The Contingent

Difference between the Possible and the Contingent

Before denifing the contingent and its modes, it is well to distinguish the contingent from the possible. Since they are convertible, they are materially the same but formally different. Since in its first meaning the contingent is opposed to the necessary, the possible which will be convertible with it is not the possible which is opposed to the impossible but the possible opposed to the necessary. This latter possible is the physical possible.[1]

Possible being is opposed to necessary being as caused to uncaused. That which is possible depends for its being on a cause. As was shown in the section on the possible, a thing is called possible in reference to a potency from which it can proceed. As physical potency is divided into rational and irrational and into active and passive, so is the possible. That which is possible is an act of a power, whether this be an action or an effect

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[1] "Sed possibile vel contingens quod opponitur necessario, hoc in sua ratione habet, quod non sit necesse illud fieri quando non est." S. Thomas, Contra Gentiles, Lib. III, cap. 86; cf. comment. Ferrariensis in hoc loco (n. III, 2), "Alio modo accipitur possibile ut opponitur necessario. Et tunc possibile idem est quod contingens, quod scilicet potest esse et non esse, sicut necessarium non potest non esse."

of an action, e.g., heat heats and causes another body to be heated.

On the other hand, we call something contingent which proceeds from a cause which is not a necessary cause. Such a cause can produce its effect and it can fail to produce its effect; a contingent effect, therefore, can be and it can not be. Insofar as a being (i.e., an effect) is virtually contained in its cause and is not yet produced it is contingent, since it can either be or not be. The contingent is divided according to the different ways in which an effect can proceed from its cause: frequently, rarely, or with indifference. Note that it is the mode of procession from the cause which is the basis for the division. The fallibility of such a procession is rooted in the nature of the cause from which the effect proceeds. Such fallibility is due to a defect in the cause, and a cause is defective because of its matter or potentiality.

The possible, therefore, is distinguished from the contingent in that a thing is called possible because of its actuality, but is called contingent because of a defect in its cause which is due to potentiality. The contingent is being as it is in potency, i.e., precontained in its cause. The possible is being as it is the act of a power which can produce it.[1]

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[1] "Possibile respicit actum, contingens autem secundum vim nominis respicit defectum causae, qui ad potentiam pertinet: defectus enim potentiam sequitur," Cajetanus, In Periherm., Lib. II, lect. 12, n. 9b; cf. S. Albertus, Periherm., I, p. 452.

This distinction is clarified by a passage from the commentary of Sylvester of Ferrara on the Contra Gentiles where he says that a necessary or a contingent effect can be considered in two ways: either absolutely and as it is in itself a certain thing and a nature or as an effect and in its relation to its cause. Considered absolutely, a necessary thing by its very nature cannot not be, whereas the contingent can not be. This contingent is properly called possible and corruptible. Considered as an effect in relation to its cause, a necessary effect proceeds from a cause that acts necessarily and cannot be impeded, whereas a contingent effect can fail to proceed from its cause. As a defectible nature a thing is called possible, as an effect it is called contingent.[1]

John of St. Thomas in discussing the nature of the contingens ad utrumlibet throws light on the contingent as such. What he says is applicable also to the contingens natum with the difference that the natural contingent is not completely indifferent but is more inclined to being than to non-being, even though the possibility of defect always remains, as will be shown below.

> Contingens dicitur aliquid ex causa indifferenti ad utrumlibet in actu primo, et antequam de facto producat;

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[1]Lib. I, cap. 67, comment., n. VI.

ergo, antequam effectus producatur, ex eadem parte, ex qua habet contingentiam, habet indeterminationem, scilicet ex causis: extra causas autem nondum aliquid habet, vel si aliquid habet determinate, ibi amittet contingentiam ubi habet determinationem.[1]

Modes of the Contingent

There is an important difference between the modal enunciation which is necessary and that which is contingent. The first differs from the de inesse enunciation only by reason of the mode which is added to signify explicitly that the composition of subject and predicate is necessary. The contingent, however, differs from the de inesse not only because of the mode, but also because of the way in which the predicate inheres in the subject, i.e., with the possibility of not inhering.[2] For this reason, syllogisms generated from necessary propositions will be like those made up of de inesse propositions, whereas those generated from contingent propositions will sometimes follow different rules, depending on the sense in which the contingent is taken. Similar differences are found in the conversion of modal propositions. It does not fall within the scope of this paper to treat the generation of syllogisms from

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[1] Curs. Theol., disp. XIX, a. 3, n. 2, Solesm., II, p. 420 a.

[2] "Contingens variat inhaerentiam secundum rem et secundum modum." S. Albertus, Priora Analytica, I, p. 537 a.

contingent (or any other kind of modal) propositions but only to distinguish the senses of the contingent, since these are differences of the contingent enunciation even though their importance is largely in reference to the syllogism.

Since in its primary meaning the contingent is opposed to the necessary, this contingent is called the non-necessary contingent. Such a contingent is mixed with potency and implies at the same time being in act and the possibility of not being. That which is not necessary is possible to be and not to be. This sense of the contingent is, therefore, convertible with the physical possible which can be in potency to opposites and which is opposed to the necessary.[1] The non-necessary contingent is found in two modes: the natural contingent (contingens natum) and the infinite contingent. An effect is said to be a natural contingent when it comes about frequently or for the most part. Its cause is more inclined to being than to not being, although it always retains the possibility of failure and, in fact, does fail, but only rarely. For example, it is natural that a man become grey haired as he grows old, or that a child increase in size as he becomes older; these things happen universally, because their causes are innate in man, but they do not happen with necessity

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[1] S. Albertus, Priora, I, p. 538.

since the action of these causes can be impeded by the inequality of the matter in the subject in which they operate. No natural being is entirely in act at once, but always remains in potency in some respect from which it must pass to act through the medium of a movement. Because of the variability of that movement, natural causes do not always attain the effects to which they are ordered. They do, however, attain their ends frequently or ut in pluribus, and while this is similar to the operation of a necessary cause in that it is inclined toward being, nevertheless the natural contingent fails from the continuous necessity of the necessary cause and is, therefore, non-necessary. The second mode or species of the non-necessary contingent is the infinite contingent which is indifferent to being and non-being and is in potency to each equally. For example, it is indifferent for an animal to walk or not, or that there be an earthquake while he is walking. The cause is not more determined to being than to non-being. Such a cause is in potency ad utrumlibet, i.e., to either of two contrary or contradictory effects.[1]

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[1]Aristotle, Prior Analytics, Bk. I, chap. 13, 32 a 17-32 b 15; S. Albertus, Priora, I, pp. 538-539.

The contingent is properly non-necessary and is opposed to the necessary, but there is a second sense of the contingent which is the same as the necessary and is called the necessary contingent. If something is necessary, it follows that it can be (*contingit esse*). For if it did not follow, the opposite would be true, with the following consequence: what cannot be (*non contingit esse*) is not possible to be, what is not possible to be is impossible to be, and what is impossible is necessary not to be. But what is necessary not to be is not necessary to be, which is incompatible with the original proposition that something is necessary. The necessary can, consequently, be called contingent.[1] But as St. Albert points out, the necessary is said to be contingent only analogically with respect to the non-necessary contingent.[2]

There is still a third sense of the contingent which is superior to the two senses of necessary and non-necessary. ~~This is the common two senses of necessary and non-necessary.~~ This is the common contingent or *contingens altum*. The latter name is given, because it does not descend to the special modes of the contingent,

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[1] S. Albertus, *Priora*, I, pp. 476-477.

[2] *Ibid*., p. 537 b.

as a genus descends to its species, but remains distinct and above them, since it has properties which do not belong to the species.[1] This common contingent is convertible with the logical possible, which is opposed to the impossible; the common contingent is, in fact, frequently referred to as the possible contingent or simply the possible. It can also be said to be non-necessary, but not in the same way as the natural and the infinite contingent are non-necessary. The common contingent is not necessary not to be, whereas the natural and infinite contingents are not necessary both to be and not to be. For this reason, the common contingent can follow on the necessary, since what is necessary is also not necessary not to be.

> Et semper accipiendum est contingens in genere quod convertitur cum possibili: et hoc est contingenter quod stat supra non esse, et non habet se ad esse: quia quod se habet ad esse et non esse, est contingens natum et contingens infinitum: illud autem contingens quod est in secundo ordine modalium, est contingens non esse tantum, et non contingens esse et non esse, et ad illud sequitur necesse, sicut cum dicitur contingens non esse, #possibile non esse, et non necesse esse: secundum hoc enim possible vel contingens non esse, est quod non est necessarium esse, quamvis non sit contingens non esse et contingens esse.[2]

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[1] Ibid., p. 476b.

[2] Ibid., I, p. 481 b; at (#) the text inserts a non, which is manifestly false, since in the second order of modals contingens non esse and possibile non esse are equipollent; Cf. Cajetanus, In Periherm., Lib. II, lect. 10, n. 18.

Of the three modes of the contingent, the non-necessary contingent, which is divided into the natural and infinite contingents, is contingent both to be and not to be. The necessary contingent is contingent only to be, and the common contingent is contingent only not to be, i.e., it is not necessary not to be. The natural and infinite contingents are opposed both to the necessary and to the impossible, whereas the common and the necessary contingents are opposed only to the impossible.[1]

The senses of the contingent follow the division of being and the relation of being to its cause. All creatures are in some way contingent: either by virtue of a potency in themselves or by virtue of another's power. But even before distinguishing these divisions of real being, it is necessary to take note of another sense of being, ens verum, which consists merely in the relation of terms. As was shown above, something is said to be possible because of a non-repugnance of terms; this was called the logical possible and is the same as the common contingent. Such possibility or contingency abstracts

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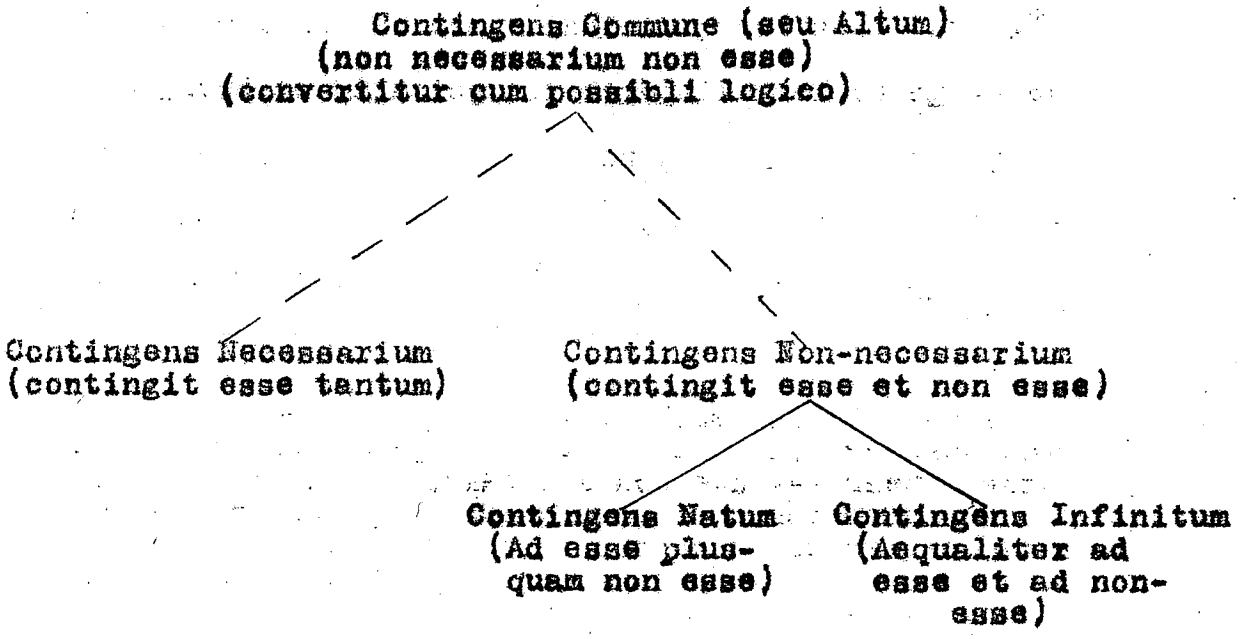
[1]S. Albertus, Priora, I, pp. 484 b-485.

Divisio Contingentis



from any real potency either in itself or in another.[1] Included in this sense of the contingent or possible are all possible creatures. They are all real in the sense that each has an essence capable of existence, but not all are real in the sense that they actually exist.[2]

Opposed to this logical being is real being which is distinguished into necessary and possible according to the substantial principles intrinsic in things themselves. Being in this sense is divided according to whether it is always, frequently, or rarely.

> . . . . eorum quae dicuntur esse, quaedam sunt semper et ex necessitate. . . . sic enim necessarium dicimus quod impossibile est non esse.--Quaedam vero sunt ut in pluribus, sicut quod homo nascatur cum quinque digitis in manibus: hoc enim non semper est ex necessitate, cum contingat aliquem nasci cum sexto digito; sed est ut in pluribus.--Quaedam vero nec sunt ut in pluribus, neque semper ex necessitate, sed contingenter eveniunt; sicut si "frigus fiat sub cane," idest in diebus canicularibus. Sed non semper et ex necessitate neque in pluribus, sed tamen quandoque accidit etiam hujusmodi ens. Quia autem raro accidit, et non semper et ex necessitate, neque ut in pluribus, vocatur ens per accidens.[3]

Beings which are necessary, such as the separated substances, can suffer no privation of their substantial form. They contain no potency to being incompatible with

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[1] "Hoc modo abstrahunt a potentia in se vel in alio: imo ab omni potentia proprie dicta," Cajetanus, In Iam, q. 9, a. 2, comment. n. VI.

[2] Cf. supra, p. 74.

[3] S. Thomas, In Metaph., Lib. XI, lect. 8, n. 2276.

what they are, and, therefore, they are not in potency to non-being.[1] Such beings are not contingent by virtue of a potency in themselves; they are, in fact, necessary and immutable, because they contain no privation of substantial form in virtue of which they could change. They are, however, mutable with respect to another's power, i.e., the divine power. Every creature is mutable from nothing to something, and, therefore, can also be annihilated, for every creature depends on the divine will for its creation and conservation in being. Necessary beings are contingent in this way.[2]

But every created being is not only mutable by a power which is found in another, but also by reason of the potentiality which is contained in itself. A creature can be in potency, and therefore mutable, to being or to its end. Necessary beings are excluded from the first kind of potentiality, as has been shown, but not from the second. Corporal beings, on the other hand, are subject to change both in their substantial being and in their accidental being.[3] Corresponding to these kinds of mutability are the different senses of the contingent.

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[1] "Oportet ut res carens potentiam ad aliud esse incompossibile huic, careat etiam potentia ad non esse." Cajetanus, In Iam, q. 9, a. 2, comment., n. VI.

[2] S. Thomas, Ia, q. 9, a. 2.

[3] Ibid.

Beings that come about from causes that operate according to nature and succeed frequently (ut in pluribus) are said to be naturally contingent (contingens natum). Those that proceed from an indifferent potency, such as the will, belong to the contingens infinitum, as do all beings that have no determinate cause. These latter are beings per accidens.

That there be an earthquake while a certain animal is walking, that a man be white, that a builder be also a musician, that a food which tastes good be also healthy--all these are entia per accidens, because they do not have a determinate cause.[1] The art of cooking, for example, is for making delicious food. If the food also happens to be healthy and nourishing, that is beyond the intention of the art, and is not done per se by the art. Nor is a home built by a builder as musician, but by the builder as builder. Hence, delicious healthy food is an ens per accidens, as is a musical builder.

Since all science is about that which is always or for the most part, there is no science of the per accidens. The reason is that the per accidens is not properly being, but is, rather, non-being, since it is not per se and properly one. One and being are convertible, and every science is of being. There can be, therefore,

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[1] S. Thomas, In Metaph., Lib. VI, lect. 2, n. 1185.

no science of the per accidens.[1]

The Contingent and the Demonstrative Syllogism

It follows from what has been said that there can be no demonstrative syllogism constructed from propositions which are contingens infinitum. St. Albert says there could, however, be a formal syllogism from such propositions, but he adds that questions are not usually asked about something which is contingens infinitum, because a question is about something determinate, and the infinite contingent is indeterminate.[2] A demonstrative syllogism can be made from propositions which are of the natural contingent, i.e., of that which is ut in pluribus.

> Orationes et considerationes (ad quaestiones determinandas et problemata) pene omnes fiunt de contingentibus, quae dicuntur secundum contingens natum. Dico autem pene: quia in talibus in quibus est contingens natum in quantum esse possunt et non esse, non demonstratur, nec de ipsis est disciplina demonstrativa, sed potius in quantum stant sub esse et referuntur ad innatam sibi causam: sic enim considerata ista contingentia conveniunt cum necessariis, quamvis deficiant ab ipsis in quantum non habent stantem causam: in tantum enim sunt necessitatis non continuae.[3]

The natural contingent is like the necessary, except that its necessity is not continuous, i.e., a natural cause can sometimes fail to produce its effect. This occasional defect is an ens per accidens and is called the contingens ut in paucioribus.[4] This ut in paucioribus effect, however,

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[1] Ibid., Lib. XI, lect. 8, nn. 2279, 2272.

[2] Priora, I, p. 540 a.

[3] Ibid.

[4] S. Thomas, In Metaph., Lib. VI, lect. 2, n. 1183.

does not belong to the *contingens infinitum*, since its cause is not indifferent and equally inclined to being and non-being. Its cause is the *contingens ut in pluribus*, as St. Thomas says.[1] Since the *contingens ut in paucioribus* can neither be the *contingens natum* nor the *contingens infinitum*, it is the *contingens non-necessarium*.[2]

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[1] *Ibid.*

[2] S. Albertus, *Priora*, I, p. 539 b.

CHAPTER VI

PROPERTIES OF THE MODAL ENUNCIATION

Opposition by Reason of Quality

Having treated the definition and division of the modal enunciation, it is now necessary to take up its properties. The first of these is the contradictory opposition of affirmation and negation in modals. Since this is treated at considerable length by Aristotle[1] and by Cajetan in his commentary[2] as well as by St. Albert,[3] there will not be need of an extended explanation here. Aristotle begins by asking whether the contradictory of an affirmative modal enunciation is made by adding a negative to the verb of the dictum or to the mode. He first argues in favor of the first position and then shows that this leads to an admission that contradictories are simultaneously true, since "possible to be" and "possible not to be" can be verified at the same time of the same subject. As was shown above, both of these possibilities are verified of the non-necessary contingent, here called possibile ad utrumlibet, which can be in act but is not always in act.

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[1] Perihermenias, chap. 12, 21 a 34-22 a 13.

[2] Lib. II, lect. 8, nn. 7-14, lect. 9.

[3] Periherm., I, pp. 442 b-445 a.

There have, nevertheless, been some who have insisted that a negative added to the verb of the dictum makes the whole modal enunciation negative. A Scotist, for example says,

> Qualitas in modalibus divisis attenditur eodem modo sicut in cathegoricis de inesse, scilicet ex parte copulae totalis vel principalis partis.[1]

For him, a modal enunciation is affirmative if the dictum is affirmative, and the enunciation is negative if the dictum is negative; e.g., Sortem possibile est non currere is negative, because the more principal part of the copula, the infinitive, is negated.[2]

Since the addition of the negative to the verb of the dictum does not make the modal enunciation negative, the negative must be added to the mode. The reason is that an enunciation is rendered negative by a negation of the joining of a predicate with its subject. In a modal enunciation, it is the mode that is so predicated. Therefore,

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[1] Petrus Tataretus, In summulas Petri Hispani Exactae Explicationes (Venice: 1581), p. 28 B. Tataretus is called, on the title page, "Ioannis Duns Scoti, Doctor Subtilis, sectator fidelissimus."

[2] Another author seems to subscribe both to the Aristotelian teaching and the Scotist opinion, despite the fact that they exclude each other, "If the mode is affirmative and the dictum negative, or inversely, the proposition is purely and simply negative." J. Maritain, Logic, trans. Imelda Choquette (New York: Sheed and Ward, 1937), p. 137.

the negative must be added to the mode. Just as in de inesse enunciations in which being or non-being is predicated of a subject, so in the modal enunciation the modes are predicated of the being or non-being signified by the dictum which is as the subject. The predicate is as a form, and an enunciation is negative if that form is denied of the subject. The denial of the predication of the mode makes the modal enunciation negative. Cajetan points out that the "apposition" or predication in the modal enunciation is the whole predicate, e.g., "is possible."[1] Furthermore, since truth and falsity follow on affirmation and negation, the latter should be found in the same respect as truth and falsity. In a de inesse enunciation truth or falsity follows on the being or non-being signified by the enunciation. In the modal, the enunciation is true if the mode qualifies the dictum in conformity with the actual composition of the dictum. Therefore, just as in the de inesse the negative is added to the verb which signifies being, so the negative is added to the mode.

Since each mode can make two affirmative enunciations, the following negative enunciations will be their contradictories: (the contingent is convertible with the possible)

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[1] In Periherm., Lib. II, lect. 9, n. 3.

Affirmative	Negative
Possibile esse.	Non possibile esse.
Possibile non esse.	Non possibile non esse.
Necesse esse.	Non necesse esse.
Necesse non esse.	Non necesse non esse.
Impossibile esse.	Non impossibile esse.
Impossibile non esse.	Non impossibile non esse.[1]

The being or non-being signified by the dictum are always as the subject in a modal enunciation. The modal is negative only if the mode is negated. It is important too to note that the contradictory of any affirmative modal is obtained only by negating the same mode, e.g., possible and not possible. Cajetan points out a peculiarity of modals in that the same opposition is obtained by adding the negative either to the mode or to its verb, but not, however, to the verb of the dictum, e.g., the opposite of *possibile est esse* is not only *non possibile est esse*, but also *possibile non est esse*.[2]

This treatment of the opposition of modals by reason of quality is sufficient for the second property of the modal enunciation, the equipollence or consequence of modals.

Consequences: Equipollence

Aristotle treats this second property of the modal

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[1] Note that both *impossibile esse* and *impossibile non esse* are affirmative enunciations, even though *impossibile* is the equivalent of *non possibile*; there is no negative added to *impossibile*.

[2] *In Periherm.*, Lib. II, lect. 9, n. 5.

enunciation in the thirteenth chapter of the Perihermeneias,[1] Cajetan in the tenth, eleventh, and twelfth lessons of his commentary, and St. Albert in the third to the sixth chapter of the second tract in his second book of the Perihermeneias.[2] The consequence is defined in common by John of St. Thomas as an oratio in which something follows from something else which is given.[3] Here, however, is a special case of the consequence.

> Suppositae modalium consequentiae nil aliud sunt quam aequipollentiae eorum, quae ob varium negationis situm, qualitatem, vel quantitatem, vel utranque mutantis, fiunt.[4]

There are other consequences besides equipollence, e.g., conversion: All men are animals; therefore some animals are men. Equipollence itself is defined as propositionum oppositarum penes variationem negationis aequivalentia et ejusdem sensus significatio.[5] As was pointed out in the last section, each of the four modes makes two affirmative and two negative modal enunciations. There are, therefore, sixteen possible modal enunciations. Some are the same in

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[1] 22 a 14-23 a 26.

[2] I, pp. 445 a-453 b.

[3] Curs. Phil., I, p. 59 a, Oratio, in qua uno dato aliud sequitur.

[4] Cajetanus, In Periherm., lib. II, lect. 12, n. 10.

[5] Joan. a Sto Thoma, Curs. Phil., I. p. 46 a.

meaning as others, e.g., "not possible to be" is the equipollent of "impossible to be." It is the ordering of all of the modals according to equipollence that will be treated in this section.

Cajetan points out, first of all, that a modal is called a simple affirmative if both the mode and the dictum are affirmative, and an affirmative declinata if the mode is affirmative but the dictum is negative. It is called a simple negative if the mode is negative and the dictum is affirmative, and a negative declinata if both are negative.[1]

Since the possible and the contingent are convertible, contingens esse is the equivalent of possibile esse and non contingens of non possibile. Secondly, the impossible is always the equivalent of the contradictory of the possible or the contingent, and the not impossible is the equivalent of the contradictory of the not possible and not contingent. Therefore, the negation of the impossible follows on the affirmation of the possible, and the negation of the possible follows on the affirmation of the impossible, e.g., impossibile est esse is the equipollent of non possibile esse.[2]

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[1] In Periherm., Lib. II, lect. 10, n. 3; the second, fourth, fifth, and sixth examples given by Mr. Maritain are incorrect, Logic. p. 137.

[2] Cajetanus, In Periherm., Lib. II, lect. 10, n. 5.

The necessary, however, offers a more complex problem. Some of the predecessors of Aristotle made tables of the equipollent modals which Aristotle proves to be wrong because they had taken the impossible and the necessary to follow the possible in the same manner. He then gives and justifies his own order of consequences of modals. It will not be necessary to repeat all of his discussion, since it is already done in much detail in the text of the Perihermenias as well as in Cajetan's commentary.

The impossible and the necessary are related as contraries and therefore do not follow on the possible in the same way but rather in contrary ways. If something is impossible, it does not follow that it is necessary, but rather that it is necessary not to be. Thus, on possibile esse there follow non impossibile esse and non necesse non esse. Aristotle proves that non necesse non esse follows on possibile esse by showing that the other three necessary enunciations do not follow.

Non necesse esse does not follow on possibile esse (contrary to the opinion of the ancients) for the following reason. Possibile esse follows on necesse esse; otherwise, non possibile esse would follow, and this would be contradictory. Non impossibile esse follows on possibile esse.

Then if *non necesse esse* followed on *non impossibile esse* (as the ancients held), *non necesse esse* would follow on *necesse esse*, and there would be a plain contradiction. Therefore *non necesse esse* does not follow on *possibile esse*.[1]

Nor do *necesse esse* and *necesse non esse* follow on *possibile esse*. To say *possibile esse* is to say at the same time *possibile non esse*. But *necesse esse* excludes *possibile non esse*, and *necesse non esse* excludes *possibile esse*. Both of these consequents would diminish the antecedent, *possibile esse*. But no formal consequent diminishes its antecedent. Therefore neither *necesse esse* nor *necesse non esse* follows on *possibile esse*. There remains only *non necesse non esse*, which follows on *possibile esse*.[2]

It is important to note that possible here is used in the sense of the logical possible which is superior to the necessary and the physical possible. Note also that Aristotle does not say that the necessary is possible and therefore must be possible not to be. What he is saying is that, granted that something is possible, it follows that it can be necessary or not necessary. The superior

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[1] *Ibid.*, n. 11.

[2] *Ibid.*, n. 13.

contains its inferiors only in potency, whereas the inferior must contain the superior in act as "man" actually contains "animal," but "animal" contains "man" only confusedly and potentially.[1]

Consequences of Modal Enunciations According to the Four Orders

First Order	Third Order
Possibile est esse.	Non possibile est esse.
Contingens est esse.	Non contingens est esse.
Non impossibile est esse.	Impossibile est esse.
Non necesse est non esse.	Necesse est non esse.
Second Order	**Fourth Order**
Possibile est non esse.	Non possibile est non esse.
Contingens est non esse.	Non contingens est non esse.
Non impossibile est non esse.	Impossibile est non esse.
Non necesse est esse.	Necesse est esse.

In the table of consequences it will be noted that the enunciations in the third order are the contradictories of those in the first, and those in the fourth contradict those in the second. Also, the contradictories of a given order of consequences are consequent upon one another.[2]

Aristotle next answers a difficulty about whether or not the possible follows on the necessary. Again, the distinction of the various senses of the possible is necessary to answer the question. As the division of the possible

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[1] Ibid., nn. 12, 15.

[2] Ibid., n. 18.

was made above at some length, there is no need to repeat it here. Since the logical possible is common to the necessary and the physical possible, it follows the necessary as a universal whole follows its subjective part. The physical possible does not follow the necessary, but is, rather, opposed to the necessary.[1]

Lastly, Aristotle proposes a new table of equipollent modals which differs from the previous table only in that he places the necessary first. Just as in the universe that which is in act without admixture of potency should come before that which is mixed with potency, so in the table of modals the necessary should precede the possible.[2] The possible precedes the contingent, because, although they are convertible, the possible implies act whereas the contingent is so named because of a defect in its cause. Since act is prior to potency, the possible should be prior to the contingent.[3] The impossible, which is never in act, is placed last.[4]

The table of equipollent modals follows:

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[1] Ibid., lect. 12, n. 6.

[2] Cf. supra, chap. iv, p. 44.

[3] Cf. supra, chap. v, p. 71 ff.

[4] Cajetanus, In Periherm., Lib. II, lect. 12, nn. 9, 9b.

First Order	Third Order
Necesse est esse.	Non necesse est esse.
Non possibile est non esse.	Possibile est non esse.
Non contingens est non esse.	Contingens est non esse.
Impossibile est non esse.	Non impossibile est non esse.
Second Order	**Fourth Order**
Necesse est non esse.	Non necesse est non esse.
Non possibile est esse.	Possibile est esse.
Non contingens est esse.	Contingens est esse.
Impossibile est esse.	Non impossibile est esse.[1]

Opposition by Reason of Quantity

To Aristotle's treatise on modals Cajetan adds some considerations to complete the doctrine on the opposition and consequences of modals. Not only are enunciations opposed by reason of their quality, i.e., negative and affirmative enunciations, but they are also opposed by reason of their quantity. The quantity of an enunciation is a property of its subject, for quantity follows matter and the subject is as matter in an enunciation. In a de inesse enunciation the subject is either a singular or a common term. If it is common, it either has no modifying particle or is modified by a sign such as "all" or "some." Consequently, the de inesse enunciation is singular, indefinite, universal, or particular in its quantity. These variations in quantity combined with variations in quality account for the oppositions of enunciations as commonly indicated by the square of opposition.

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[1] Ibid., n. 7.

From peculiarities of the modal enunciation come peculiarities of its properties. Since the nature of the whole is known from the nature of its parts, the properties of the modal can only be known by an analysis of its parts. As has been said above in treating the integral parts of the modal enunciation,[1] the mode is the predicate and the dictum, which signifies being or non-being, is the subject. The dictum is itself composed of a subject and a predicate in the manner of a de inesse enunciation. The mode, Cajetan says, has a distributive force, i.e., it distributes its subject, the dictum, according to the parts of time.[2] The necessary and impossible modes distribute the subject into all time, taken either simpliciter or within certain limitations. The possible and contingent modes distribute into some time--not, however, a determinate time, but "some time" in communi.

It has already been shown that the modal enunciation has a twofold quality, viz., of the dictum and of the mode. The modal has furthermore a threefold quantity. First, the dictum has a subject which has a quantity like the subject of a de inesse enunciation, universal, particular, or singular, e.g., that Socrates, some man, every man, or no man

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[1] Chap. iii, p. 35 ff.

[2] "Modus . . . . continet in se vim distributivam secundum partes temporis." In Periherm., Lib. II, lect. 12, n. 10.

run is possible. Secondly, the dictum, taken as dictum, has a quantity--it is always singular. "That man be white is possible" means "This dictum, 'that man be white,' is possible." "This dictum" is singular in quantity, just as "this man." Thirdly, because the mode has a distributive force, there is another quantity, called the modal quantity, which is either universal or particular. There are, therefore, the quantity of the subject of the dictum, the quantity of the dictum, and the modal quantity.[1]

Just as a modal enunciation is simpliciter affirmative if its mode is affirmed of the dictum, and simpliciter negative if its mode is denied of the dictum, so the modal enunciation is quantified simpliciter by its predicate, the mode. The enunciation is simpliciter universal if its mode is universal; simpliciter particular if its mode is particular.

The reason that the mode affects the subject in this way is that the modal predicate is not only a predicate, but is also a syncategorematic term which has the effect of distributing the subject according to the parts of time.[2] In a de inesse enunciation, the quantity varies

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[1] Ibid., n. 11.

[2] "Predicatum modalis, scilicet modus, non habet solam habitudinem praedicati respectu sui subjecti, scilicet esse et non esse, sed habitudinem syncategorematis distributivi, sed non secundum quantitatem partium subjectivarum ipsius subjecti, sed secundum quantitatem partium temporis ejusdem." Ibid., n. 12.

according to the division or lack of division of the subject, e.g., "every animal" is a common term taken in its undivided universality, and "some animal" is a subjective part of the whole which is "animal." In the modal that which is subjected is the composition of the subject and predicate of the dictum which is signified by the verb of the dictum. The proper quantity of a verb is time, since the verb signifies after the manner of movement, whose measure is time. Consequently, the quantity of the subject of the modal is divided according to time, and the mode distributes the subject, i.e., esse or non esse, according to the parts of time. Therefore, a modal enunciation is universal when the modes of necessity or impossibility distribute the esse or non esse of the subject throughout all time, e.g., that man is an animal is necessary or impossible. The foregoing example is universal simpliciter. Universal can also be taken within certain limits (universaliter accentum), e.g., that man run today is necessary or impossible; or universal can be taken as something actually is, e.g., while he is running, that a man run is necessary. A modal is particular when the modes of possibility or contingency distribute the esse or non esse of the subject only throughout some time, e.g., that man be white or that man run is possible or contingent.

That a mode quantifies its subject insofar as it is a syncategorematic term might demand some explanation. In the first book of his commentary on the Perihermeneias St. Thomas says,

> Syncategoremata, quae secundum se non significant aliquid absolutum, sed solum habitudinem unius ad alterum.[1]

Again, in another place, after speaking of the noun and the verb as well as the pronoun and the participle, he speaks of the syncategoremata in these terms:

> Alia vero sunt magis colligationes partium orationis, significantes habitudinem unius ad aliam, quam orationis partes; sicut clavi et alia hujusmodi non sunt partes navis, sed partium navis coniunctiones.[2]

A syncategorematic term, therefore, does not signify in the way the noun and the verb signify, i.e., as parts of an oratio, but they signify in joining parts of the oratio. As John of St. Thomas says, they signify aliqualiter, which does not mean that they do not truly and properly signify, but rather that they do not represent the object they signify as a res per se, but as a mode of something, i.e., as modifying something.[3] He says also that the categorematic term is distinguished from the syncategorematic as in the Latin language significativum or

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[1] Lect. 6, n. 3.

[2] Lect. 1, n. 6.

[3] Curs. Phil., I, p. 12 a 7-16.

praedicativum is distinguished from *consignificativum*.[1]

Thus, the mode in a modal enunciation can be taken merely as a predicate which is predicated of *this dictum*, and can also be taken as modifying the verb which signifies the composition of the dictum. It then "signifies with" the *esse* or *non esse* of the dictum and is properly syncategorematic. The mode does not signify something absolute, i.e., not a thing, but the relation of one thing to another, i.e., the relation of the predicate of the dictum to its subject. In the enunciation, "That man be white is possible," the composition, the *esse* of the dictum, is signified by "be.". "Possible" consignifies with "be" and exercises a certain modification of the *esse* in distributing the *esse* of the dictum throughout *some time*. The enunciation is, therefore, particular in virtue of the syncategorematic term which is the mode. "Possible" is truly a modification of the *esse* of the dictum and truly signifies *aliqualiter*. This clarifies the nature of the modal enunciation, because it is precisely in exercising its function as a syncategorematic term that the mode (which also is a predicate) is properly a mode.

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[1] *Ibid.*, p. 11 b 43-46; cf. p. 92 a 3-12.

The quantification of the modal enunciation is wholly parallel to that of the de inesse. In each case the distribution of the subject is effected by a syncategorematic term. In the de inesse, the terms, "all," "some," "no," and the like distribute a common term throughout all or some of its subjective parts. In the modal, owing to the fact that its subject is the very esse or non esse of the dictum, the terms "possible," "contingent," necessary," and "impossible" distribute the esse throughout all or some time.

If the difference of quantity proper to modals be combined with the differences of quality, four kinds of modal enunciation are obtained. The universal affirmative is signified by the necessary mode which distributes to all time. The universal negative is signified by the impossible mode which distributes to no time. The particular affirmative is signified by the possible and contingent modes both of which distribute to some time. The particular negative is signified by the possible and contingent modes both of which distribute to some time. The particular negative is signified by such expressions as the not-necessary and the not-impossible which distribute to not-being sometime. To each of these four kinds of

modal enunciations there corresponds one of the orders of equipollent modals. All the enunciations in the first order are universal affirmatives; those in the second, universal negatives; those in the third, particular negatives; and those in the fourth, particular affirmatives.

Just as in the equipollence of de inesse enunciations, the different opposed enunciations can be made equipollent by the correct placing of the negative. A negative before the mode makes an enunciation equipollent to its contradictory; placed after the mode, i.e., with the verb of the dictum, the enunciation is equipollent to its contrary; and negatives placed both before and after the mode make it equipollent to its subaltern. Thus, the first order of equipollent modals is contrary to the second, contradictory to the third, and the fourth is subalternated to it.[1]

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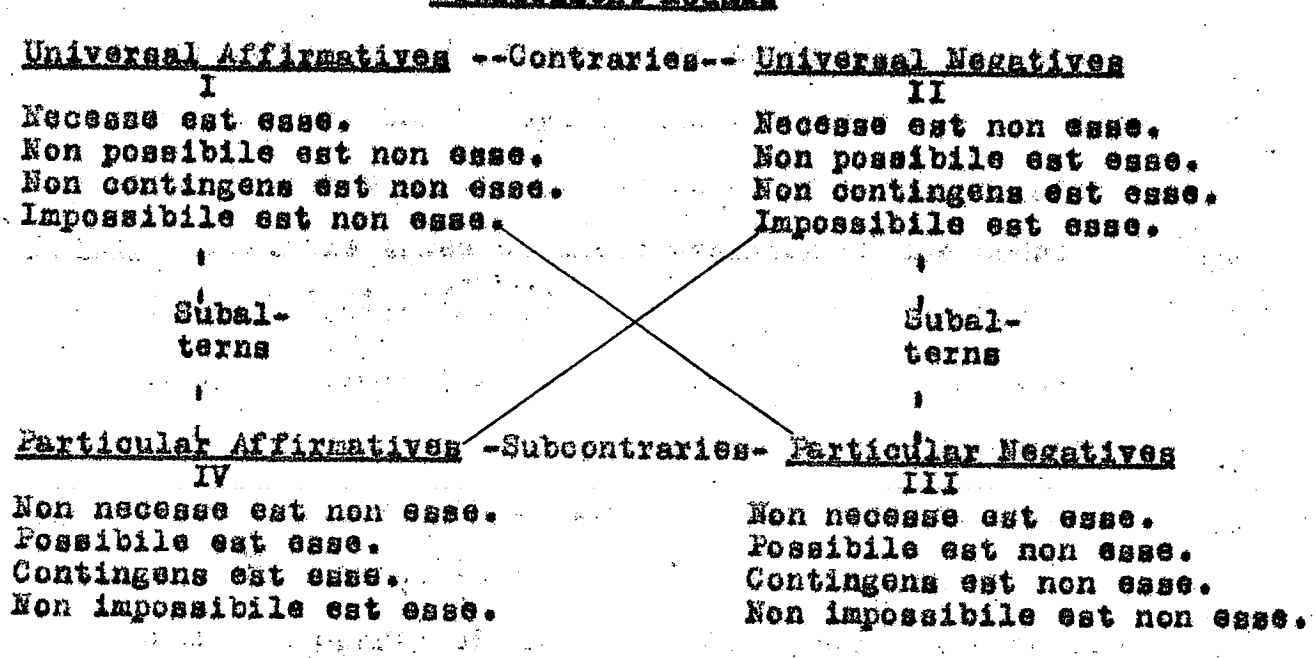
[1] Apparently dating from the medieval logicians, there are found in some logic books mnemonics for the opposition and equipollence of modals, e.g., Petrus Hispanus, Summulae Logicales, ed. Bochenski, pp. 13-14; Joan. a Sto Thoma, Curs. Phil., I, pp. 50-51. For the quality of the modals the following letters were used: E dictum negat, Iqua modum, nihil A, sed U totum. Using these letters, the following words were constructed to indicate each group of equipollent modals: Amabimus, edentuli, illiace, purpurea. The same order of modes is kept in each word: possible, contingent, impossible, and necessary. Thus in amabimus, a stands for an affirmative possible, the second a for an affirmative contingent, i for a negative impossible, and u for a negative necessary with a negative mode.

Table of Opposition of Equipollent Modals



Conversion of Modals

Since the subject of this paper is the modal enunciation, it is not proper to it to treat of the use of modal propositions in syllogisms. However, in treating the latter subject in its proper place in the Prior Analytics, Aristotle takes up the conversion of the modal proposition. Conversion is considered in connection with the syllogism, because it is principally useful in reducing imperfect modes of the syllogism to perfect modes. Nevertheless, since an enunciation is convertible or not regardless of whether it is used in a syllogism, conversion is a property of the enunciation and will, therefore, be treated here briefly in order to complete the doctrine on the modal enunciation.

Conversion is the exchange of the subject and predicate of a proposition, the quality and the truth remaining the same.[1] In simple conversion, the quantity remains unchanged; in conversion per accidens, the quantity is changed--from universal to particular. Since the species of conversion are distinguished according to

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[1] "Mutatio extremorum propositionis de subiecto in praedicatum et de praedicato in subiectum servata qualitate et veritate." Joan. a Sto Thoma, Curs. Phil., I, p. 47 b.

quantity, it is important to know which quantity of the modal enunciation is to be considered. When a modal proposition is used in a syllogism, its quantity is neither that of the dictum as singular nor the modal quantity, but the quantity of the subject of the dictum. This is what makes it possible to generate a syllogism from one modal and one de inesse proposition, e.g., that every man run is possible; Socrates is a man; therefore, that Socrates run is possible. Likewise, the quantity that changes or remains unchanged in the conversion of modals is the quantity of the subject of the dictum.[1]

It should furthermore be noted that in addition to conversion in terms, that has just been described, there is another kind of conversion that is found only in non-necessary contingent modals--conversion to the opposite quality. This is due to the peculiar nature of the contingent. Whatever belongs to the natural or the infinite contingent is contingent not only to be but also not to be, and what is contingent to all is contingent to none.[2]

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[1] S. Albertus, Periherm., I, p. 442 a.

[2] S. Albertus, Priora, I, p. 477 b.

The conversion of necessary (and impossible) propositions offers no difficulty, because they are converted in the same manner as de inesse propositions. The universal negative converts simply: it is necessary that no B is A; therefore, it is necessary that no A is B. The universal affirmative converts per accidens: it is necessary that all B is A; therefore, it is necessary that some A is B. The particular affirmative converts simply into a particular affirmative, and the particular negative is not convertible.[1]

The conversion of contingent modals does offer some special problems, however, since the non-necessary contingent is at once contingent to be and contingent not to be. Aristotle takes up affirmative contingents first.[2] If the contingent is taken in the senses of the necessary or of the common contingent which follows on the necessary, it is evident that such contingents are converted in the same way as necessary propositions: universals are converted per accidens, particulars simply. The same is true for the non-necessary contingent, although a particular proposition in this contingent is not in every case

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[1]Aristotle, Prior Analytics, Bk. I, chap. iii, 25 a 26 ff.

[2]Ibid., 25 a 37-25 b 3.

converted into the same kind of contingent. If an affirmative particular proposition of the infinite contingent is converted, the converted proposition is also of the infinite contingent; e.g., it is contingent that some man be walking; therefore, it is contingent that the being which is walking be a man. But if a like proposition be taken in the natural contingent, e.g., it is contingent that some man be a grammarian, the converse, it is contingent that some grammarian be a man, is not a natural contingent at all, because it is necessary that a grammarian be a man. The affirmative particular in the natural contingent, therefore, converts to the common contingent which follows on the necessary.[1]

In the conversion of negative contingent propositions, the same rules are observed for the necessary and common contingents as for necessary and de inesse propositions: universals are simply convertible, particulars are not convertible. But negative non-necessary contingent propositions do not convert in the same way as necessary and de inesse propositions. A universal negative in the natural contingent or infinite contingent is not convertible in terms, because if it were so converted, it would follow that a universal affirmative could

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[1] S. Albertus, Priora, I, pp. 477 b-480 a.

be converted simply. This is impossible. The proof follows: if in a natural or an infinite contingent, it is contingent that all B is A, it is contingent that no B is A. If it is contingent that no B is A, and if such a proposition is convertible, it follows that it is contingent that no A is B. If it is contingent that no A is B, it is contingent that all A is B. Therefore, with the first proposition, it is contingent that all B is A, there stands the proposition, it is contingent that all A is B. A universal affirmative would have been converted simply. Consequently, the universal negative in the natural and infinite contingents cannot be converted. On the other hand, in such contingents, the particular negative can be converted to a proposition of the same contingent, because such a particular is convertible to the opposite quality. If it is contingent that some B is A, it is also contingent that some B is not A. A particular affirmative is convertible in terms. Therefore, the particular negative is also convertible in terms.[1]

Nevertheless, St. Albert points out that the universal negative in the natural or infinite contingent is convertible to a different acceptation of the contingent,

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[1]Aristotle, Prior Analytics, Bk. I, chap. iii, 25 b 3-18; S. Albertus, Priora, I, p. 482.

viz., the common contingent. That it is contingent that no man be white is a non-necessary contingent (ad utrumlibet), but its converse, it is contingent that no white thing be a man, is a common contingent the sense of which is that it is not necessary that some white thing be a man.[1]

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[1] Ibid., p. 484.