FACULTE DE PHILOSOPHIE

THESE

PRESENTEE

A L'ECOLE DES GRADUES

DE L'UNIVERSITE LAVAL

POUR OBTENIR

LE GRADE DE DOCTEUR EN PHILOSOPHIE

PAR

OLIVA BLANCHETTE, S.J.

Licencié en Philosophie

de L'UNIVERSITE GREGORIENNE

"THE PERFECTION OF THE UNIVERSE IN THE PHILOSOPHY OF SAINT THOMAS AQUINAS"

MAI 1965

CONTENTS

INTRODUCTION

St. Thomas's theory of the universe has been the object of two studies in recent years, that of Father Joseph Legrand, S.J., L'univers et l'homme dans la philosophie de saint Thomas, and that of Father John H. Wright, S.J., The Order of the Universe in the Theology of St. Thomas Aquinas. If we look at the ground covered by these two works, we might wonder what further need there is for a study that would cover largely the same ground once again. Fr. Legrand has brought together and organized most of the unsignificant philosophical material in St. Thomas on the universe and man's place in it, leaving practically no facet of this vast question untouched and very rightly centering his attention on man. Fr. Wright has reviewed much of the same material in the light of St. Thomas's theology, where the notion of the universe and its order plays a very important role. Why then another study of St. Thomas's theory of the universe?

The fact is that no one has yet insisted on the notion of perfection which St. Thomas associates so consistently with the universe as a whole. In the aforementioned studies the notion recurs frequently, and inevitably, given St. Thomas's constant coupling of the two ideas, but it is

never studied for itself, nor precisely as it applies to the universe. This remains to be done. It is important that it be done also, for perfection seems to be the synthesizing component in St. Thomas's conception of the universe. Perfection governs the idea of degrees of being, the idea of diversity and multiplicity in the universe, and the idea of order itself, the order that makes the universe truly a universe, the universitas rerum. We were first struck with the importance of this in connection with certain theological questions, such as that of divine providence and predestination, or the convenience of the Incarnation. But as we looked more closely into the matter, it became clear that the perfection of the universe, as St. Thomas saw it, was the key to many philosophical problems as well, such as the need of diversity and multiplicity in creation, the question of secondary causality, and the problem of unification or communication, all questions that concern the universe as a whole.

The notion of perfection alone is one that causes no little embarrassment to the student of St. Thomas. It is like many others that we encounter everywhere in his work, but which we seldom see treated systematically for itself. When it becomes an object of reflection, usually it is in function of some particular question or other. The notion is used constantly, in many contexts and with widely diversified applications, but we usually have to depend upon the context

itself or the application in question to determine its precise meaning. Once, in the commentary on Book V of the Metaphysics, lect. 18, St. Thomas briefly indicates several meanings of the term, merely paraphrasing Aristotle for the most part, but this brief catalogue seems hardly to cover the many usages of the term by St. Thomas himself. We know of only one man in recent years who has undertaken a systematic study of the notion of perfection in St. Thomas, Father François Marty, S.J., in La perfection de l'homme selon saint Thomas d'Aquin. This work devotes four chapters, roughly the first half of the book, to a study of perfection in general as groundwork for understanding the perfection of man. It is remarkable to note that, in order to appreciate how St. Thomas conceived perfection, Fr. Marty felt the need to fall back on what St. Thomas has to say on the perfection of the universe. He too covers some of the ground covered by both Fr. Legrand and Fr. Wright, but from a different point of view. It is he who noted the difficulty of studying the notion of perfection in St. Thomas.[1]

---

[1] "Qui veut étudier la perfection chez saint Thomas éprouve un peu de l'embarras dont parlait le P. Geiger à propos de la participation; c'est une notion qui se retrouve un peu partout, sans jamais être systématiquement traitée, sans même que soit tentée quelque organisation systématique des divers usages philosophiques du terme, du moins dans les oeuvres personnelles." op. laud., p. x. Fr. Marty's manner of speaking at the end of this quotation indicates a certain reluctance to take St. Thomas's commentaries on Aristotle seriously as truly 'personal' works. This is an attitude

Professor Charles Hartshorne has brought the question of perfection back in vogue in recent years with his book on The Logic of Perfection.[1] In this work Prof. Hartshorne quite readily admits to a strong influence from St. Anselm, and other authors of ontological proofs for the existence of God, and he proceeds very much in the manner that St. Anselm did. He presupposes a total religious commitment and then reasons to the existence of the perfection which such a commitment implies. In this regard the position of St. Thomas is well known. He did not admit that we could pass from the notion of perfection to a necessary existence of that perfection. Without denying the peculiarity of the quo maius cogitari nequit, and the legitimacy of the passage from perfection in itself to affirmation of existence, St. Thomas thought that the notion of absolute perfection did not have to be conceded on mere logical grounds. Nor could the presupposition of a total commitment remedy this defect.

---

that manifests itself throughout his work, with the unfortunate consequence sometimes of making him neglect or overlook certain important things St. Thomas actually said, and thought, as a matter of fact. This is especially evident in his treatment of the commentary on the text alluded to, In V Metaph. lect. 18. We shall return to this point in chapter 2, when we come to look at this text. The first pages of Fr. Marty's introduction, however, offer an interesting analysis of what is commonly meant by perfection, and an etymological study of the term as well.

[1] Cf. the critique by Julian Hartt, "The Logic of Perfection," The Review of Metaphysics, 16 (1963), 749-769, and ensuing discussion in the same and subsequent issues of the same periodical. Cf. also John B. Cobb, "Perfection Exists: a Critique of Charles Hartshorne," Religion in Life, 32 (1963), 294-304.

One first had to show that the notion is founded in the reality we know.[1]

There is a very important distinction to be kept in mind here, the distinction between the concrete and the abstract in our way of knowing and signifying. When we speak of the divine perfections it may be legitimate to use either concrete or abstract names. For example, we can say that God is wise or that He is wisdom, that He is good or that He is goodness, since absolute wisdom and absolute goodness are simply the Wise and the Good. But even in such cases there is no simple identity in our way of knowing between the concrete and the abstract. "Hoc nomen Deus significat divinitatem, sed in supposito et concrete; hoc vero nomen deitas significat deitatem in abstracto, et absolute" (In Joan. c. 1, lect. 1, n. 44). What is signified by both names is the same reality, to be sure, but we think of this reality differently with each name.

The reason for this, of course, is that we come to know the divine perfections through the perfections of beings we know in experience and, though an identification of concrete and abstract in the divine perfections may be legitimate, once God is known to be, such is simply not the case with the kind of perfection we first know and

---

[1]Cf. S.T. I, q. 2, a. 1, ad 2; De Ver. q. 10, a. 12, c.

start from. The things we signify by concrete names, the things that are thought of as existing in nature, are the things we first think of as perfect. Those we signify by abstract names, as a consequence of our abstractive mode of thought, those we do not think of as simply subsisting, we think of as imperfect.

> In omnibus enim quae sunt infra Causam primam quaedam inveniuntur perfecte existentia sive completa, quaedam imperfecta sive diminuta: perfecta quidem videntur esse ea quae per se subsistunt in natura, quae a nobis significantur per nomina concreta ut homo sapiens et huiusmodi; imperfecta autem sunt illa quae per se non subsistunt sicut formae ut humanitas, sapientia et huiusmodi quae significantur apud nos nominibus abstractis. (In De Causis lect. 22, n. 378)

Thus, in our experience, perfection pertains first to the concrete, and not to the abstract and purely notional. Abstractions are incomplete, they are not agents, *supposita*, and accordingly cannot act--"non potest perficere operationem; non enim calor calefacit, sed calidum; neque sapientia sapit, sed sapiens" (Ibid., n. 379). Heat and wisdom cannot do anything as such, only hot things heat and wise men act wisely. The same is true of perfection: it is found only in perfect things, and it is from there that we must begin to look for what perfection means. Our knowledge begins in the senses and in the things we know by sense the form is something other than that which has the form, by reason of the composition of form and matter.

> Forma vero in his rebus invenitur quidem simplex, sed imperfecta, utpote non subsistens: habens autem formam invenitur quidem subsistens, sed non simplex, immo concretionem habens. (C.G. I, c. 30, n. 277)

Whatever perfection we think of as real, therefore, we signify in a concretion; and this concretion immediately takes us out of the abstract. From the concrete of experience we have a long way to go to justify attribution of both concrete and abstract names to the most Perfect Being.

Prof. Hartshorne, however, is satisfied to speak of his subsistent Perfection as an abstraction. Abstraction, for him, does not connote imperfection, as it did for St. Thomas, at least not as far as it applies to our concept of divinity. "Only the divine individuality can be expressed in a definition or pure concept. In all other cases, a mere concept, without empirical content, without what Peirce called an indexical sign, a reference to a 'this-here-now,' to the actual world, is unable to designate a unique individual. But 'divinity' or its equivalent is the sole property definable purely abstractly which but one individual can have. The perfect individual is his perfection. It therefore is all one to say, divine perfection exists, and to say, God exists" (pp. 66f). The position defended by Prof. Hartshorne is not easy to grasp, for later on he writes, "However, God merely qua 'necessarily-existing individual' is not God in His concrete actuality, but is merely

the abstract necessity that there be some such actuality. The particular actuality itself is not deducible from our idea" (p. 94). In other words, the "full concrete reality or actuality of God cannot be necessary" (p. 115). These last statements are in keeping with Prof. Hartshorne's idea of the perfectibility of God. "God cannot be limited to His merely necessary being (an extreme abstraction); He is the individual that could not fail to be actualized in some contingent particular form. This implies an immeasurable superiority; but what actualizes the superiority is God-now, or God-then, not just God at any time or as eternal... God merely as necessary is less than any contingent thing whatever, even the meanest..." (p. 102). Thus, God is said to change, to become more perfect, according to the various states of creation.

We give these quotations because it is our impression that, in his Logic of Perfection, Prof. Hartshorne is not talking about God, but about something which vaguely pertains to the perfection of the universe.

St. Thomas distinguishes between two modes of perfection, the created and the uncreated. Non est unius modi perfectio Dei et perfectio creaturae (De Pot. q. 5, a. 10, ad 5). He is not satisfied with speaking of the divine Perfection as something abstract, apart from its concretion in a here-now that is meaningful only in terms of the universe

we experience. Divine Perfection itself is something more than the things we know concretely.

> Illud autem quod est completum apud nos, quamvis sit per se subsistens, in hoc quodamodo sibi sufficiens est quod non indiget alio cui innitatur sicut subiecto; tamen, quia forma quae est principium actionis est in ipso limitata et participata, non potest agere per modum creationis aut influxus, sicut agit id quod totum est forma, quod sui participatione secundum se totum est aliorum productivum.
>
> Cum ergo ita sit apud nos in his quae sunt diminuta et concreta, sequitur quod Deus nec sit diminutus nec completus simpliciter, sed magis supercompletus. Non enim caret actione, sicut diminuta et agit per modum creantis et influentis quod non possunt ea quae sunt completa apud nos. (In De Causis lect. 22, nn. 379-380)

This text continues the one we saw on page six and has to be understood in connection with it. Prof. Hartshorne diminishes the divine Perfection when he speaks of it in terms of abstraction, something that pertains to the imperfection of our mode of knowing. He restores some of what he has taken away, however, when he speaks of it in its supposed concretion. But he remains far short of the divine Perfection properly speaking, for God's mode of action is not limited and particular, as in the things we know, but infinite and universal. Prof. Hartshorne does not seem to have appreciated all that this doctrine of St. Thomas on creation implies for the divine Perfection.

God is not perfect in the way we know things to be perfect in the universe, but He is supercompletus, according to the Neoplatonic mode of speaking which St. Thomas found

in the Liber De Causis, but which, incidentally, he did not make his own. Prof. Hartshorne proposes an ontological argument, which, he says, must be transposed from the classical metaphysics of being, where it was invalid, to a neoclassical metaphysics of becoming, where according to him it becomes valid. Whatever may be said for this metaphysics of becoming, it is not enough to lead him truly to God. It must be completed with a metaphysics of being. For his part, St. Thomas proposed the Fourth Way, an argument a posteriori for the existence of God, and this afforded him the means of distinguishing more clearly between the perfection of God and the perfection of the universe, so that he could speak more correctly of the perfection of God.

With this distinction understood, however, St. Thomas might not have been unwilling to go a good bit of the way with Prof. Hartshorne, as long as it was understood that he was dealing with the perfection of creation, and not of the Creator. We will not elaborate on this further, but let us simply look at the way he dealt with the ancient Platonic doctrine of optimism, to see how he was ready to admit something analogous to the ontological argument in connection with the perfection of the universe. The ancient optimism was like that of Leibniz, another proponent of an ontological argument. It maintained that the world was the best possible, because it was produced by supreme Goodness itself. In the

face of such a position St. Thomas admitted we could speak of the world as the best, but not the best possible. If we restrict ourselves to what actually exists, this world is the best, but not if we include all that could possibly exist. The best possible universe is impossible. God was not bound to produce this world in such wise that He could not have produced another even better one.[1] The distance between divine Perfection and any created perfection will always be infinite, so that we can never say there is a necessary relation between them on the part of the Creator. His Goodness is always free to create the world it wants. We can speak of the universe as optimum only ex parte facti, not ex parte creatoris, only in genere creatorum, not simpliciter.[2] "Best possible" can apply only to God. "Best of what is, outside of God," however, can and has to apply to the universe as a whole, because it is created by the supreme Goodness, and the universe as a whole best manifests the divine Goodness, as we shall see in chapter three.

But our concern here is not with the perfection of God. It is with the perfection of the universe we know concretely, not just of this or that creature in particular,

---

[1] Cf. De Pot. q. 3, a. 6, c and ad 17.

[2] Cf. De Pot. q. 5, a. 1, ad 14.

but of the universe as a whole, that perfection in created things which most resembles God's. The two, of course, though distinct, are intimately related, and St. Thomas more often than not considered them in their relation to one another. The perfection of the universe is a matter of order, the internal order of the universe, its bonum ordinis. But this bonum ordinis is subordinated to another good, the divine Goodness itself, which is the bonum separatum of the universe.[1] The first cannot be understood adequately without the second, but we must keep the distinction between the order of the universe as a whole to God and the internal

---

[1]The chief reference for this distinction is In XII Metaph. lect. 12. We shall get to this text in our conclusion only, for it summarizes very well St. Thomas's conception of the universe, but at the outset we should note its importance in St. Thomas's thinking. He constantly referred to this passage of the Metaphysics, either explicitly, with a direct reference to the text of Aristotle, or implicitly, by simply using Aristotle's example of the army given there. The references would be too numerous to list. They begin in the Commentary on I Sent. d. 39, q. 2, aa. 1 and 2; d. 44, q. 1, a. 2, in connection with the perfection of the universe and the place of man in it, and recur all through his works, manifesting a growing influence, as in Quodlibet VI, q. 11, a. un. (19). Fr. Wright explains the inconsistencies in the manner of referring to this text as follows. "It will be noted that the reference of St. Thomas to this passage in Aristotle is sometimes given as 'in XII Metaph' and sometimes as 'in XI Metaph'. Prior to 1271 he always gave the reference as XI (though some editors trying to be helpful, frequently changed this to XII) and afterwards as XII. For in this year William of Moerbeke's translation of the Metaphysics from the Greek made available to St. Thomas three books (K, M and N) hitherto unknown to him, one of which (K) belonged before the one containing the passage on the order of the universe (L)." op. laud., pp. 2-3, note 2.

order of the universe clearly in mind, if we are to understand what St. Thomas had to say about the perfection of the universe proper. The full meaning of perfection includes a reference to final end, but perfection itself, like beatitude, consists in an assimilation to the absolutely final end in the thing perfected, or in a possession of that final end by the thing perfected. Whether it be assimilation or possession, perfection has to be properly in the thing perfected. It is perfection understood in this way that we intend to study here.

St. Thomas wrote as a theologian for the most part. It was quite in order for him to use the divine perfection as point of reference. But this creates a certain difficulty for us in studying him. We have to follow him in this to a certain extent. Our object, however, is to discover or to uncover the concept of universe that was operative in his thought. This concept was founded on an experience that was rational as well as theological, and it is under its rational aspect that we would like to study it. Even if we have to refer to God, in following St. Thomas, what we would like to bring out is the philosophical ground of his idea of the universe. This will be found not only in his properly theological works, but also in his commentaries on Aristotle and on the Liber De Causis. The latter express,

according to their own genre, the personal thought of St. Thomas as well as his theological works, especially when he engages in debate with Arab or other commentators on the Philosopher, and they constitute for us an important source, for St. Thomas took a great deal from Aristotle in his theory of the universe, as in so many other things. His explanations of what Aristotle meant are often explanations of how he saw things himself. When we read these commentaries along with the Summa Theologiae, the Summa Contra Gentiles, and the De Potentia, we cannot but be struck by the way in which they complement one another.

St. Thomas's idea of the universe was bound up with a geocentric model that has long since lost the credibility it enjoyed for so long. Along with most people of antiquity and the middle ages, St. Thomas thought the heavens were spheres that turned about the earth; and along with Aristotle, he thought this pertained to the physical perfection of the universe. We could ask ourselves of what interest such an idea of the universe can be today, when we know that the ancient model was completely inadequate to represent the vast expanses of the universe, and when we know it was simply erroneous in many of its aspects. If the idea of the perfection of the universe is inextricably bound up with that ancient and obsolete model, it would seem that the only interest we could have in the idea would be purely historical

in character.

But St. Thomas's understanding of the perfection of the universe does not seem to have been so tied to the model in which he visualized it that it had to go the way of the model. No doubt, many aspects of this perfection were inseparably linked with his model, but the perfection of the universe as such seems to transcend the model, and it has retained its value, no matter what our model of the universe. As we shall see in chapter two, St. Thomas, following Aristotle in the De Caelo et Mundo, proved the perfection of the universe, understood in its physical sense, before discussing what were for him the integral parts of this perfection, to wit, the heavenly bodies and the four elements, in other words, independently of the particular model he had in mind. "Primo ostendit perfectionem universi; secundo ostendit ex quibus partibus integretur" (In I De Caelo lect. 2, n. 8 (1)). "Postquam Philosophus ostendit universum esse perfectum... ostendit ex quibus partibus eius perfectio integratur" (Ibid., lect. 3, n. 19 (1)).

In fact, the model itself is a source of difficulty against an important part of the argument. If the number three implies perfection, as the argument supposes, why are there four elements and not just three? The number of elements pertains to the perfection of the universe the way the

number of fingers pertains to the perfection of the hand.[1] The solution is not given immediately, because it belongs later in the treatise and in the following treatise, De Generatione et Corruptione, when the model itself is at issue, but the fact that St. Thomas explicitly raises the difficulty here shows that his notion of the perfection of the universe did not depend on his model, but rather that, if there was a dependence, a necessary connection, it had to be the other way around. What came first was the perfection of the universe and the four elements would have to be explained in terms of that.

In studying St. Thomas's understanding of the perfection of the universe, however, we cannot simply ignore his model. St. Thomas spoke in terms of the representation he had of the cosmos, and so we have to have some idea of this representation in order to understand him. This appears especially important when we see St. Thomas using the difference between celestial and earthly bodies, as he understood it, to illustrate much broader, more metaphysical, questions, such as the order of grades among the angels

---

[1] "Videtur tamen quod haec probatio non sit efficax: non enim magis videtur sequi quod dimensiones sint tres, propter hoc quod ternarius est numerus totius et omnis: alioquin sequeretur per eandem rationem quod essent solum tria elementa, vel tres digiti manus" (In I De Caelo lect. 2, n. 14 (7)).

(De Pot. q. 3, a. 19, ad 21), or the order of actuality among them (De Pot. q. 5, a. 8, c), or the order of dignity (De Pot. q. 6, a. 6, c; De Spir. Creat. q. un., a. 8, c), or even the difference between the universal and the particular in virtues (De Pot. q. 6, a. 9, c). Such a diversified use of the model to illustrate doctrine cannot fail to impress us with the need to have some cognizance of it. The representation is not important in itself, but it is important as an example of what St. Thomas meant by the perfection of the universe. Our attention must be given not so much to the representation as to the truth it exemplifies. But still it has to pass through the representation at one time or another.

The importance and the need of doing this was recently brought out by Thomas Litt, O.C.S.O., in his study on Les corps célestes dans l'univers de saint Thomas d'Aquin.[1] From the viewpoint of the historian it is not justifiable simply to ignore such a considerable part of the cosmology of St. Thomas in studying his philosophy. But even from a doctrinal viewpoint such preterition has regrettable consequences, for there is more at stake here than merely an antiquated cosmology. Associated with this cosmology in St. Thomas there are ideas which are lost sight of but which

---

[1]Cf. Introduction, pp. 5-12.

remain of great importance even in terms of modern-day cosmologies, something which should surely interest modern-day Thomists. Fr. Litt mentions certain aspects of the hylomorphic theory and the series of subordinated causes in the universe. We ourselves shall see how greater prominence must be given to the role of privation in hylomorphic theory and to the notion of universal cause, both of which are quite important to understand the process of generation.

It is not our intention, however, to bring St. Thomas up to date. This, indeed, seems neither necessary nor possible. In the case of his idea of the universe as a whole, it is not necessary, for that idea seems no less valid and true today than it was in the thirteenth century. The problem is, for us, none other than to understand St. Thomas on this score. In the case of his model of the universe, it is not possible to bring him up to date. The model has been supplanted and that is all there is to it. To try to accommodate the ancient model to contemporary models is out of the question. Besides such accommodationism would betray St. Thomas himself, for it would attach too much importance to things which in his own view were quite liable to revision.[1] The great error of the Aristotelians

---

[1]The reserve of St. Thomas is most evident in his remarks on the diversity of views to explain the movements of the stars in the ancient geocentric perspective. "Illorum tamen suppositiones quas adinvenerunt, non est necessarium

in the seventeenth century consisted in their failure to see the distinction between the perfection of the universe and the model in which this perfection was represented. As they saw the model crumbling before the onslaughts of Copernicus and Galileo, they could not help but think that the notion of perfection also had to go with it. Such, however, did not have to be the case. It is our intention here to examine what is still valid in St. Thomas's idea of the perfection of the universe, in the hope that it might be of some help in contemporary philosophizing on the universe as a whole.

Much of what St. Thomas says, as a matter of fact, on the perfection of the universe, does tie in with many of

---

esse veras: licet enim, talibus suppositionibus factis, apparentia salvarentur, non tamen oportet dicere has suppositiones esse veras; quia forte secundum alium modum, nondum ab hominibus comprehensum, apparentia circa stellas salvantur" (In II De Caelo lect. 17, n. 451 (22)). "Unde hoc non est demonstratum, sed suppositio quaedam" (In I De Caelo lect. 3, n. 28).

A similar reserve is evident in such a key question as the incorruptibility of the heavens, In I De Caelo lect. 7, n. 76 (6). If St. Thomas did not express the same kind of reserve concerning other aspects of the model of the universe he took for granted, especially the theory of the four elements, it is because he had no reason for doing so. He did, however, undersign Aristotle's willingness to rely on the better qualified and the more competent than himself. "Sed oportet nos 'persuaderi a certioribus', idest sequi opinionem eorum, qui certius ad veritatem pervenerunt" (In XII Metaph. lect. 9, n. 2566). "Unde subiungit quod ipse relinquit id quod est necessarium circa hoc, illis qui sunt fortiores et potentiores ad hoc inveniendum quam ipse esset" (Ibid., lect. 10, n. 2586). If we may be permitted an anachronism, what better recommendation could be found for Galileo's telescope, or Hubble's use of the 'red shift' to calculate the distances of nebulae, or even the newest radio telescopes.

the questions that interest us today. His conception of the universe is no less dynamic than that of a Teilhard de Chardin, though it came long before modern theories of evolution. It touches something of the physical order that interests the cosmologists of our day and, at the same time, it offers a good deal about the order of persons and their place in the cosmos. What is perhaps most interesting for us is that he deals with both orders, physical and personal, as constituting one universe together. The tendency today is usually to treat the two separately and, often enough, even in opposition to one another.

On the one hand, those commonly called cosmologists, those who think mainly in terms of the physical order, though they may at times pass over into the biological order, show little or no interest in the personal order properly speaking. They tend to write what pertains to this order off as irrelevant to understanding the universe as a whole, to relegate it to the supposedly nebulous realm of 'aesthetics' or of 'feeling'. And worse still, when they do broach the subject and go into it somewhat, they often manifest a singular knack for missing the point. A recent survey by Jagjit Singh, Great Ideas and Theories of Modern Cosmology, illustrates this quite well. With regard to the physical theories, which get the lion's share of attention in the book, he is quite good. When he comes to deal with life,

however, toward the end, he begins to falter considerably. His last chapter, "God and Cosmology," leaves one wondering whether the author understands anything of what theologians and philosophers, including Prof. Hartshorne, mean when they speak of God and creation. The whole chapter seems to enter the scene as an afterthought. The author, like many other cosmologists, seems to feel the need of saying something about creation and God, and then proceeds to reduce the whole matter to the terms that have preoccupied him throughout the book, those of astro- and nuclear physics. What he actually says is not without interest as far as the relation between positive science and proofs for the existence of God is concerned, but with a few condescending remarks about a certain psychological need, or emotional exigency for a deity, he manages to ignore the core of the issue completely, seeing reason as operative only in the physical sciences, or the statistical sciences at best, and not in the properly personal order.

In the face of such reductionism, we sometimes find a tendency to reject or to minimize the positive and technological achievements of man, in favor of what is more properly human in experience, or what is more open to the divine. What is personal and existential is opposed to the cosmological, to the point oftentimes that the latter seems positively hostile to the former. John Wild, for example,

in Human Freedom and Social Order: an Essay in Christian Philosophy, opposes three conceptions of the universe, the mythic, the cosmic (which we owe originally to the Greeks and which has given the modern cosmologies), and the personal, and in opting for the latter makes little attempt to integrate the other two, or even, according to one critic,[1] to understand them sufficiently. The situation resembles somewhat that which St. Thomas found in the thirteenth century, when there were two opposing attitudes with regard to Aristotle, the personification of science at the time, the Averoists on the one hand, who turned Aristotle against the Faith, and the Augustinians on the other, who rejected Aristotle or minimized him, supposedly in order to protect the Faith. But St. Thomas sought the truth in both the Faith and Aristotle.

For him, as for Aristotle, our idea of the universe and its perfection has its origin in the senses. This is evident from the treatise De Caelo et Mundo, which he commented and interpreted quite favorably, where we find a basic cosmology applicable to the material world as the ancients saw it. The De Caelo itself gave a few summary indications on the nature of beings above the world of senses and exercizing some influence over it,[2] thus signifying a broader

---

[1] Paul Grimley Kuntz, "Mythical, Cosmic and Personal Order," The Review of Metaphysics, 16 (1963), 718-748.

[2] Cf. In I De Caelo lect. 21.

understanding of the universe, a world where separated substances have an important role to play. In Book I of this same treatise and in Book VIII of the Physics, Aristotle had argued for the eternity of the world from a general consideration of generation and of movement, and their causes, a doctrine which no Christian could accept. But St. Thomas did more than simply and blindly reject this doctrine. He indicated how it was no more than a dialectical position, one that Aristotle opposed to certain ancients, namely Empedocles and Anaxagoras, who had maintained that the world had a beginning, but for reasons that could not hold.[1] He further proposed another position as more probable, even philosophically, using other insights of Aristotle himself.

After the Physics and the De Caelo, Aristotle does not return to the question of the eternity of the world. He does not seem to have noticed how his doctrine on man's rational soul at the end of the De Anima might possibly affect the question. St. Thomas thought so, and he brought the light of Book III De Anima to bear on it. What he was doing, in effect, was giving greater prominence to man in the universe, something which had been done before by philosophers, but which had never been exploited fully. Taking greater account of man's singular place in the universe, at the horizon of spirit and matter, St. Thomas saw the final

---

[1] Cf. S.T. I, q. 46, a. 1, c; De Pot. q. 3, a. 17, c. We shall return to all this in chapter 7.

perfection of the universe more in terms of man than in the abstract terms of a mechanism of causality. This modified the ultimate meaning of Aristotle's physical system, at least to the extent of giving it the inkling of a definite end, rather than letting it go on indefinitely in a cyclical motion, but St. Thomas was still able to move about in that system and use it to arrive at a better understanding of the world view he had from the Faith. This was at once a shortcoming, since it kept him within a framework that has been superceded, something that was inevitable since St. Thomas could only be a man of his times, and a grandeur, since, in spite of those shortcomings, he gave us an example of how to find the truth wherever it is to be found, in every aspect of the universe, the lower as well as the higher, and how to bring these partial aspects together in a higher and more complete synthesis.

We will begin by studying our first notion of perfection in chapter 1. Then, in chapter 2, we shall see how this notion applies to the universe we know, and thus bring out the concrete character of St. Thomas's notion of the universe and its perfection. This will bring us to a consideration of the integrity of the universe as St. Thomas saw it, its unity and essential diversity in chapter 3, its two modes of order in chapter 4, its ordering principles in chapter 5, its essential continuity in chapter 6. We shall

see how this integrity was represented in the cosmology of the De Caelo in chapter 7, but certain difficulties inherent in this representation will make us turn finally to the order of the universe as it follows from the activity of its parts, its second perfection, in view of its final perfection. In chapter 8 we shall examine the order of generation as it characterizes nature as a whole, and in chapter 9 we shall view the order of intelligence which appears as a term for the order of generation, a term that resumes as it assumes all that comes before it.

We are quite conscious of assuming a task that is far from easy. If we do so, it is, we hope, with that probity and that modesty St. Thomas thought to be the requisites for dealing with difficult questions, and not with presumption. "Nos reputamus dignum esse quod promptitudo hominis considerantis huiusmodi quaestiones, magis debeat imputari verecundiae, idest honestati et modestiae, quam audaciae, idest praesumptioni" (In II De Caelo lect. 17, n. 450 (1)). We cannot pretend to give a complete view of St. Thomas's thought, not even as concerns his idea of the universe, but we shall try to bring out as well as we can the internal coherence of this idea. The order we shall follow is not found as such in the works of St. Thomas, because most of them were chiefly theological in nature and followed a theological order from God to creatures. But the idea of

the universe that enters into these works so often has its own order, a more philosophical order, which goes from creatures to God,[1] and it is this order which we shall follow, the order which governed the thinking of St. Thomas in the matter of the universe, an order which appears only incidentally, as it were, in the theological works, when St. Thomas begins to explain certain notions or presents certain arguments, but an order which he found among the treatises of Aristotle, and which he delighted in bringing out in commenting on these, especially in his introductions.

We shall, indeed, make ample use of the commentaries on the Philosopher. This may seem surprising to some, since the tendency of late has been to emphasize the difference that separates St. Thomas from Aristotle rather than the philosophical perspective that united them. But such a view does not do justice to the philosophy of St. Thomas. Whatever may be said about how far beyond Aristotle St. Thomas went in metaphysics, it remains that many things which he really thought were actually found in Aristotelian philosophy. St. Thomas himself thought so at least, since he went to

---

[1] It is St. Thomas himself who contrasts the order of theology and the order of philosophy in this way, in C.G. II, c. 4. "Non eodem ordine utraque doctrina procedit. Nam in doctrina philosophiae, quae creaturas secundum se considerat et ex eis, in Dei cognitionem perducit, prima est consideratio de creaturis et ultima de Deo. In doctrina vero fidei, quae creaturas non nisi in ordine ad Deum considerat, primo est consideratio Dei et postmodum creaturarum" (n. 876a).

great pains to defend that philosophy against what he thought were misrepresentations of it, and his attitude in this matter is certainly as worthy of consideration as that of certain interpreters of Thomism. Besides, if we keep in mind the nature of the commentary in the middle ages, the vehicle of genuine philosophizing as has been well brought out by Father Chenu,[1] it cannot be denied that these commentaries represent an important part of St. Thomas's thinking. Why should he, a master at the faculty of theology, have taken to himself a task which belonged more properly to a master at the faculty of arts? St. Thomas may have been more original in his properly theological works, where he broke away from the literary genre of the commentary in favor of the Summa, but in the commentaries we still catch him in the act of philosophizing, as one student of these commentaries has pointed out so well.[2]

---

[1] Introduction à l'étude de saint Thomas, pp. 173-190; translation, Toward Understanding Saint Thomas, pp. 203-222.

[2] G. Ducoin, S.J., "Saint Thomas commentateur d'Aristote," Archives de Philosophie, XX (1957), pp. 81-82: "Or saint Thomas, même s'il est théologien, a commenté Aristote. Commentant Aristote le Philosophe, il a agi en philosophe. ...une étude même sommaire des commentaires thomistes montre la part personnelle qu'y prend saint Thomas. ...Aussi une étude précise des commentaires thomistes d'Aristote doit nous permettre de rejoindre l'acte de saint Thomas philosophant, c'est-à-dire saint Thomas élaborant sa propre philosophie dans l'acte par lequel il semble seulement commenter Aristote. Il s'agit bien de philosophie puisque saint Thomas endosse le personnage d'Aristote; et il est bien question d'une philosophie personnelle puisque saint Thomas ne se contente pas de reprendre purement et simplement ce qu'avait dit Aristote. Dans ces conditions un triple profit peut être tiré d'une

The condition presupposed for probity and modesty in difficult questions is that we look not only to the obvious and the striking, but also to the smallest details of what is to be considered: "si tamen ille qui huiusmodi dubitationes considerat, diligat etiam parvas sufficientias, idest parum sufficientes rationes, ad inveniendum de illis rebus, de quibus habemus maximas dubitationes" (Ibid.). The rationes of St. Thomas are by no means parum sufficientes. It is we who feel small in the face of them. This is why we shall let him speak for himself as much as possible, seeking his thought in the least of his writings as well as in the more important ones, for he often made very significant reflections in connection with seemingly insignificant questions. It is a desire for wisdom that urges us "et hoc propter desiderium quod quis habet ad philosophiam, ut scilicet eius principia stent, idest firma permaneant" (Ibid.), a desire to understand better the wisdom of St. Thomas. May we not fall too far short of our goal.

---

telle étude. On doit pouvoir déceler l'attitude philosophique profonde de saint Thomas, son acte de philosopher. On peut également connaitre son art de commentateur. Et il ne doit pas être impossible d'assister en quelque façon à la genèse de sa philosophie." Cf. also the remark of Cajetan: "Pluries glossat Aristotelem ut Philosophum, non ut Aristotelem; et hoc in favorem veritatis" (In IIa-IIae, q. 172, a. 4, ad 4), which is very much in keeping with a remark of St. Thomas himself: "Studium philosophiae non est ad hoc quod sciatur quid homines senserint sed qualiter se habeat veritas rerum" (In I de Caelo lect. 22, n. 228 (8)).

CHAPTER I

PERFECTION, A TERM OF BECOMING ACCORDING TO NATURE

The first thing that comes to mind today when we think of perfection is usually something that has to do with faultlessness or the highest excellence. "Perfect" man suggests the saint. "Perfect" work evokes something done with greatest care and meeting the highest demands. We still associate the idea of "complete" with "perfect"; the perfect man is also the complete man who is not deficient in any particular. But the most ancient meaning of the term has become obsolete in English: "thoroughly made, formed, done, performed, carried out, accomplished; of full age."[1] This usage, which disappeared in eighteenth century, corresponds to what is most likely the first meaning of perfection. At least it certainly corresponds to what St. Thomas held to be its first meaning according to its mode of signifying.

The meaning we associate most readily with perfection surely was not unknown to St. Thomas. For him God could be said to be perfect. In fact, only He is perfect <u>simpliciter</u>, that is, perfect in every way and lacking no perfection

---

[1] Cf. <u>The Shorter Oxford English Dictionary</u>, pp. 1471-1472.

whatsoever.[1] But that was for him a derived meaning. Perfection for him was first linked with becoming and change, with *fieri*, as the etymology of the term itself suggests.

> Sciendum tamen est quod perfectio Deo convenienter attribui non potest si nominis significatio quantum ad sui originem attendatur: quod enim *factum* non est, nec *perfectum* posse dici videtur. Sed quia omne quod fit, de potentia in actum deductum est et de non esse in esse quando factum est, tunc recte perfectum esse dicitur, quasi totaliter factum, quando potentia totaliter est ad actum reducta, ut nihil de non esse retineat, sed habeat esse completum.
>
> (*C.G.* I, c. 28, n. 268)

In God there is no change from potency to act. But because He is pure act, because he has *esse supercompletum*, we can extend the term perfection to include this kind of actuality as well, even though it has never been anything else but pure act. "Quia in his quae fiunt, tunc dicitur esse aliquid perfectum, cum de potentia educitur in actum, transumitur hoc nomen *perfectum* ad significandum omne illud cui non deest esse in actu, sive hoc habeat per modum factionis, sive non" (*S.T.* I, q. 4, a. 1, ad 1).

The key to the first meaning of perfection, however, is not only in the *fieri* that it presupposes, but also in the prefix *per-*, which was well rendered by "thoroughly" in the English definition we saw a moment ago and by "totaliter" in the text from the *Contra Gentiles*. As a preposition, *per*

---

[1] Cf. *De Car.* q. un., a. 10, c; *S.T.* I, q. 4, aa. 1-2; *C.G.* I, c. 28.

is used with an idea of place, and then it means through, or with an idea of time, and then it means during or through again. It accordingly connotes the idea of going from the beginning to the end of something (e.g., through a region or through a week), through and through, de bout en bout. It came to be used to denote fulfilment or completion (achèvement), that is to say, thorough 'accomplishment', per-fection. It was also joined to adjectives and adverbs to form a sort of absolute superlative.[1] Joined to the verb facere, or fieri, the passive form, this meaning was emphasized the more. It gave the verb perficere, the origin of our term "perfect". Perficere means to bring something to term (achever), to accomplish or to make something complete according to the exigencies of its nature (accomplir)-- about the same thing as the first, but obsolete, meaning "perfect" had in English.

An important thing to note about the preposition per is that it adds a note of finiteness, of termination, to the fieri that it affects. Per has the idea of coming to an end, being finished--de bout en bout. When we are through a day or through a task, it is finished as well as completed. The grammatical use of the term illustrates this point well: the perfect tense indicates an action that is thought of as

---

[1]Cf. Dictionnaire étymologique de la langue latine, ed. Ernout et Meillet, 4th ed., p. 497.

finished; the imperfect tense indicates one that is not yet finished. This connection between "perfect" and "finite" is most explicit in the Greek language, where the word for "perfect" is τέλειον, a derivative of τέλος, which means "end" or "finis".[1]

It is sometimes said that St. Thomas had an understanding of perfection different from that of Aristotle. Whatever may be said for this as far as concerns the extended meanings of perfection, it is not entirely true of perfection in its first meaning. We see that from the text we have already quoted from the Contra Gentiles, and also from another text that presents the same idea, not in terms of

---

[1] To avoid a possible confusion it might be good to note that a literal translation of the Greek term τέλειον would be finitum in Latin. Some medieval translators of Aristotle used this term. This explains why St. Thomas occasionally speaks of finitum and perfectum as going together in his commentaries. "Finite" in English would literally translate the Greek, but it would restrict the idea of the Greek to its negative aspect. "Finished" would be closer as long as we understood it to refer to something reaching its fulness. Unfortunately this meaning has disappeared and a more negative meaning has prevailed. The same has to be said for "terminated". There remains "perfect" which at least suggests something positive, but which is losing favor because its meaning is becoming more and more restricted and associated with things that are often only a parody of perfection. Finally there is "complete", which is used by many translators and which seems to be the best term to use today. St. Thomas would have no objections to this, since for him, as we saw, what is perfect has esse completum, and he was ready to speak of complementum universi, the completion of the universe, as well as of the perfection of the universe (cf. De Pot. q. 3, a. 16, c; q. 3, a. 1, ad 9). A text from In De Div. Nom., which we will see presently, will make this amply clear.

potency and act, but in terms of nature, much in the way that Aristotle was given to speak of perfection. St. Thomas is again cautioning about the way we attribute perfection to God.

> Perfecta, non est accipiendum secundum modum significationis vocabuli, quo perfectum dicitur quasi complete factum, sicut perambulasse nos dicimus, quando ambulationem complevimus; unde quod non est factum, non potest secundum hanc rationem dici perfectum; sed quia res quae fiunt, tunc ad finem suae perfectionis perveniunt, quando consequuntur naturam et virtutem propriae speciei, inde est quod hoc nomen perfectum assumptum est ad significandum omnem rem quae attingit propriam virtutem et naturam. Et hoc modo Divinitas dicitur perfecta, inquantum maxime est in sua natura et virtute.
>
> (In De Div. Nom. c. 2, lect. 1, n.114).

It is interesting to see how St. Thomas's example, perambulasse, summarizes in a word what we said above about the preposition per. But the thing we wish to call attention to in this text is the norm alluded to as measure for perfection, natura et virtus propriae speciei. This is something more specific than simply an act educed from potency. It will give us a better idea of what was meant by reducing a potency totally to act so that it retains nothing of non-being, but has complete being, or is complete in its being. Completion, or perfection, is relative to one's nature.

Perfection itself is somehow above movement and time. "Quamvis moveri ad perfectionem non sit totum simul, tamen consequi naturalem perfectionem est totum simul" (S.T. I-II, q. 31, a. 1, c). But our first notion of perfection comes to

us in an experience of movement and time.

> Hoc nomen actus, quod ponitur ad significandum endelechiam et perfectionem, scilicet formam, et alia huiusmodi, sicut sunt quaecumque operationes, veniunt maxime ex motibus quantum ad originem vocabuli. Cum enim nomina sint signa intelligibilium conceptionum, illis primo imponimus nomina, quae primo intelligimus, licet sint posteriora secundum ordinem naturae. Inter alios autem actus, maxime est nobis notus et apparens motus, qui sensibiliter a nobis videtur. Et ideo ei primo impositum fuit nomen actus, et a motu ad alia derivatum est.
> (In IX Metaph. lect. 3, n. 1805)

For a better understanding of our first notion of perfection, then, there would seem to be no better place to start than to consider movement as we experience it. The things we first know to be perfect, before being perfect were imperfect, that is, in between mere possibility and full-blown actuality, and in general we can say that they took some time to reach their state of total perfection. We see this in the things of nature and in human experience as well.

> Non enim contingit aliquid de imperfecto ad perfectum adduci nisi per actionem alicuius perfecti. Nec perfecti actio ab imperfecto statim recipitur in principio perfecte; sed primo quidem imperfecte postea perfecte, et sic deinde quousque ad perfectionem perveniat. Et hoc quidem manifestum est in omnibus rebus naturalibus quae per successionem temporis aliquam perfectionem consequuntur. Et similiter videmus in operibus humanis, et praecipue in disciplinis.
> (De Ver. q. 14, a. 10, c)

It takes time for an acorn to become an oak or a man to learn a science, and during that time the oak and the man pass through different stages of relative perfection and imperfection.

What of these in-between stages? How are we to understand them? Are they potency or act? Once the process of becoming has begun, the potency is actuated, at first imperfectly, and then less and less imperfectly, until actuation or perfection is completed. This means that potency somehow passes to act before reaching perfection, that there is an act that is not perfect, an actus incompletus or an actus imperfectus. This is precisely the kind of act that movement is. St. Thomas explains the notion of an actus imperfectus as follows.

We can think of something that is in act only, in some respect or other, of something that is in potency only, in the same respect, and of something that is somewhere in between. For example, something can be hot, cold, or somewhere in between. Let us say that to be hot is to be in act, and that perfection would correspond to a certain degree of heat. To be cold is to be in potency and imperfect to the extent of the distance below the perfect degree of heat. As long as the thing is in potency only, it is not changing yet, it is simply imperfect. When it is totally in act, it has changed totally and has become perfect in the sense that we have just explained. The change is complete and over. During the change, however, while the thing was being heated, it was no longer merely in potency, but partially in act, since it had some heat; but it was still in potency, and only

partially in act, since it hadn't yet attained perfection, but was gradually approaching it more and more--"paulatim participat calorem magis ac magis".

St. Thomas adds a precision to his analysis that is important for us at this point. Change is an imperfect act of a very special kind. It is imperfect in the sense that it is still essentially ordered to an ulterior act. If we take away this ordination to an ulterior act, we are no longer dealing with motus. "Si tolleretur ordo ad ulteriorem actum, ipse actus quantuncumque imperfectus, esset terminus motus et non motus, sicut accidit cum aliquid semiplene calefit" (In III Phys. lect. 2, n. 285(3)). The difference between motus and any other kind of imperfect act is that the ordination to an ulterior act is in the act itself. But since order to an ulterior act is found in something that is in potency to that act, this means that potency is in the act itself. If a motus has been brought to a halt before reaching the point of perfection, there is both potency and act in the term, but they are no longer related as closely as they were in the process of changing itself. There is imperfection in the term and hence a certain ordination to a more perfect act, but the potency which this implies is not in the act. This means that there is no motion, but only a potency to motion. "Si actus imperfectus consideretur tantum in ordine ad ulteriorem actum, secundum quod habet rationem

potentiae, non habet rationem motus, sed principii motus: potest enim incipere calefactio sicut a frigido, ita et a tepido" (Ibid.). What is the term of one motion can become the beginning or the principle of another motion, but inasmuch as it is a term it is not motion. It entails an act, however. "Licet enim nomen actus a motu originem sumpserit, ut supra dictum est, non solum motus dicitur actus" (In IX Metaph. lect. 5, n. 1824). Hence the term represents a degree of perfection measured by the form possessed, for the form is principle of perfection in matter. Matter contains the potency actuated by the form.

Two things should be noted about the notion of term here, in connection with perfection. First, a term is not motion or becoming, but only its last moment. Outside of or beyond this last moment there remains nothing of the motion that is terminated; it is complete; the term contains it all. If the term happens to be the principle of a motion, that motion is another one, not the motion of which it is the term. This is true of perfection according to its first meaning, since it is the term of a fieri. It terminates a process of becoming and gives a thing a certain completion in its being. "Omnia dicuntur perfecta, eo quod deveniunt in finem. Extra finem autem nihil est: quia finis est id quod est ultimum in omni re, et quod continet rem. Unde nihil est extra finem. Nec id quod perfectum est indiget aliquo

exteriori; sed totum continetur sub sua perfectione" (In X Metaph. lect. 5, n. 2028). The second thing to note, however, is that not every term entails the fullness of perfection. A process of becoming can be stopped half way to its completion. The perfection realized in such cases is only partial, "sicut accidit cum aliquid semiplene calefit." This shows how essential the element of completeness is for perfection, while allowing for relative degrees of perfection and imperfection.

In the example given above, perfection was a degree of heat arbitrarily designated as such. Is there something less arbitrary in our experience where this idea of perfection appears? To be sure, and this is where the idea of nature comes in as the norm for perfection. Although only an accidental kind of change was used to illustrate the analysis of motion above, the analysis is valid also for substantial change,[1] the kind of change that was generally called generatio after Aristotle, a term used not only for the generation of living things, but also for the coming to be, the mutatio de non esse ad esse, of any kind of

---

[1] "Considerandum est quod Aristoteles supra in tertio ubi motum definivit, accepit nomen motus secundum quod est commune omnibus speciebus mutationis" (In V Phys. lect. 2, n. 649 (1)).

sensible substance, including the infra-living.[1] The term of such changes, a substance complete in its being, is the first place to look for perfection according to nature, for the nature of a thing is precisely what it has once its generation is completed.

> Illud dicimus esse naturam uniuscuiusque rei, quod convenit ei quando est eius generatio perfecta: sicut natura hominis est, quam habet post perfectionem generationis ipsius: et similiter et de equo, et de domo: ut tamen natura domus intelligatur forma ipsius.
> (In I Polit. lect. 1, n. 32)

Modern science has made it rather difficult to speak of substances and substantial change in merely physical terms as was done in antiquity. The four elements, the basic substances of ancient science, have long since been

---

[1] Exception should be made of heavenly bodies in the ancient perspective, for these were thought to be above corruption and consequently, for Aristotelians at least, above generation. This was explained by supposing that the form of celestial bodies exhausted all potentiality in their matter. "Materia caelestium corporum est in potentia ad actum perfectum, idest ad formam quae complet totam possibilitatem materiae, ut iam non remaneat potentia ad alias formas" (De Subst. Sep. c. 8, n. 82). It followed from this that the form of a celestial body was not educed from the potency of matter, as for earthly bodies, but was simply created, with its matter, much in the way that pure forms are created. "Si quae autem formae sunt non in materia, ut sunt substantiae intellectuales, vel in materia nullo modo indisposita ad formam, ut est in corporibus caelestibus, in quibus non sunt contrariae dispositiones; harum principium esse non potest nisi agens incorporeum, quod non agit per motum; nec dependent ab aliquo secundum fieri a quo non dependent secundum esse" (De Pot. q. 5, a. 1, c). Cf. also De Subst. Sep. c. 10, n. 103bis.

It might be good to keep in mind also that accidental change is also called generatio secundum quid, as opposed to generatio simpliciter for substantial change. Cf. In V Phys. lect. 2, n. 654 (6).

broken down into more basic components, and it has become almost impossible to determine just where one substance ends and another begins in physics, let alone determine when a substantial change has taken place. But we do not have to go through that to understand the foundation of our notion of perfection. Our idea of substance and of nature is not something we get from physics or chemistry, but from a more immediate experience of ourselves and of things more like ourselves. It is found primarily in the kind of beings St. Thomas uses as examples most frequently, in men, animals, and even houses. Its meaning is clear at the beginning, and it becomes more difficult of application as we get further away from the kind of substances that we are. But this does not invalidate its first and fundamental meaning. By substance we understand something that has a certain identity and integrity, a certain completeness composed of various parts united in one being. We also understand that such a thing has come to be what it is, in its completion, after a more or less complex process of generation and growth.[1]

In its first and basic sense we speak of perfection in reference to what pertains to the nature of a thing:

---

[1]It is only by analogy that we speak of separate substances, which are complete in themselves, but without having passed through a process of perfection. The prime analogate of substance for us is found in sensible nature. For justification of the analogy between bodily and separate substances, cf. In De Causis lect. 7, n. 181.

"attenditur secundum id quod pertinet ad ipsam rei naturam" (S.T. II-II, q. 184, a. 1, ad 2).[1] For example, we say an animal is perfect when it lacks nothing that is required for an integral life. This includes such things as the right number and disposition of members, the right proportions, the powers to act, and whatever else the nature of a thing may call for.[2] For Aristotle and the Aristotelians the power to generate another of its kind was an important sign of perfection, for an animal cannot reproduce unless it has reached maturity or the perfection of its nature. An immature animal, one that is not yet perfect, or even one that is simply imperfect, cannot reproduce.[3]

In things that are generated we should distinguish

---

[1] What we refer to as the first and basic sense of perfection is called perfectio simpliciter by St. Thomas in this text, as opposed to the perfectio secundum quid which comes from something other than nature and is added to it: "secundum aliquid exterius adiacens, puta in albedine, vel nigredine, vel aliquo huiusmodi." This perfectio simpliciter should not be confused with that of De Car. q. un., a. 10, c. which we mentioned at the beginning of this chapter and which meant perfection without any restriction whatsoever, not even that of a genus or a nature, nor with that which we will see at the end of this chapter and which will include certain superaddita demanded by nature for its operation.

[2] Cf. De Perf. Vitae Spir. c. 1, n. 559; S.T. II-II, q. 184, a. 1, ad 2.

[3] Cf. In II De Anima lect. 7, nn. 313-314; In VII Phys. lect. 6, n. 920 (2); C.G. I, c. 37, n. 307; II, c. 6, n. 882; III, c. 21, n. 2022; S.T. I, q. 5, a. 4, c.

the substantial form which brings the fundamental perfection to matter and determines its nature, from other forms which come to further perfect the thing already constituted in its first perfection. The substantial form is the term of a thing's becoming, the end of the process of generation.

> Videmus autem in his quae generantur, quod unumquodque eorum tunc factum esse dicitur quasi terminata factione, quando accipit formam: est enim forma generationis terminus. Adepta igitur forma, non restat aliquid fiendum.
>
> (De Subst. Sep. c. 9, n. 93)

Once a thing has reached the fulness of its nature, it has reached the term of its becoming. It is complete in its being; habet esse completum. This is why we can speak of it as having its first perfection. Non restat aliquid fiendum.

But this must not be understood as the end of all change or all perfection. The thing fully generated does not have all the perfection due to its nature. Restat aliquid faciendum. The substantial form is the end of generation, of the process by which a thing comes to be, but not of the thing generated itself. "Et hoc intelligendum est de causa finali generationis, non autem de causa finali rei generatae. Finis enim generationis hominis est forma humana; non tamen finis hominis est forma eius, sed per formam convenit sibi operari ad finem" (In II Phys. lect. 11, n. 242 (2)). The form of a thing, in addition to being principle of perfection or completion, is a principle of activity as well, the activity whereby a being works toward its final

perfection. Even though the substantial form brings the first perfection, the being so constituted remains imperfect and, hence, ordered to greater perfection. "Semper enim imperfectum est propter perfectius: sicut igitur materia est propter formam, ita forma, quae est actus primus, est propter suam operationem, quae est actus secundus; et sic operatio est finis rei creatae" (S.T. I, q. 105, a. 5, c). Thus, a thing that is perfect as substance still has potentialities to be actuated, further perfection to acquire, and inasmuch as this perfection is acquired through its proper activity, the activity itself comes to be called its end. "Propria operatio cuiuslibet rei est finis eius: est enim secunda perfectio ipsius" (C.G. II, c. 25, n. 2057). "Forma vero secundum quam res est, est perfectio prima" (C.G. II, c. 64, n. 2394).

All this, for St. Thomas, is based on the relation between the action of a thing and the thing itself, the idea of a propria operatio.

> Unumquodque quod habet propriam operationem, est propter suam operationem: quaelibet enim res appetit suam perfectionem sicut suum finem, operatio autem est ultima rei perfectio (vel saltem ipsum operatum, in his in quibus est aliquod opus praeter operationem, ut dicitur in I Ethic.); dictum est enim in II De Anima quod forma est actus primus, operatio autem est actus secundus, tanquam perfectio et finis operantis. (In II De Caelo lect. 4, n. 333 (4))

It is through its action that a thing attains its final perfection. "Quaelibet res creata consequitur suam ultimam

perfectionem per operationem propriam" (C.G. II, c. 64, n. 2394).

To be sure, not every possible action nor the actualization of all its possibilities is required for the perfection of a thing according to its nature. St. Thomas gives the example of a man's being in potency for a trip to India. We will not say he is imperfect simply, if he does not actualize this potency. But we do say he is imperfect simply, if he lacks knowledge or virtue, for it pertains to human nature to be perfected in this way.[1] Knowledge and virtue are perfections man has to have according to his nature. This, however, does not mean that a man will not be perfect as a man unless he has all possible knowledge and virtue. This does not pertain to the perfection of his nature; he is not born to attain all possible knowledge and virtue, but only what lies within the range of his powers.

> Perfectum secundum naturam dicitur, cui non deest aliquid eorum quae nata sunt haberi a natura illa: sicut intellectum hominis dicimus perfectum, non quod nihil ei intelligibilium desit, sed quia nihil ei deest eorum per quae homo natus est intelligere.
> (De Car. q. un., a. 10, c)

Thus, though perfectibility involves a certain openness, perfection itself, in its first meaning, is not without a certain determination, first in the substance itself, and secondly in the perfections that accrue to the substance. The

---

[1]Cf. De Pot. q. 5, a. 5, ad 7.

examples we cite from St. Thomas, if properly understood, are still as valid today as they were in the thirteenth century,[1] but the point is not the validity of the examples. The point is to show how the first meaning of perfection is connected with the proper nature of things, whatever the nature may happen to be.

As we saw earlier, our notion of perfection entails an element of time, a gradual passage from potency to act, from relative imperfection to relative perfection, before reaching perfection <u>simpliciter</u>. The example of the animal illustrates this well. An animal is not born mature; it grows to maturity. This is something that pertains to the nature of the animal, as well as the ultimate term of perfection to which it grows. Since the notion of perfection follows nature, we also speak of perfection according to time. We extend its meaning to apply to different moments in the natural process of per-fection. For each of the various stages in the development of an animal nature requires a level of perfection, the actualization of certain potencies, according to an order of generation. We speak of a thing as perfect at these different stages when it has all that nature requires for any given stage.

---

[1] Proof for the validity of the examples will be found in <u>In De Div. Nom.</u> c. 1, lect. 2, n. 72, with an example drawn from the way in which different sciences are limited according to their nature by their object.

> Perfectum secundum tempus dicimus quando nihil deest alicui eorum quae natum est habere secundum tempus illud: sicut dicimus puerum perfectum, quia habet ea quae requiruntur ad hominem secundum aetatem illam. (Ibid.)

The phrase ad hominem here recalls the ordination to an ulterior act in any imperfect act, but the fact that a child has what is required by nature at a given time allows us to speak of it as perfect in a sense, that is, secundum tempus suum.

The process of generation itself, understood in the restricted sense of simply coming to life, also presents a similar temporal succession, especially the generation of the higher types of animals, where, between the seed and the last form of the complete animal, there is a gradual passage from less perfect forms to more perfect forms. "Generatio animalis non est tantum una generatio simplex; sed succedunt sibi invicem multae generationes et corruptiones" (Q.D. De Anima q. un., a. 11, ad 1). Each of these generationes mediae, which are parts of the total generation, is terminated by a form which does not make the animal complete according to its species, but leaves it incomplete, though ordered to an ulterior act, quod est via ad speciem aliquam. Thus there are two kinds of forms:

> una quidem perfecta, quae complet speciem alicuius rei naturalis, sicut forma ignis vel aquae aut hominis aut plantae; alia autem est forma incompleta, quae neque perficit aliquam speciem naturalem, neque est finis intentionis naturae, sed se habet in via generationis vel corruptionis. (In I De Gen. lect. 8, n. 60 (3))

The incomplete form is an actus imperfectus essentially ordered to an ulterior act or form, but note that it is not motus, since it terminates a motus. St. Thomas insists on a succession of generations where a higher and more complete form comes to take the place of a lower and less complete form, thus bringing about the corruption of the lower type of substance. For him, this is the way nature saves the unity of substance of animals, and of man in particular, in spite of the successive appearance of the different forms of animation, first vegetative, then animal, then rational, all in the generation of one being.[1]

There remains one last element in our first notion of perfection to be brought out, that of desirability. "Unumquodque suam perfectionem appetit sicut proprium bonum" (C.G. I, c. 37, n. 304). "Omne imperfectum perfectionem consequi naturaliter cupit" (C.G. IV, c. 79, n. 4136). This is implicit in most of what we have said thus far about perfection. Anything that moves is moving toward a term. The ordination to an ulterior act or to a complete act implies a tendency or a desire of some kind or other. The child desires to be an adult. The animal tends toward the perfection of its nature. Matter has to be perfected by a form in order to exist. Pure potency does not exist and the whole reality of any potency is in its ordination to an act.

---

[1] Cf. Q.D. De Anima q. un., a. 11, ad 1.

"Potentia sine actu imperfecta est" (S.T. I-II, q. 3, a. 2, c). It is this ordination to an act that distinguishes matter from privation, potency from nothingness.[1] Change itself is an imperfect act, but it is desirable as per-fection, as the way to perfection. In every way we look at it, the analysis of our first notion of perfection cannot be understood without an element of tendency, or desire, or conation of some kind or other. This is something we have to reckon with in any discussion of perfection and its importance will appear especially when we come to the order of generation as a whole.

To sum up, let us look at a text that will help us to bring out some important distinctions in what we have seen. It speaks of a threefold perfection in things, corresponding roughly to the three modes of perfection discussed by Aristotle in Book V of the Metaphysics.[2]

---

[1] Cf. In I Phys. lect. 15.

[2] Cf. In V Metaph. lect. 18. For other places where St. Thomas distinguishes a threefold perfection, cf. S.T. III, q. 27, a. 5, ad 2 (perfectio dispositionis, formae, et finis), and II-II, q. 186, a. 2, c (essentialiter, consequenter, et instrumentaliter seu dispositive). These distinctions, though formulated from different points of view, are reducible to the basic distinction, as expressed in the text we quote. The same distinction also appears in C.G. III, c. 26, n. 2089, but there St. Thomas presents it as a twofold distinction (ut habens speciem, ut ad speciem habendam); he explains it in terms of the end of generation, the form, on the one hand, of the end of the thing generated, on the other; and he illustrates the whole matter with the example of a house. This latter way of distinguishing perfection is in accordance with the two causes of perfection: "perfectio autem attribuitur duabus causis, scilicet formae et fini" (In IX Metaph. lect. 8, n. 1856)

> Perfectio autem alicuius rei triplex est. --Prima quidem, secundum quod in suo esse constituitur; --secunda vero, prout ei aliqua accidentia superadduntur ad suam perfectam operationem necessaria; --tertia vero perfectio alicuius est per hoc quod aliquid aliud attingit sicut finem. Utpote prima perfectio ignis consistit in esse, quod habet per suam formam substantialem; secunda vero eius perfectio consistit in caliditate, levitate et siccitate, et huiusmodi; tertia vero perfectio eius est, secundum quod in loco suo quiescit. (S.T. I, q. 6, a. 3, c)

The example of fire, one of the four elements in the perspective of the ancients, brings out clearly, by its simplicity, what we saw above in terms of animals or of man. The first perfection consists in the completeness brought by the substantial form, including the integrity and the proper disposition of at least the essential parts of a being. The second consists in something more, what is required for the being to act according to its nature, such as knowledge and virtue for a rational creature, or the ability to generate for the animal. "Unumquodque tunc est perfectum, quando potest pertingere ad propriam virtutem; sicut naturale corpus tunc perfectum est, quando potest aliud sibi simile facere, quod est virtus naturae" (In VII Phys. lect. 6, n. 920 (2)). The third perfection has to do with attaining an extrinsic final end. "Ultima autem perfectio uniuscuiusque est in consecutione finis" (S.T. I, q. 103, a. 1, c). It is in this that beatitude consists for man, that in which he comes to rest, to recall the phrase of St. Thomas in reference to fire. The fact that it does not possess its final end merely from

its being, but has to act in order to attain it, distinguishes every creature from God, who is his own final end.

This consideration of the final end is not something incidental in a proper understanding of perfection. It is essential. "Omnia dicuntur perfecta, eo quod deveniunt in finem" (In X Metaph. lect. 5, n. 2028). Perfection, in the full sense of the term, includes all three perfections. "Perfectio rei consistit in hoc quod res ad sui ultimum perducatur" (In IV Sent. d. 8, q. 1, a. 1, n. 17). This ultimum rei can be viewed in two ways, either as it is in the thing itself, or as something that is extrinsic to the thing. But the two have to be understood together, for the ultimum rei in the thing itself is the bond between the thing and what is extrinsic to it. "In seipso autem aliquid perficitur ut subsistat per essentialia principia; sed ut debito modo se habeat ad omnia quae sunt extra ipsum, non perficitur nisi mediantibus accidentalibus superadditis essentiae: quia operationes quibus unum alteri coniungitur, ab essentia mediantibus virtutibus essentiae superadditis progrediuntur; unde absolute bonitatem non obtinet nisi secundum quod completum est secundum substantialia et secundum accidentalia principia" (De Ver. q. 21, a. 5, c). As it is in the thing itself, however, the ultimum rei is precisely its operation. This is why we say a thing is for its operation, for it is through its operation that it either tends toward its end or possesses it.

"Unde res quae habet formam substantialem per quam est, esse non dicitur perfecta simpliciter, sed perfecta in esse, vel perfecta perfectione prima... Sed simpliciter perfectum dicitur quod habet operationem suae formae. In hoc enim consistit virtus rei, secundum Philosophum in II Ethic., per cuius consecutionem aliquid dicitur perfectum, ut dictum est" (In IV Sent. d. 8, q. 1, a. 1, n. 18). Virtue, it is sometimes said, is its own reward.

But that is not all. What St. Thomas has to say of the ultimum rei as extrinsic to the thing itself is also important for a complete understanding of perfection, especially as it concerns the universe as a whole. "Ultimum autem cuiuslibet rei extra seipsam, est principium a quo res habet esse; quia per coniunctionem ad ipsum res complentur et firmantur, et propter distantiam ab ipso deficiunt, sicut corruptibilia propter longe distare a primo, ut dicitur in II De Gener. Et ideo primum agens habet etiam rationem ultimi finis perficientis" (Ibid., n. 19). The perfection of a thing depends on the way in which it returns to its principle. "Ultima perfectio uniuscuiusque rei est ut coniungatur suo principio" (S.T. I-II, q. 3, a. 7, arg 2). This return is effected through the activity of things, but what St. Thomas says in the Commentary on IV Sentences in connection with this return brings us back to their being. The First Principle takes on the aspect of final, perfecting End, because, as he says,

things are perfect in their being in the measure of their greater or lesser proximity to the First Principle of being. Those that are corruptible are furthest removed from the First Principle, as is evidenced by their very corruptibility, their inability to perdure in being. They are less perfect than other beings, who, on the other hand, are closer to the Principle of all being and consequently are incorruptible.

But what is most perfect of all in the beings that come from the First Principle is the universe itself, the totality of things created taken together. "Id autem quod est maxime bonum in rebus causatis, est bonum ordinis universi, quod est maxime perfectum, ut Philosophus dicit:[1] cui etiam consonat Scriptura Divina, Gen. 1, cum dicitur, 31 Vidit Deus cuncta quae fecerat, et erant valde bona, cum de singulis operibus dixisset simpliciter quod erant bona" (C.G. III, c. 64, n. 2392). "Principale bonum in ipsis rebus existens est perfectio universi" (S.T. I, q. 22, a. 4, c). There is implied here a broader understanding of perfection than what we have seen thus far, an understanding that does not apply just to individuals in becoming, but to the totality of them taken together. We must now try to determine what this broader understanding entails.

---

[1]The reference is to Book XII of the Metaphysics. Cf. In XII Metaph. lect. 12, n. 2627, 2629-2631. St. Thomas makes the rapprochement between Aristotle and Genesis we find here constantly.

CHAPTER 2

PERFECTION AND THIS UNIVERSE

How does our first notion of perfection apply to the universe as such? To answer this question, let us begin by looking at the Commentary on the Metaphysics where, following Aristotle, St. Thomas discusses different meanings or modes of perfection: In V Metaph. lect. 18. The lesson is quite important for us, since it represents the only place in the writings of St. Thomas where the notion of perfection is analyzed at some length, and especially since in it we find an indication of what is meant by universal perfection, or perfection of the universe.

The lesson begins by distinguishing three modes of perfection secundum se, the three modes with which we are already familiar from the end of the preceding chapter, but which are here presented in a different manner.[1] The first

---

[1] In his study of our text, Father Marty minimizes the importance of this threefold division of perfection for the personal thought of St. Thomas. "Certes, il (St. Thomas) s'efforce de justifier la division, d'en restituer la logique. Mais finalement, en raison même du but qu'il se propose ici, c'est une division reçue qu'il présente. Elle ne jaillit pas du travail et des exigences de sa pensée propre" (La perfection de l'homme, p. 86). If the texts we saw at the end of our preceding chapter mean anything, this is simply not true. This is an example of oversight coming from a failure to take St. Thomas seriously when he seems to be only repeating

mode has to do with substantial completeness: "extra quod non est accipere aliquam eius particulam; sicut homo dicitur perfectus, quando nulla deest ei pars" (n. 1034). We use perfection in the same sense when we speak of a time being

---

Aristotle. The texts we saw before come from the personal works of St. Thomas, as opposed to his supposedly less personal Commentaries, and they show St. Thomas using the basic framework given here in the Metaphysics as his own. The many variations on the theme, the different ways of dividing perfection found in St. Thomas, should not blind us to this fact. If it does, we are in danger of making the notion of perfection in St. Thomas equivocal. Book V of the Metaphysics, it should be remembered, was in the eyes of St. Thomas a study of the common and proper meanings of metaphysical terms. "Et quia ea quae in hac scientia considerantur, sunt omnibus communia, nec dicuntur univoce, sed secundum prius et posterius de diversis, ut in quarto libro est habitum; et ideo prius distinguit intentiones nominum, quae in huius scientiae consideratione cadunt" (In V. Metaph. lect. 1, n. 749).

Surprisingly enough, when St. Thomas is using Aristotle himself to comment on Aristotle, Father Marty does not seem to notice it. In the transition at the beginning of our lesson, St. Thomas resumes his general division of the whole of Book V. He speaks of perfection as something which is per modum passionis in the science of metaphysics, as opposed to the causes and the subject of this science. "Postquam Philosophus distinxit nomina, quae significant causas, et subiectum, et partes subiectorum huius scientiae; hic incipit distinguere nomina quae significant ea quae se habent per modum passionis" (n. 1033). This leads Father Marty to ask himself how perfection can be termed a pati. While his development leads to some interesting observations, though some of them seem a bit strained, it seems to miss the point of St. Thomas, which is rather simple. To be sure, as Father Marty remarks (p. 80), St. Thomas makes a division of the Book which is found nowhere explicitly in the text of Aristotle, but the division he makes is based on the Aristotelian concept of science as it is found in the Posterior Analytics, and as it applies analogously to metaphysics. "Cuiuslibet autem scientiae est considerare subiectum, et passiones, et causas; et ideo hic quintus liber dividitur in tres partes" (In V Metaph. lect. 1, n. 749). For an example of how passio is used in these texts, cf. In I Post. Anal. lect. 2, n. 15 (3); for the meaning of subiectum, cf. lect. 15. Cf. also In Metaph. Prooemium.

perfect, "quando non est accipere extra aliquid quod sit temporis pars; sicut dicitur dies perfectus, quando nulla pars diei deest" (Ibid.). This second example of the first mode of perfection shows how closely it is related to our first notion of perfection, a term of becoming. The second mode is said secundum virtutem, and here perfection refers to a correctness of measure, an absence of either excess or defect, according to the kind of being said to be perfect. The perfect doctor, for example, or the perfect flute player, and even, the perfect bandit, if we extend the meaning of perfect to include evil actions as well as good actions, if we use the term translative, as St. Thomas says, is the one who has everything "quod pertineat ad speciem propriae virtutis" (n. 1035).

Virtue here has to be understood not only in the sense of moral goodness, but also in a broader sense that includes any capacity to act, any of the superaddita required for a being to attain his second perfection. "Et quod aliquid dicatur perfectum per comparationem ad virtutem propriam," St. Thomas is careful to explain, "provenit quia virtus est quaedam perfectio rei. Unumquodque enim tunc est perfectum quando nulla pars magnitudinis naturalis, quae competit ei secundum speciem propriae virtutis, deficit ei" (n. 1037). As everything in nature has its natural size, "determinatam mensuram naturalis magnitudinis secundum

quantitatem continuam," so also everything has its natural capacity to act, "determinatam quantitatem suae virtutis naturalis." The horse, for example, not only has its natural proportions, but it also has its natural strength which is above a certain measure and below another. This second mode of perfection brings out another aspect which we saw in our first notion of perfection, the reference to nature as norm of perfection.

St. Thomas connects these first two modes of perfection as follows:

> Sicuti igitur primus modus perfecti accipiebatur ex hoc quod nihil rei deerat de quantitate dimensiva sibi naturaliter determinata, ita hic secundus modus accipitur ex hoc quod nihil deest alicui de quantitate virtutis sibi debitae secundum naturam. Uterque autem modus perfectionis attenditur secundum interiorem perfectionem. (n. 1038)

This last remark is added to contrast the first two modes with the third mode of perfection, which is said to be "per respectum ad exterius" (n. 1039). We speak of a being as perfect in the third way when it has attained its final end, "quae iam consecuta est suum finem; si tamen ille finis fuerit 'studiosus', idest bonus: sicut homo, quando iam consequitur beatitudinem" (Ibid.). The one who attains his end in something evil is not perfect, but defective; that is why, instead of being more happy, he is more miserable, although at times, because in every end there is always something final, we do transfer the word 'perfect' and apply it to

anything that has reached its final state, even if it be evil. "Et per hanc metaphoram, mors dicitur finis, quia est ultimum. Sed finis non solum habet quod sit ultimum, sed etiam quod sit cuius causa fit aliquid. Quod non contingit morti vel corruptioni" (Ibid.).

This final aspect of perfection is what St. Thomas insists on in the following lesson, where he sums up what is meant by perfection in introducing the kindred notion of 'term'. "Perfectum autem, ut ex praemissis patet, est terminatum et absolutum, non dependens ab alio, et non privatum, sed habens ea, quae sibi secundum suum genus competunt" (Ibid., lect. 19, n. 1044). We see clearly in this how perfection, in its fullest sense, includes all three modes, the final end being the ultimate norm for both the first and second modes.

But there is also another way of dividing perfection, where the last two modes are taken together in opposition to the first. The last two, in fact, have to do with the ultimum rei, as opposed to the first perfection of a being, the second mode, as it is in the being itself, as it is realized through its operation, and the third mode, as it is to be found in something outside.[1] The two go together as the bonum ordinis of the universe goes with its bonum separatum, and we find St. Thomas making the connection with the idea

---

[1]Cf. supra, ch. 1, pp. 50-51.

of the universe immediately.

The text of Aristotle at this point is not easy to understand and in commenting it St. Thomas perhaps added something of his own, at least by way of explicitation.[1] At first glance, Aristotle seems to be doing nothing more than summarizing what has gone before, but St. Thomas sees this summary as a resumption in a new light, a broader division of perfection.

> Ostendit quomodo aliqua diversimode se habeant ad praedictos modos perfectionis; et dicit, quod quaedam dicuntur secundum se perfecta: et hoc dupliciter. Alia quidem universaliter perfecta, quia nihil omnino deficit eis absolute, nec aliquam habent 'hyperbolem', idest excellentiam, quia a nullo videlicet penitus in bonitate exceduntur, nec aliquid accipiunt, quia nec indigent exteriori bonitate. Et haec est conditio primi principii, scilicet Dei, in quo est perfectissima bonitas, cui nihil deest de omnibus perfectionibus in singulis generibus inventis. (n. 1040)

Whether or not St. Thomas is saying something here which had

---

[1] Father Marty takes note of this (p. 83), but fails to see anything significant in what St. Thomas adds. Once again in the following pages, when trying to bring out what is personal to St. Thomas, he treats these observations as secondary: "... notations qui ont leur intérêt, mais qui demeurent secondaires dans l'ensemble de ce commentaire" (p. 87). Father Marty has not paid sufficient attention to the connection between perfection and completeness or totality, a connection which is implicit even in the first notion of perfection. When he sees that St. Thomas makes the connection explicitly in his commentary, he thinks again it is strictly original with St. Thomas. But the idea was already in Aristotle. St. Thomas himself refers to Book III of the Physics (cf. In III Phys. lect. 11, n. 385 (4)), as Father Marty notes, without however adverting to the new dimension of perfection implied in this. His understanding of perfection remains somewhat individualistic. While it may begin that way in Aristotle and St. Thomas, it eventually opens up into something more universal.

not occurred to Aristotle, whether or not he is determining something which had been left undetermined by Aristotle, the point for us to note is the notion of universal perfection. It applies to God first and foremost, because only he is all goodness; only he is his own good. Aristotle certainly would not have quarreled with that, even if he had no cause to think of it at this point in the Metaphysics. This universal perfection of God is opposed to the perfection of any other being, which is always the perfection of some genus, for only God is above all genera. And in the face of this universal perfection, every genus appears as a singular, participating some aspect of the universal perfection of God. Perfection for any genus of things is taken only in terms of that genus to which the thing belongs; it precludes excess or defect only quantum ad illud genus, and not universaliter or without restriction whatsoever, "sicut homo dicitur perfectus, quando iam adeptus est beatitudinem" (n. 1041).

Yet the idea of universal perfection does not apply only to God. St. Thomas is quick to note that it can also apply to the universe as such.

> Et sicut fit haec distinctio quantum ad secundum modum perfectionis supra positum, ita potest fieri quantum ad primum, ut tangitur in principio Caeli et mundi. Nam quodlibet corpus particulare est quantitas perfecta secundum suum genus, quia habet tres dimensiones, quibus non sunt plures. Sed mundus dicitur perfectus universaliter, quia omnino nihil extra ipsum est. (n. 1042)

Perfectus universaliter here has to be understood in terms of magnitude or dimension, and it refers to the world's containing all magnitude and all dimension, all bodies, but it could also be understood in terms of any created being, and then it would refer to the universe as containing the perfection of all the beings that constitute it, whether they be material or immaterial, corruptible or incorruptible.

In the last paragraph of the lesson, St. Thomas returns to the text of Aristotle to mention different modes of perfection that are said, not secundum se, as all the preceding modes, but per respectum ad aliud, "idest per comparationem ad perfecta, quae sunt secundum se perfecta" (n. 1043). While these are interesting ad complementum doctrinae, they are not so important for us.

Let us now turn to the beginning of the Commentary on the treatise De Caelo et Mundo, to see more on universal perfection as it applies to the universe. There we shall be dealing only with the material world, the world of dimensions and magnitude, as the text we just saw suggests, and as St. Thomas clearly indicates in his Prooemium to this work, by recalling that it is a part of natural science, a part which has to do with bodies only, but what we shall see there will also be of great value for a broader understanding of the universe. Our knowledge of the universe as such begins in the senses, as well as any other knowledge of ours.

In the De Caelo et Mundo, the perfection of the universe is shown in two steps, according to the division of St. Thomas, "primo ostendit Philosophus perfectionem universi quam habet secundum communem rationem sui generis, inquantum scilicet est corpus: secundo probat perfectionem propriam ipsius" (In I De Caelo lect. 2, n. 8 (1)). The universe is not a body exactly like the bodies we see about us, though perhaps St. Thomas and the other ancients tended to assimilate the two more than we would today, but it is body, a genus broad enough to embrace the universe as a whole, as well as the particular bodies that make it up. What is true of body as such is also true, in a way, of the corporal universe as such.

Perfection, or completion, as it applies properly to body has to be understood in terms of dimension. Body belongs to the genus of continuum. In Book VI of the Physics it is shown that continuum is what is divisible into something remaining always divisible further. Here we assume this definition, as St. Thomas points out, to define body as the continuum which is divisible according to every part or according to every dimension. "Corpus est continuum quod est divisibile omniquaque, idest ad omnem partem, vel secundum omnem dimensionem" (n. 10 (3)). The key idea here is omniquaque, for it is with this that perfection or completion is tied up, and its pertinence is established in two

steps. First, it is shown that body is divisible according to three dimensions, unlike a line, which is divisible according to only one dimension, or unlike a surface which is divisible according to only two. Secondly, it is argued that three dimensions constitute a certain totality, and so, taken together, they are simply all dimensions. There are other quanta, such as time, whose quantitative aspect can be expressed in dimensional terms, but this does not reduce time to a spatial magnitude.

We add this last qualification here because today we often speak of time as a fourth dimension. Neither Aristotle nor St. Thomas allude to such an idea in the text we are examining. Though the idea was not strange to them,[1] in the first part of the De Caelo et Mundo they are thinking only in terms of magnitude, and strictly speaking, time, though a quantum, is not itself a magnitude like the three already considered and which together constitute a totality by themselves. When we speak of the length of time and of the length of a line or a body, the word 'length' does not signify the same way. In other words, when we speak of time

---

[1] It appears, for example, in connection with the notion of disposition. "Tertius modus est, prout ordo partium attenditur secundum speciem et figuram totius; et sic dispositio sive situs ponitur differentia in genere quantitatis. Dicitur enim quod quantitas alia est habens positionem, ut linea, superficies, corpus et locus; alia non habens, ut numerus et tempus" (In V Metaph. lect. 5, n. 1061). But the meaning of magnitude which is applicable to time, we should note, is opposed precisely to that which is applicable only to bodies within this genus of quantity.

as a dimension, we are using 'continuum' in a sense broader than mere magnitude, one that embraces motion as well.[1] There will be an important remark made later with regard to motion, but only after the notion of complete magnitude has been duly established.

The crucial thing in the argument to show the perfection proper to body as such lies in the idea that three dimensions comprise all dimensions. This is what has to be understood. Here is how St. Thomas states the proposition.

> Praeter has magnitudines seu dimensiones (namely the three dimensions of body) non est alia magnitudo seu dimensio, propter hoc quod tria habent rationem cuiusdam totalitatis; et quod est ter, videtur esse omniquaque, vel omnino, idest secundum omnem modum. (n.10(3))

Three arguments are offered to corroborate this fundamental insight. The first is borrowed from the Pythagoreans and proceeds from the properties of numbers--the only place where Aristotle ever proceeds in this way, as St. Thomas remarks, perhaps by reason of the affinity numbers have with the magnitudes in question here. According to the Pythagoreans, that which is whole or entire is determined by the number three, for the beginning, the middle, and the end of anything are three in number. "Dixerunt quod id quod dicitur totum et omne, determinatur ternario numero. Principium

---

[1] The relation between motion and continuum is brought out in Book X of the Metaphysics, ch. 1, in order to show the different meanings of 'one'. Cf. In X Metaph. lect. 1.

enim et medium et consummatio, idest finis, habent numerum qui convenit toti et omni: in rebus enim divisibilibus prima pars non sufficit ad integritatem totius, quod constituitur per ultimum, ad quod a principio pervenitur per medium" (n. 11 (4)). Thus it takes three to make up a totality.

Note the importance of the end even in this argument. This is surely what struck Aristotle most in what the Pythagoreans said of the number three, for it brought them quite close to his own notion of perfection.

The other two arguments to show that three entails totality and perfection take a different tack. They argue to a natural inclination that makes us associate three with perfection, an inclination that manifests itself, first, in certain customs found in ancient cults, where men used the number three in their ceremonies and hymns of praise to the divinity, "ac si acceperimus a natura leges et regulas ipsius: ut scilicet, sicut natura perficit omnia ternario numero, ita illi qui instituerunt cultum divinum, volentes Deo attribuere omne quod perfectum est, attribuunt ei ternarium numerum" (n. 12 (5)), and secondly, in a way of speaking that is common to all men, for when we speak of only two things we use the term 'both', but we never use 'every' or 'all'. We begin to use these latter terms, or others like them, only when we have to do with at least three. "Et istum modum loquendi sequimur communiter omnes, propter hoc quod

natura ad hoc nos inclinat. Ea enim quae sunt propria singulis in modo loquendi, videntur provenire ex propriis conceptionibus uniuscuiusque: sed id quod observatur communiter apud omnes, videtur ex naturali inclinatione provenire" (n. 13 (6)). Nature, thus, not only brings everything to perfection with the number three, as the ancients observed, but it also inclines us to associate perfection with the same number in our everyday speech, the language which corresponds best to our first and most spontaneous knowledge.

The three arguments we have just seen presupposed a certain identity between the three terms omne, totum, and perfectum. "Non differunt ab invicem secundum speciem, idest secundum formalem rationem, quia omnia important integritatem quandam" (n. 15 (8)). If they differ, it is by reason of the different kinds of things that can be said to be integral. For separate or discreet individuals the idea of specific integrity is expressed by 'every' or 'all' (e.g., every man or all men); for a continuum that is easily divided into parts we also use the term 'all' (e.g., all the air or all the water). 'Whole', on the other hand, though it can be said of the foregoing (e.g., the whole people or the whole body of water), is said more properly of a continuum that is less easily divisible into parts, such as a piece of wood, or a loaf, or even a slice of bread. Finally, 'perfect' is said of all that precedes, but also of forms (e.g.,

perfect whiteness or perfect virtue). 'Every', 'all', and 'whole' thus all approximate the notion of perfection which we tried to determine earlier, but in different degrees, inasmuch as they are found in different kinds of subject, subjects that are less one than those where the notion of perfection is found to apply primarily. A group of separate individuals is less one than an individual being in nature, but it can have something of the latter's perfection inasmuch as it can comprise within itself a certain completeness. The same is true of a continuum, and even more so, because its integrity seems more compact than that of a mere group of individuals. That is why we speak of it more as a whole, something that is more akin to perfection. "Perfectum enim et totum, aut sunt idem, aut fere idem significant, ut dicitur in tertio Physicorum" (In V. Metaph. lect. 18, n. 1033.) Wholeness, as a matter of fact, or totality, is perfection as it applies to a complex reality.[1]

If we reflect upon the three arguments proposed above in the light of this similarity or identity of meaning between omne and perfectum, we see how body is what is perfect in magnitude.

---

[1]This complex reality can be understood either as an individual being made up of many and diverse parts or the universe as a whole, which has something analogous to the complex individual. We shall see more of this in the next chapter, when we come to speak of the essential diversity in the universe.

> Quia igitur omne et perfectum est idem, consequens est quod corpus sit perfectum inter magnitudines: quia solum corpus est determinatum tribus dimensionibus, et hoc habet rationem omnis, ut supra ostensum est: cum enim sit tribus modis divisibile, sequitur quod sit divisibile omniquaque, idest secundum omnem dimensionem. Sed inter alias magnitudines aliquid est divisibile secundum duas dimensiones, scilicet superficies; aliud autem secundum unam, scilicet linea. (n. 15 (8))

To understand this, the three arguments must be seen together, especially the first and the third. Three dimensions are simply all dimensions. What is divisible according to three dimensions is therefore divisible according to every dimension. What has every dimension is a continuum in every way and is therefore perfect as magnitude--which is what we refer to as body.

> Ut enim numerum adepta sunt, idest sicut magnitudines habent numerum dimensionum, ita habent divisionem et continuitatem: ita scilicet quod aliqua magnitudo est continua secundum unum modum, scilicet linea; alia est continua duobus modis, scilicet superficies; corpus autem est continuum secundum omnem modum. Unde patet quod corpus est magnitudo perfecta, quasi habens omnem modum continuitatis. (Ibid.)

There is no passing from body to another genus of magnitude, in the way that geometry speaks of passing from length to surface or from surface to body. We can speak of passing from the first magnitude to the second, or from the second to the third, because there is something imperfect or incomplete in the first with regard to the second, and in the second with regard to the third. But there is no such imperfection in body. It is perfect as magnitude; it includes all magnitude. There is nothing else within the genus of

continuity, nothing more to 'pass' to. In this respect, body can lack nothing in point dimensionality. "A corpore autem non fit transitus ad aliam magnitudinem: quia talis exitus, sive processus, ad aliud genus magnitudinis, est secundum defectum eius a quo transitur" (n. 16(9)).

Does this mean that every body is a complete quantum in every way? If this were so, there would be no movement or change in things, for, as St. Thomas remarks, movement is act for an imperfect or an incomplete being; "unde etiam motus naturalis est actus imperfecti" (Ibid.). Hence, if things change, it is because they are somehow incomplete. There is more to be considered in bodies than their mere magnitude. There are other respects in which they can be seen to be relatively perfect or imperfect, but this does not take away from their perfection as magnitude. Indeed it presupposes this perfection. No matter how we may think of a fourth dimension in things, we must not let our imagination obscure the original completeness of body, even though in nature this completeness is never separated from time. If we do so, we lose the ability to think of things and become engulfed in abstractions that do not reflect what is primary in the things of nature. Aristotle and St. Thomas were very much aware of universal movement and change, as we shall see subsequently,[1] but they kept clearly in focus the

---

[1]Especially in ch. 8, on "the order of generation and time".

fact that it was a movement of and in bodies and things. We can argue as to just what bodies are in the light of contemporary physics, chemistry, or biology, but we cannot get away from the fact that what we know concerns bodies and things.[1]

Having arrived at the perfection of body as such, we now pass on to the second step of Aristotle's procedure in arriving at the perfection of the universe as such. This second step consists simply in showing how the perfection of the universe differs from that of a particular body.

> Et primo ponit qualiter particularia corpora se habeant ad perfectionem. Et dicit quod unumquodque particularium corporum, secundum rationem communem corporis, est tale, idest perfectum, inquantum habet omnes dimensiones: sed tamen terminatur ad proximum corpus, inquantum contingit ipsum. (n. 17 (10))

It follows from this termination of bodies by other bodies that no particular body is simply perfect, not even as body; it is perfect inasmuch as it has all dimensions, but it remains imperfect inasmuch as there are other bodies outside of it that limit it. It is not all bodies, but only one of them. This aspect of incompleteness does not apply to the totality of bodies, to the universe as such. If it did, we

---

[1] Father Bernard Lonergan has done us a great service in pointing out how the descriptive and the explanatory conjugates of the positive sciences must be referred to things. Theories aim at a knowledge of things eventually, and it is in our understanding of thing that the two sets of conjugates used by scientists can be joined together in a coherent whole. Cf. his masterful chapter on "Things" in Insight, pp. 245-270.

would not be using 'universe' in the proper sense of the term; we would not be speaking of the totality of things, but only of some part or other.[1] The universe is the whole whose parts are all the particular bodies. This universe is necessarily perfect in every way, for that is what we mean by the term universe.

> Ostendit quomodo universum se habeat ad perfectionem. Et dicit quod totum, idest universum, cuius partes sunt particularia corpora, necesse est quod sit perfectum omnibus modis; et sicut ipsum nomen universi significat, omniquaque, idest omnibus modis, perfectum, et non secundum unum modum ita quod non secundum alium: quia et habet omnes dimensiones, et comprehendit in se omnia corpora. (n. 18 (11))

The universe is not only what has <u>all dimensions</u>, but also that which contains <u>all bodies</u>. This is true even if it is shot through with movement and change. Hence there is an almost tautological completeness intended by the word

---

[1] This is something that is done frequently enough when we try to represent to ourselves 'something outside the universe'. Apart from God, who transcends all creation, there is nothing outside the universe; and even when we speak of God as outside the universe, we are using the term outside in a very analogous, if not equivocal, way. Separated substances may be 'outside' the material cosmos, but they are part of the universe of creatures, the <u>universitas creaturarum</u>. When we speak of something material outside our cosmos, on the other hand, we can use the term outside only with reference to the universe as we know it, to what we know of the universe; implicitly we are saying that what we know as 'the universe' is only a part of the universe, and not the universe <u>simpliciter</u>; we are saying that the universe includes what we know of it, and possibly something more which our model, the one we have formulated, does not yet include. This kind of reserve is certainly legitimate, but it does not invalidate our first notion of the universe as such.

'universe' which cannot be denied even in the face of all the imperfections we see about us.

As we mentioned earlier, the argument of the De Caelo et Mundo has to do only with the material universe, and not with the universe simpliciter. For a materialist, of course, it would, but for St. Thomas it did not. For him, the material universe did not exhaust the reality of the universe. But even if there are creatures above matter, separate substances, it is easy to see that we can generalize the argument we have just seen, so that it embraces not only all bodies, but also all creatures, whether material or immaterial. The whole, then, or the universe, would have as its parts not the particular bodies only, but all the particular creatures; it would include not only the perfection of dimensions, but simply all created perfection, for the word 'universe' would still signify omniquaque perfectum without any restriction as far as created perfection is concerned.

But now the question which arose earlier in connection with body arises with regard to the universe as a whole. Is this quasi tautological perfection of the universe compatible with any real change or movement in the universe as such? Motion is the act of an imperfect being. If the universe is simply or universally perfect, omniquaque perfectum, on the level of creature, what room will there be in it for motion? Will we say that motion, the motion we find in the

universe, is a thing only of the parts, and not of the universe as such, or will we say that there is also a motion of the universe as such, a motion that is not separate or apart from the motion of the parts, but still a motion that is distinctly universal, as the whole is distinct from any of its constitutive parts? This question was already implicit in our introduction when we saw how St. Thomas speaks of the universe as perfect, as the best, not the best possible, but the best of what is, outside of God.

Let us note immediately the peculiarity of the question which now faces us. Considerations of the universe as a whole have a characteristic of their own which is not found in considerations that embrace only particular creatures or particular orders within the universe. This can be seen from the following text, which brings out the peculiarity of this sort of consideration in connection with creation.

> Aliter dicendum est de productione unius particularis creaturae, et aliter de exitu totius universi a Deo. Cum enim loquimur de productione alicuius singularis creaturae, potest assignari ratio quare talis sit, ex aliqua alia creatura, vel saltem ex ordine universi, ad quem quaelibet creatura ordinatur, sicut pars ad formam totius. Cum autem de toto universo loquimur educendo in esse, non possumus ulterius aliquod creatum invenire ex quo possit sumi ratio quare sit tale vel tale; unde, cum nec etiam ex parte divinae potentiae quae est infinita, nec divinae bonitatis, quae rebus non indiget, ratio determinatae dispositionis universi sumi possit, oportet quod eius ratio sumatur ex simplici voluntate producentis ut si quaeratur, quare quantitas caeli sit tanta et non maior, non potest huius ratio reddi nisi ex voluntate producentis.
>
> (<u>De Pot</u>. q. 3, a. 17, c)

St. Thomas makes these reflections as he approaches the question of creation of the universe in time. In the Commentary on the Liber De Causis we find an elaboration of the example alluded to at the end of this passage. If we want to explain the size of the earth, we can do so in function of the whole corporeal world. But how are we to explain the size of the world itself, if indeed the question of size makes any sense as regards the world as a whole? "Si igitur quaeramus de aliquo particulari corpore, puta: de terra, quare infra hos magnitudinis limites coëroetur et non extenditur ultra, potest eius ratio esse ex proportione ipsius ad totum mundum. Sed si rursum quaeramus de tota corporum universitate quare huius determinatae magnitudinis terminos non excedat, non potest huius ratio ex proportione eius ad aliquam magnitudinem aliam, sed vel oportet dicere magnitudinem corporalem esse infinitam, sicut antiqui naturales posuerunt; vel oportet huius determinatae magnitudinis rationem accipi ex sola intelligentia et voluntate facientis" (In De Causis lect. 11, n. 272).

Following Aristotle, St. Thomas thought the cosmos was finite in size, and in this text he was using this doctrine to illustrate how we would think of the world as finite in time as well. "Sicut igitur infinitus Deus universum produxit secundum suae sapientiae rationem, ita aeternus Deus potuit novum mundum producere secundum eamdem sapientiae

rationem" (Ibid.). We are not concerned here with the reasons for thinking of the world as finite, either in size or in time, but we wish only to bring out the peculiarity of any question that has to do with the universe as a whole. What is true with regard to size is also true with regard to time. A particular event can be explained in function of its circumstances in time, but what will explain time as a whole? Can we even think of time as a whole, with a beginning, an end, and a middle, without falling prey to the Kantian antinomies? There are many who would say no, but St. Thomas did think of time as a whole, even though Aristotle did not, except inasmuch as his cyclical conception of change and time is a representation of totality; and we shall see later on the peculiar type of reasoning St. Thomas used to justify his position as more rational in itself, a position which he first received from revelation.[1]

Thus the motion proper to the universe as a whole cannot be dealt with as simply as the motion of particular things. Aliter dicendum est de motu unius particularis creaturae, et aliter de motu totius universi, if we may transpose the phrase of St. Thomas. Our entire study, however, is, in a way, an attempt to deal with this question of motion of the universe as a whole, an attempt to determine what is meant by this motion, what is its term if it has one, and in

---

[1]Cf. infra, ch. 8, pp. 317-322.

what this per-fection consists in the concrete. We cannot answer the question in a word here. In maintaining the infinity of the world, the ancients, to whom St. Thomas alluded in the passage from the Commentary on the Liber de Causis we saw above, were in effect abandoning any attempt to conceive the world as a whole, for, as Aristotle shows in Book III of the Physics, infinity in the material order is the opposite of totality.[1] At first glance, St. Thomas's alternative, the appeal to a ratio that is found only in the divine Intelligence and Will, might seem little more than another surrender of reason, such as we find often in those who invoke the divine Power whenever they happen to be ignorant of natural causes. What St. Thomas says of first creatures might well be applied to the universe as a whole. "Circa productionem primarum creaturarum intellectus noster rationem investigare non potest, eo quod non potest comprehendere artem illam quae sola est ratio quod creaturae praedictae hunc habeant modum" (De Pot. q. 3, a. 14, ad 6).

But St. Thomas was not one for cutting short the work of reason. If he appeals to the divine Intelligence and Will as the last explanation for the first creatures and the universe as a whole, he did so because that was the last exigency of reason itself. And though he made no claim to comprehend the 'art' of creation, he tried to find the ratio of this art

---

[1] Cf. In III Phys. lect. 11.

as it manifested itself in the universe which he knew. This was a work of reason which Aristotle, who represented the acme of human science in the thirteenth century, helped him to recognize and to execute in very large measure.[1] It is no small part of his genius to have succeeded in coping with the notion of the universe as well as he did, without falling into the basically obscurantist attitude of those who tend to resolve every question by an immediate appeal to the divine Will, on the one hand, or those who tend to treat any question on the universe as meaningless, on the other hand. St. Thomas had a notion of the universe and he tried to see what it implied. This notion, as we saw in the Commentary on the De Caelo et Mundo, entailed the idea of a whole with a certain integrity constituted of parts. This was the starting point for most of what he had to say about the universe. He was not given to speculation on other possible worlds in the intelligence of the Creator, for he took his own remark about not comprehending the art of creation quite seriously; but he delighted in discovering the order between the parts of this universe, the order which was for

---

[1] St. Thomas was a theologian, and there were very definite theological reasons for his great interest in the Philosopher. These have been brought out very well by two authors, and in two quite different ways: G.K. Chesterton, in his Saint Thomas Aquinas and Father André Hayen, in Saint Thomas et la vie de l'Eglise. The ratio of divine Wisdom in the world is accessible not only to Faith, but also to reason. Cf. C.G. II, c. 2, n. 859. Aristotle helped to understand and appreciate the aspect of this ratio which was accessible to human reason.

him the greatest created good. "Id autem quod est maxime bonum in rebus causatis, est bonum ordinis universi, quod est maxime perfectum" (C.G. III, c. 64, n. 2392).

St. Thomas showed his mastery with questions on the universe as a whole early in his writings. To conclude this chapter we could do no better than examine a text from the Commentary on the Sentences, where we see this quite clearly and where we find St. Thomas in the process of articulating, for the first time, his notion of the universe. What we find there is not his last word, nor does it have all the sharpness of focus we shall find later on, but Father Wright is quite right in giving this 'initial insight' great prominence at the beginning of his study.[1] Utrum Deus potuerit facere universum melius (In I Sent. d. 44, q. 1, a. 2). The question is not about a possible world that could be better than our own, but about this world: whether it could be better, and in what sense. If we remember what was said about this world being the best of what is, outside of God, about the quasi tautological connection between

---

[1] The Order of the Universe, pp. 3-7. It should be noted, however, that Father Wright does not see the question exactly as St. Thomas did. He writes, "Could God make a better universe?" But it is not precisely this question which St. Thomas is answering. The question which he raises is more concrete; it has to do with this universe: whether God could make this universe better. The answer to Father Wright's question enters into St. Thomas's answer to his own question, but Father Wright's question is presupposed as already answered, in the affirmative, of course, in St. Thomas's question.

the terms 'universe' and 'perfect', the question might seem futile, or already answered. But that is not the case. St. Thomas raises the objection: "Universum includit omne bonum. Sed nihil potest esse omni bono melius. Ergo Deus non potuit universum melius facere." The answer he gives shows that, after we have understood the terms in the abstract, there still remains their meaning in the concrete to be understood, and this is what makes St. Thomas raise this question.[1]

> Ad secundum dicendum, quod non loquimur de universo quantum ad hoc nomen, sed quantum ad hanc rem, quae modo universum dicitur: in quo quamvis omne quod actu bonum est contineatur, non tamen omne bonum quod Deus potest facere. (Ibid.)

In the corpus of the article St. Thomas begins by recalling the text of Metaphysics, Book XII, where Aristotle speaks of a twofold order in the universe: "scilicet in ordine partium ad invicem, et in ordine totius universi ad finem, qui est ipse Deus; sicut etiam est in exercitu ordo partium exercitus ad invicem, secundum diversa officia, et est ordo ad bonum ducis, quod est victoria; et hic ordo est praecipuus, propter quem est primus ordo." The question has to be answered with regard to both of these orders. But in connection with the order of the parts among themselves,

---

[1] After establishing the perfection of the universe, the De Caelo et Mundo goes on to show in what this perfection consists in the concrete. It does not stop with this first notion of perfection.

there are further distinctions to be made.

> Accipiendo ergo bonum ordinis qui est in partibus universi ad invicem, potest considerari, vel quantum ad partes ipsas ordinatas, vel quantum ad ordinem partium.

From the point of view of the parts themselves, we can understand the universe being made better in two different ways again. First, more parts could be added, that is, more different species of being, to fill some of the many degrees of goodness that could still be, besides the ones that are already, since the distance between the highest creature and God is always infinite.[1]

---

[1]Let us recall immediately the somewhat technical meaning which the word 'part' had in the thirteenth century in the context of discussions on the universe. This meaning is not absolutely essential to St. Thomas's argument here, but it gives us an idea of what he had in the back of his mind as he proceeded. We see this meaning clearly in the following text from St. Albert the Great: "Pars universi non sunt individua, sed species. Unde licet sit additio vel diminutio individuorum, non propter hoc magis vel minus perficitur universum, et ideo licet anima intellectiva de novo creatur, ex hoc tamen non sequitur, quod universum prius esset imperfectum" (Quaestiones super de Animalibus q. 13, ad 1; as quoted by Wright, p. 142, note 79). It is easy to see how, in this perspective, the appearance of a new species, the addition of a new 'part' in the universe would imply passage of the universe as such from a less perfect to a more perfect state. This is something which most of the medieval thinkers, including St. Thomas, were not quite ready to admit in reality, although we shall see St. Thomas formulating the idea as a distinct possibility. As to the fact of evolution in the universe, St. Thomas had no inkling of it. For him, the universe had begun hardly more than six thousand years ago, and that leaves very little time for evolution to take place. How many favorable mutations of species are known to have been successful in this span of time?

> Si quantum ad partes ipsas, tunc potest intelligi universum fieri melius, vel per additionem plurium partium, ut scilicet crearentur multae aliae species, et implerentur multi gradus bonitatis quae possunt esse, cum etiam inter summam creaturam et Deum infinita distantia sit; et sic Deus melius universum facere potuisset et posset.

St. Thomas adds an important remark here, however, for the understanding of the universe. This better universe, constituted by an addition of parts to this one, would be better as the whole is better than the part, for this universe, which we have now, would be only a part of that better universe. "Sed illud se haberet ad hoc sicut totum ad partem; et sic nec penitus esset idem, nec penitus diversum; et haec additio bonitatis esset per modum quantitatis discretae." This last remark serves to contrast with the second way in which the universe could be made better from the point of view of the parts.

> Vel potest intelligi fieri melius quasi intensive, et hoc mutatis omnibus partibus eius in melius, quia si aliquae partes meliorarentur aliis non melioratis, non esset tanta bonitas ordinis; sicut patet in cithara, cuius si omnes chordae meliorantur, fit dulcior harmonia, sed quibusdam tantum melioratis, fit dissonantia.

Here we see a second aspect to the perfection of the universe. Above it was a matter of the number of parts; now it is a matter of the proportion between them, their harmony together. This quasi intensive amelioration could be understood in terms of accidental goodness, "et sic posset esse talis melioratio a Deo manentibus eisdem partibus et eodem universo;" or

in terms of essential goodness. In this last case, we would have different parts and a different universe: "sic non essent eaedem partes, et per consequens nec idem universum," something which is not impossible, since God can create an infinity of other worlds.

St. Thomas then turns to the order between the parts. He resumes what he said above, but now from a viewpoint that will complete the two aspects of perfection we just saw.

> Si autem accipiatur ipse ordo partium, sic non potest esse melior per modum quantitatis discretae, nisi fieret additio in partibus universi: quia in universo nihil est inordinatum, sed intensive posset esse melior manentibus eisdem partibus quantum ad ordinem qui sequitur bonitatem accidentalem; quanto enim aliquid in maius bonum redundat, tanto ordo melior est. Sed ordo qui sequitur bonitatem essentialem, non posset esse melior, nisi fierent aliae partes et aliud universum.

We see here the primary importance of order in the perfection of the universe. <u>In universo nihil est inordinatum</u>. That is why the universe cannot be made more perfect except either by an addition of discreet parts, which entails an amplification of order, or by the amelioration of the parts that already constitute this universe, without touching their essential goodness, since this would give us another universe, a universe other than this one of which we are speaking.

Let us take particular note also of another remark about order which St. Thomas makes here. Whatever redounds to the greater good also redounds to a better order: <u>quanto enim aliquid in maius bonum redundat, tanto ordo melior est</u>.

This is important for understanding how the universe, while being perfect in its essential goodness, can still become more perfect.

St. Thomas then goes on to deal with the second aspect of the universal order found in the text of the Metaphysics, the order to the final end. This aspect, though more important in itself, interests us less here, because it concerns more the extrinsic good of the universe.[1] Here again St. Thomas distinguishes two points of view, that of the end, and that of the order. From the viewpoint of its final end, the universe cannot be better, because God is that end. But as regards the order to that end, as the goodness of the parts grows, and consequently the order between them, so also the order to the final end becomes better, because things become better, attain greater similitude to the divine Goodness, as they draw closer to it.

> Et sic secundum quod cresceret bonitas partium universi et ordo earum ad invicem, posset meliorari ordo in finem, ex eo quod propinquius ad finem se haberent, quanto similitudinem divinae bonitatis magis consequerentur, quae est omnium finis.

Thus, for St. Thomas, assimilation to the divine goodness is to be understood not merely in terms of things taken separately, but in terms of the order that makes them one in the universe. This is a point that is all too frequently forgotten. In our last chapter we shall try to elucidate how

---

[1] Cf. supra, Introduction, pp. 11-13.

this is to be understood.

What should we retain especially from this first analysis of what we mean by the universe? First of all, the concrete character of St. Thomas's approach. Though the word 'universe' implied a certain perfection for him, includit omne bonum, he was more interested in discovering what this bonum consisted in: non loquimur de universo quantum ad hoc nomen, sed quantum ad hanc rem, quae modo universum dicitur. Secondly, we should note how St. Thomas goes about considering this thing, this reality, which we refer to as the universe. It is a whole, a totality, and as such it has what is common to any whole or totality. This consists in two things:

> Primo in hoc quod perfectio totius integratur ex partibus... Secundum est quod partes uniuntur in toto. (In V Metaph. lect. 21, n. 1098)

What binds the parts together in the unity of the whole, what makes the integrity of the whole, is precisely order. The text from the Commentary on the Sentences makes us see this essential function of order, as well as the various articulations possible within our notion of the universe. St. Thomas distinguishes the parts and the order of these parts, but he does not separate them. He sees them in function of one another. This is the only way to arrive at a clear understanding of integrity in the universe as such.

This universe, the one we know, the only one, is

made up of parts. We can affirm that it is constituted by a certain number of parts, without knowing them all, nor what they are in particular, and without having enumerated them all. Adding or subtracting to the actual number of parts in the universe would leave us with another universe, a different universe, and not the one that is now.[1] Other parts would call for another order, another totality, another universe. Another universe is not an impossibility, nor is one that would be partially the same and partially other by the addition of new parts, such as we find, for example, in the evolutionary conception of the cosmos; but the point is that we cannot separate this universe from these parts ordered as they are, in space, in time, and simply in their respective ways of being. On the other hand, it is by reason of the order among the parts that we can legitimately say the universe is made up of a certain number of parts without enumerating them. In universo nihil est inordinatum. Every part has a place, and every place, a part. Disorder is conceived only in function of order, as a privation or an absence of order, and a part completely independent of the actual order in the whole is

---

[1] We can say this without presuming a knowledge of all the parts. What we say applies to all that is, independently of whether we know it or not. When we discover new parts of the universe, we do not discover a new universe, a universe other than the one we knew before, not even partially; we only get to know the same universe better; we learn that our knowledge was inadequate before.

simply inconceivable as part. As long as we do not know all the parts distinctly, we do not know the order adequately, but from the parts we do know, and the order we see in them, we can say the universe is one, and that this unity is one of order, an integrity constituted of parts.

The distinction between essential and accidental goodness also merits a moment's reflection here. We shall not encounter it again in connection with the universe as a whole, but it can serve to open up certain perspectives that recur frequently in St. Thomas, especially that of the distinction between the first perfection of the universe and the second. The distinction between accidental and essential goodness can be applied more easily to particular beings than to the universe as a whole. The Commentary on the Sentences introduces it in the article preceding the one we considered, precisely in connection with a particular creature: whether God could make an individual creature better. Something can be added to its accidental goodness, but not to its essential goodness, because that would make it simply other than what it is, something else--"non esset eadem res, sed alia" (In I Sent. d. 44, q. 1, a. 1, c). Just as the addition of a unity changes the 'species' of a number, so also the addition of a differentia in the what of something would place it in a different species. If, for example, in the definition of a cow you include the idea of rational,

you are no longer talking about a cow, but about another species, a rational animal, namely, man.[1]

The application of this to the universe as a whole, however, is not without difficulty. There we have to consider not a species alone, but the order of the species. How does the addition of a new species, a new part, in the order of the universe affect the universe as such, the universe as specified by the order of its parts? Is its essential goodness changed, or is it only its accidental goodness, so that we have always identically the same universe? St. Thomas does not bring in this distinction between accidental and essential change in conjunction with the hypothesis of an addition of parts to the universe, but only with the hypothesis of a quasi intensive amelioration. With regard to the addition of parts, he is content with speaking of a universe partially other and partially the same, with this universe, the one to which parts would be added, becoming as only a part in the new whole, the new universe, something relatively imperfect in comparison to this more perfect universe. To have formulated this hypothesis in this way is undoubtedly a singular achievement for someone who knew nothing of

---

[1]Note that when St. Thomas speaks of adding to the essential goodness of something here, he is thinking in terms of adding to its quiddity, to its quod quid est, something that would change the quiddity. Not every addition, however, should be understood in this way. De Ver. q. 21, a. 1, c distinguishes three meanings of aliquid super alterum addere, each with a precise meaning and all having some reference to reality or our way of knowing it.

the theories of evolution such as we know them today, and it shows a great suppleness and a great originality of mind, but St. Thomas did not clearly answer the question we are raising now.

It is only with the hypothesis of a quasi intensive change that he introduced the distinction between the essential goodness and the accidental goodness of the universe. Would he have conceived a universe in evolution as a universe always becoming an other universe, or would he have conceived evolution as a change only in the accidental goodness of the universe? This last supposition seems rather unlikely, in view of the importance the species had for him in the order of the universe. But the first supposition is also unlikely, because of what we have just seen about a 'new' universe constituted by the addition of parts to an 'old' one. No doubt, a third explanation would have been sought, something along the lines of the Aristotelian analysis of change as applied to the universe as a whole. We cannot go any further into this question at this point. We have to see more precisely first how St. Thomas conceived the 'parts' of the universe and the two modes of order in the universe. We shall return to this point at the end of chapter 4.

Even in speaking of amelioration in accidental goodness, however, St. Thomas affirms that anything which redounds

to a greater good makes order better. Quanto enim aliquid in maius bonum redundat, tanto ordo melior est. This touches something essential to the universe as such. 'Accidental' here does not refer to something that could be or not be, something merely incidental; it refers to an essential element of perfection, the second, the one which comes after substantial perfection, but which is still required for perfection in the full sense of the term. This is something that is true not only for individual creatures, but also for the universe as such. "Si autem rebus subtrahantur actiones, subtrahitur ordo rerum ad invicem: rerum enim quae sunt diversae secundum suas naturas, non est colligatio in ordinis unitatem nisi per hoc quod quaedam agunt et quaedam patiuntur" (C.G. III, c. 69, n. 2447). Accidental perfection flows from essential perfection, since things act according to their nature, but the universe will not be perfect as universe without the perfection that comes from the activity of its constitutive parts. Thus it is that St. Thomas speaks of a twofold perfection for the universe.

> Duplex est rei perfectio, prima et secunda. --Prima quidem perfectio est, secundum quod res in sua substantia est perfecta; quae quidem perfectio est forma totius, quae ex integritate partium consurgit. --Perfectio autem secunda est finis; finis autem vel est operatio, sicut finis citharistae est citharizare; vel est aliquid ad quod per operationem pervenitur, sicut finis aedificatoris est domus, quam aedificando facit. Prima autem perfectio est causa secundae; quia forma est principium operationis. Ultima autem perfectio, quae est finis totius universi, est perfecta beatitudo

> sanctorum, quae erit in ultima consummatione saeculi. Prima autem perfectio, quae est in integritate universi, fuit in prima rerum institutione.
> (S.T. I, q. 73, a. 1, c)

Order is not something easy for us to know. "Tenuiter nobis notus esse potest" (C.G. IV, c. 1, n. 3340). Our principal task, however, is to discover the order of the universe, not only as it exists in the first perfection of the universe, but also in its final consummation. "Perfectio et bonum quae sunt in rebus extra animam, non solum attenditur secundum aliquid absolute inhaerens rebus, sed etiam secundum ordinem unius rei ad aliam, sicut etiam in ordine partium exercitus, bonum exercitus consistit: huic enim ordini comparat Philosophus ordinem universi" (De Pot. q. 7, a. 9, c). We shall proceed by considering, first, certain fundamental aspects of the universal order, those that pertain primarily to the first perfection or the integrity of the universe. Then we shall examine the causes of this order, and their order, before turning, in the last place, to the continuity of this order and its concrete realization through the action of creatures.

CHAPTER 3

UNITY AND ESSENTIAL DIVERSITY IN THE UNIVERSE

The integrity of the universe cannot be thought of except in terms of unity and diversity. The very etymology of the word, uni-verse, seems to suggest this. Without unity we do not have a whole, but many irreducible entities. Without diversity we do not have parts, but only one entity that appears as the whole of everything. In the concrete perspective of St. Thomas, as we saw in the Commentary on the Sentences, the universe has to be thought of in terms both of the parts that make it up and of the order that establishes and maintains harmony and proportion between them and draws them into a whole. Both parts and order have to be viewed in function of one another. But before everything else unity has to be understood, for, without a proper understanding of unity, we cannot begin to speak of the universe.

The unity of the universe will have to take into account the parts of the universe, with their individuality and their specific diversity, respecting these for what they are. It will have to be a unity of order, one that depends on and includes the parts themselves. But how is