ex se ipso illud conveniret, non esset ratio cur

THE ORDER IN WHICH TO SEE THE OPPOSITION OF CONTRADICTION AS A SEED

We must first see that the opposition of contradiction is the beginning and cause of all opposition. It is here that we shall apply our common beginning. Second, we must consider that opposition is the cause of distinction (and especially of formal distinction). Third, we must see that distinction is before division and division before definition. In this way, we will come to see that the opposition of contradiction is a seed of all that growth of reason and its knowledge which take place by defining, dividing and distinguishing.

THE OPPOSITION OF CONTRADICTION IS THE FIRST OPPOSITION AND THE CAUSE OF ALL OPPOSITION

Before we can apply our common beginning, we must consider the four kinds of opposition more carefully and distinctly. Thomas is very helpful here in his commentary on the *Metaphysics* where Aristotle also distinguishes them:

> he shows in how many ways opposites are said....that in four ways; to wit, as contradictories, contraries, lack and habit, and towards another. Something is placed against or opposed to another either by reason of dependence, by which it depends upon it, and thus are the relatively opposed. Or by reason of taking away which happens in three ways. Either it takes away wholly, leaving nothing, and such is negation. Or it leaves only the subject, and such is lack. Or it leaves the subject and the

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perfectius in uno quam in alio inveniretur; sicut videmus quod ignis, qui est in fine caliditatis, est caloris principium in omnibus calidis"

> genus, and such is the contrary. For contraries are not only in the same subject, but also in the same genus.[21]

From Thomas' laying out here of the four kinds of opposition, three things are clear. First how much more distinct the opposition of relatives is from the other three forms of opposition than they are from each other. Second, it is clear that how those opposed as relatives, or towards another, are the least opposed because one is not without the other; and that contradictories are more opposed than lack and had, and these, than contraries. And from this it is also clear that, in the *Categories*, Aristotle has enumerated the four kinds of opposition in order from those least opposed to those most opposed. For he begins with those opposed as relatives or towards another and, among the other three, he begins with contraries and ends with those opposed as contradictories.

We can now apply our common beginning as Thomas himself does in the first book of the *Sentences:*

> Affirmation and negation are said to be most of all opposed because in them there is not any agreement brought in. In things opposed privatively, there is brought in agreement as regards the subject because they are apt to come to be in the same. In contraries and relatives, there is also agreement as regards the genus because they are in the same genus. Whence in both of these oppositions, either of the extremes is signified by way of being and some nature. But that in which is found something not mixed with its contrary, is most of all and first in that genus, and the cause of all others; and therefore

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[21] *In V Metaphysicorum*, Lectio XII, n. 922: "ostendit quot modis dicuntur opposita...quia quatuor modis; scilicet contradictoria, contraria, privatio et habitus, et ad aliquid. Aliquid enim contraponitur alteri vel opponitur aut ratione dependentiae, qua dependet ab ipso, et sic sunt opposita relative. Aut ratione remotionis, quia scilicet unum removet alterum. Quod quidem contingit tripliciter. Aut enim totaliter removet nihil relinquens, et sic est negatio. Aut relinquit subiectum solum, et sic est privatio. Aut relinquit subiectum et genus, et sic est contrarium. Nam contraria non sunt solum in eodem subiecto, sed etiam in eodem genere."

> the opposition of affirmation and negation in which is not mixed any agreement. is the first and greatest opposition and the cause of all opposition and distinction. And therefore it is necessary that affirmation and negation be included in every other opposition, as the first in what comes after. Whence more is required for the other kinds of opposition than for the opposition of contradiction; for they have something in addition to it.[22]

Someone might ask how the opposition of contradiction can be distinguished from the other three kinds of opposition since, as Thomas notes here, it is "included in every other opposition, as the first in what comes after." This can be answered by pointing out that, when we the distinguish between the opposition of contradiction and other kinds of opposition, we are distinguishing between what has *only* the opposition of being and non-being and what has something else in addition to this.[23]

Thomas is already anticipating our conclusion that the opposition of contradiction is the cause of all distinction since it is the cause of all opposition and opposition is the cause of distinction. But before we draw this conclusion, let us consider more fully the connection between opposition and distinction.

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[22] *Scriptum super Lib. I Sententiarum*, Dist. V, Q. I, Art. I, Ad 1: "affirmatio et negatio dicuntur maxime opponi, quia in eis non importatur aliqua convenientia: in privative enim oppositis importatur convenientia quantum ad subjectum, quia nata sunt fieri circa idem: in contrariis autem et relativis etiam quantum ad genus, quia scilicet sunt in eodem genere. Unde in utraque oppositione utrumque extremorum significatur per modum entis et naturae cujusdam. Illud autem in quo invenitur aliquid non permixtum contrario, est maximum et primum in genere illo, et causa omnium aliorum; et ideo oppositio affirmationis et negationis, cui non admiscetur aliqua convenientia, est prima et maxima oppositio, et causa omnis oppositionis et distinctionis; et ideo oportet quod in qualibet alia oppositione includatur affirmatio et negatio, sicut primum in posteriori. Unde plura requiruntur ad alias oppositiones quam ad oppositionem contradictionis, quia se habent ex additione ad ipsam."

[23] In the same way, we distinguish between privation or lack and contraries even though one contrary is lacking in comparison to the other.

OPPOSITION IS THE CAUSE OF DISTINCTION

We can distinguish between material distinction and formal distinction.[24] Material distinction is based on the division of the continuous and is between different material singulars of the same kind. Since reason knows directly the universal, this kind of distinction is not the way reason grows. Formal distinction is based on some kind of opposition. One place in which Thomas states this and gives a reason for it is in the fourth book of the *Summa Contra Gentiles:* "in things having eliminated material distinction (which cannot take place in the divine persons), things are not found to be distinguished except by some kind of opposition. For what have no opposition to each other, are able to be together in the same; whence distinction cannot be caused through them: for white and triangular can be together in the same because, although diverse, they are not opposed."[25]

THE OPPOSITION OF CONTRADICTION IS THE BEGINNING OF ALL DISTINCTION

We can now conclude that the opposition of contradiction is the beginning of all distinction and especially of formal distinction. Thomas often states this most universally:

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[24] *Summa Contra Gentiles* , Liber II, Caput 44: "Omnis distinctio est aut secundum divisionem quantitatis...aut secundum divisionem formalem."

[25] *Summa Contra Gentiles* , Liber IV, Caput 24: "in rebus enim, remota materiali distinctione, quae in divinis personis locum habere non potest, non inveniuntur aliqua distingui nisi per aliquam oppositionem.Quae enim nullam oppositionem habent ad invicem, simul esse possunt in eodem, unde per ea distinctio causari non potest: album enim et triangulare, licet diversa sunt, quia tamen non opponuntur, in eodem esse contingit."

> Every distinction, whether of things or of reason, is founded in affirmation and negation.[26]

He gives a short explanation of this in the *Summa Contra Gentiles:*

> Wherever there is some distinction, it is necessary to find the opposition of negation and affirmation. Whatever differ according to no affirmation and negation are wholly indistinct: for it would be necessary that one would be what the other was as regards everything, and thus they would be wholly the same and in no way distinct.[27]

From this we can see a connection with the statement about contradiction. Anyone who would deny the statement about contradiction would also exclude all distinction (and hence all division and definition). Thomas touches upon this connection in his exposition of Aristotle's consideration of the statements about contradiction:

> The first reason of distinction is considered in affirmation and negation. Whence who says that affirmation and negation are one, excludes all determination or distinction.[28]

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[26] *Scriptum super Lib. I Sententiarum*, Dist XXXIV, Q. I, Art. I, Ad 2: "omnis distinctio, sive rei sive rationis, fundatur in affirmatione et negatione."

[27] *Summa Contra Gentiles*, Liber IV, Caput 14: "Ubicumque enim est aliqua distinctio, oportet inveniri negationis et affirmationis oppositionem. Quae enim secundum nullam affirmationem et negationem differunt, penitus indistincta sunt: oportet enim quod quantum ad omnia unum esset quod et alterum, et sic essent penitus idem, et nullo modo distincta."

[28] *In IV Metaphysicorum*, Lectio IX, n. 660: "Prima enim ratio distinctionis consideratur in affirmatione et negatione. Unde qui affirmationem et negationem unum esse dicit, omnem determinationem sive distinctionem excludit."

We can also see a close connection with immediate negative statements and distinction. Thomas points out how negation is in the thought or definition of distinction:

> Negation is in the definition of distinction. Those are distinct of which one is not the other. Whence also the first things which are distinguished by themselves include mutually a negation of each other; and by reason of this, negative statements in them are immediate, as *No quantity is a substance.*[29]

An objection to contradiction being the cause of all distinction can be raised here. When Thomas investigates the distinction of Persons in God by a disjunctive syllogism in the *Summa Contra Gentiles*[30], he eliminates material distinction since there is no matter in God. God is not a body or continuous. And then he eliminates formal distinction by contradictories privation and contraries and concludes to formal distinction by relatives. Thus, he excludes distinguishing the Persons by the opposition of contradiction. But here, we must remember what was said above. When we distinguish the opposition of contradiction from the other kinds of opposition, we understand what has only being and non-being. The other kinds of opposition have something in addition to being and non-being. Thus, the opposition of privation involves the being and non-being of something *in a subject*.

DISTINCTION, DIVISION, DEFINITION

Distinction is before division (in the strict sense) and division is before definition. This is true not only in the first sense of *before*, but also

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[29] *Summa Contra Gentiles* , Liber I, Caput 71: "in ratione distinctionis est negatio: distincta enim sunt quorum unum non est aliud. Unde et prima, quae seipis distinguuntur, mutuo sui negationem includunt: ratione cuius negativae propositiones in eis sunt immediatae, ut, *Nulla quantitas est substantia.*"

[30] *Summa Contra Gentiles*, Liber IV, Caput 24

in the second sense.[31] The first sense of before is in time and the second sense is in being. In the second sense, that is said to be before which can be without another, but not vice-versa. Distinction can be without division (in the strict sense), but the reverse is impossible. Likewise, division can be without definition, but definition cannot be without division.

In its broad sense, *division* is almost synonymous with *distinction*. But in the strict or narrow sense, division is the distinction of the parts of some whole. Hence, every division involves a distinction, but every distinction is not between the parts of some whole.[32] Thus distinction can be without division, but the reverse is impossible.

Likewise, division is before definition, not only because division is a way to definition, but because every definition itself involves the division of an integral or composed whole. Hence the Philosopher says in the beginning of the first book of the *Physics* that the definition "divides into particulars.".[33]

Hence, it is clear that whatever is a beginning of distinction is also a beginning of division and definition. Definition could not be without some kind of division and division could not be without some kind of distinction and distinction (at least formal) without opposition and opposition without contradiction.

Having seen that the opposition of contradiction is a beginning and cause and seed of all opposition and, hence, of all distinction, division and definition, we can turn to the statement about contradiction.

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[31] Aristotle distinguishes in order the central senses of the word *before* in the twelfth chapter of the *Categories*.

[32] Hence, Thomas allows the word *distinction* in regard to the Persons of the Trinity, but not the word *division*. See *Summa Theologiae*, Prima Pars, Q. 31, Art. 2, c: "Vitandum est nomen separationis et divisionis, quae est totius in partes."

[33] 184B 2-3

THE ORDER IN WHICH TO SEE THE STATEMENT ABOUT CONTRADICTION AS A SEED

We can come to see the statement about contradiction as a seed of the growth of reason, first in judging and then in discovery. We judge all other statements to be true or false by the statement about contradiction, though not by it alone. And the impossibility of a contradiction in things leads us expect something hidden from us under a contradiction.

THE STATEMENT ABOUT CONTRADICTION AND JUDGING

Before trying to see how and to what extent all other statements are judged by the statement about contradiction, we should consider that the statement about contradiction is naturally before all other statements. First, the terms of the statement about contradiction are most universal, and the general is before the particular in our reason[34]; hence, this statement naturally comes before all the rest. Second, all other statements are either affirmative or negative, saying either that something is or that something is not, but not both, in obedience to the statement about contradiction. Third, since judgment is nothing other than the separation of the true from the false by some beginning in our knowledge[35] and true and false are defined by being and non-being[36], it is

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[34] The classic text for understanding why the general is before the particular is the first chapter of Aristotle's *Physics*. Thomas' Lectio on that chapter is very illuminating

[35] This is why we express our judgments with words pertaining to the senses, such as "nonsense" or "that makes sense" ,since sensing is the first beginning of our knowledge.

[36] When reason says that what is in things *is* and what is not in things *is not*, it is speaking truly. When it says that what is in things *is not* and what is not in things *is*, it is speaking falsely.

not surprising that the first statement separating being from non-being should be fundamental in the matter of judgment.

All other statements are judged in some way by the statement about contradiction, but this is seen most fully in the statements found in demonstrations. (We are using the word *demonstration* here in the strict sense, as a synonym for the *apodeixsis* of the *Posterior Analytics*.) But the statement about contradiction is also a beginning of the judgments in the looser sense (where complete certitude escapes us). *Judgment* in the strict sense of the word is with certitude, but we also use this word for something with less than certitude. We should consider how all other statements are judged by the statement about contradiction first in those statements which can be judged in the strict sense; that is, those statements which can be known with complete certitude. And then we can consider how it is used in judging those statements that cannot be known with complete certitude. But before this, we should consider this difference in the kind of judgments that we can make. Aristotle and Huygens both touch upon a fundamental difference in the kinds of judgment made by our reason. Perhaps it is best to begin with a text of Aristotle and one of Huygens that both touch upon these two kinds of judgment.

TWO KINDS OR WAYS OF JUDGING

In the Preface to his *Treatise on Light*, Huygens touches upon two ways of judging (one is in demonstration in the sense of the *Posterior Analytics* and the other in what would today be called experimental science):

> There will be seen in it [the Treatise] demonstrations of those kinds which do not produce as great a certitude as those of Geometry, and which even differ much therefrom, since whereas the Geometers prove their Propositions by fixed and incontestable Principles, here the Principles are verified by the conclusions to be drawn from them; the nature of these things not allowing of this being done otherwise. It is always possible to attain thereby to a degree of probability which very often is scarcely less than complete proof. To wit, when things which have been demonstrated by the Principles that have been

> assumed correspond perfectly to the phenomena which experiment has brought under observation; especially when there are a great number of them, and further, principally, when one can imagine and foresee new phenomena which ought to follow from the hypotheses which one employs, and when one finds that therein the fact corresponds to our prevision. But if all these proofs of probability are met with in that which I propose to discuss, as it seems to me they are, this ought to be a very strong confirmation of the success of my inquiry; and it must be ill if the facts are not pretty much as I represent them.[37]

Aristotle had criticized those who did not recognize the kind of principle or beginning to be sought in the particular knowledge of natural things or experimental sciences in his book *On the Universe* (the *De Caelo*):

> It happens that, in speaking about the phenomena, they say things that do not agree with the phenomena. The cause of this is not taking well first principles, but wishing to reduce all things to some determined opinions...For these men, on account of their love of those principles, seem to do the same as those maintaining positions in dialectic. They endure everything that follows as though having true principles; as if there were not some principles which ought to be judged from their results, and especially from the end result. Now the end of a science that makes is the product while of natural science it is always what appears authoritatively according to the senses.[38]

In this passage, Aristotle is talking about those the principles or beginnings which must be judged by their consequences or results. And he sees a likeness between "judging" in the experimental sciences and in dialectic and in the mechanical or productive arts. An hypothesis in science

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[37] Christian Huygens, Preface to his *Treatise on Light*, Dover Publications, pp. vi-vii:

[38] Aristotle, *On the Universe,* Book Three, Chapter 7, 306a 6-18

is judged by its consequences, and in dialectic we make a judgment on what someone says by the consequences of their opinion, and in the practical arts "the proof of the pudding is in the eating", not in the recipe which is thus a beginning to be judged by its result.

One could contrast the kind of beginning or principle which Aristotle is noting in this passage just quoted and the kind of beginning noted by him in the following passage:

> They all say that the elements and what they call the beginnings are contraries although they lay this down without giving a reason, as if being forced by the truth itself.[39]

A beginning that is forced on the mind by truth itself is used to judge what follows from it. But the kind of beginning which is found in the experimental sciences is, as Einstein said, "freely imagined"[40] and, hence, must be judged by its consequences.

JUDGMENT IN THE STRICT SENSE AND THE STATEMENT ABOUT CONTRADICTION

We can now proceed to consider the role of the statement about contradiction in regard to both kinds of judging. And in regard to the first kind of judgment, we can apply again our common beginning.

In book four of the *Metaphysics*, Aristotle showed that the statement about contradiction is most known and most certain.[41] But what is most of all in some genus is the cause of all the rest. Hence, the statement about contradiction is the cause of other statements being known and being certain.

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[39] Aristotle, *Physics*, Book One, Chapter 5, 188b 27-30

[40] .....*Essays in*.....

[41] *Metaphysics*, Book G, Chapter 3, 1005b 8-34

If some statements are more known and more certain than others, it does not belong to statements as such alone to be known and certain. If it belonged to a statement because it is a statement to be known and certain, one statement would not be more known and more certain than another. (It belongs to two as such to be half of four and one two is not more half of four than another.) Hence, if we did not know that there is a statement most known and most certain (the statement about contradiction), we could reason to the existence of such a statement from the fact that some statements are more known and more certain than others.

Hence, other statements are certain because of the statement about contradiction and more certain as they approach the statement about contradiction. But what is concluded from this profound reason can also be seen in a way more proportioned to us in another way as follows.

The statements found in demonstrations are either known through themselves or through other statements. The statements known through other statements are judged by the statements known through themselves. The statements known through other statements rest upon the statements known through themselves. The statements known through themselves are of two kinds: some are known through themselves by all men and are common to all forms of reasoned out knowledge. These statements are sometimes called axioms.[42] And some statements are known through themselves by the wise or those learned in some reasoned out knowledge and are private to that reasoned out knowledge. Thus, Euclid distinguishes between the common axioms such as that the whole is larger than one of its parts and the postulates such as that all right angles are equal. Since everyone knows what a whole is and what a part is, the statement that a whole is larger than one of its parts is a statement known through itself by all and it is common to all forms of reasoned out knowledge. But the statement that all right angles are equal is known through itself by those who have learned the definition of right angle in geometry and it is private to geometry. Now it is not hard to see that to deny a statement known through itself results in a contradiction. For example, if one were to deny that a whole is larger than one of its parts,

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[42] One must not, of course, confuse this sense of *axiom* with the different sense in which that word is used is much modern thought.

one would deny that the whole has parts. But this is what a whole is, as everyone knows - something that has parts. Hence, one would be saying that what has parts does not have parts, a clear contradiction. In this way, the axioms all rest upon the statement of contradiction. Hence, Aristotle notes that the statement about contradiction is "by nature the beginning of all the other axioms".[43] Likewise, denying a statement known through itself by the learned also lands one in a contradiction. This can be immediately so or through the axioms. If one were to deny the statement *No odd number is even* (known through itself by all who know what an odd number and an even number are), one would be saying that the same number is both divisible into equal parts and not so divisible, a manifest contradiction. But denying that all right angles are equal would involve saying that the whole is not larger than one of its parts and sometimes the part is larger than the whole. Thus, to deny a statement known through itself immediately lands one in a contradiction. In this way, one can see that all statements known through themselves are made firm and rest upon the statement about contradiction.

Thus the statements known through other statements are judged by the statements known through themselves and the statements known through themselves all rest upon the statement about contradiction. Hence, Aristotle says that all demonstrations resolve to the statement about contradiction.[44]

If all statements formed a kingdom, the statement about contradiction is the king. For it rules over all the others. Or one can say that the statement about contradiction rules over all the statements

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[43] Aristotle, *Metaphysics*, Book G, 1005b 33-34

[44] Aristotle, *Metaphysics*, Book G, 1005b 29-33. Thomas' paraphrase, *In IV Metaphysicorum*, Lectio VI, n. 603: "Si igitur quis opinetur simul duo contradictoria esse vera, opinando simul idem esse et non esse, habebit simul contrarias opiniones: et ita contraria simul inerunt eidem, quod est impossibile. Non igitur contingit aliquem circa haec interius mentiri et quod opinetur simul idem esse et non esse. Et propter hoc omnes demonstrationes reducunt suas propositiones in hanc propositionem, sicut in ultimam opinionem omnibus communem: ipsa enim est naturaliter principium et dignitas omnium dignitatum."

known through themselves and these in turn rule over all the statements known through other statements.

All statements known to be true rest upon the statement about contradiction. The statement about contradiction is the beginning and the end of all other statements in demonstration and the judging of them.

THE SECOND KIND OF JUDGMENT AND THE STATEMENT ABOUT CONTRADICTION

If we turn now to the second kind of judgment in which there is not the certitude of demonstration, the statement about contradiction plays a different role. We judge an hypothesis in experimental science by its consequences. The recipe or blueprint in the making arts is judged by the performance of the product made according to that recipe or blueprint. And in dialectic, we make some kind of judgment about an opinion by the conclusions drawn from it. But, in general, we are judging the beginning idea by whether the consequence expected is or is not contradicted by experience or other things. If the scientist, on the basis of his hypothesis, predicts that there will be an eclipse of the sun at ten o'clock and observation at ten o'clock show that there is not an eclipse at ten o'clock, the contradiction between what is predicted and what is observed will lead the scientist to reject or, at least, modify in some way his hypothesis. If the recipe gives promise of a delicious pudding, but eating the pudding contradicts this anticipation, the recipe is apt to be discarded. If we make an airplane according to our blueprint, but it doesn't get off the ground or stay off the ground, it is back to the drawing-boards. If a man's opinion leads to contradictions with other statements that he is more sure about, he should give up his opinion. The statement about contradiction especially enables us to give a negative judgment in all these cases.

Those who are accustomed to this second kind of beginning in human thought (which is judged by its consequences) sometimes think that every beginning in our thought is such. Since our age is dominated by the experimental sciences, we are apt to be deceived by our custom. But

beginnings in our thought such as *a whole is larger than one of its parts* or *no odd number is even* are beginnings by which we judge their consequences. Further, the other kind of beginning which is judged by whether its consequences or predictions are or are not contradicted presupposes a beginning of the other kind. Indeed, the first beginning of the other kind, the statement about contradiction underlies this second kind of judgment. It would be laughable, of course, to subject the statement about contradiction to such a test although some people do so. Some deny in words the statement about contradiction because they think that something contradicts it. But then they reject it because they accept it, an absurd procedure. The statement about contradiction is the first beginning by which all other statements are judged.

CONTRADICTION AND DISCOVERY

The ancients had distinguished the logic of the third act into the *scientia iudicandi* and the *scientia inveniendi.* Thomas calls these the pars iudicativa and the pars inventiva.[45] The judging part is found in the *Prior* and *Posterior Analytics* and the finding part chiefly in the books *About Places* (or *Topics*). Contradiction is essential to distinguishing these two parts. The demonstrator lays down one side of a contradiction (one of two contradictory statements), the side which he sees to be necessarily true and rejects the other side as entirely false. But the dialectician asks which side of a contradiction seems probable to the respondent.[46] Further, the demonstrator can only reason to one side of a contradiction. For example, the geometer can demonstrate that the triangle has its inside angles equal to two right angles, but he could not demonstrate the contradictory statement (the triangle does not have its inside angles equal to two right angles) But the dialectician can reason to both sides of a contradiction with some probability. There are problems about which we can have

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[45] *Expositio in Libros Posteriorum Analyticorum* , Proemium, Marietti ed., 1955, n. 6

[46] Aristotle, *Prior Analytics*, Book One, Chapter 1, 24a 23-26

probable arguments to both contradictory parts.[47] In this way, contradiction is necessary for understanding the difference between the demonstrator and the dialectician, both in their premisses and in their conclusions.

Having seen above in particular that the statement about contradiction is the end to which all the judgments of demonstration resolve, we can now ask what place do contradiction and the statement about contradiction have in discovery, beginning with dialectic. Is there a connection between dialectic belonging to the logic of discovery and dialectic being the ability to reason from probable opinions even to contradictory statements? Is the ability to reason with probability to the contradictory of what one thinks or what others think a reason why dialectic is useful for discovery? We can begin to consider this from what the Philosopher teaches us about dialectical reasoning and discovery.

There are two texts where Aristotle speaks of the usefulness of dialectic and dialectical reasoning. The first is in the eight books *About Places* (the so-called *Topics*):

> Next after what has been said, we should say for how many things and what the treatise is useful. It is useful for three things: towards exercise, towards meeting with others and towards philosophical reasoned out knowledge.
>
> That it is useful for exercise is clear from the same things. Having a method, we will easily be able to attack any proposed problem.
>
> It is useful for meeting with others because having enumerated the opinions of the many, we will be able to converse with them, not from alien but from their own opinions, leading another way what they seem not to say well.
>
> It is useful towards the philosophical forms of reasoned out knowledge because being able to raise difficulties towards

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[47] Aristotle, *Topics*, Book One, Chapter 11, 104b 12-14

> both sides, we will easily see clearly what is true or false in each thing.
>
> Further it is useful towards the first things in each reasoned out knowledge. For it is impossible to speak about these things in the reasoned out knowledge before us from its own beginnings since the beginnings are the first things of all - whence it is necessary to go through the opinions about each thing. But this is proper, or most of all appropriate, to dialectic. For being inquiring, it has a road towards the beginnings of all reasoned out knowledge.[48]

The other text is in the third book of *Wisdom* or *First Philosophy* (*Metaphysics*):

> It is necessary, towards the reasoned out knowledge sought, for us to go first through the things about which one ought to doubt first. These are whatever things about which some have taken up opposite positions and whatever else besides these happens to have been overlooked.
>
> To doubt well is useful for those wishing to discover. For the discovery after is an untying of the doubts before. But it is not possible for those ignorant of the knot to untie it. But the doubt of reason shows this about the thing. Insofar as it doubts, it undergoes something like those tied. It is impossible for either to go forward.
>
> Hence, it is necessary to have considered all the difficulties before on account of these things and because those seeking without doubting first are like those who do not know where one ought to go and further they do not know whether the sought has been found or not. For the end is not clear to such a one, but it is clear to the one who has doubted before.

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[48] *Topics*, Book A, Chapter 2, 101a 25-101b4

> Further, one who has heard all the arguments of those disputing, like that of parties in a lawsuit, is necessarily in a better position to judge.[49]

If we compare these two passages, it becomes clear that the text from the *About Places* is more universal. For the four reasons given in *First Philosophy* all pertain to the third reason in the *About Places* (*Topics*) why dialectic is useful; that is, "towards the philosophical forms of reasoned out knowledge". But since the first two reasons given in the *About Places* or *Topics* (towards exercise and meetings with others) are not proximate to our end (which is to consider contradiction and the growth of reason), but only the third, we must compare what is said under the third reason why dialectic is useful in the *Topics* with our text from *First Philosophy* or the *Metaphysics*.

Although the fourth or last reason given in *First Philosophy* would seem especially close to what is first said in the *About Places* under the usefulness of dialectic for philosophical reasoned out knowledge, a closer examination of the four reasons in *First Philosophy* shows that they all pertain in some way to that general reason. For all four reasons in *First Philosophy* involve the ability to reason to both sides of a contradiction or to see the probable argumentss for both sides.

The four reasons in *First Philosophy* can be considered an *ordered* expansion of the general reason given in the *About Places*. The order of the four reasons given in *First Philosophy* is from discovery to preparing for judgment. Discovery is before judgment in the growth of reason. The first reason makes explicit the word *discovery* (in Greek*euporia*) while the fourth reason speaks of *to judge* (in Greek: *to krinai*) The two middle reasons go together (just as they did in Meno's sophistical argument[50]) for if one does not know where one is going, one does not know when one has arrived. But knowing where one is going is closer to discovery, but knowing that one has arrived is closer to judgment.

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[49] *Metaphysics*, Book B, 995a 24-995b 4:

[50] *Meno*, 80D-E

None of these four reasons expanding the general reason of the *About Places* is opposed to the possibility of demonstrating later what has been investigated dialectically. But the particular reason given last in the *About Places* (useful towards the first things in each reasoned out knowledge) is opposed to the possibility of demonstration which produces reasoned out knowledge. For the beginnings proper to any reasoned out knowledge are that *from which* one demonstrates, but never what is demonstrated. Here we have reasoning that leads to the discovery of the beginnings. Dialectical reasoning cannot be the cause of our *knowing* with certitude the beginnings from which we demonstrate in some reasoned out knowledge. Rather dialectical reasoning is a cause of our *coming to know*. As the carpenter is a cause of the chair coming to be, but not of its being (for it can be even after he has died), so dialectical reasoning is a cause of coming to know the beginnings, but not of knowing them. Dialectic, in that way, has a road to the beginnings of all reasoned out knowledge.[51]

We can now consider why man has reasoning to opposites and how the contradiction to which he reasons is a beginning of discovery.

Reason has a way to both sides of a contradiction because it gathers the truth from sensible things and through signs. Thomas explains:

> It happens that man's reason has a way to both opposites because it gathers the truth from sensible things and through certain signs.[52]

These signs are the "probable signs from which the dialectical syllogism proceeds".[53] (This dependence upon the senses and the

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[51]In general, dialectic is a way to reasoned out knowledge, but reasoned out knowledge or *scientia* cannot be acquired by dialectical syllogism but by the demonstrative syllogism: *Summa Theologiae*, Tertia Pars, Q. 9, Art. 3, Ad 2:"opinio, ex syllogismo dialectico causata, est via ad scientiam, quae per demonstrationem acquiritur"

[52] *Summa Contra Gentiles* , Liber IV, Caput 55: "in hominis ratione contingit, quae, quia ex sensibilibus et per signa quaedam colligit veritatem, viam habet ad utrumque oppositorum."

imagination is also why our reason can err and why it must *guess* the natures of things from accidents and effects.)[54] This incertitude about the natures of things, what they are, is why demonstration in the strict sense is so rare outside of mathematics since definition is the beginning of demonstration.)

REASONING TO A CONTRADICTION AND DISCOVERY

Reasoning to a contradiction leads to discovery because under or behind a contradiction is something unknown. Three things need to be considered here: first, that contradiction is a sign of ignorance; and second, that the unknown can be said to be *under* or *behind* the contradiction; and third, the untying or breaking down of the contradiction is a discovery of what was hidden below or behind it.

There is no stronger sign of ignorance than contradiction. Hence, Socrates, who is most famous for showing men that they do not know what they think they know, used contradiction to show this. Hence, it very significant that Plato represents the young Socrates as learning from Parmenides (and his pupil Zeno) what we call the "Socratic" method of examining the thinking of men.[55] For Parmenides was the first to recognize the statement about contradiction as the beginning of thought. Likewise, the sophist, who wants to appear wise by making you appear ignorant, most of all aims at leading you into a contradiction.[56] Perhaps

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[53] In the *Summa Theologiae* , Tertia Pars, Q. 9, Ar t. 3, Ad 2, Thomas speaks of the "signa probabilia, ex quibus procedit dialecticus syllogismus"

[54] *Summa Contra Gentiles* , Liber III, Caput 91: " intelligentia nostra....Est etiam defectibilis, propter permixtionem phantasiae et sensus: ut errores hominum ostendunt....Nos autem quidditates rerum ex accidentibus et effectibus coniectamus."

[55] See the whole of the dialogue called the *Parmenides*.

[56] Aristotle, *On Sophistical Refutations*, Chapter 3, 165b 18-19

the reason why contradiction most of all shows our ignorance is that it is opposed to what we most of all know and opposites are more clear along side each other.

What is unknown, waiting to be discovered, can be said to be *under* the contradiction. It can also be said to be *behind* or *after* the contradiction. The former corresponds to reason gathering the truth from sensible things. The meaning of the English word *understanding* is connected with its etymology and with the dependence of reason upon the senses and with the way of distinguishing the reason from the senses. *Understanding* properly names knowing what is said to *stand under* something or knowing something by what is said to *stand under* it. We name *understanding* (both the act and the power) from sensible things both in the spatial origin of the words (hence, the puns in Shakespeare) and because the object of reason or the understanding is something that we speak of as *standing under* what is sensed. This is seen most clearly in understanding a word or an effect or in knowing substance. The word, spoken or written, is sensible, but the meaning or the thing named is spoken of as *under* the word. And it is reason or the understanding that knows the meaning or thing that stands under the word. (In Latin we speak of the *impositio nominis* or the *placing of a name upon* something. Hence, the thing named is thought of as *under* the name.) And we also speak of the *underlying* cause. (This also fits the use of *ground* for *cause* inEnglish.) The senses know more effects, but reason tries to know the underlying cause. To *understand* an effect means to know the cause standing under it. The senses know only accidents, but reason knows *substance* (which has the same etymology in Latin as *understanding* in English). But insofar as reason is discursive or runs from one thing to another, we would think of the cause as *after* (in our knowledge) the effect rather than under it. And we would hear the words *before* we come to the thoughts of the speaker or to the things of which they are thoughts. Thus, we can speak of the unknown as hidden *under* the contradiction or hidden *behind* or *after* the contradiction.

We must now consider the third point, that something is hidden under the contradiction and, thus, that reasoning to a contradiction leads to the discovery of what is hidden under that contradiction. But first, we should distinguish the forms of reasoning to a contradiction.

There are perhaps three main forms of reasoning to a contradiction found in three different kinds of conversation. (Aristotle distinguishes four argumentative conversations in the book *On Sophistical Refutations*,[57] but one of them does not lead to contradiction; namely, the teaching discussion since the demonstrator does not syllogize to contradictories.) One is that of the sophist where the respondent seems to contradict himself, but does not. Another is that of examiner where the respondent really does contradict himself. And finally the dialectician may reason from probable signs to opposite conclusions about the same.

We can see all three of these represented in the *Meno*. Meno attempts to catch Socrates in an apparent contradiction when Socrates proposes an investigation of what they do not know. How can one investigate what one does not know and how would you know that you had found it, if you did?[58] But the slave-boy really does contradict himself after he has said that the way to double a square is to double its side.[59] And finally Socrates as a dialectician, reasons that virtue can be taught and then that virtue cannot be taught.[60]

Perhaps we should begin with the sophistical conversation. Art is more known to us than nature and here the contradiction is more a work of art than nature (while the dialectician seems to begin more from the probable signs in the thing that lead to opposite conclusion about it). Since here there is only an apparent contradiction, one would expect discovery less than in the other two conversations that can lead to a contradiction.

But how contradiction leads to discovery can also be approached through sophistical contradictions. In chapter 16 of the book *On Sophistical Refutations*, Aristotle speaks of the usefulness of these contradictions for philosophy. In particular, he speaks of their usefulness in the most common mistake which is the result of mixing up the senses of a

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[57] *On Sophistical Refutations*, Chapter 2, 165a 39-165b 12

[58] *Meno*, 80D-E

[59] *Meno*, 82B-84C

[60] *Meno*, 87B-96C

word.[61] Being exercised in answering these apparent refutations produced by the sophist due to the difficulty to distinguishing the senses of a word both impresses upon us the necessity of distinguishing the senses of a word, but also strengthens our ability to do so. But it seems to us that after this kind of mistake on the side of speech, one can also look at the first two kinds of mistake outside of speech whose cause is in things. The first of these is the mistake from mixing up what is so through itself or by itself or as such and what happens or is accidental. Being exerecised in answering the sophist's apparent refutation due to this mix-up will also make us more aware of the necessity of this distinction and increase our ability to see this distinction. The second kind of mistake outside speech is from mixing up what is so simply and without qualification and what is so only in some imperfect and qualified way. Again, exercising our reason in untying contradictions due to this mix-up will help us to see the importance and necessity of this kind of distinction and help us to see this kind of distinction.

If we take what are perhaps the three most important mistakes for philosophy (the first in speech and the first and second outside speech or in things), underlying these contradictions are the three fundamental kinds of distinction. Each mistake is the result of not seeing some distinction. The unraveling of each of these mistakes is the discovery of the distinction hidden underneath it. Under one is the distinction of the senses of a word. Under another is the distinction of the as such and what happens. And under the third can be found the distinction of what is so simply and what is so not simply, but in some qualified and imperfect way. Meno's sophistical objection leads to the discovery of the distinction underlying all investigation of the unknown by the known. The ability to distinguish the senses of a word and the ability to distinguish the as such and the accidental and the ability to distinguish what is so simply and what is so only in some imperfect and qualified way enable reason to get to the beginnings of reasoned out knowledge.

Here we can join the end of our investigation to the beginning. We said before that distinction is before division in the strict sense of the separation of the parts of some whole. Every division is a distinction of the parts of some whole, but not every distinction is a division. The three most

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[61] *On Sophistical Refutations*, Chapter 16, 175a 5-10

common and important distinctions that are *not* divisions of a whole into its parts correspond to the three kinds of mistake just considered in the last paragraph. All philosophy, all reasoned out knowledge, rests upon these three kinds of distinction. This can be made more known by looking at what is common to all things and by looking at the roads underlying all knowledge.

What is common to all and said of all is distinguished in these three ways as can be seen in the distinctions of one and being in the fifth book of *Wisdom* or *First Philosophy*.[62] This is the book in which Aristotle distinguishes in order the senses of the words naming what is studied in wisdom. These are also the words used in the statements known through themselves by all. And they are used everywhere because of their universality. Further, both one and being are distinguished into by itself or through itself and by accident or happening. And when being through itself is distinguished into substance and accident or into act and potency, we find the distinction between what is so simply and what is so in some diminished imperfect way.

This third kind of distinction (between what is so simply and what is so in some diminished imperfect way) is in all knowledge of the roads and ways of going forward in our knowledge. When considering the first road in our knowledge, it is necessary to distinguish between what is more known simply and what is more known to us.[63] When considering the private road of a reasoned out knowledge, it is necessary to distinguish between what is the best simply and what is best in a given matter.[64] When speaking of the common road of reasoned out knowledge, it is necessary to see the distinction underlying the sophistical argument of Meno.[65]

In general, since every reasoned out knowledge is about the as such, it is necessary to see this distinction in every form of reasoned out knowledge. Whoever, for example, considers the first book of Aristotle's *Natural Hearing* or *Physics* with the exposition of Thomas Aquinas will be

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[62] *Metaphysics*, D, 1051b 17 - 1017b 9

[63] *Physics*, A, 184a 16 - 21

[64] *Metaphysics*, Book Two, 995a 14-20

[65] See, for example, the *Posterior Analytics*, A, 71a 24 - 71b 9

surprised as to how many of these three kinds of distinction (and especially that between the as such and the accidental) are necessary to find under contradictions before one can see clearly the beginnings of the subject.

One can object sophistically even to obvious things such as that change exists or a whole is always larger than one of its parts. But even here there are distinctions underlying these apparent contradictions, distinctions which not everybody sees and which were not seen clearly by anyone until after these apparent contradictions had been brought out. If then the apparent contradictions brought out by the sophist even about obvious things lead to the discovery of distinctions unknown before, how much more will contradictions arising from the probable opinions of men lead to the discovery of the unknown. Almost the whole of wisdom seems to lie under the contradictions brought out in the third book of *Wisdom*. But elsewhere the dialectic is particular and under each particular contradiction lies a truth waiting to be discovered and/or clarified.

THE PHILOSOPHER AND THE PHILOMUTHOS

We can see from the above another reason why the *philomuthos* is in some way a philosopher, as Aristotle said in his proemium to wisdom.[66] The reason given there was that the *muthos* is composed of wonderful things and wonder is the beginning of philosophy. The Greek word *muthos* can mean (1) myth, (2) more generally, story and (3) precisely, plot. In this third sense, we can say that the lover of plots is in some way a philosopher. For as Aristotle teaches us in the *Poetics*, the plot is composed of a tying up and an untying[67] or a twining (twisting) and unraveling.[68] This is like Aristotle's words in the beginning of the third book of *Wisdom* where he compares reason's state in dialectic to being tied up and the subsequent discovery to the untying of the mind. But in

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[66] *Metaphysics*, A, 982b 18-19

[67] *Poetics*, Chapter 18, 1455b 24

[68] *Poetics*, Chapter 18, 1456a 7-9

this comparison, we should also remember what Aristotle points out about poets: many tie up well, but untie badly.[69] It takes a master poet to untie well. How much more is this true in philosophy! Lesser minds can easily tie themselves or others into knots, but it takes an Aristotle or a Thomas to untie the difficult knots.

Duane H. Berquist

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[69] *Poetics*, Chapter 18, 1456a 9-10