

in regard to effects, just as man has a limited and participated liberty in regard to his own effects. (14) But on the supposition that God has willed creatures to exist, it is impossible that He not will them. It is also necessary, hypothetically, that since God has willed certain creatures, He will what is required by their nature. And since the divine will is immutable, it is hypothetically necessary that God will whatever He has willed and that He continue to will it.

Omne aeternum est necessarium. Deum autem velle aliquid causatum esse est aeternum: sicut enim esse suum, ita et velle aeternitate mensuratur. Est ergo necessarium. Sed non absolute consideratum: quia voluntas Dei non habet necessarium habitudinem ad hoc volitum. Ergo est necessarium ex suppositione.

Praeterea. Quicquid Deus potuit, potest: virtus enim eius non minuitur, sicut nec eius essentia. Sed non potest nunc non velle quod ponitur voluisse: quia non potest mutari sua voluntas. Ergo nunquam potuit non velle quicquid voluit. Est ergo necessarium ex suppositione cum voluisse quicquid voluit, sicut et velle: neutrum autem necessarium absolute, sed possibile modo praedicto.

Amplius. Quicumque vult aliquid, necessario vult ea quae necessario requiruntur ad illud, nisi sit ex parte eius defectus, vel propter ignorantiam, vel quia a recte electione eius quod est ad finem intentum abducatur per aliquam passionem. Quae de

14. St. Thomas, In II Sententiarum, dist. 25, q. 1, a. 4: "Libertas a necessaria coactione nobilior invenitur in Deo quam in angelo, et in uno angelo quam in alio, et in angelo quam in homine;" - see also Contra Gentiles, III, cc. 89-92

Deo dici non possunt. Si igitur Deus, volendo se, vult aliquid aliud a se, necessarium est eum velle omne illud quod ad volitum ab eo ex necessitate requiritur: sicut necessarium est Deum velle animam rationalem esse, supposito quod velit hominem esse. (15)

Absolute necessity, then, is a necessity intrinsic to a thing that cannot be other than it is. It is a necessity that is derived from prior causes, such that if the cause be given, it is impossible that the effect not follow. Hypothetical necessity, however, is a necessity derived from a cause that is extrinsic to the thing and posterior in existence, namely, the end; if such and such an end is to be achieved, then certain other things are necessary. Thus, if man is to exist, a rational soul is necessary; if a house is to be built, materials are required; if God wills this, it is impossible that He not will it, i.e., hypothetically necessary that He will it. This latter necessity, although not opposed to every kind of contingency, is still opposed to contingency in the strict sense, for to the extent that a thing is hypothetically necessary, it is not possible for it not to be. Thus, it is impossible that Socrates not have existed, on the hypothesis that God has willed him to exist; it is impossible that the saw be made of wax if it is going to cut; it is impossible that the rational soul be contingent in the sense of "quod potest esse et non esse," once it has been given that man

is to exist.

## 2. Necessity and the Modern Scholastics.

Let us turn now to the question of necessity as it is treated in the majority of scholastic manuals. The first thing to be noted is that, contrary to the explicit teaching of St. Thomas, (16) these writers deny the absolute necessity of any creature. The explanation generally given is that no creature has the sufficient reason for its existence within itself:

Now, when the completely sufficient reason for a thing does not exist in the thing itself but exists at least in part in something else, we have an example of what is called a contingent being. A contingent being is, therefore, one that has not the full explanation of its existence in itself. For its explanation we must look to some other being. Existence does not belong to its essence, but is something that accrues to, is adventitious to, or is added to, the essence. It would be possible for such an essence to be non-existent. If, therefore, it is actually found existing, this fact of its existence must be accounted for by something other than itself. (17)

If we compare - for even when it intuites the first principles of reason the mind actively compares - these two notions, contingent being and caused being, that is, being that has the ground of its existence in another, we see that the specific subject of that which has the ground of its existence in another is precisely contingent being. (18)

16. Contre Gentes II, c.30; quoted above, p.43

17. John F. McCormick, S.J. Scholastic Metaphysics (Loyola, Chicago, 1931), p.46

18. J. Maritain, A Preface to Metaphysics, (Sheed and Ward, N.Y., 1939), p.138

Considered in the order of actual existence, the contingent is that being whose essence, as such, does not include existence and which, therefore, does not, as such, demand existence, but is indifferent to be or not to be. (19)

One final quotation will suffice to show more explicitly that there seems to be no doubt in the minds of these authors that absolute necessity is predicable, only of God, all creatures being simpliciter contingent:

Unde, ens necessarium est illud, quod ita existit, ut non possit non existere; ens contingens est illud, quod ita existit, ut possit non existere... illud est absolute necessarium, quod existit ex intrinseca determinatione et exigentia suae essentiae (Deus)...Necessitas existendi non nisi enti infinito competere potest. (20)

The error of identifying being which does not have the sufficient reason of its existence in itself, with contingent being, is nothing other than the failure to distinguish what is necessary per se from what is necessary per aliud. (We shall see that this error has been responsible in part, for the contradictory conclusion of the same authors that everything in nature is governed by a complete determinism; i.e., comes about with necessity.) Because a thing does not have a sufficient reason for its existence within itself does not make it a contingent being, but a caused being; a thing that is

19. F.F. Siegried, In the Catholic Encyclopedia (New York, Appleton, 1908), vol.IV, p.331

20. J.S. Hickey, O.Cist., Summulae Philosophiae Scholasticae (Gill and Sons, Dublin, 1912), Vol.I, pp.404-405

caused can be absolutely necessary, its necessity too, being caused by another. At the same time it should be observed that the fact that a thing is caused by another does mean that it is contingent in one sense of the word. Thus, all creatures, whether they are necessary in themselves or not, are contingent in so far as they could have not existed; all are products of the divine omnipotence and contingent extrinsically, in as much as they all depend on God's power for existence. Note, however, that this is a contingency that is predicated of creatures, not from any intrinsic principle, but from a power extrinsic to them; a creature that is contingent extrinsically in this way, can at the same time be necessary, intrinsically. This is true of the separated substances, who are contingent only in relation to the divine creative and conservative power, and not in themselves, since they have no potency to non-being, as has been shown.

In regard to the position of the modern scholastics on this point, it should be said that a thing is more properly defined from what is intrinsic to it; and since there is no intrinsic principle making a separated substance contingent, such a being is absolutely necessary, being determined uniquely  
(21)  
to existence.

21. St. Thomas, *De Pot.*, Q.5, a.3: "Dupliciter ergo potest contingere quod in natura alicuius rei non sit possibilitas ad non esse. Uno modo per hoc quod res illa sit forma tantum subsistens in esse suo, sicut substantiae incorporeae, quae sunt penitus immateriales."

Nowhere does St. Thomas restrict absolute necessity to God, making all creatures contingent simpliciter; extrinsic contingency is a contingency secundum quid, which has already been explained. Why, then, do many scholastic writers prefer to ignore the fact that there is no repugnance between a caused being and an absolutely necessary one, unless they do not know that this is the case, not distinguishing between what is *per se* and what is per aliud? It does not follow that if a being is absolutely necessary, it is the cause of its necessity, nor does it follow that it is necessary in every way.

Ad divinam perfectionem pertinet quod rebus creatis suam similitudinem indiderit, nisi quantum ad illa quae repugnant ei quo est esse creatum: agentis enim perfecti est producere sibi simile quantum possibile esse. Esse autem necesse simpliciter non repugnat ad rationem esse creati: nihil enim prohibet aliquid esse necesse quod tamen suae necessitatis causam habet, sicut conclusiones demonstrationum. Nihil igitur prohibet quasdam res sic esse productas a Deo ut tamen eas esse sit necesse simpliciter. Immo hoc divinae perfectioni attestatur. (22)

In reply to those who deny the absolute necessity of creatures on the grounds that God has the power to annihilate them, St. Thomas has said:

Si autem dicatur quod ea quae sunt ex nihilo, quantum est de se, in nihilum tendunt; et sic omnibus creaturis inest potentia ad non esse: -

manifestum est hoc non sequi. Dicuntur enim res creatae eo modo in nihilum tendere quo sunt ex nihilo. Quod quidem non est nisi secundum potentiam agentis. Sic igitur et rebus creatis non inest potentia ad non esse: sed Creatori inest potentia ut eis det esse vel eis desinat esse influere; cum non ex necessitate naturae agat ad rerum productionem, sed ex voluntate, ut ostensum est. (23)

Thus, all creatures are contingent extrinsically, on the divine will; some are also contingent intrinsically, because of their matter, while others are absolutely necessary, being altogether immaterial, or not having a matter in potency to another form. (24) (The latter would be the celestial bodies, which were believed by the ancients to be incorruptible, the potency of the matter being exhausted by the perfection of the form. This is the state of man in his glorified body which is incorruptible.)

The second point to be discussed is the concept of hypothetical necessity found in the majority of scholastic manuals. The writers of these manuals speak of the hypothetical necessity of future events, as a necessity attached to certain conditions; a given future event is hypothetically necessary if all the conditions required for its existence

23. Contra Gentes, II, c.30

24. Ibid.: "Quaedam autem res sic sunt a Deo in esse productae ut in earum natura sit potentia ad non esse. Quod quidem contingit ex hoc quod materia in eis est in potentia ad aliam formam. Illae igitur res in quibus vel non est materia, vel, si est, non est possibilis ad aliam formam, non habent potentiam ad non esse. Eae igitur absolute et simpliciter necesse est esse."

are fulfilled. Since these conditions need not be present the effect is necessary only conditionally, or hypothetically, and not absolutely. The following excerpts taken from the writings of various modern scholastics explain their teaching quite clearly:

Absolute necessarium est, quod independenter a quacunque condicione contingenti necessarium est, veluti veritates mathematicae. Hypotheticae vero necessarium est, quod dependenter a condicione contingenti necessarium est. (25)

In the second place it will be found that the principle is rigidly universal and necessary only if it is expressed as a hypothetical proposition, e.g.: If the same necessary cause acts in the same circumstances, it will produce the same effect. (26)

Nécessité hypothétique, au sens ancien du mot. - Aristote et Saint Thomas entendent par là une nécessité entravée, bridée, conditionnelle, c'est-à-dire dont la réalisation peut être arrêtée par la défaillance de ces conditions préalable. Elle dépend, non pas seulement, comme la nécessité simple, de ce qui existe (ex causis prioribus), et qui lui fournirait un point d'attache indéfectible, mais encore de ce qui doit exister (ab eo quod est posterius in esse), et qui peut venir à manquer. Par exemple, d'un noyau de pêche mis en terre sortira un pêcher: cela est nécessaire, c'est la loi, la règle générale, infailible en elle-même et quant aux éléments qui la constituent; c'est, si l'on veut, ((la thèse)). Mais cette loi ne sortira son effet que si les circonstances s'y prêtent, si le soleil et la pluie favorisent le germe, si la dent des rongeurs ou la bêche du jardinier le respectent. Tout ceci, c'est précisément ((l'hypothèse)). (27)

25. J. Donat, S.J., Cosmologia (Rauch, Innsbruck, 1924), p.119 sq.

26. John F. McCormick, S.J., Scholastic Metaphysics, p.257

27. Joseph De Tonquédec, La Critique de La Connaissance (Beauchesne, Paris, 1929), pp.423-24

Necessity is either absolute or hypothetical.  
 Absolute necessity depends on no condition.  
 Hypothetical necessity depends on a condition...(28)

Hypothetical necessity is therefore that which  
 is dependent upon some condition which need not  
 be verified. (29)

In these texts we are confronted with a contradiction in terms; for if the conditions required for the existence of some future event are contingent, then the event that depends upon these conditions is also contingent. And if there is a necessary connection between the conditions and the event, when the conditions are fulfilled the event is absolutely necessary in relation to these conditions. If a condition required for the existence of something is not absolutely necessary in itself, apart from its being a necessary condition of something else, then whatever depends upon it is not necessary at all, but contingent. To say that a thing is necessary under certain conditions is nothing other than to say that it is necessary when it is necessary. Being given that a necessary cause is one that always produces its effects and cannot be impeded, (30) -what can be the meaning of the assertion, , "If the same necessary cause acts in the same

28. J.J. Colligan, Cosmology, a Textbook for Colleges (Fordham U. Press, New York, 1936) p.51

29. J.A. McWilliams, S.J., Cosmology, (Macmillan, New York, 1950) p.156

30. St. Thomas, In I Periherm., lect.XIV, n.8: - Aristotle, II On gen. and Corrupt., c.11, 337b35. (transl. H. H. Joachim, ed. by R. McKeeon, p.530.)

circumstances, it will produce the same effect"? <sup>(31)</sup> Is this not evident? How can a necessary cause as such produce any effect other than the one of which it is a necessary cause? Does the author mean that the necessity of the cause depends upon the circumstances being the same? We shall see that this interpretation of necessity is attributed to the ancient Stoic philosophers, and refuted by St. Thomas in the *Perihermeneias*.

As remarked earlier, hypothetical necessity does not refer to the future at all. Aristotle and St. Thomas are quite clear about this:

Necessitas quae dependet ex causis prioribus est necessitas absoluta, ut patet ex necessario quod dependet ex materia. Similiter etiam quod habet necessitatem ex causa formali, est necessarium absolute. Et similiter quod habet necessitatem ex causa efficiente, est necessarium absolute. Quod autem habet necessitatem ab eo quod est posterius in esse, est necessarium ex conditione, vel suppositione; ut puta si dicatur, necesse est hoc esse si hoc debeat fieri; et huiusmodi necessitas est ex fine, et ex forma in quantum est finis generationis. (32)

When St. Thomas says, "Necesse est hoc esse si hoc debeat fieri," he is referring to the necessity of the means if the end is to come about, and not to the necessity of the end that depends on these means in the order of execution; it is the

31. See footnote n.26

32. In II Phys., lect.XV, n.2

end that becomes when the means are provided, as is evident in the text. What should be said in regard to the conditions required for the existence of some future thing is not that, this event is hypothetically necessary being given these conditions; but that the conditions are hypothetically necessary being given this end to be attained.

If a future event is related to its proximate principle in such a way that, if this principle be given, the effect will follow necessarily, the only necessity of which it is a question is an absolute necessity. What may be hypothetically necessary is the proximate principle, which in relation to a remote free cause is not absolutely necessary. But nothing prevents that which was not necessary from becoming necessary, once its proximate principle is given:

Sciendum est itaque quod, si rerum creaturum universitas consideretur, prout sunt a primo principio, inveniuntur dependere ex voluntate, non ex necessitate principii, nisi necessitate suppositionis. Si vero comparantur ad principia proxima, inveniuntur necessitatem habere absolutam; nihil enim prohibet aliquo principio rerum non ex necessitate produci; quibus tamen positis, de necessitate sequitur talis effectus: sicut mors animalis huius absolutam necessitatem habet propter hoc quod iam ex contrariis est compositum, quamvis ipsum ex contrariis componi non fuisset necessarium absolute. (33)

If an animal exists, it is absolutely necessary that its death follow at some future time. It is the existence of the animal, and not its death, that is hypothetically necessary.

In this way, all creatures are hypothetically necessary since God wills their existence, not with an absolute necessity, but freely, <sup>(34)</sup> ex suppositione. It is in this sense that a thing can be at the same time necessary and contingent; the necessity, however, is hypothetical.

Respondetur. Dicendum quod contingentia dupliciter possunt considerari. Uno modo, secundum quod contingentia sunt. Alio modo, secundum quod in eis aliquid necessitatis invenitur: nihil enim est adeo contingens, quin in se aliquid necessarium habeat. Sicut hoc ipsum quod est Socratem currere, in se quidem contingens est; sed habitudo cursus ad motum est necessaria; necessarium enim est Socratem moveri, si currit. (35)

If Socrates runs, it is absolutely necessary that he move himself; but he freely determines himself to run; therefore, his moving himself is contingent upon his free will and hypothetically necessary in relation to the free decision to run, but absolutely necessary in relation to the running itself. In other words, Socrates does not have to run; therefore it is hypothetically necessary that he move himself. But if he runs, it is absolutely necessary that he be moved. What

34. St. Thomas, Contra Gentem 1, c. 83: "...DEUS VULT ALIQUID ALIUD A SE NECESSITATE SUPPOSITIONIS... Omne aeternum est necessarium. Deus autem velle aliquid causatum esse est aeternum: sicut enim esse suum, ita et velle aeternitate mensuratur. Est ergo necessarium. Sed non absolute consideratum: quia voluntas Dei non habet necessariam habitudinem ad hoc volitum. Ergo est necessarium ex suppositione... Praeterea..."

35. St. Thomas, Ia, Q. 86, a. 3, c

manualists neglect when they speak of hypothetical necessity is the distinction between the order of intention and the order of execution. What should be noted in this regard is that the end is prior in the intention but posterior in existence. Thus, the end to which a free cause determines itself, is hypothetically necessary in relation to the free determination of the agent to seek this end; such a cause was free not to have determined itself to such an end. Once the end is present in the intention of the agent, however, it is impossible that it not be willed, i.e., absolutely necessary in relation to the will determined to it. And if the end is willed, the means necessary to attain this end are willed with an absolute necessity. In other words the means are hypothetically necessary if the end does not have to be willed; i.e., if the end is not absolutely necessary; but they are absolutely necessary in relation to the end determined in the order of intention. In the order of execution, on the other hand, the means are hypothetically necessary, i.e., unless these means are posited the end cannot come about; but if all the means are given the end follows with an absolute necessity.

In relation to the end in the order of intention, the means are absolutely necessary; in relation to the means in the order of execution, the end is absolutely necessary. In neither case is there any reference to the hypothetical necessity of a future event as such. The coming to be of such an

event is either absolutely necessary or contingent, depending on whether its cause is necessary or contingent.

Ad cuius evidentiam considerandum est quod cum verum hoc significet ut dicatur aliquid esse quod est, hoc modo est aliquid verum, quo habet esse. Cum autem aliquid est in praesenti habet esse in seipso, et ideo vere potest dici de eo quod est: sed quamdiu aliquid est futurum, nondum est in seipso, est tamen aliquando in sua causa: quod quidem contingit tripliciter. Uno modo, ut sic sit in sua causa ut ex necessitate ex ea proveniat; et tunc determinate habet esse in sua causa; unde determinate potest dici de eo quod erit. Alio modo, aliquid est in sua causa, ut quae habet inclinationem ad suum effectum, quae tamen impediri potest; unde et hoc determinatum est in sua causa, sed mutabiliter; et sic de hoc vere dici potest, hoc erit, sed non per omnimodam certitudinem. Tertio, aliquid est in sua causa pure in potentia, quae etiam non magis est determinata ad unum quam ad aliud; unde relinquatur quod nullo modo potest de aliquo eorum determinate dici quod sit futurum, sed quod sit vel non sit.

It is also in the *Perihermeneias* that St. Thomas excludes the distinction that some modern writers make between a necessity de iure and de facto. Necessary de iure, according to these authors, is what must be - what is such that it cannot not be; necessary de facto is, what as a matter of fact will be; thus, necessary, since it will not in fact be prevented from coming to be. This is the view expressed in the following passage taken from an essay by a modern thomist on necessity

and contingency:

...It is indispensable, in the first place, that we distinguish two kinds of necessity: the first de iure, which is a necessity by essence or by right; and the second de facto, which is a necessity in actual fact. And, moreover, we must recognize that the simple contingency of an event is inconsistent with the first type of necessity, but compatible with the second. An event can be determined or necessitated in actual fact by its antecedents and still be contingent from the moment that its antecedents themselves could have been other than what they were...But it may so happen that a necessity by right does not suffice for the placing of the effect...In a case such as this, to this extent that the placing of the effect depends upon a simple necessity of fact with a necessity of right combined with it, the latter is, so to speak, clothed with contingency. (37)

Although the Stoics did not go so far as to say that a thing can be necessitated and still not be necessary, they did speak in a way similar to the author, in so far as they said that the necessary is what cannot be impeded (in fact), while the contingent is what can be impeded. In regard to this St. Thomas remarks:

Stoici vero distinxerunt (possibile et necessarium secundum exteriora prohibentia. Distinxerunt enim necessarium esse illud quod non potest prohiberi a veritate; possibile vero quod potest prohiberi vel non prohiberi. (Haec) autem distinctio videtur esse incompetens... (quia) assignatio est ab exteriori et quasi per accidens: non enim ideo ali-

37. J. Maritain, Reflections on Necessity and Contingency, in (Essays in Thomism, ed. by Robert E. Brennan, O.P., Sheed and Ward, New York, 1942) p.

quid est necessarium quia non habet impedimentum, sed quia est necessarium, ideo impedimentum habere non potest. Et ideo alii melius ista distinxerunt secundum naturam rerum, ut scilicet dicatur illud necessarium, quod in sua natura determinatum est solum ad esse; impossibile autem quod est determinatum solum ad non esse; possibile autem quod ad neutrum est omnino determinatum, sive se habeat magis ad unum quam ad alterum, sive se habeat aequaliter ad utrumque, quod dicitur contingens ad utrumlibet. (38)

Before it exists a thing is either necessary, or contingent, It is obvious that, while a thing is, it is impossible for it not to be; otherwise it would be contradictory. If a thing is necessary de iure, being given that this is an absolute necessity - "I now say that necessity by right (de droit) is a necessity which derives from the very essence of a thing or from some essential structure demanding, by its very nature, that a thing be so an so" - how can it be asserted at the same time that "...It may so happen that a necessity by right does not suffice for the placing of the effect"? It is plain that here there is confusion between logical necessity and physical necessity, for the same author has this to say about what he has called a necessity de iure:--

Thus the essence of the sphere requires that all its radii be equal. It is in this sense that St.

38. St. Thomas, In I Periherm., lect. XIV, n. 8

39. J. Maritain, op. cit., p. 28

40. ibid.

Thomas, following Aristotle, understands, the word "necessary" when he defines it as "that which by its nature is determined solely to being"; in other words, that which in virtue of some essential requirement, cannot not be. (41)

In the example of the sphere it is absolutely necessary that all its radii be equal; the same thing may be applied to man, for by definition he must be a rational animal. It does not follow, however, that man must exist, as was pointed out in reference to the hypothetical necessity of the divine will. But when St. Thomas, following Aristotle, defines a necessary being as one that is, by its nature, determined solely to existence, does Mr. Maritain think that he is defining simply a logical necessity? This definition is given in the *Periherm.*; here is the complete text:

Et ideo alii melius ista distinxerunt secundum naturam rerum, ut scilicet dicatur illud necessarium, quod in sua natura determinatum est solum ad esse. (42)

The logical necessity of a proposition does not necessitate the existence of what is signified by the proposition. This necessity refers only to the mode of composition of the subject and predicate, and does not refer to physical reality. In this way it is an absolutely necessary and eternal truth that two and three should equal five and that man should be an animal.

41. J. Maritain, *op.cit.*, p.28

42. St. Thomas, *In 1 Periherm.*, lect.XIV, n.6

In other words, it would be absolutely necessary with a logical necessity, that man be an animal whether he ever existed extra genus notitiae or not; this is because necessary propositions have an eternal existence in the mind of God. Surely it does not follow that, because it is eternally and necessarily true that man is an animal, he must, therefore, eternally and necessarily exist. To make this clear before returning to another difficulty in Mr. Maritain's text, let us recall the distinction made in the first chapter between ens verum and ens reale, and with this in mind, turn to a text in which St. Thomas draws our attention to this distinction in reference to the question of the eternity of universals and universal propositions. In the 1a, St. Thomas answers an objection that argues for the eternity of created truth on the grounds that universals are eternal. Here is his reply to the objection:

Dicendum quod aliquid esse semper et ubique, potest intelligi dupliciter. Uno modo, quia habet in se unde se extendat ad omne tempus et ad omne locum, sicut Deo competit esse ubique et semper. Alio modo, quia non habet in se quo determinetur ad aliquem locum vel tempus; sicut materia prima dicitur esse una, non quia habet unam formam, sicut homo est unus ab unitate unius formae, sed per remotionem omnium formarum distinguendum. Et per hunc modum, quodlibet universale dicitur esse ubique et semper, inquantum universalis abstrahuntur ab his et nunc. Sed ex quo non sequitur ea esse aeterna, nisi in intellectu, si quis sit aeternus. (43)

43. St. Thomas, 1a, Q.16, a.7, ad 2.

One cannot reason from the logical necessity of a proposition to the physical existence of what the proposition signifies. John of St. Thomas, in his commentary on the above passage leaves no doubt about the distinction:

Colligitur quarto, quod haec veritas creata necessaria non dicitur aeterna positive seu durative: quia aeternitas quantum ad durationem supponit existentiam, quae non datur in creaturis secundum se et essentialiter. Sed dicitur aeterna dupliciter: primo negative, secundo denominative seu objective.-- Primo modo dicitur aeterna, quia non fundatur ejus veritas et connexio in aliqua mutatione temporali, nec dependet ab hic et nunc ut possit vere intelligi: licet ut possit existere, requirat aliquam actionem agentis, quae necessaria non est... Secundo modo dicitur haec veritas aeterna, quia est objectum iudicii aeterni Dei, participando ab illo necessitatem...(44)

In the Contra Gentiles St. Thomas poses this question:

"Qualiter in Rebus Creatis Esse Potest Necessitas Absoluta". (45)

In this place St. Thomas does not discuss logical possibility or necessity as such; it is a question of real being and not ens verum. Here, and in the Perihermeneias, it is a real, physical necessity that is attributed to those beings that are determined uniquely to existence, and not a logical necessity; if it were logically necessary for something to exist, it could never not exist, since its non-

44. Cursus Theologicus, T.II, p.637b. (Italics our own)

45. II, c.30

existence would be contradictory. It is logically necessary for God alone to exist, for only His non-existence is a contradiction, which does not at all exclude absolute necessity from creatures, as St. Thomas clearly explains. Briefly, man is determined by his very nature to be a rational animal, since this is his nature; but he is not determined by his very nature to exist.

It is plain, however, from Mr. Maritain's words, that, although he gives an example of an absolute logical necessity, - what he actually has in mind is a real necessity. (Let it be remarked that we do not mean that a logical necessity is not a real necessity in the manner of ens verum.) At the same time, however, he denies the absolute necessity of what he has called necessary de jure, which he has told us is a necessity absolutely requiring the existence of an effect, and says that this same absolute necessity may sometimes be hypothetical:

Whenever the sufficient reason for the positing of an effect is the exigency of an essence, whenever such a necessity suffices for the positing of an effect, whether absolutely (as in the case of the properties of the geometrical sphere) or hypothetically (as in the case of the properties of the metal sphere), we will say that the effect itself is necessary by right. It is enough for the placing of the effect that there be a certain nature or essential structure of which it is a property. (46)

And still, what is necessary by right, (what cannot not be), what suffices for the placing of the effect, may not suffice for the placing of the effect:

But it may so happen that a necessity by right  
does not suffice for the placing of the effect. (47)

It is not very fruitful to examine in detail contradictions such as these; but it is important to make it clear that they are not found in the teaching of St. Thomas. One more point before passing on to another question: To say that, "An event can be determined or necessitated in actual fact by its antecedents", is to say that it is absolutely necessary in relation to these. To add that it is still contingent, "...From the moment that its antecedents themselves could have been other than what they were", is nothing other than to attribute to the event a contingency that it had only so long as the antecedents were not posited. You cannot call an event contingent because it was once contingent; neither can you say that an event was necessary because it is now necessary. If the relation between cause and effect is necessary, then the effect follows with an absolute necessity, once the cause has been given. It should be noted too, that even if a cause is sufficient, it does not follow that it is necessary.

Another common belief of modern scholastics is that all things which come to be in nature were infallibly predetermined in the constellation of all the factors of the universe posited at its origin. In the final chapter of this dissertation, this problem will be treated from another point of view; for the moment we are concerned with the relation it has to a discussion of necessity.

According to this view, the individual happenings in the universe are not necessary except by what has been termed, a necessity de facto; they are necessary, however, if the multitude of factors operating to produce them be taken into consideration. In such a characterization the Universal Cause of all nature could be only a spectator, watching the necessary unfolding of a determined pattern once set in motion; or at best, a kind of cooperating cause, using the necessary meetings of individual natures, as an occasion to exercise a benevolent influence. Not that we hold this latter view to be the one explicitly taught by modern scholastics, but rather that their doctrine makes it impossible to hold any other; this is evident in the following:

Si on suppose qu'il n'y pas dans l'univers aucun agent libre (intelligent), il est clair que tel événement survenu ici-bas (par exemple le fait que tel écureuil grimpe sur tel arbre à tel moment sur telle montagne) était infalliblement prédéterminé dans la constellation de tous les facteurs posée à l'origine. Mais il n'y a là qu'une nécessité de fait, aucune nécessité de droit. Non

seulement cette constellation de facteurs pouvait être autre à l'origine, mais encore aucune des innombrables rencontres entre séries causales diverses qui se sont produites au cours de l'évolution du monde jusqu'à la production de cet événement n'avait sa raison suffisante dans la structure essentielle de l'univers, ni dans une essence quelconque; les causes prochaines engagées dans la production de cet événement pouvaient de soi (même si elles ne le pouvaient pas par rapport à toute la multitude des positions de fait précédentes et concomitantes, supposées elle-mêmes non troublées), être empêchées de le produire, sans qu'aucune nécessité rationnelle fût violée. C'était de soi un événement contingent. (Et en conséquence la supposition d'un agent libre intervenant pour le modifier ou l'empêcher n'implique aucune impossibilité.) (48)

These remarks are quite foreign to the teaching of Aristotle and St. Thomas. An examination of them will reveal the error that is responsible for such a determinist view of nature. First, let us consider the opinion that an individual event such as, the climbing of such a squirrel in such a tree at such a time on this mountain, is necessary if all the factual circumstances, past and present, that contribute to this event are considered; the meaning here is quite plain: If everything required for the existence of some thing is brought about, then surely that thing will be. But is this not quite evident? In other words, when the cause is sufficient in actu secundo, the effect ensues immediately. But it does not follow that the effect is a necessary one just because it is necessary that it be when it is. For an effect to be necessary

48. J. Maritain, Les Degrés Du Savoir, (Desclée, Paris, 1946) p.58

absolutely, and this refers to the future and not to the present, "...Quia in contingenti, secundum id quod in se est, non est esse et non esse, sed solum esse licet in futurum contingens possit non esse", all of the antecedent causes must be necessary. If anyone of them is contingent, the effect is not absolutely assured or predetermined. This is the case for natural causes which, as St. Thomas so often says, achieve their effects only ut in pluribus, not being entirely determined ad unum.

The so called necessity de facto excludes all reference to the future; if not, it is contradictory, which, as we shall see, is indeed the case. For this necessity is supposed to be based, not only on the sum total of antecedent causes, but also upon the present factors, "positions de fait...concomitantes", involved in a singular event. It is a necessity based on that which has not yet come to be - a necessity that is necessary when it is necessary.

Les causes prochaines engagées dans la production de cet événement pouvaient de soi (même si elles ne le pouvaient pas par rapport à toute la multitude des positions de fait précédentes et concomitantes, supposées elle-mêmes non troublées), être empêchées de le produire...(51)

49. St. Thomas, Contra Gentes I, c.67

50. ibid., III, c.86: "Item. A causa remota non sequitur effectus de necessitate nisi etiam sit causa media necessaria: sicut et in syllogismis ex maiori de necesse et minori de contingentibus non sequitur conclusio de necesse...Ex multis contingentibus non potest fieri unum necessarium: quia, sicut quod libet contingentium per se deficere potest ab effectu, ita et omnia simul."

51. J. Maritain, Les Degrés Du Savoir, p.58 (Second Italian course)

To say that an effect is necessary in this way, and to say at the same time that, considered in itself, it can fail to come about, is a contradiction; for by supposing the existence of all the conditions required for it to take place, its non-existence is made impossible, since the cause successful in actu secundo is one of the conditions of the effect's coming to be. The expression "pouvaient de soi etre empêchees de le produire", in such a context, is meaningless. How can the causes "de soi" fail, if one supposes that they are not impeded? In other words - to bring out the unmeaningness of such a statement - how can a cause fail if one supposes that it does not fail?

Contingency, however, refers to the future, and if it is meant that the future event is already predetermined in the multitude of factors presently in existence, or that the present was predetermined in the multitude of factors previously in existence, this position is refuted in the *Perihermeneias*:

Si enim similiter se habet veritas et falsitas in praesentibus et futuris, sequitur ut quid- quid verum est de praesenti, etiam fuerit verum de futuro, eo modo quo est verum de praesenti. Sed determinate nunc est verum dicere de aliquo singulari quod est album; ergo primo, idest antequam illud fieret album, erat verum dicere quoniam hoc erit album... Si autem semper est verum dicere de praesenti quoniam est, vel de futuro quoniam erit, non potest hoc non esse vel non futurum esse... Sequitur ergo ex praemissis quod omnia, quae futura sunt, necesse est fieri. Ex quo sequitur ulterius, quod nihil sit neque ad arbitrium neque a casu, quia illud quod accidit a casu non est ex necessitate,

sed ut in paucioribus; hoc autem relinquit pro inconvenienti; ergo et primum est falsum, scilicet quod omne quod est verum esse, verum fuerit determinate dicere esse futurum. (52)

If the author's meaning is that, although any single contingent cause may fail to produce its effect, all the causes in nature together necessitate this singular occurrence; i.e., "le fait que tel oursuill grimpe sur tel arbre & tel moment sur telle montagne"; this idea too, has been rejected:

Stoici posuerunt factum in quadam serie, seu connexione causarum, supponentes quod omne quod in hoc mundo accidit habet causam; causa autem posita, necesse est effectus poni. Et si una causa per se non sufficit, multae causae ad hoc concurrentes accipiunt rationem unius causae sufficientis; et ita concludebant quod omnia ex necessitate eveniunt.

Sed hanc rationem solvit Aristoteles in VI Metaphysicae interiens utramque propositionem assumptarum. Dicit enim quod non omne quod fit habet causam, sed solum illud quod est per se. Sed illud quod est per accidens non habet causam; quia proprie non est ens, sed magis ordinatur cum non ente, ut etiam Plato dixit. Unde esse aurum, habet causam, et similiter esse album; sed hoc quod est, album esse musicum, non habet causam: et idem est in omnibus huiusmodi. Similiter etiam haec est falsa, quod posita causa etiam sufficienti, necesse est effectum poni; non enim omnis causa est talis (etiam si sufficiens sit) quod eius effectus impediti non possit; sicut ignis est sufficiens causa combustionis liquorum, sed lacum per effusionem aquae impeditur combustio. (53)

This is a sufficient discussion of the general teaching of the modern scholastics on necessity. We shall now take up a

52. St. Thomas, In I Perihern., lect. XIII, n. 10

53. St. Thomas, In I Perihern., lect. XIV, nn. 10-11 (Italics ours)

more particular question where the deterministic position of modern Thomists is again evident; this is not to mention a general lack of precision and departure from the true doctrine which is to be found in these writers, notwithstanding the fact that the majority profess to expose faithfully the teaching of St. Thomas.

The last section of this chapter will be devoted to a brief study of what the laws of nature are, and how they govern natural activity; emphasis will be placed on the natural character of these laws, in opposition to the modern teaching which makes them entirely unnatural and in fact perfectly determined to a future which they would govern infallibly with an a priori necessity.

### 3. The "Hypothetical Necessity of the Laws of Nature."

Having seen the meaning that is given to hypothetical necessity by modern scholastic writers, we can now pass on to a consideration of how this meaning is applied to the laws of nature. It is necessary first of all to distinguish two senses of the expression, "Laws of Nature": From a philosophical standpoint this can mean either the natures themselves of things, as measured and ruled by the eternal law, or these same natures as measures of natural activity. In the second sense, a law of nature is nothing other than a certain inclination to activity, coming from the nature of the thing in question;

it is derived, by way of this nature, from the eternal law as participated in by the creature. This inclination is not simply the nature of the thing as measured by the eternal law, but follows upon the law as received; it is nothing other than the nature itself as a measure of future activity. It is a law only in a secondary sense, i.e., analogically.

Dicendum quod cum lex sit regula quaedam et mensura, dicitur dupliciter esse in aliquo. Uno modo, sicut in mensurante et regulante. Et quia hoc est proprium rationis, ideo per hunc modum lex est in ratione sola. Alio modo, sicut in regulato et mensurato. Et sic lex est in omnibus quae inclinantur in aliquid ex aliqua lege, ita quod quaelibet inclinatio proveniens ex aliqua lege, potest dici lex non essentialiter, sed quasi participative. Et hoc modo inclinatio ipsa membrorum ad concupiscendum "lex membrorum" vocatur. (54)

It is the second sense of the expression, "Laws of Nature", with which we are concerned here. This is the sense given to these laws by modern Thomists when they speak of the hypothetical necessity of the nature as measure of its activity.

Now it is impossible that these laws cause the activity of which they are an extrinsic measure, with necessity; the nature would in this case not be nature, and the law identified with this nature, would be contradictory.

54. St. Thomas, Ia IIae, Q.90, a.1, ad primum.

Et quae sunt necessaria, impossibile est aliter se habere; unde cohibitione non indigent. Sed imponitur homini lex ut cohibeatur a malis, ut ex supradictis patet. Ergo ea quae sunt necessaria, legi non subduntur. (55)

As St. Thomas explains, a law is a certain rule and measure. What is absolutely necessary, however, does not need to be controlled or governed, since it cannot be other than what it is. Thus, in the same article from which the above passage is taken, St. Thomas remarks:

Humanae enim gubernationi subduntur ea quae per homines fieri possunt; quae vero ad naturam hominis pertinent, non subduntur gubernationi humanae, scilicet quod homo habet animam vel manus aut pedes. (56)

If the individual natures, by their natural inclination, necessitated the activities which proceed from them, they would not be laws at all - "Et quae sunt necessaria, legi non subduntur". (57) Moreover, the natures which are the laws, would not be natures; they could not be intrinsic principles of movement since they would be matters and forms entirely determined ad unum. The matter which, together with the form, constitutes the material composite, would have to be completely actualized, which is contradictory; it would not be a true potential principle in nature, and note that a form perfectly determined ad unum is not a nature nor is it a

56. St. Thomas, op.cit., Q.93, a.4, c

57. ibid.

principle of natural movement:

Dicimus: Nullo modo convenire illis [Scil. Angelis] definitionem naturae traditam. Licet enim habeant naturam, sumpta pro quidditate constituta ex praedicatis, non tamen habent naturam, quae sit in ipsis principium motus imperfecti et divisibilis, sicut est motus physicus. (58)

It must be recalled here that matter is a real principle in nature, and that it is pure indetermination. It is also from the potency of this subject that all material forms are drawn. Therefore, if future activities and the coming to be of every future event were perfectly predetermined, the future would already exist so far as man's knowledge is concerned, for his knowledge would embrace the future just as the present. The natural form, however, is not contingent simply because it has a co-principle that is pure potency. It is true that to suppress the indetermination of matter makes a true future impossible; nevertheless, it is not sufficient to insist upon the possibilitas materiae in order to explain the contingency of the future. This explanation must be sought in the insufficient determination of the form itself, which is incapable of self-individuation. It is the inability of the form to exist in itself apart from a subject, that requires the existence of matter, in which the natural form must exercise its causality as an intrinsic principle of

movement and rest; so too, the matter depends upon the form, and more so, both in order to have some existence and in order to be a principle. The very reason for the matter is to be found in the form that is too imperfect to exist by itself, and to which the matter is ordered as to a final cause. <sup>(59)</sup> The material forms are educed from the potency of matter, have their existence in matter, and do not constitute by themselves a complete substance:

Anima sensibilis cum non sit res subsistens, non est quidditas, sicut nec aliae formae materiales, sed est pars quidditatis, et esse suum est in concretione ad materiam; unde nihil aliud est anima sensibile produci, quam materiam de potentia in actum transmutari. (60)

Such forms indeed cannot be known distinctly apart from the composites of which they are only one principle:

Formae substantiales non subsistentes, et accidentales propriae quae ex illa dimanant ut propriae passionibus, si connaturali modo fiant, non

59. St. Thomas, In I Phys., lect. XV, n. 10: "...Sciendum est enim quod omne quod appetit aliquid, vel cognoscit ipsum et se ordinat in illud; vel tendit in ipsum ex ordinatione et directione alicuius cognoscentis, sicut sagitta tendit in determinatum signum ex directione et ordinatione sagittantis. Nihil est igitur aliud appetitus naturalis quam ordinatio aliquorum secundum propriam naturam in suum finem. Non solum autem aliquid ens in actu per virtutem activam ordinatur in suum finem, sed etiam materia secundum quod est in potentia; nam forma est finis materiae."; see also - In II Phys., lect. XV, n. 4

60. St. Thomas, De Pot., Q. 3, a. 2, ad 1

habent ideam distinctam et seorsim ab idea compositi, licet inadequatae ideae sibi correspondent. (61)

Even the rational soul participates in this obscurity to the extent that it has existence with matter and is related to it. It is only after the resurrection that the composite is incorruptible and perfectly determined to existence. (62)

It would appear that those who seek a knowledge of the laws of nature that is completely definitive and rigorous, in such a way that every singular future event would be included and subject to infallible prediction, simply fail to grasp that matter is pure potency and "...Secundum se, nec quid, nec quantitas, nec aliud aliquid eorum dicitur, quibus est ens determinatum." (63)

61. John of St. Thomas, Curs. Theol., T.II, p.575b

62. St. Thomas, Contra Gentes, IV, c.82: "Anima et corpus diverso ordine comparari videntur secundum primam hominis generationem, et secundum resurrectionem eiusdem. Nam secundum generationem primam, creatio animae sequitur generationem corporis: praeparata enim materia corporali per virtutem decisi seminis, Deus animam creando infundit. In resurrectione autem corpus animae praesistenti coaptatur. Prima autem vita, quam homo per generationem adipiscitur, sequitur conditionem corruptibilis corporis in hoc quod per mortem privatur. Vita igitur quam homo resurgendo adipiscitur, erit perpetua, secundum conditionem incorruptibilis animae."

63. Aristotle, Metaphysics, VII, c.III, 1029a20-23 (ed Cathala, versio antiqua)

If the laws of nature are nothing other than the individual natures themselves, a knowledge of them by way of abstraction should not lead us to confuse the universal that exists only in the mind, with the singular natures from which such a universal has been taken. There can be a science of what is contingent, but only on the condition that individual matter is left aside; the individual substances remain contingent in themselves.

Est autem unumquodque contingens ex parte materiae, quia contingens est quod potest esse et non esse; potentia autem pertinet ad materiam. Necessitas autem consequitur rationem formae, quia ea quae consequuntur ad formam, ex necessitate insunt. Materia autem est individuationis principium; ratio autem universalis accipitur secundum abstractionem formae a materia particulari...Unde si attendantur rationes universales sensibilibus, omnes scientiae sunt de necessariis. Si autem attendantur ipsae res, sic quaedam scientia est de necessariis, quaedam vero de contingentibus. (64)

The view of many modern scholastics is quite different from the one St. Thomas presents here. In a treatise on natural contingency, a modern thomist gives an excellent summary of the position held by other contemporary scholastics and offers an accurate explanation of why it is held; he adds the proper reason why it is impossible for the laws of nature to include everything that can happen in nature,

and why man cannot deduce from these laws, the future existence of every singular event:

Ceux qui ont cru possible à une intelligence procédant comme la nôtre, à savoir par abstraction de la matière, d'établir une formule générale du monde telle que tout événement singulier y serait contenu, ceux-là ne savent pas ce que c'est que la matière. Ils se figurent que le singulier est fait avec de l'universel, et que celui-ci, entièrement pénétré, l'épuise, alors que l'universel abstrayant toujours de quelque-chose, et que toute idée, même la mieux précisée, n'étant inévitablement qu'un schéma, il est impossible à jamais, par les moyens de l'homme, de faire entrer dans des lois tout ce que réalise la nature. ((Nous ne savons le tout de rien)) : il y a là plus qu'une constatation, il y a un arrêt, parce que le tout n'est même pas un tout, étant un indéterminé au regard de tout pouvoir d'agir ou de connaître. (65)

With these general notions in mind, we can now proceed to the second part of the discussion of the "Hypothetical Necessity of the Laws of nature", by citing various modern authors who have written on the subject, and commenting directly upon these texts.

As shown earlier in this chapter, hypothetical necessity is, for the majority of modern scholastic writers, a necessity consequent upon the fulfillment of certain conditions. This is also their meaning when they speak of the hypothetical necessity of the laws of nature. In other words, the laws of nature are hypothetically necessary because they depend upon

65. A.D. Sertillanges, La Philosophie de St. Thomas D'Aquin, Paris, editions Mouton, Aubier, 1940, pp.60-61

the realization of various conditions. That this is indeed their position is plain in the following excerpts taken from the writings of several different modern scholastics:

To enquire into the ultimate causes of the universe and the method of its production, if it is not self-sufficient, does not come, strictly speaking, within the scope of natural philosophy, since this considers the material world in itself. At the present time, however, it is more than ever evident that it is subject to change, and has not always been in the state in which we now find it. Its changes, nevertheless, must be held to be regulated by determinate rules; for since the Thomistic theory of bodies recognizes that they have determinate natures, they must also have determinate modes of action. Such modes of action are commonly called the laws of nature. It is clear that such laws have a certain necessity, since they are consequents of the natures of the bodies; but this necessity is said to be 'hypothetical'; i.e., dependent upon the fulfillment of some condition; the condition in this case being that the circumstances remain the same, and that no disturbing influence comes into the system of inanimate nature from without. If this condition be fulfilled, bodies will always act in a certain determinate fashion which follows their nature. (66)

...conditions of contact, temperature, pressure, etc., are necessary for oxygen and hydrogen to combine into water. If a piece of wood be covered with asbestos, fire will not consume it. If the stone be held up in the air, it will not fall down, etc., Thus the necessity of the laws of nature is not absolute, but hypothetical. The conditions must be verified. (67)

The necessity of physical laws is, in view of the teleologist, hypothetical, that is to say, it presupposes a prior condition. (68)

66. R.P. Phillips, Modern Thomistic Philosophy, (London, 1934) p.164

67. Charles A. Dubray, S.M., Introductory Philosophy, (Longmans, Green, New York, 1932) p.495

68. Brother Benignus, F.S.C., Nature Knowledge and God, (Bruce, Milwaukee, 1947) p.89

...Therefore, since the natural laws imply this principle of the uniformity of nature, they are not absolutely, but only hypothetically necessary. They state for us what the mode of operation of a necessary cause will be if the requisite conditions for its operation are present. (69)

The second sort of necessity is a consequent necessity: A necessity following upon the verification of some hypothesis. Thus there is a physical necessity in the sequence of natural phenomena, given that a certain number of elements have been created, with definite laws of action, and with definite positions relatively to each other in space. It is not free to such combinations to do otherwise than they do; there is no contingency in the results after the conditions have been posited. (70)

These writers insist on the necessity of future events that are governed by what they call the laws of nature. At the same time, however, they state that the future event resulting from the intrinsic inclination of the nature, may fail to come about if the requisite conditions are not fulfilled. In other words, the same future event is at once necessary and contingent. The inherent contradiction is even more apparent in the following:

Predicated, not of the formula of the law, but of the law itself, or better still, of the relation between the phenomena, contingency signifies the absence of necessity. The question amounts to this: Are material phenomena governed by the strictest kind of determinism, or do they allow for a certain amount of spontaneity? The

69. John F. McCormick, Scholastic Metaphysics, p.257

70. John Rickaby, S.J., General Metaphysics. (London, 1925) pp.184-85

answer given by scientists is categorical: No one would think of disputing the deterministic character of natural phenomena, at least if one restricts this epithet of non-living matter... In the world of matter, all changes irrespective of their nature, are produced necessarily. Contingency admits of a third and final meaning, signifying the dependence of the law upon certain conditions which are not always or necessarily fulfilled. (71)

The author leaves no doubt about the determinist position that he holds, even though he insists that the future depends upon conditions which may not be fulfilled. He goes so far as to say that the conditions which may not be fulfilled must come about, since they too are predetermined:

Conditions are necessary for the realization of the effect, and without them the objective relation symbolized by the law could never exist. But the characteristics of the effect are predetermined in the cause, and the conditions themselves are subordinated to this predetermination or adaptation of the agent to its effect... In the order of efficient causality, a law of nature has no foundation except the intrinsic determination of the agent, in virtue of which the latter must, necessarily, produce such or such an effect. (72)

In reply to the assertion, "No one would think of disputing the deterministic character of natural phenomena...", and that "in the world of matter, all changes irrespective of their nature, are produced necessarily", it may be remarked that both

71. D. Kys, Cosmology, (Bruce, Milwaukee, 1943) p.131

72. ibid., p.133

Aristotle and St. Thomas not only disputed this position, but also disproved it:

Manifestum est enim etiam in rebus naturalibus esse quaedam, quae non semper actu sunt; ergo in eis contingit esse et non esse: alioquin vel semper essent, vel semper non essent. Id autem quod non est, incipit esse aliquid per hoc quod fit illud; sicut id quod non est album, incipit esse album per hoc quod fit album. Si autem non fiat album permanet non ens album. Ergo in quibus contingit esse et non esse, contingit etiam fieri et non fieri. Non ergo talia ex necessitate sunt vel fiunt, sed est in eis natura possibilitatis, per quam se habent ad fieri et non fieri, esse et non esse. (73)

If the laws of nature are nothing other than the individual natures, the expression "hypothetical necessity of the laws of nature", can mean one of two things: First, that given the end of nature, individual natures are necessary in order that this end be brought about: Secondly, that the individual natures by their natural inclination, necessitate the end, i.e., bring it about necessarily. But in this latter sense, the expression is a contradiction, for if the end is brought about necessarily, the necessity is absolute and not conditional. "Necessitas quae est ex causis prioribus est absoluta".

The only law that can truly be called hypothetically necessary is the eternal law, which determines every future event to happen necessarily or contingently. But this necessity, although it governs the future, is itself eternal, and hence, can govern the future without necessitating it. Every-

thing is caused infallibly by God; this, however, does not destroy natural contingency anymore than it takes away man's free will:

Ex hoc autem quod homo videt Socratem sedere, non tollitur eius contingentia quae respicit ordinem causae ad effectum; tamen certissime et infallibiliter videt oculus hominis Socratem sedere dum sedet, quia unumquodque prout est in seipso iam determinatum est. Sic igitur relinquitur, quod Deus certissime et infallibiliter cognoscat omnia quae fiunt in tempore; et tamen ea quae in tempore eveniunt non sunt vel fiunt ex necessitate, sed contingenter. (74)

The end of all nature to which the individual natures are ordered is brought about necessarily, but this does not mean that the laws of nature are absolutely necessary. It is true that there are certain limits imposed by the universal agent, but within these limits there is the possibility of a variety that is not predetermined. Although the successive appearance of plant and animal life is necessary for the ultimate appearance of man, who contains the perfections of the lower species, the same thing cannot be said for the numerous variegated species of plants and animals and the "blind alleys" down which nature sometimes travels in search of its ultimate goal. Once given the existence of matter, the final perfection of the universe, realized in the human soul, and the intrinsic ordering of all the parts of the universe to the whole is absolutely certain. It is for this end that

matter was created; without its attainment such a creation would be contradictory, for matter and movement are not for their own sake. In other words, the laws of nature are truly natural, not being absolutely necessary nor yet purely contingent, but "determinatum ad unum ut in pluribus" per modum naturae.

But to say that nature will bring about its effects necessarily if it is not opposed by any obstacle, is nothing other than to say that if nature is successful, it cannot be unsuccessful. The teaching of the modern scholastics on the "hypothetical necessity of the laws of nature", can be summed up briefly as follows: A future event in nature, since it is governed by natural laws, will come about necessarily if it does not meet with an obstacle, i.e., if this event is not prevented, it will necessarily come about. We may conclude this chapter with St. Thomas's reply to this unreasonable truism:

Sciendum etiam quod quidam definierunt esse necessarium, quod non habet impedimentum; contingens vero sicut frequenter, quod potest impediri in paucioribus. Sed hoc irrationabile est. Necessarium enim dicitur, quod in sui natura habet quod non possit non esse; contingens autem ut frequenter, quod possit non esse. Hoc autem quod est habere impedimentum vel non habere, est contingens. Natura enim non parat impedimentum ei quod non potest non esse; quia esset superfluum. (75)

## CHAPTER IV

## CONTINGENCY IN NATURE

If we consider the various degrees of actuality in the order of existing essences, there is presented a hierarchy in the grades of being that extends from the pure act of the divine essence to the pure potency of prime matter. Within these limits there is a descending order of perfection and essential determination, beginning with the highest angelic substance and ending in the world of inorganic material. Just as the absolute essential determination of God, Whose essence is His existence, is the root of a positive indetermination that is the same thing as the divine liberty, so the separated substances and man, are more or less free according to the degree of essential determination that they have; this positive indetermination is consequent upon the extent to which they participate in the perfect determination of God. Thus, the freedom that these substances enjoy is founded on a substantial perfection.

This positive indetermination of the creature decreases in the measure that the essential admixture of potentiality increases. In this way the higher angels have a superior intelligence and more perfect freedom than the lower.

Among material living things there is also this positive indetermination, which in man is free will, and in the lower

living things, plants and animals, the spontaneity in operation that is the root of an uncertainty in regard to the future. Even in the inorganic world there is a kind of spontaneity, although it does not come from an intrinsic principle since the active principle of operation for an inanimate thing is exterior to it.

Hence, just as every created thing is contingent extrinsically in terms of the positive indetermination or perfect liberty of God, so also those creatures who possess the liberty of acting "*ad utrumlibet*", have effects that are extrinsically contingent.

But there is another kind of indetermination to be found in every creature in so far as each is removed from the perfect actuality and determination of God. This kind of indetermination does not resemble the perfect liberty of God but rather the pure potency of matter; it is negative and not positive. In the universe of separated substances this second kind of indetermination which, absolutely speaking, is an imperfection, is proportionate to the degree of intimacy of the union between essence and existence. The higher angels are less contingent in this sense than the lower ones because their essence is more one with the act of existing. But in the descent from the higher to the lower angels there is a greater and greater admixture of potency in their being, although the essence remains determined simply, for there is

no composition of essential parts. This degradation of actuality in the angelic universe is characterized by a need for more and more means of knowing or intelligible species, since the perfection of the intellect is proportionate to the degree of actuality; the more perfect the intellect is, the more objects it can attain distinctly by fewer means, just as the divine intellect attains all things distinctly in one means or species, which is nothing other than the divine essence itself. Since the decreasing actuality of the substance is concurrent with the multiplication of intelligible species necessary for knowledge, and since the succession of species employed as means of knowing is the discrete time of the angelic existence, it follows that as the positive determination of the essence lessens, the angelic duration becomes more complex and farther removed from the perfect presential unity of God's eternal existence.

Finally, there is a multiplicity in the essence itself, since the form is eventually too imperfect to exist alone. And with the advent of this composition in the substance, there is the material composite and cosmic time, its measure. Again, within the material world, there are more perfect and less perfect substances, as there is descent from man to the lower animals, then to plants, and finally to the inorganic substances, which are closest to the potentiality of matter, being the least actual of all creatures. As this

lower limit is approached, there is an increasing subjection to the contingency which is rooted in a negative indetermination, and which makes the less perfect substances less stable, less permanent and more obscure owing to their greater materiality. The domination of matter by the substantial form, most perfect in man, whose form is not drawn from the potency of matter, is increasingly overshadowed by the appetite of matter, in potency to an infinity of forms, and less content, as it were, with the more imperfect ones. Thus, the stability of the material substance lessens in proportion to its negative indetermination. At the limit is the pure potency of matter, the absolutely potential principle which is a necessary condition for the existence of natural things, since the natural form is too imperfect and undetermined positively to exist alone.

With these general notions in mind we can begin to investigate more closely the kind of contingency proper to nature and natural things. It should be remarked that the considerations to follow in this chapter will proceed in the manner of an introduction to the final chapter, where the most evident forms of contingency will be discussed at some length, and the teaching of the modern scholastics again studied directly.

The notion of finality is indispensable for an understanding of the kind of contingency proper to nature. It is necessary also if one is to grasp the rationality of matter

and movement, and understand how the lack of a perfect necessity in singular natural effects, is compatible with the certitude of nature's attaining its ultimate end.

We may begin by noting that neither matter nor movement can have the character of an end. They are both ordered to something else as to a reason for being. <sup>(1)</sup> Matter, as potency, is ordered to form, as act; and it is through a movement from potency to act that the composite of matter and form comes into existence and fulfills the purpose of some agent. The end which moves the agent to act is the first and most important of the causes, for unless something is to be achieved, the agent will have no reason for acting and the matter which <sup>(2)</sup> is ordered to the form will have no reason for existing. Note that although the efficient cause is first in the order of

1. St. Thomas, In I Phys., lect.XV, n.10: "Non solum autem aliquid ens in actu per virtutem activam ordinatur in suum finem, sed etiam materia secundum quod est in potentia; nam forma est finis materiae. Nihil igitur est aliud materiam appetere formam, quam eam ordinari ad formam ut potentia ad actum". And in regard to movement, - De Pot., Q.5, a.5: "Cum enim natura semper in unum tendat determinate, non se habens ad multa, impossibile est quod aliqua natura inclinet ad motum secundum se ipsum, eo quod in quolibet motu difformitas quaedam est, in quantum non eodem modo se habet quod movetur; uniformitas vero mobilis est contra motus rationem.

Unde natura nunquam inclinat ad motum propter movere, sed propter aliquid determinatum quod ex motu consequitur... Motus enim, ex ipsa sui ratione, repugnat ne possit poni finis, eo quod motus est in aliud tendens; unde non habet rationem finis, sed magis eius quod est ad finem." - et passim

2. ibid., n.3: "Non igitur potentia materiae est aliqua proprietas addita super essentiam eius; sed materia secundum suam substantiam est potentia ad esse substantiale."; In II Phys., lect.4, n.8: "Materia...est propter formam."

execution, and the cause of the end's coming to be, it is the end which is first in the order of intention, and as that which attracts the agent, the cause of everything that follows:

In aliis vero causis invenitur alia ratio causae, secundum scilicet quod finis vel bonum habet rationem causae. Et haec species causae potissimum est inter alias causas: est enim causa finalis aliarum causarum causa. Manifestum est enim quod agens agit propter finem; et similiter ostensum est supra in artificislibus, quod formae ordinantur ad usum sicut ad finem, et materiae in formas sicut in finem: et pro tanto dicitur finis causa causarum. (3)

The first thing to be considered in regard to finality and contingency is that the definition of nature applies to matter as well as to form, even if it is said more properly of the active principle. Matter should not be conceived as that which can be ordered to form by an efficient cause for the sake of some end, but rather as that which is in itself positively ordered to an end. It is in view of this positive ordination to an end as a good, that St. Thomas refers to the (4) appetite or desire of matter for form. It is important to observe this for it is the positive ordination of matter which in one way assures the attainment of nature's ultimate goal, and in another way makes the process of attaining this goal contingent and not absolutely necessary.

3. St. Thomas, In II Phys., lect.V, n.11
4. In I Phys., lect.XIV, nn.9-11

Matter, although responsible for the contingency of future effects, is necessary in order that the ultimate end of nature be achieved; and when the appetite of matter for form has been as fully as possible realized, the final intrinsic end to which the whole of nature is ordered will be accomplished.

Toward the end of the second book of the *Physics*, St. Thomas completes the definition of nature as an intrinsic principle of movement and rest in that in which it is primarily, and per se, and not accidentally, by adding that it is the "ratio" or reason of a divine art infused in things by which they are moved to a determined end. We are thus introduced to the implications of matter's being nature as an intrinsic principle of movement directed by an intelligence to some definite end: for without such a positive ordination of matter to some ultimate form, the form alone would be nature, and natural generations would not be natural; the passive principle would not be nature.

In nullo enim alio natura ab arte videtur differe, nisi quia natura est principium intrinsecum, et ars est principium extrinsecum. Si enim ars factiva navis esset intrinseca ligno, facta fuisset navis a natura, sicut modo fit ab arte. Et hoc maxime manifestum est in arte quae est in eo quod movetur, licet per accidens, sicut de medico qui medicatur se ipsum: huius arti enim maxime assimilatur natura. Unde patet quod natura nihil est aliud quam ratio cuiusdam artis, scilicet divinae, indita rebus, quae ipsae res moventur ad finem determinatum: sicut si artifex factor navis posset lignis tribuere, quod ex se ipsis moverentur ad navis formam inducendam. (5)

The importance of the final cause in nature is thus seen more clearly, for it is in view of the end that individual things are provided with an intrinsic principle by which they move toward the end, an end determined by the divine intelligence.

The question now arises as to what the ultimate end to which matter and the rest of nature are ordered may be. In view of what end, intrinsic to the universe, do things have an intrinsic principle of movement and rest, by which they move and are moved to their final perfection? What is the form that matter seeks as the fulfillment of its reason for being? Finally, what end, requiring the potential principle, matter, and involving as a consequence the undesirable or accidental effects that result from its pure indetermination, nevertheless makes matter and movement something rational and necessary? St. Thomas tells us what the ultimate form and end of matter and movement is in the following passage, where he also explains that this end is not accomplished all at once in the beginning, but through intermediate steps by which nature tends toward a greater and greater unity:

Cum vero, ut dictum est, quaelibet res mota, in quantum movetur, tendat in divinam similitudinem ut sit in se perfecta; perfectum autem sit unusquodque in quantum fit actu: oportet quod intentio cuiuslibet in potentia existentis sit ut per motum tendat in actum. Quanto igitur aliquis actus est posterior et magis per-

fectus, tanto principalius in ipsum appetitus materiae fertur. Unde oportet quod in ultimum et perfectissimum actum quem materia consequi potest, tendat appetitus materiae quo appetit formam, sicut in ultimum finem generationis. In actibus autem formarum gradus quidam inveniuntur. Nam materia prima est in potentia primo ad formam elementi. Sub forma vero elementi existens est in potentia ad formam mixti: propter quod elementa sunt materia mixti. Sub forma autem mixti considerata, est in potentia, est in potentia ad animam vegetabilem: nam talis corporis anima actus est. Itemque anima vegetabilis est in potentia ad sensitivam; sensitiva vero ad intellectivam. Quod processus generationis ostendit: primo enim in generatione est fetus vivens vitae plantae, postmodum vero vita animalis, demum vero vita hominis. Post hanc autem formam non invenitur in generabilibus et corruptibilibus posterior forma et dignior. Ultimus igitur finis generationis totius est anima humana, et in hanc tendit materia sicut in ultimam formam. Sunt ergo elementa propter corpora mixta; haec vero propter viventes; in quibus plantae sunt propter animalia; animalia vero propter hominem. Homo igitur est finis totius generationis. (6)

Although the human species is absolutely certain once given the existence of matter which tends toward the human form as an ultimate perfection, it does not follow that all the means of arriving at this final goal are absolutely certain, in the sense of being completely determined beforehand. If they were, matter would no longer be a true potential principle, but would be necessarily and determinately ordered to every form of which it is a subject, and not only to those distinct and irreducible forms which are necessary

as preliminary dispositions in matter for the reception of the human form. In other words, there is a truly natural ascendance in the hierarchy of cosmic substances. The indetermination of matter, relatively subject to the end of universal nature, is nevertheless not subject to the end of every particular nature. Although the irreducible degrees of being are certain - the simple existence of inanimate substances, the life of plants, the sense knowledge of animals, and finally, the intellectual life of man, in whom all the other degrees are found eminently and formally - many of the various sub-species and concrete paths actually taken by nature, are not absolutely certain, in the sense of being necessarily determined, for no one of them is determinately necessary for the realization of the human form. Within the imperfect determination of nature there is room for great variety and uncertainty. It should be noted that it is the end of the universe taken as a whole, that is foremost in the intention of nature as an intrinsic principle of operation implanted in things by the divine Artist. In regard to particular ends, it is the species, and not the individual of the species, which is primarily intended, even by particular nature. (7)

7. See Contra Gentes, III, c.24; ibid., IV, c.97: "Nec potest dici quod finis caelestis motus sit, ut corpus caeleste reducatur secundum ubi de potentia in actum: quia haec potentia nunquam potest tota in actum reduci...sicut est et de potentia materiae primae respectu formarum. Sicut igitur finis naturae in generatione non est reducere materiam de potentia in actum, sed aliquid quod ad hoc consequitur, scilicet perpetuitas rerum, per quam ad divinam similitudinem accedunt; ita finis motus caelestis..." - see also - Contra Gentes, IV, c.82: "Intentio inferioris naturae in agendo..."

It is true that the purely accidental event in nature is contingent in the fullest sense of the word, and most opposed to what is necessary; but it must not be thought that the problem of contingency is restricted to a discussion of what is casual, for no natural cause brings its effects about necessarily. Some, however, are more determined and perfect than others and thus the effects of such causes are less contingent, but still not absolutely necessary.

...The expression 'to be possible' is used in two ways. In one it means to happen generally and fall short of necessity, e.g., man's turning gray or growing or decaying, or generally what naturally belongs to a thing (for this has not its necessity unbroken, since man's existence is not continuous for ever, although if a man does exist, it comes about either necessarily or generally). In another sense the expression means the indefinite, which can be both thus and not thus, e.g., an animal's walking or an earthquake's taking place while it is walking, or generally what happens by chance: for none of these inclines by nature in the one way more than in the opposite. (8)

No natural form is entirely determined ad unum. But to the extent that the form of the agent is more perfect, the causality is more efficacious and better able to overcome the indetermination of matter; to this same degree the effect is less contingent. Nevertheless, the indetermination of matter, the permanent subject in all becoming, is constantly a threat, as it were, to the success of the natural agent. And since

8. Aristotle, Prior Analytics, I, c.13, 32b4-13 (transl. by A.J. Jenkinson)

matter is necessary in any natural generation, there is always a degree of uncertainty in the effect. Even though the matter is ordered ultimately to the human form, by a positive ordination to greater actualization, it does not have the same appetite for all the intermediate and secondary forms, or even for totally unnecessary ones which are nevertheless in it potentially. And when actualized by the human soul, to which it is ultimately ordered, the potentiality of this subject is not exhausted, for man too is corruptible in his body. It is impossible for even the human form to be entirely determined ad unum in its natural state alone; if it were so determined, matter would not be required for its existence for it would be self-individuated.

Note that the state of separation is not a natural one, and hence, cannot be the term of a natural movement. Moreover, the form of man is not corruptible, and it is in the immortality and immobility of the human soul that nature achieves its ultimate intrinsic goal. The separation of the soul from the body is not a part of the intention of nature but follows as a consequence from the necessitas naturae. Thus, matter is not first of all an appetite for a given individual form, but is rather a desire for the good of the whole universe. Nature seeks first the perfection of the species or whole and not a pure multiplication of individuals within a species; at the same time, the lack of determination

in natural causes is compensated for by the multiplication of individuals, precisely in order that the existence of the species may be assured and its perfection realized to the fullest. In this way matter, by being the principle of individuation is that which enables the form to exist; while by remaining in potency to an infinity of other forms it is also that which renders the existence of the form precarious.

As we shall see more fully in the next chapter, it is not sufficient to insist on the indetermination of matter to explain the contingency of a natural effect; nor is it enough to mention the positive ordination of matter to an end in order to explain the natural tendency of all nature to its intrinsic goal. The form is more nature than the matter, and the matter is transcendently ordered to the form as to what is perfect and actual. Indeed, it is because of the natural forms previously in matter that the necessary disposition for the reception of higher forms is present in the matter, while matter by its permanence retaining these dispositions makes the natural process a continuous one.

In order to give the complete reason for the contingency of a natural effect there must be added to the indetermination of matter an indetermination or lack of determination

in the active principle:

Unde dicendum est quod possibilitas materiae ad utrumque, si communiter loquamur, non est sufficiens ratio contingentiae, nisi etiam addatur ex parte potentiae activae quod non sit omnino determinata ad unum; alioquin si ita determinata ad unum quod impediri non potest, consequens est quod ex necessitate redeat in actum potentiam passivam eodem modo. (9)

It is because the form itself is contingent that the effect is uncertain, not only in regard to existence but also as to the particular kind of effect it is or is to be. An effect is not a failure simply because it is not an exact replica of the cause; if so, the contingent process by which nature moves inexorably toward higher and higher species, sometimes through the service of accidental generations, would be impossible; for the first form introduced would be in kind the last, and natural causes would be directed to the fruitless multiplication of the same individuals and not to the total good and perfection of the universe.

Thus, there can be no absolute necessity in the productions of nature unless the natural form is perfectly determined, and unless matter is not pure indetermination. In other words, the only way to obtain the ideal of modern scholastic determinists is to deny the existence of matter and the natural form, without which there can be no nature to be determined or not to be determined.

It will be helpful now to consider briefly how nature as a cause sufficiently determined to bring about its effects most of the time, can be responsible in another way for those things that happen rarely. It should be recalled first that what is brought about for the most part only and not always, is the effect of a cause that can fail. Such a cause is the reason for that which is rare and accidental precisely in so far as it is defective. (10) We will recognize the reason St. Thomas assigns for the actual defectibility of the natural cause:

Quis defectus ejus quod est ut in pluribus, est propter materiam, quae non subditur perfecte virtuti agenti ut in pluribus, ideo materia est causa accidentis aliter (quam ut in pluribus), scilicet accidentis ut in paucioribus: causa inquam non necessaria, sed contingens. (11)

Matter, then, is the first root of the rare occurrence in nature that comes about beyond the agent's intention. But matter too, is nature. How, then, is the accidental event to be considered as beyond the intention of nature if matter, which is nature, is the cause of it?

10. St. Thomas, In VI Metaphys., lect.II, nn.1183-84:  
 "Contingens autem ut in paucioribus est ens per accidens cujus causa quaeritur. Unde relinquitur, quod causa entis per accidens sit contingens ut in pluribus, quia ejus defectus est ut in paucioribus...Ideo dico id quod est in pluribus est causa entis per accidens, quia quod non est semper neque secundum magis, hoc dicimus esse per accidens. Et hoc est defectus ejus quod est in pluribus..."

11. Ibid., n.1186

Before answering this difficulty, an important distinction should be made that is often overlooked when nature is referred to as a cause ut in pluribus, determinata ad unum. It must not be thought that because an event is rare and exceptional and apparently, by accident and unintended, that it is therefore by chance and belongs in the category of effects said to occur outside the intention of nature. For if this were the case the best things in nature would be by chance and nature would be the cause only of mediocrity, which is impossible. Or again, we should have to say that nature is not a cause that achieves its effects for the most part, but that it attains the end only rarely. If one considers the large number of seeds supplied for the germination of a single plant, it would appear that the majority are failures from the point of view of what is intended, for each seed has the capacity of becoming a plant. But most of them fall to the ground and are corrupted without the generation of that which comes from the one seed that is successful. How can nature be called a cause ut in pluribus?

Another example from an experience that is more or less familiar may indicate the answer: The man who hunts and wishes to make sure of his purpose's being fulfilled, provides himself with a weapon designed to produce the best results. Knowing that the majority of the pellets he fires from his shotgun will miss the target, he expends them for the sake of accom-

plishing his purpose. Noone would say that it is not normal enough for most of the shot to go astray; this is completely understood and accepted by the hunter. And it would be incorrect to say that this is purely and simply outside the intention of the man hunting, for he obviously does not wish that all the shot should hit his prey, a duck perhaps. If this did happen, it would be by chance and the hunter's intention defeated, for there would then be nothing left of the bird. Nevertheless, due to the fact that the man is not a perfect marksman he must act within the frame of his own indetermination, and overcome this deficiency which is unavoidable, with the means at his disposal. Nature simply does the same thing.

What is intended by universal nature may well appear to be exceptional in this or that instance, and indeed it is when a given rare occurrence that fulfills the general intention, is compared to the more regular events and happenings that surround it. But if the exceptionally good result is intended by nature, and is that to which nature is principally directed, how, for example, can the majority of men be called natural, if superior nature intends the perfection of the species that is found only in the wise? The answer is that the majority of human generations are natural and successful because the majority of men are normal; it is altogether natural that a particular agent should produce an effect similar to itself.

Thus, effects may not be referred to superior nature alone, or to particular nature alone, in order that they be called natural, for nature is a proximate cause as well as a universal cause. Note the threefold genus of natural effects as exemplified in the generation of a wise man, (12) an average man, and a monster; it is only the latter which is unnatural because it does not answer to the intention of universal or of particular nature.

It is universal nature's intention that is principal, and what is beyond the intention of the proximate cause as such, sometimes falls within the intention of a superior agent. Hence, although exceptional in terms of observable regularities, the generation of a member of a higher species corresponds to the intention of the more universal agent, just as the generation of that which is good for the whole species, such as the more perfect individual, also corresponds to this intention.

Ad aliud igitur tendit intentio particularis agentis, et universalis: nam particulare agens tendit ad bonum partis absolute, et facit eam quanto meliorem potest; universale autem agens tendit ad bonum totius. Unde aliquis defectus est praeter intentionem particularis agentis, qui est secundum intentionem agentis universalis. (13)

Although matter is sometimes responsible for effects that escape the end of nature altogether, it is because of matter

12. This refers of course to corporeal dispositions such as a fine sense of touch. We do not mean that wise men as such are generated by nature.

13. St. Thomas, Contra Gentiles, III, c.94

as well as form that natural effects are made possible. Every natural generation presupposes a subject. That this subject be pure potency is necessary for otherwise there would be an infinity of subjects and forms in every generation, and generation would thus become impossible. The essential indetermination of the subject which is necessary for movement to a form, is at the same time the root of effects which are unforeseeable and unintended. This is not only because matter is indetermination, but more properly because the natural form requires matter in order to exist and act, owing to the form's own insufficient determination in the substantial order. These natural forms are always exceeded by a degree of indetermination which is inseparable from nature and natural causes. It is matter as an indetermination exceeding the determination of the form which is the cause of the unintended effect, then, and not matter in so far as it has a positive ordination to the ultimate perfection of the universe. We shall see, however, that even this insubordination is in a way marvelously designed by the First Cause to contribute to the good of the whole.

An analogy can be made between the indetermination of the intellect in the order of knowing and matter, which will perhaps bring out more clearly the place of this potential principle in the order of nature: In the constitution of man's knowing faculties there is a multiplicity which is required by the imperfection of the human intellect. Thus,

man is provided with external and internal senses in order that the object may become more proportioned to the complete immateriality of the intellect. The angelic intellect, on the other hand, needs no additional faculties to attain its object; the act of the angel's intellect is prior to the things he knows, for possessing infused species or means of knowing, the angel does not depend on things in order to know them, as man must do because of the potentiality of the human intellect. But for the human intellect the faculties of imagination, memory etc., and the senses of sight, touch, hearing etc., are not only not encumbrances and superfluities as they would be for the angel if he could have them, but are necessary for the acquisition of human knowledge. Without these sense powers joined to organs, man could not know at all. The composite essence which is man requires a multitude of means to know equal to the objects known, and also a multitude of faculties to attain these objects. Here is mirrored the indetermination of matter which enables the individuals in a species to be multiplied so that the perfection which cannot be realized in one because of the inferiority of the form, may be accomplished in the many. Again this is not an imperfection in this order but an essential condition or cause required for the existence of the natural composite; without this potential principle such a grade of perfection would be impossible. At this point a few additional remarks about this potential principle will

complete our present discussion and permit us to take up in detail the most evident forms of contingency.

Matter is said to be in potency to opposites. In reference to the possibilitas materiae, then, it should be noted that the actual existence of what is potentially contained in matter is no more assured than its non-existence, so far as matter is considered in potency to each individual form. The two possibilities, existence and non-existence, are simultaneous in the passive potency. To illustrate this twofold possibility St. Thomas cites the example of the new cloak which can be cut or not, neither being necessary but equally possible. There is nothing to prevent the garment's being cut, nor is there anything that requires it to be cut. Either of these opposites may be realized to the exclusion of the other; for if the cloak be cut it is impossible that it not be cut; but if it wears out first it is impossible that it be cut. Materia est in potentia ad utrumque oppositum. (14) Not everything, therefore, comes about with necessity, but there are things which can be or not be, and before they are their existence is something undetermined. This is contingency in the strict sense, and it is because of this twofold possibility in matter that the accidental event cannot be considered necessary.

Matter is never completely exhausted as a potency to form, and there always remains in matter the double possibility of existence and non-existence, for effects to which

the natural agent is not entirely determined or not determined at all. The reduction to act of the natural effect thus is not necessary, but contingent, and this contingency is most evident in the cases of casual or fortuitous events. Chance and Fortune, the accidental causes of these effects, will now be studied, and the discussion of contingency and the modern scholastics completed, with a more complete exposition of the teaching of these writers in an area where their departure from the true doctrine of Aristotle and St. Thomas is plainly manifest.