
THE PROBLEM OF CONTRARIES AND PRIME MATTER IN THE RECEPTION OF ARISTOTLE'S PHYSICAL CORPUS IN THE WORK OF THOMAS AQUINAS

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Resumen

El presente artículo aborda la problemática de la asimilación de la teoría física aristotélica de los contrarios en el pensamiento cosmológico de Tomás de Aquino desarrollado en el marco de las condenas antiaristotélicas del siglo XIII. Se analiza el tratamiento ofrecido por el Aquinate a los problemas derivados de la refutación aristotélica de las teorías eleáticas de Parménides y Meliso, así como su aceptación, sin apenas modificaciones, de la mecánica física aristotélica como arquitectura propia del mundo ya creado.

Palabras clave: Tomás de Aquino, Aristóteles, cosmología, principios naturales, contrarios

Abstract

This paper deals with the reception of the Aristotelian physical theory of contraries in the cosmological thought of Thomas Aquinas, developed in the context of the condemnations of Aristotle in the thirteenth century. It also discusses the way in which Aquinas addressed the problems derived from the Aristotelian refutation of the Eleatic theories of Parmenides and Melissus, as well as his acceptance, without significant modifications, of Aristotelian physical mechanics as the architecture of the created world.

Key Words: Thomas Aquinas, Aristotle, cosmology, natural principles, contraries

The recovery of Aristotle's treatises on physics in Latin medieval Europe from the twelfth century onwards, and their subsequent arrival to the major universities of the time caused a severe commotion that shook the foundations of Christian doctrine (VAN STEENBERGHEN 1972: 80-84). Clear evidence of the impact of these controversial Aristotelian theories is the uninterrupted ban imposed on the reading, commentary, and teaching of Aristotle's works in educational institutions throughout the Christian world from 1210 to 1277.

Analysing the most extensive and influential of these condemnations, the *Syllabus* promulgated by Étienne Tempier on 7 March 1277 (HISSETTE 1997) it is possible to notice the insistence of the censors on several fundamental principles of Aristotelian physics, among which the importance given to the consequences of the theory of the plurality of principles, namely the existence of contraries and prime matter.¹

Some of the brightest minds of the thirteenth century, such as Albertus Magnus, Siger of Brabant, Boethius of Dacia, Saint Bonaventure, and Giles of Rome participated in the debate on this theory, which called into question the Christian dogma that God was the unique, sufficient, and necessary principle of all material reality. However, among all of them, the figure of Thomas Aquinas, one of the best connoisseurs of the Aristotelian thought and its commentators, stands out as a representative of what we might call the 'middle way' in the assimilation of Aristotelianism, especially regarding the physical questions. His theories show a balance which can be placed halfway between the stubborn defence of all Aristotelian principles—including those clearly contrary to Christian faith—maintained by radical Aristotelians, and the categorical rejection of any position derived from Aristotelianism, defended by the anti-Aristotelian Neoplatonists.

THE QUESTION OF FIRST PRINCIPLES IN ARISTOTELIAN PHYSICS

In the treatises devoted to the study of nature—*Physics*, *On the Heavens*, and *Meteorology*—Aristotle, just as the Milesian physicists who preceded him, conceded significant importance to the need to determine which and how many were the principles governing the physical world. Throughout the thirteenth century, different translations of these treatises reached the hands of medieval scholars, however the most influential versions for the study that concerns us were those that Thomas Aquinas himself commissioned from William of Moerbeke (ARISTOTLE 1990,

¹ "43. Quod primum principium non potest esse causa diversorum factorum hic inferius, nisi mediantibus aliis causis, eo quod nullum transmutans diversimode transmutat, nisi transmutatum.; 44. Quod ab uno primo agente non potest esse multitudo effectum; 96. Quod Deus non potest multiplicare individua sub una specie sine materia.; 107. Quod elementa sunt eterna. Sunt tamen facta de novo in dispositione, Quam modo habent; 192. Quod materialis forma non potest creari; 103. Quod forma, quam oportet esse et fieri in materia, non potest agi ab illo, quod non agit ex materia; 55. Quod primum non potest aliud a se producere; quia omnis differentia, que est inter agens et factum, est per materiam. 46. Quod, Sicut ex materia non potest aliqui fieri sine agente, ita nec ex agente potest aliquid fieri sine materia; et quod Deus non est causa efficiens, nisi respectu ejus quod habet esse in potentia materie" (DENIFLE, CHATELAIN 1889-1897: I 543, no. 473).

1995, 2003). On the basis of these texts, it is possible to establish a set of fundamental theses about Aristotle's position on the problem of principles.

In Book I of the *Physics*, Aristotle proposed two alternatives regarding the question of the number of principles,² namely the need of necessarily having either a unique principle or many. Faced with this dilemma, the Stagirite chose the defence of a finite multiplicity in the number of principles, a conclusion he drew after refuting two kinds of theories: first, the Eleatic doctrines that supported the existence of a unique principle—represented by the views of Melissus of Samos and Parmenides—and, secondly, those that defended an infinite number—represented by the views of Anaxagoras and Empedocles (BOSTOCK 2006: 1-18).

It is necessary that the principle be either single or plural, and if single, either not subject to change, as Parmenides and Melissus say, or changing, just as the natural philosophers say (...) But if plural, they must be either finite or infinite in number, and if finite but more than one, they must be either two or three or four or some other number (ARISTOTLE 2008a: I 2, 184b 15-20).

Refutation of Eleatic doctrines

With respect to the subsequent confrontation with the Christian dogmas in the late Middle Ages, the most important texts were those that Aristotle devoted to the refutation of Parmenides's view, regarding to which it is necessary to highlight four fundamental ideas.

Among the many reasons that Aristotle offered against these doctrines, the first and most remarkable one is his insistence on the fact that acceptance of a unique principle of reality would involve the unacceptable denial of the plurality of entities. The problem of determining the unicity or plurality of Being was something that, according to Aristotle, was not one of the tasks of physics for two fundamental reasons.³ First, because the multiplicity of beings is something quite evident to the Greek philosopher,⁴ so that arguing about it is little more than

² It must be emphasized that in these chapters, Aristotle analysed principles understanding them not as the principles of natural compounds—that is, as the constituent elements or simple bodies (*elementa*)—but that in virtue of which the movements and changes occur. This clarification is necessary given that the Stagirite called 'principles' not only the origin or the ultimate reason for changes or movement, but also the causes, constituent elements, thought, will, and substance. "But of these, some are immanent in the thing and others are outside. Hence the nature of a thing is a principle, and so is the element of a thing, and thought and will, and essence and the final cause" (ARISTOTLE 2006: V 1, 1013a20; V 1, 1012b35-1013a15). Translator's Note: All the passages from Aristotelian works present in this article include the specific citations provided by the author. The English version of such texts comes from: ARISTOTLE 2015, *Metaphysics*. Translated by W.D. Ross, University of Adelaide, Adelaide, South Australia; and ARISTOTLE 2015, *Physics*. Translated by R.P. Hardie and R.K. Gaye, University of Adelaide, Adelaide, South Australia.

³ "Now, to investigate whether Being is one and motionless is not the concern of Physics. For just as the geometer has nothing more to say to one who denies the principles of his science—this being a question for a different science or for a science common to all—so a man investigating principles cannot argue with one who denies their existence. For if Being is just one, and one in the way mentioned, there is a principle no longer, since a principle must be the principle of some thing or things" (ARISTOTLE 2008a: I 2, 185a5-10).

⁴ "What 'is' may be many, either in definition (for example 'to be white' is one thing, 'to be musical' another, yet the same thing be both, so the one is many) or by division, as the whole and its parts" (ARISTOTLE 2008a: I 2, 185b30-35).

a waste of time.⁵ Second, because the demonstration of the plurality of beings is not the task of Physics, for none of the sciences is required to prove its own principles as stated in the *Posterior Analytics* (ARISTOTLE 1995: I 7, 75b7-20). Nevertheless, Aristotle recognized that these theories raised significant problems of physical nature so that their challenges could not be overlooked but should be adequately refuted in order to enable the advancement of research on the natural world.⁶

The second alternative, analysed by Aristotle in Chapters 2-6 of Book I of the *Physics*, was the possibility of affirming that Being is one as a substance with qualities and still maintain, at the same time, that said substance is one and simple. This idea, attributed to Melissus (ARISTOTLE 2008a: I 2, 185a30), was refuted by Aristotle on the basis of the contradiction that follows from predicating qualities of that which is defined as one.⁷

In this regard, Aristotle remarked that if Being is conceived as infinite then it should necessarily be considered as a quantity,⁸ for the infinite *infinitum in quantitate est*.⁹ No substance nor any quality or condition can be infinite but in an accidental manner. Hence, if it is claimed that Being is an infinite substance, it cannot be said, at the same time, that it is one—because if it is substance and quality it will be, at least in some sense, two and not one—and if it is claimed that it is only substance it cannot be described as infinite—for it will not have magnitude, otherwise quantity could be predicated of it, which would again make it two and not one.¹⁰

⁵ “To inquire therefore whether Being is one in this sense would be like arguing against any other position maintained for the sake of argument (such as the Heraclitean thesis, or such a thesis as that Being is one man) or like refuting a merely contentious argument—a description which applies to the arguments both of Melissus and of Parmenides: their premises are false and their conclusions do not follow. Or rather the argument of Melissus is gross and palpable and offers no difficulty at all: accept one ridiculous proposition and the rest follows—a simple enough proceeding” (ARISTOTLE 2008a: I 2, 185a5).

⁶ “At the same time the holders of the theory of which we are speaking do incidentally raise physical questions, though Nature is not their subject: so it will perhaps be as well to spend a few words on them, especially as the inquiry is not without scientific interest” (ARISTOTLE 2008a: I 2, 185a15-20).

⁷ For Aristotle, Being is, strictly speaking, predicated of substance. Therefore, every existing thing must be a substance or an accident of said substance, and thus, for the Stagirite, Melissus’s claim implicitly asserts the existence of a substance endowed with the attribute of infinity. Certainly, in the extant fragments of Melissus’s work, he insists on the idea that Being has an infinite magnitude. “Since therefore it did not come into being, it is and always was and always will be, and has no beginning or end, but it is eternal. For if it had come into being, it would have a beginning (for it would have come into being at some time, and so begun), and an end (for since it had come into being, it would have ended). But since it has neither begun nor ended, it always was and always will be and has no beginning nor end. For it is impossible for anything to Be, unless it is completely” (DK B 2); “But as it is always, so also its size must always be infinite” (DK B 3). Translated in FREEMAN, Kathleen, 1948. *Ancilla to the Pre-Socratic Philosophers* 1948, Harvard University Press, Cambridge, MA.

⁸ “Now Melissus says that Being is infinite. It is then a quantity. For the infinite is in the category of quantity, whereas substance or quality or affection cannot be infinite except through a concomitant attribute, that is, if at the same time they are also quantities” (ARISTOTLE 2008a: I 2, 185b5).

⁹ “‘Quantum’ means that which is divisible into two or more constituent parts of which each is by nature a ‘one’ and a ‘this’. A quantum is a plurality if it is numerable, a magnitude if it is a mesurable” (ARISTOTLE 2006: V 12, 1020a6-9).

¹⁰ “For to define the infinite you must use quantity in your formula, but not substance or quality. If then Being is both substance and quantity, it is two, not one: if only substance it is not infinite and has no magnitude; for to have that it will have to be a quantity” (ARISTOTLE 2008a: I 2, 185b5-6).

The third alternative was the possibility of understanding the first and only principle as indivisible. However, according to Aristotle, if Being is one in terms of indivisibility, then qualities and quantities could not be predicated of anything.¹¹ This is explained by the fact that qualities and quantities are accidents, separable from the substance itself, and it is precisely this feature which enables the explanation of all movements. That is, if qualities and quantities were not divisible, and thereby alterable, no change in general could occur. In fact, in the *Metaphysics*,¹² Aristotle on the one hand described qualities as the attributes of those things that are subject to movement, qua subject to movement, and, on the other, presented the differences between movements (WOODS 1967: 215-238).

Finally, the Eleatic doctrines raised the possibility of understanding Being as one in terms of form. In opposition to them, Aristotle argued that such a unicity could not be defended against the evidence of the effective plurality and distinction observed between entities. For example, ‘man’ and ‘horse’—using the same example presented in the *Physics*—are different in their formal essence.¹³ If there was one single form, there would be no more distinction than on potential accidents presented by entities informed by this one single form. But observation shows that nature is not composed of beings with identical essence that are affected by accidental qualities manifested in different degrees, but that there is a real plurality of forms.

The Aristotelian View

Once every alternative doctrine was refuted and any possibility of speaking of one single principle was rejected, Aristotle presented his own position on the issue of the number of principles in Chapter V of Book I of the *Physics*.

First, he accepted the theory that identified principles with contraries, which was common among earlier natural philosophers.¹⁴ After establishing this first feature, which anticipates his idea of the

¹¹ “If the One is one as indivisible, nothing will have quantity or quality, and so the one will not be infinite, as Melissus says—nor, indeed, limited, as Parmenides says, for though the limit is indivisible, the limited is not” (ARISTOTLE 2008a: 185b15-20).

¹² “The primary quality is the differentia of the essence, and of this the quality in numbers is a part; for it is a differentia of essences, but either not of things that move or not of them qua moving” (ARISTOTLE 2006: V 14, 1020b16-19).

¹³ “But, further, Being cannot be one in form, though it may be in what it is made of. (Even some of the physicists hold it to be one in the latter way, though not in the former.) Man obviously differs from horse in form, and contraries from each other” (ARISTOTLE 2008a: I 3, 186a20).

¹⁴ “All thinkers then agree in making the contraries principles, both those who describe the All as one and unmoved (for even Parmenides treats hot and cold as principles under the names of fire and earth) and those too who use the rare and the dense. The same is true of Democritus also, with his plenum and void, both of which exist, he says, the one as being, the other as not-being. Again he speaks of differences in position, shape, and order, and these are genera of which the species are contraries (...) It is plain then that they all in one way or another identify the contraries with the principles” (ARISTOTLE 2008a: I 5, 188a20-25).

plurality of principles—if contrariety is maintained, at least we must speak of duality—Aristotle added two other defining characteristics concerning the primacy of principles. Principles cannot come from one another¹⁵ because they are contrary to each other, nor can they come from other things because they are first, and thus all things come from them.¹⁶

According to Aristotle, from this followed that everything that comes to be comes from its contrary or from something in between, and all that is destroyed does it into its contrary or into something in between.¹⁷ In this sense, we must say that all things that come to be by nature are either contraries or come from contraries. It is therefore not possible to have one single principle, for contraries, as has been established, are not one same thing. But neither can principles be infinite because in that case, Being would be unknowable.¹⁸

Once the necessary numerical finiteness of principles was established, Aristotle investigated the exact number of principles necessary to explain nature. According to him, there is a compelling reason to assume that, while being finite, principles are not simply two. This reason is based on the difficulty of conceiving a contrary that acts over another one moved by its very nature, for there is no pair of contraries in which one joins another or produces something from it.¹⁹

This difficulty is solved by realizing that contraries must necessarily act on a third thing (*alterum tertium*). That is, since contraries are not the substance of anything, not assuming a third different nature would lead us to discuss principles of principles (NOBLE 2013: 1-28). A principle, however, can not be predicated of any subject because the subject is a principle and prior to what is predicated of it.²⁰ Furthermore, it is not possible to speak of the existence of a substance that is contrary to another substance. This would lead us to speak of substances made up of non-substances, or of non-substances that are prior to substance.²¹

It is therefore necessary to assume the existence of a third passive principle—the prime matter—on which the other two active contrary principles act.²² Aristotle concludes that it seems reasonable

¹⁵ “And with good reason. For first principles must not be derived from one another” (ARISTOTLE 2008a: I 5, 188a27).

¹⁶ “(...) nor from anything else, while everything has to be derived from them. But these conditions are fulfilled by the primary contraries, which are not derived from anything else because they are primary, nor from each other because they are contraries” (ARISTOTLE 2008a: I 5, 188a28-31).

¹⁷ “If then this is true, everything comes to be or passes away from, or passes into, its contrary or an intermediate state” (ARISTOTLE 2008a: I 5, 188b21-25).

¹⁸ “There cannot be one principle only, for contraries are not one” (ARISTOTLE 2008a: I 6, 189a12).

¹⁹ “The same is true of any other pair of contraries; for Love does not gather Strife together and make things out of it, nor does Strife make anything out of Love, but both act on a third thing different from both” (ARISTOTLE 2008a: I 6, 189a22-25).

²⁰ “(...) but what is a first principle ought not to be the predicate of any subject. If it were, there would be a principle of the supposed principle: for the subject is a principle, and prior presumable to what is predicated of it” (ARISTOTLE 2008a: I 6, 189a30).

²¹ “Again we hold that a substance is not contrary to another substance. How then can substance be derived from what are not substances? Or how can non-substances be prior to substance?” (ARISTOTLE 2008a: I 6, 189a32-34).

²² “All, however, agree in this, that they differentiate their One by means of the contraries, such as density and rarity,

to assert that there are three principles. The two active contraries are excess²³ and defect, while that on which they act is the prime matter.

To suppose then that the elements are three in number would seem, from these and similar considerations, a plausible view, as I said before. On the other hand, the view that they are more than three in number would seem to be untenable. For the one substratum is sufficient to be acted on; but if we have four contraries, there will be two contrarieties, and we shall have to suppose an intermediate nature for each pair separately. If, on the other hand, the contrarieties, being two, can generate from each other, the second contrariety will be superfluous. Moreover, it is impossible that there should be more than one primary contrariety. For substance is a single genus of being, so that the principles can differ only as prior and posterior, not in genus (...) It is clear then that the number of elements is neither one nor more than two or three. (ARISTOTLE 2008a: I 6, 189b15-30.)

CONTRARIES AND PRIME MATTER IN THE THOMISTIC RECEPTION OF THE *PHYSICS*

The assimilation of this section of Aristotelian physics carried out by Thomas Aquinas was extremely hard because the challenge was nothing less than to reconcile the architecture of a nature based on the interaction of an eternal triad—the first contraries²⁴ and matter—with the nonnegotiable claim of the uniqueness and simplicity of the creative divinity of a contingent nature. The plurality of Aristotle's principles had therefore to be disproved or reinterpreted without endangering the multiplicity of created beings.

The first task of Aquinas—as in the case of the problem posed by Parmenides—was addressing the issue of the number of entities, taking as a condition of possibility one single, simple, and unchanging principle. In opposition to the Eleatic philosopher, whose theory led to the negation of the actual existence of the multiple, Aquinas agreed with Aristotle on the actual existence of a plurality of beings with their own distinct essences.

and more and less, which may of course be generalized, as has already been said into excess and defect. Indeed this doctrine too (that the One and excess and defect are the principles of things) would appear to be of old standing, though in different forms; for the early thinkers made the two the active and the one the passive principle, whereas some of the more recent maintain the reverse" (ARISTOTLE 2008a: I 6, 189b10-15).

²³ "Now, condensation and rarefaction are contraries, which may be generalized into 'excess and defect'. (Compare Plato's 'Great and Small'—except that he makes these his matter, the one his form, while the others treat the one which underlies as matter and the contraries as differentiae, i.e. forms) (ARISTOTLE 2008a: I 3, 187a15-20).

²⁴ The eternity of the first two principles is defended by Aristotle, as we have seen above in his definition, in which he states that they cannot be caused by other things or each other. This idea is again repeated by Aristotle to distinguish them from the other secondary pairs of contraries that follow from them: "Lastly, some contraries are more primary than others, and some arise from others—for example sweet and bitter, white and black—whereas the principles must always remain principles. This will suffice to show that the principles are neither one nor innumerable" (ARISTOTLE 2008a: I 6, 189a15-20).

However, the combination of the Aristotelian theory of substantial plurality with the Christian doctrine of the only cause entailed the need to explain the way in which this simple agent had produced all reality without incurring a contradiction (BLANCHETTE 1992: 29-30). How could the leap from the simple to the multiple be explained? How had a single, perfect, and indivisible principle generated a myriad of finite and movable beings?

The key to Thomistic assimilation lies in a clear distinction between two moments of reality:

- a) that which refers to the conditions of the world already created;
- b) that which refers to the moment of its creation as such.

This dichotomy allowed Aquinas to maintain the Aristotelian triad, which, in addition, was not meant to be an explanatory theory of the origin or absolute beginning of the world, but a description of its internal dynamic laws. According to Aristotle, there had been no beginning of time—not even an initial state of mixture that was gradually decanted according to various separation processes—but all reality had been in the past, and would be in the future as it is in the present.²⁵ Therefore, Aristotelian physics was not, in fact, a rival theory regarding the explanation of the principles originating the world because it directly denied the opportunity to speak of a cosmogony. This peculiar condition opened up the possibility of a legitimate application of its principles to the created world, as will be discussed below.

The Contraries

On the question of contraries, which were established along with the prime matter as the principles of nature in Book I of the *Physics*, Thomas developed an extensive rebuttal in which he sought to show that the application of the aforementioned active pair is not required to explain the origin of physical reality, and neither is the introduction of a pre-existing passive substrate capable of sustaining their action.²⁶

²⁵ “Then this also is absurd, that in every case there should be a beginning of the thing—not of the time and not only in the case of coming to be in the full sense but also in the case of coming to have a quality—as if change never took place suddenly” (ARISTOTLE 2008a: I 3, 186a10-16).

²⁶ All reality, and thus its ultimate explanation, must be referred to a single supreme cause. Although, as we shall see later, Thomas Aquinas accepted the existence of the prime matter in the created cosmos, removing the Aristotelian quality of eternity from its definition. “Every matter, furthermore, is limited to some particular species by the form with which it is endowed. Consequently, it is the business of an agent limited to some determinate species to produce its effect from pre-existing matter by bestowing a form upon it in any manner whatsoever. But an agent of this kind is a particular agent; for causes are proportionate to their effects. So, an agent that necessarily requires pre-existent matter from which to produce its effect is a particular agent. Now, it is as the universal cause of being that God is an agent, as we proved in the preceding chapter. Therefore, in His action He has no need of any pre-existing matter” (THOMAS AQUINAS 2007: II, 16). TN: All the passages from the works of Aquinas present in this article include the specific citations provided by the author. The English version of such texts comes from: THOMAS AQUINAS 1975, *Summa contra gentiles*. Translated by Anton C. Pegis, University of Notre Dame Press, Notre Dame, IN; THOMAS AQUINAS 1947-48, *Summa theologiae*. Translated by the Fathers of the English Dominican Province, Benziger Bros., New York, NY; THOMAS AQUINAS 1952, *Quaestiones disputatae de potentia Dei*. Translated by the Fathers of the English Dominican Province, The Newman Press, Westminster, MD.

Moreover, the extremes of a motion or change are included in the same order, either because they fall under one genus, as contraries—for example, in the motion of growth or alteration and of carrying a thing from one place to another—or because they share in one potentiality of matter, as do privation and form in generation and corruption. But neither of these alternatives can be attributed to creation; for in this action no potentiality is present, nor does there exist anything of the same genus as this action and which is presupposed for it, as we have proved (THOMAS AQUINAS 2007: II, 17).

But God acts by no action which must be received in a patient, for His action is His substance, as was proved above. Therefore, He requires no pre-existing matter in order to produce an effect (THOMAS AQUINAS 2007: II, 16).

According to Aquinas, “the first philosophers”²⁷ fell into the error of considering the principles of nature exclusively from the point of view of matter, a fact that led them to think that it was possible to assert the existence of natural beings that were not created.²⁸ On the basis of this consideration, they established that contraries and matter were the principles of all things. Thomas claims that the origin of the reference to contraries in most ancient natural philosophers is due to three fundamental errors.

The first one was that they only considered the diversity of contraries from the point of view of the nature of the species, regardless of what they had in common with respect to the nature of the genus.²⁹ This approach led them to think of contraries not in terms of what they share but in terms of their divergences. Therefore, they reduced all contraries to two and considered these as first causes of reality. To overcome this difficulty, Aquinas insisted on shifting the focus to a lower ontological degree in which it is possible to find commonalities to several species in that which is seemingly diverse. This leap towards a less general view than that governing the very essence of being can however not resolve the difficulty posed by Aristotle, for he had established the difference between contraries both in terms of genus and species. In fact, upon defining the main characteristics thereof, Aristotle emphasized their radical distinction, maintaining that they are first because they do not come from something else, and contraries because they do not come from each other.

²⁷ Thomas Aquinas refers to Pre-Socratic philosophers with the same expression Aristotle used in the *Metaphysics*. See: (ARISTOTLE 2006: I 3, 983b).

²⁸ “I answer that, as we have already stated, the ancient philosophers through taking note only of the material principles of nature, when they considered material things fell into the error of holding that all natural things are not created. Hence from holding matter and contrariety to be the principles of nature they came to conceive of two first principles of things: and this was owing to a threefold fault in their consideration of contraries” (THOMAS AQUINAS 2011: 3, a.6, co.).

²⁹ “The first was that they considered contraries only in the point of their specific diversity, and disregarded their generic unity and the fact that contraries are in the same genus. Consequently, they ascribed them a cause not in respect of what they have in common but in respect of that wherein they differ. Hence, as stated (Phys. I, 4), they referred all contraries to two first contraries as two first principles” (THOMAS AQUINAS 2011: 3, a.6, co.).

The second problem stemmed from the erroneous consideration of contraries as equal in value or causal efficiency.³⁰ However, according to Aquinas, one of two contraries necessarily entails the privation of the other and, therefore, one is perfect and the other is imperfect, one is better and the other worse. Hence it follows that both good and evil, which seemed to be the most general contraries, were seen as different natures by the ancients. In this case, Thomas again forced the understanding of Aristotelian contraries (ARISTOTLE 2008a: I, 5, 189a3-5) as the balance between their active forces was for Aristotle the condition of possibility for the continuity of the transformation processes that animate nature. If one contrary was, in some way, more powerful than its antagonist, the end result of their interaction would be the definitive cancellation of the weakest. But should one of them disappear, having no counterweight, its contrary would destroy the natural order by causing an extreme excess or a radical privation in the proportions of all accidents. This situation would end up with the stranglehold of one of the contraries, which would impede the change and movement processes that are the very essence of nature. Without a pair of contraries there would be no physical world.

The third flaw was that the first philosophers judged things considering them only for what they are, that is, according to the order of that which is particular, and not by comparison with the whole order of the universe.³¹ This led them to establish a radical dichotomy between a positive and a negative principle. So that if one thing behaved negatively with respect to others or was in itself imperfect with respect to other perfect things, they thought it was just bad or privative by its very nature, without admitting that it could have originated from the same cause of good and perfect things. This last point, however, is tangential to Aristotelian physics because the Stagirite did not use these categories in his cosmology. However, rejecting the epistemological path that begins by analysing things for what they are in themselves in favour of a total perspective does involve a reversal of the characteristic method of the science of nature defended by Aristotle in the first pages of the *Physics*. This alteration in order subsumes a divergent view of nature itself that for Aquinas merely reflects its ultimate meaning when seen as a created whole, whereas for Aristotle this sense was only revealed in its understanding as radical multiplicity.

Aquinas claims that all these errors find their explanation in a careless analysis of reality. Closer examination shows that in all cases where a common feature can be found in different realities, it must be affirmed that, precisely because of this common trait, these realities must have a single cause—either one causes the other or there is a common cause to both. According to the Dominican, all the contrary and different things that exist in the world have something in common, be it the nature of the species, the nature of the genus, or at least the reason for being.

³⁰ “The second fault was that they judged both contraries equally” (THOMAS AQUINAS 2011: 3, a.6, co.).

³¹ “The third fault was that they considered thing in reference to the things themselves, or in the mutual relationships between one individual thing and another, but not as bearing upon the order of the universe” (THOMAS AQUINAS 2011: 3, a6, co.).

From this, Thomas concluded the need for a single principle of all these things, which is the cause of being for all of them; a superior cause that is prior to natural contrary agents.³²

However, the fundamental reason for the impossibility of nature being governed by two contrary first principles is, according to Thomas, the order it shows. If the contraries that govern nature were not mutually ordered by a single principle, they would only produce the diversity of things in an accidental manner.³³ That is, in this case Aquinas appealed to the principle that causes without order cannot produce ordered but merely casual effects (BLANCHETTE 1969: 59-87).

Referring to the nature of contraries, defined in the *Physics* and the *Metaphysics* as examples of the complete difference (ARISTOTLE 2006: 1055a10-20) with respect to which the first contrariety is possession and privation (ARISTOTLE 2006: 1055a33), Thomas used the notion of “evil of virtue” (ARISTOTLE 2006: 1055b20) used by Aristotle to show that something characterized by negation of being cannot possess an efficient existence that is at the level of the active principle.³⁴

Thomas said it was not possible to speak of a principle of all evil—understood as privation or principle of non-being—because, taking all relative contraries we would have to go back to that which is the contrary of privation by itself; thus, the first active principle of privation should be privation itself, that is, non-being. And if expression per se is understood as the essence of what something is, the essence of the privative principle cannot be active. However, this is absurd because everything that exists, as it exists, is in act. Hence, the existence of a negative principle that is independent from being should be rejected. This conclusion leads to argue that the diversity of what exists cannot proceed from two unalterable contrary principles, but from a single active principle that may be described as ‘good’ (DAVIES 2011: 65-67).

Again, every agent acts so far as it is in act; and so far as it is in act, each and every thing is perfect; while every thing that is perfect, as such, is said to be good. It follows that every agent, as such, is good. If, then, a thing were evil of itself, it could not be an agent. But, if a thing is the first principle of evils, it must of necessity be evil of itself, as we have just shown. Therefore, the distinction in things cannot possibly proceed from two principles, one good, the other evil (THOMAS AQUINAS 2007:II, 41).

³² “(...) Hence above all various causes we must place one first cause, even as above these contrary agents in nature the natural philosophers placed one primal agent, namely the heaven, as the cause of all movement here below. Since, however, in this heaven there is variety of position, to which variety is to be traced the contrariety of inferior bodies, it is necessary to have recourse to a first mover that is not moved either *per se* or accidentally” (THOMAS AQUINAS 2011: 3, a6, co.).

³³ “Now, things mutually distinct are found to have a mutual order, and not fortuitously, since in the majority of cases one is served by another. Hence, the distinction of things thus ordered cannot possibly accounted for by a diversity of agents without order” (THOMAS AQUINAS 2007: II, 41).

³⁴ “Furthermore, if the diversity of things results from the diversity or contrariety of diverse agents, this would seem especially true, as many say, of the contrariety of good and evil, such that all good things proceed from a good principle and evils from an evil principle—good and evil being found in every genus” (THOMAS AQUINAS 2007:II, 41).

The key argument by which Thomas Aquinas sought to eliminate Aristotelian duality was showing that non-being as such cannot be assigned an agent cause—because every being acts since it is in act—nor the ability to be active in the production of reality by itself.

However, it is still necessary to specify what Thomas Aquinas understands as privation because his absolute rejection results in the inability to explain changes as these are understood in Aristotelian physics. That is, if every change occurs between contraries, the removal of the principle that Aristotle associated with defect and privation jeopardizes natural dynamism.

The clarification of this point by Aquinas consisted in a new unification that overcame Aristotelian dichotomies based on the concept of activity. While the actions of contrary agents are contrary, things produced by the same action do not have contrary principles. Both privation and possession come from the same action in the full sense of the term, that is, the positive product of an agent in act.

Therefore, Aquinas based his rebuttal in the rejection of the existence of a negative or privative agent, that is, a principle whose role was that of cancelling being, either partially or totally. If activity is essentially positive, multiplicative, or at least stabilizes the permanence of things, and its contrary is essentially powerless, both privation and possession must have the same origin in an ever-active agent. Therefore, all changes involving negation would not be the result of the production of the privative contrary, but a consequence of the cessation or repose of the agent's action.

This view implies a radical reinterpretation of the Aristotelian pair of contraries because in the case of the *Physics*, both principles were purely active as opposed to passive matter. That is, change could not be explained by the activity or inactivity of a single misinterpreted principle—in the sense that excess was incorrectly called activity and defect was called repose—but through the joint action of essentially contrary principles that cannot stop acting.

The Prime Matter

To avoid falling into an undesirable duplicity, the Dominican was forced to prove that not only is there no pair of first contraries but also that that on which the contraries exert their action—matter understood as pure potentiality³⁵—is posterior and, therefore created by God. That is, what

³⁵ “Furthermore, in reality we find something that is potency alone, namely, prime matter, something that is act alone, namely, God, as was shown above, and something that is act and potency, namely, the rest of things. But, since potency is said relatively to act, it cannot exceed act either in a particular case or absolutely. Hence, since prime matter is infinite in its potentiality, it remains that God, Who is pure act, is infinite in His actuality” (THOMAS AQUINAS 2007: I, 43).

has been established as the source of all activity must be, at the same time, the foundation of the passivity and indeterminacy that allow the existence of material things.

Moreover, for those who reduced all things to matter as to the first cause it follows that natural things exist by chance. Aristotle argues against these thinkers in *Physics* II. Hence, if God, Who is the first cause, is the material cause of things, it follows that all things exist by chance. Again, matter does not become the cause of something actual except by being altered and changed. But if, as we have proved, God is absolutely immobile, He cannot in any way be the cause of things according to the mode of matter (THOMAS AQUINAS 2007: I, 17).

Aquinas's position makes it clear that there can be no identification between divinity and the third of the principles that Aristotle singled out as essential for understanding the physical world (WALLACE 1974: 569-584). The fundamental reason cited by Thomas is that God, being immaterial, did not create the world from its substance but from nothing.³⁶

However self-evident this statement may seem for a Christian, it was not so much so throughout the condemnatory process of the thirteenth century. Aristotelian postulates, considered from the natural point of view, led various thinkers to maintain extremely controversial theses. An example of this were the texts of master David of Dinant, explicitly mentioned in the condemnation of 1215, whose content is now unfortunately lost. Nevertheless, Aquinas referred to his radical theory that—it seems—opted for the identification of God with the prime matter (BIRKENMAJER 1933: 220-229).

On this point, however, the madness of David of Dinant stands confounded. He dared to assert that God is the same as prime matter on the ground that, if He were not, He would have to differ from it by some differences, and thus they would not be simple (THOMAS AQUINAS 2007: I, 17).

While Thomas flatly rejected any identification of this kind, he did not take this rejection to its limits but accepted without difficulty the existence of prime matter as it is understood by Aristotle, with the addition that it has nothing in common with God.³⁷ That is, he admitted the existence of a material substrate to the physical world but struggled to make clear distinctions in regard to ontological and temporal priority. God and matter are not identified nor do they share qualities or properties, but matter has its origin in the divinity, characterized by Thomas as the source of all being.

To show the absence of the need for a matter that is coeternal with God, Thomas noted that such a claim would either lead to an infinite process—which Aristotle himself rejects in respect to

³⁶ "Now, the Catholic faith professes this truth, namely, it asserts that God has created all things, not out of His own substance, but out of nothing" (THOMAS AQUINAS 2007: I, 17).

³⁷ "In this way, too, God and prime matter are distinguished: one is pure act, the other is pure potency, and they agree in nothing" (THOMAS AQUINAS 2007: I, 17).

natural causes—or to go back to some kind of first that does not entail the existence of another first. This first, which would proceed from matter, cannot be anything other than God, the cause of being, outside of which there cannot be anything that does not have him as cause.

What are then the characteristics of this prime matter accepted by the Dominican? First, Thomas said that prime matter was not created by God before all other beings. That is, although its origin is also in the act of creation it does not hold chronological precedence in respect to informed beings. The reason is simple: all that exists is a being in act, and this quality is due to the form. Therefore matter, pure potentiality, could not have pre-existed waiting to be informed. There was not and there is not a passive reservoir awaiting forms but the totality of the prime matter—albeit conceptually distinguished from what was created—was immediately determined by God. That is, the matter was created by God but never without form.³⁸ Thus it can be concluded that the Dominican said, with Aristotle, that prime matter by itself does not exist in the natural created world.³⁹

Therefore, what we find in Aquinas's assimilation of the problem of principles is a union—without mixture—of the two worldviews that consists in a reorganization of their ontological hierarchy. The characteristics of Aristotelian physics were protected by a new theory that tried to preserve the most of its consistency, except for the points of absolute incompatibility. Both the two contraries and the prime matter were accepted into the new cosmological system, with the proviso that their eternal nature had to be rejected, and their activity limited to the dynamism of the world already created.

THE PROBLEM OF DIVINE UNICITY

However, despite the acceptance of the two contraries and the prime matter in the Christian worldview, Thomas Aquinas had to face the arguments that Aristotle had put forward against the possibility of speaking of a single principle under which, subsequently, his physical system could be subsumed without alteration.

The Christian deity was characterized by having, in itself and for itself, many of the characteristics of Being postulated by Parmenides and Melissus (WIPPEL 2000: 66-67). God was, to medieval Latin thought, a simple, immutable,⁴⁰ indivisible, infinite⁴¹ substance possessing all the qualities, and whose essential definition was one and the same.

³⁸ “Sice, however, we hold matter to be created by God, though not a part from form, matter has its idea in God; but not a part from the idea of the composite; for matter in itself can neither exist, nor be known” (THOMAS AQUINAS 2010: 1, q.15, a.3).

³⁹ “Primary matter does not exist by itself in nature, since it is not actually being, but potentially only; hence it is something concreated rather than created” (THOMAS AQUINAS 2010: 1, q.7 a.2).

⁴⁰ The reference to unity, immutability and simplicity as substantial elements of the orthodox definition of divinity can be explicitly found in the Constitutions of the Fourth Lateran Council, held between 1215 and 1216: “Firmiter credimus et simpliciter confitemur quod unus solus est verus Deus æternus et immensus omnipotens *incommutabilis* incomprehensibilis et ineffabilis Pater et Filius et Spiritus Sanctus tres quidem personæ sed *una* essentia substantia seu natura *simplex* omnino” (MANSI 1759-1798).

⁴¹ The conception of divinity as infinite substance can be traced throughout the work of the most important medieval

As we have seen above, this mixture of attributes into a single entity was absolutely unacceptable to Aristotelian philosophy. Aristotle had established that qualities and quantities were accidents that were separable from the substance, and explained movements. Therefore, no entity could exist that was able to bring together all possible dispositions of Being.

Furthermore, the Christian dogma proposed that the first and only principle should also be considered the voluntary creator of all reality. This creation process would have generated the substantial plurality that characterizes the natural world without involving any of its substance and without the help of any preexisting matter (MANSI 1759-1798).

God: One As Form

The fundamental points of the refutation of the Aristotelian view led to the possibility of raising the idea that God was one as form, encompassing in Himself the essence of all things, or being Himself, somehow, all things.

This view was not foreign to certain Christian thinkers—such as Dionysius the Areopagite, who argued that the being of all things is divinity—or to precepts directly related to orthodoxy, as the famous “Deum in omnibus rebus esse” (THOMAS AQUINAS 2007: I, 27).

This way of understanding divinity as the only substance was closely linked to the understanding of nature as an allegorical reflection or mask that hid behind its appearances the true divine essence (EAMON 1994: 80-85). If God was the only true being, all creatures should be reduced to mere shadows, secondary reflections of the many facets of divinity.

However, as noted above, Thomas accepted the plurality and independence of entities, ruling out the possibility of unicity as form due to its unacceptable ontological consequences for the created beings.⁴² If divinity was not something distinct, it would not be possible to truly maintain a real difference between the created and the creator. If God Himself were all things, He would also experience corruptibility, degradation, and death by extension. And should creator and world not differ substantially, it would not be possible to speak of creation as a temporary and contingent fact either, because if it were indistinguishable from the divine essence, it would possess its same perfections (JALBERT 1961: 23-31). However, in order for the physical world to conform

thinkers. Suffice it to mention the example of the constant insistence on this quality by Augustine of Hippo in his *Confessions*: “And it seemed to me a greater piety to regard thee, my God—to whom I make confession of thy mercies—as infinite in all respects save that one; where the extended mass of evil stood opposed to thee, where I was compelled to confess that thou art finite—than if I should think that thou couldst be confined by the form of a human body on every side” (AUGUSTINE OF HIPPO: L.5, X, 20). Translated in COOK OUTLER, Albert (ed.), 2006. *Augustine. Confessions and Enchiridion*, Westminster John Knox Press, Louisville, KY.

⁴² “If, therefore, the divine being were the formal being of all things, all things would have to be absolutely one” (THOMAS AQUINAS 2007: I, 26).

to Aristotle's definition—multiple, changing, and temporary—it must necessarily have its own form, different from that of God.

Thus, Aquinas rejected the idea of a unique formal being that could be identified with all reality, and defended an effective essential plurality in which it was necessary to distinguish the divine form from the rest of beings (HUGHES 1989: 83-85). Moreover, this supreme form cannot be considered out of anything, that is, there cannot be an identification between God and the different active principles that the ancient identified as motors of nature. Divinity has an essence of its own, distinct from other entities, but coexistent with a multitude of formally autonomous beings, which are therefore necessarily real in an absolute sense.

God: One As the Sum Total of Qualities

Considering the question of unity from the point of view of qualities, Thomas denied, along with Aristotle, the possibility of speaking of a unique principle understood as a mere separable quality, proposing instead an alternative interpretation of the divine unity as “sum total of all qualities.”⁴³

Divinity was defined by Thomas Aquinas as a distinct entity as to its essence with respect to other possible beings, but which at the same time possesses all the qualities and conditions that in them are considered as perfection.

However, in our opinion, this definition is clearly contradictory from the Aristotelian point of view, for the simultaneous affirmation of simplicity and possession of multiple qualities cannot be maintained consistently. If some quality is predicated of the absolutely simple being, then it is possible to distinguish parts within it, and therefore its multiplicity must be necessarily stated in some sense.

This was precisely the error that Aristotle had pointed out in the *Physics* to dismantle the arguments of Parmenides and Melissus. Inasmuch as both authors endowed their unique being with qualities, this being appeared as multiple from the standpoint of reason. At this point, the departure of Aquinas from Aristotle's logical demands is evident when considering possible the predication of qualities without jeopardizing the concept of simplicity.

God is considered by Aquinas as the holder of all the definitions that do not undermine his absolute actuality, that is, all except those involving potency for the privation of act, or non-being (EDWARDS 2002: 97-99). This is the reason why, according to Thomas, the divinity is often

⁴³ “But for a thing that is its own being it is proper to be according to the whole power of being. For example, if there were separately existing whiteness, it could not lack any of the power of whiteness (...) God, therefore, Who is His being, as we have proved above, has being according to the whole power of being itself. Hence, He cannot lack any excellence that belongs to any given thing” (THOMAS AQUINAS 2007: I, 28).

attributed many names that however do not express true plurality. The different ways of referring to God, appealing to different qualities considered in the highest degree, are only due to the weakness of human understanding that, unable to fully comprehend the divine substance, makes approximations by analogy.

At this point, Thomas Aquinas seems to correct his starting position coming back to Aristotelian theses. Qualitative predication in relation to God does not refer, in the words of Aquinas, to his real essence but has its origin in an epistemological weakness of the human mind. In this sense, such a definition should be considered characteristic of a credible discourse or even a simple narrative that helps man to achieve a precarious but useful knowledge of the divine essence.

Were we able to understand the divine essence itself as it is and give to it the name that belongs to it, we would express it by only one name. This is promised to those who will see God through His essence: “In that day there shall be one Lord, and His name shall be one” (Zach. 14:9) (THOMAS AQUINAS 2007: I, 31).

However, despite this obvious qualification of the initial thesis, throughout the rest of his work Aquinas maintained the definition of God as a simple entity endowed with qualities. It is difficult to clarify the reason for this attitude given his own recognition of the contradiction. The only plausible explanation follows from his acceptance of the ineffability of the divine essence. In this sense, for Aquinas, knowledge of divinity would only be approximate because of the limitations of human reason (FALQUE 2009: 157-184). But if this is so, the pinnacle of all Thomist demonstrations was compromised when they proved to be essentially revisable. God’s qualities are not presented as axioms but as probable hypotheses that leave the door open to alternative definitions of the divine essence itself, such as those that followed during the modern development of physics.

God: One as Indivisible

Divinity, characterized as “the subject of all possible positive qualities” is, at the same time, absolutely immutable and indivisible (LAMONT 1997: 528-538). This question is a second notable departure from Aristotelian thought because, as we have seen, according to Aristotle, if the All is one in terms of indivisibility then it could not be the subject of qualities, because these are essentially separable. But if it is endowed with qualities it should be in some sense mutable, even if the only thing predicated of it is movement.

According to Aquinas, against the thesis of Parmenides, criticized by Aristotle, there is a fundamental issue that saves the argument. While for Parmenides there was a unique being, for Thomas Aquinas among the many existing beings there is one that is endowed with this strange essence. Thus, even though the quality of absolute immutability should be predicated of God, this does not actually extend to the entire reality.

That is, although there can be no changes or movements in divinity due to the requirements of its definition, in the rest of reality, which is distinct and separate from its creator, there is the necessary divisibility to allow the existence of transformation and change. The Aristotelian physical world thus preserves its vibrant natural dynamism, while absolute stillness is reserved and contained in a restricted hierarchically superior area, that is however innocuous with respect to the mutations of the universe.



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