

Science and Religion: Is Reconciliation Possible?

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General Introduction

We have a nearly unquestioned belief in scientific progress. Furthermore, this belief is not just that science progresses, but that it does so *because* religion doesn't interfere with it. Many people discuss the relationship between science and religion as if there were an inherent enmity between the two, although with a bit of reflection, one can see that this does not necessarily have to be the case. I will argue that the belief that science must operate aside from religion stems, at least in part, from Descartes' method of extreme doubt, which is described in the *Metaphysical Meditations*. The consequence of his method is that all knowledge consists of that which cannot be doubted without engendering logical contradiction. This means that, for all practical purposes, certain knowledge boils down to mathematical propositions. Thus, all of the sciences ought to be guided by mathematical certainty, and nothing can properly be called knowledge until

and only insofar as it has become numerical or quantified. The result of this reduction is that a teleological (or purpose-driven) ideal for understanding the universe is not only left out or ignored, but denied altogether.

Descartes' method makes it impossible for one to study the universe scientifically while at the same time studying it as if it were designed teleologically. The idea that the world runs according to a natural teleological order is an attitude that has long since died, for we no longer approach nature as an organic unity wherein everything has an inherent purpose, but instead as a foreign entity that seems to serve no purpose at all. The world is not alive, but is instead a dead machine. A problem arises out of this conception of nature: How do we understand ourselves in this mechanistic world? Often the question must be answered by recourse to unscientific ideals, for it seems to us that human nature is quite distinct from the mechanistic nature that we set out to understand scientifically. Thus, nature becomes divided into two disparate worldviews: On the one hand, we understand the physical world as a mechanism devoid of mind or spirit. On the other hand, we recognize a distinct nature of the human mind which cannot be understood in the same mechanistic terms, for we are driven by an idea of goodness or harmony, without which we cannot achieve happiness, moral virtue, or freedom of will. The possibility of reconciling these two natures seems difficult, but the problem might simply be a matter of perspective.

It might prove beneficial to study a time when scientific and religious knowledge (or teleology) were once subsumed under a harmonious world view. In Plato's *Timaeus*, Mind (in Greek, *nous*: here also meaning "reason" or, in another sense, "God") was infused in what one might call chaotic matter, giving birth to the universe in time, space and movement. Moreover, we were created in a like manner, with a similar mixture of reason and 'errant cause,' such that our souls are a microcosmic mirror of this macrocosmic universe. In other words, the soul was created in such a way as to have the universe inside of it; thus, to 'know thyself' was the same thing as to know the universe. 'Knowing thyself' was a moral matter, but because the universe and the soul mirrored one another, understanding the universe became a moral matter too. In this view, the physical universe was not driven solely by mechanistic laws; instead, all things, including corporeal objects, participated in moral reason, or what Plato would call 'the Good.' By returning to ancient texts—or in our case, to Plato's dialogues, which serve as a particularly poignant example from which there is plenty of material to study—one finds a time when science and religion converge to make up the same worldview.

We would do well in asking, of what service would it be to look at some point in history where science and religion converge? One might think that there could very well have been some other factor in Platonic thought or in the Greek

worldview that made this harmony possible *then* but not now. For instance, it could be that religion then was not *our* understanding of religion and that science was not *our* understanding of science. This is undoubtedly true in several respects. However, the ancient conception of science, as such, may not be so fundamentally different from our own that we cannot compare the two. While it is true that the science of Plato was not separated from religion or a teleological view, he did have a few fundamental (although basic) concepts which resemble ours. For instance, we find a basic atomic theory and chemistry in the description of the Platonic solids in the *Timaeus*, as well as an emphasis on the necessity of mathematics in the *Republic*. Furthermore, the Copernican Revolution (to which Descartes later provided the philosophical foundations) was at first very much driven by Platonic ideals; the harmonious interconnection of the planets and the circularity of their orbits are all notions derived from Plato's holistic conception of cosmology. As we will find, the ancient view of science was not entirely different from science today, with the exception that teleological order is now excluded from our understanding of the universe.

Perhaps we will find that our science cannot tell us the complete story of how things are without teleology. But even if this true, it seems to follow that claims to all-encompassing knowledge through religion that purposefully exclude scientific understanding would also be merely one-sided, if not

altogether off the mark. If neither science nor religion ought to stand alone as the sole means of obtaining knowledge, then reconciliation of the two would be necessary.

In the first part of this work, it will be necessary to explain how Descartes, a religious mathematician, philosopher and scientist, could in the end create a methodology that excludes the possibility of meaningful religious knowledge through a teleological understanding. After this, I will explore Plato's philosophy for a possible means of reconciling science and teleology. Through a study of Plato's philosophy, I hope to offer a solution to the outcome of Descartes' method, without assuming that we can simply drop everything and take up the ancient worldview in all of its foreignness to us.

Descartes: The Exclusion of Religion and Ethics

Introduction

I will argue first and foremost that Descartes' method of doubt, as it is elucidated in the *Méditations Métaphysiques*, for the most part reduces all knowledge to mathematics and quantity, thereby rendering any meaningful knowledge of religious matters (through teleology) or ethics impossible. To do this, I will first try to understand Descartes' arguments as he understood them, suspending my criticism of them throughout the synopsis of his main points. My criticism will come after the summary, in which I will explain why my conclusions can be drawn from what Descartes believed he had demonstrated. I must point out that, in the summary, I will discuss the main points in the order in which they are found in the *Meditations* so as to avoid misconstruing Descartes' methodology.

As a final criticism, and only as a side note, I will show that Descartes creates a circular argument by saying that clear and distinct ideas depend on knowledge of the existence of a non-deceiving God, but then by arguing for the existence of a non-deceiving God by using clear and distinct ideas. Descartes'

conclusion that all knowledge depends on God's existence simply cannot follow from even the most generous interpretation of his writing.

Summary of the Six Meditations

First Meditation:

In the first place, Descartes thought that in order to have knowledge, it would be necessary to begin by setting aside the opinions and traditions of the past which one naturally acquires throughout life:

For quite some time I've been aware that, starting from youth, I had received many false opinions as true, and that everything which I had founded upon these principles was so dubious and uncertain that it became necessary for me to seriously undertake, once in my life, to undo all of the opinions which I had received from birth, and to start all over from the foundations if I wanted to establish a firm and stable structure in the sciences.¹

Descartes proposes that one ought to rid oneself of all of opinions so that a proper foundation can be found. When Descartes says that it became necessary for him to ‘undo’ all of the opinions that he had acquired throughout his lifetime, he means that it is necessary to doubt them. As we will see, all truths must prove to be *undoubtedly* true, and anything that can be doubted will be.

However, Descartes did not want us to employ an extreme doubt as skeptics (who believe that knowledge is impossible), but instead with the goal to

¹ René Descartes, *Méditations Métaphysiques: Première Méditation*, [Metaphysical Meditations : Meditation One]. Bilingual Edition in French and Latin. Introduction by Michelle and Jean-Marie Beyssade: (Paris: Garnier-Flammarion, 1979 ; reprint, Paris, 1992 : Flammarion) AT, IX 13, pp. 55. All future references of this work are to this edition and all translations from the French are my own : « Il y a déjà quelque temps que je me suis aperçu que, dès mes premières années, j'avais reçu quantité de fausses opinions pour véritables, et que ce que j'ai depuis fondé sur des principes si mal assurés, ne pouvait être que fort douteux et incertain ; de façon qu'il me fallait entreprendre sérieusement une fois en ma vie de me défaire de toutes les opinions que j'avais reçues jusques alors en ma créance, et commencer tout de nouveau dès les fondements, si je voulais établir quelque chose de ferme et de constant dans les sciences. »

seek out certainty. In the above quote, Descartes points out that not only must one doubt of all things, but that it should be done *once* in life. Employing extreme doubt should not be a philosophy, but should instead be reserved for philosophical moments, which are in turn detached from ordinary life. Furthermore, this philosophical activity is necessarily unsocial, for the suspension of beliefs is an individual upheaval, not a collective one.

Thus, sitting in a room away from all disturbances and passions, Descartes strips away all of his own beliefs in order to begin anew from a certain foundation. He starts by doubting the information that one derives from the senses (through sight, sound, smell, touch, and taste), because sense perception is often misleading. However, Descartes not only says that sense perception is *sometimes* misleading, but he goes so far as to doubt that his own hands that he sees before him, his feet, and the other bodily parts that he had formerly thought to possess are really such as he perceives them.

When Descartes claims that sense perceptions can be doubted, he at first assumes that there is some reality outside of his perceptions causing them, although later on he will find a reason to doubt the existence of the external world altogether. In the following citation, Descartes likens perceptions to dreams, and the realities causing these perceptions to the state of being awake:

However, we must at least admit that the objects which appear to us

in sleep are like pictures or paintings which can only be formed as likenesses to something real and true; and thus, at the very least, these general things such as eyes, a head, hands, and all the rest of the body, are not just imaginary objects but real and existent...And for the same reason, even if these general things such as eyes, a head, hands, and the like were imaginary, one has to admit that there are real, existing things that are even more simple and more universal than these, and all of the images of things which reside in our thought, whether they be true and real or false and fantastic, are formed from the mixture of neither more nor less than certain real colors. In this sort of thing lies corporeal nature in general, and its extension...²

To take up an analogous example, it's possible that even though unicorns don't exist in nature, as such, there must be real elements by which one could create a unicorn in one's mind, such as a horn, a horse, color, white, etc. In the same way, when I dream, I don't think of objects or colors that don't exist in waking life; I don't create absolutely new images or concepts from nothing. Instead, my dreams appear less coherent, but they nonetheless consist of the same perceptual elements that appear to me when I am awake. These elements may not be composed in the particular way that I perceive them while awake, but Descartes here assumes that they correspond to some kind of reality.

² « Toutefois il faut au moins avouer que les choses qui nous sont représentées dans le sommeil sont comme des tableaux et des peintures, qui ne peuvent être formées qu'à la ressemblance de quelque chose de réel et de véritable ; et qu'ainsi, pour le moins, ces choses générales, à savoir, des yeux, une tête, des mains, et tout le reste du corps, ne sont pas choses imaginaires, mais vraies et existantes...Et par la même raison, encore que ces choses générales, à savoir, des yeux, une tête, des mains, et autres semblables, pussent être imaginaires, il faut toutefois avouer qu'il y a des choses encore plus simples et plus universelles, qui sont vraies et existantes, du mélange desquelles, ni plus ni moins que de celui de quelques véritables couleurs, toutes ces images des choses qui résident en notre pensée, soit vraies et réelles, soit feintes et fantastiques, sont formées. De ce genre de choses est la nature corporelle en général, et son étendue... » *Ibid. Première Méditation, [First Meditation], AT, IX 15, pp. 61-63.*

However, even if I assume that my perceptions are derived from some kind of reality outside of them, I cannot know beyond a doubt that objective reality really is as I perceive it. Therefore, because sciences such as physics and astronomy rely on sensory perception, they are useless in the search for indubitable truths. On the other hand, it seems as though math and geometry escape unscathed, “for whether I am awake or dreaming, it remains true that two plus three equals five, and that a square never has more than four sides.”³ If I doubt that my perceptions directly correspond to reality, I must also doubt the knowledge derived from all empirical sciences that assume this correspondence; however, I need not doubt mathematics in this instance. Mathematical propositions are *not* empirical, which means that they are in no way derived from sensory perception. For example, a perfect circle does not exist in nature, but the idea of it as a 360 degree figure exists in our minds; the perfect circle is the object of mathematics, not the various circles that we perceive in the world. Thus, mathematics and geometry are untouched by the act of doubting sense perceptions.

However, while Descartes seems to envisage math and geometry as the height of all reason in which certain propositions can be found, and although Descartes assumed that there must be some kind of external reality

³ « *Car, soit que je veille ou que je dorme, deux et trois joints ensemble formeront toujours le nombre de cinq, et le carré n'aura jamais plus de quatre côtés.* » *Ibid. Première Méditation, [First Meditation], AT IX 16, pp. 63.*

corresponding to sense perceptions, he nevertheless finds a reason to doubt both of these assumptions. He imagines that there is an all-powerful wicked God—or as Descartes prefers, an evil genius—who spends his time thwarting Descartes' every thought, such that even when Descartes believes that he has obtained the most certain truths, he is still deceived. In the following quote, Descartes finds it necessary to doubt mathematical propositions:

It could be that he had wanted me to be mistaken every time I add together two and three, or count the sides of a square, or form some judgment still more simple, if indeed a simpler judgment could be imagined.⁴

Furthermore, Descartes finds it necessary to doubt not only the correspondence of perception to reality, but also to doubt the existence of the external world altogether, for an all-powerful evil genius could have “arranged that there should be neither earth, nor sky, *nor any extended thing.*”^{5*}

⁴ « *Il se peut faire qu'il ait voulu que je me trompe toutes les fois que je fais l'addition de deux et de trois, ou que je nombre les côtés d'un carré, ou que je juge de quelque chose encore plus facile, si l'on peut imaginer rien de plus facile que cela.* » *Ibid. Première Méditation, [First Meditation], AT, IX 16, pp. 65.*

⁵ « *Or qui me peut avoir assuré que ce Dieu n'ait point fait qu'il n'y ait aucune terre, aucun ciel, aucun corps étendu...* » *My italics. Ibid. Première Méditation, [First Meditation], AT, IX 16, pp. 64-65.*

* *Descartes alludes to this here, but will later find and conclude (in the wax example in Meditation Two) that the true substance of all of my sense perceptions can only be known or properly understood as extension. Thus, all things can be reduced to extension and plotted out in coordinates—what we now call ‘Cartesian coordinates.’ Furthermore, it should be noted that Descartes uses the term ‘substance’ to describe all that we can conceive of that is self-subsistent, but not necessarily a physical entity: “When we think of a substance, we should only conceive of a thing which exists in such a way that it does not need anything beyond itself in order to exist.”* « *Lorsque nous concevons la substance, nous concevons seulement une chose qui existe en telle façon qu'elle n'a besoin que de soi-même pour exister.* » *With this definition, we see that souls can also be considered ‘substances.’ René Descartes: Œuvres et Lettres : Des Principes de la Philosophie, [Works and Letters : Principles of Philosophy]. (Bruges, 1963: Sainte Catherine; reprint, 1953, Gallimard) 51, pp 594. All future references of this work are to this edition and all translations from the French are my own.*

At the end of the first Meditation, Descartes leaves us suspended in doubt, wondering if we can know anything at all with absolute certainty. But we must be careful in understanding Descartes' doubt here; this is a thought project geared towards finding certainty, and however extreme this doubt may seem, he never *affirms* that nothing exists outside of perception, but only that it *may not exist*.

Second Meditation:

Descartes *seems* to get himself out of the evil genius problem by finding a foundational truth that *at first appears to escape* doubt. I will refer to it as the cogito, which is a term that means "I think" in Latin, but is here used to describe the entire phrase "I think; therefore, I am," or "*cogito ergo sum*." In doubting of all sensible things, even of my own body, despite the possibility that an evil genius may be thwarting my every thought and making them all false, it can never be possible that while I doubt, I am not thinking, or that while I am thinking, I do not exist: "There is no doubt at all that I exist, even if he deceives me. Let him deceive me as much as he wishes, for he can never bring it about that I am nothing so long as I shall be conscious that I am something."⁶ Thus, if I inquire as to what I am, I can safely conclude, "I am a thinking thing." Thinking is my

⁶ « *Il n'y a donc point de doute que je suis, s'il me trompe ; et qu'il me trompe tant qu'il voudra, il ne saurait jamais faire que je ne sois rien, tant que je penserai être quelque chose.* » *Ibid. Méditation Seconde [Second Meditation], AT IX, 19, pp. 73.*

essence, regardless of what may be the object of my thought, for doubting that I am thinking is impossible and produces a manifest contradiction.

The cogito seems to provide a way out of the evil genius problem, yet we will see that Descartes later finds a reason to doubt the cogito by saying that nothing can be certain without the knowledge of a non-deceiving God. However here we must take note that Descartes thinks that the cogito is indubitably true *while it is conceived*: “*I am, I exist*, is necessarily true, all the times that I pronounce it, or when I conceive it in my mind.”⁷ For now, it seems to be enough that the cogito cannot be *reasonably* doubted, for in the act of conceiving of it, it is impossible to doubt.

Nevertheless, Descartes pushes on to see what else he can discover, possibly because the cogito on its own does not seem to provide much knowledge of external nature. Perhaps it is for this reason that he next considers the objects of perception; in particular, a piece of wax. He discerns that the wax changes when it is melted; it grows in size and its color and figure alter. If I consider that every property that I would normally associate with the wax admits of change, how do I know that it is the same, self-subsisting wax? Or in other words, what is leftover from these various changes that allows me to know that it is still the same object of perception, rather than a stream of incoherent

⁷ « *Je suis, j'existe, est nécessairement vraie, toutes les fois que je la prononce, ou que je la conçois en mon esprit.* » *Ibid. Méditation Seconde [Second Meditation], AT IX, 19, pp. 73.*

perceptions? The only property left to the piece of wax is extension, and this property unifies my experience of the wax, allowing me to know that I am looking at the same object despite its various changes.

However, we do not receive the idea of extension from the perceived object itself, but we must instead say that the object belongs to the category of extension in general: "I would not conceive of the wax as it is clearly and truthfully, if I did not think that it was capable of receiving even a wider variety of extension than I ever imagined."⁸ Descartes seems to say here that, although the wax appears to be able to take on different shapes and sizes, and although I cannot determine the extent to which it can extend, I do know that it must belong to the general category of extension in order for me to recognize it as a substance at all. This can be better explained when we think of water. We admit that water is extended to some degree, and even though it may evaporate and expand beyond our abilities to see it any longer, even such that we would be more wont to call it air rather than water, we nevertheless admit that the evaporated water is an extended substance. We can conclude that extension does not belong to a particular object, but only to objects in general. If this is true, then extension cannot be attributed to sensory perception, for I cannot perceive it through my five senses like I do odor, color or hardness.

⁸ « *Je ne concevrais pas clairement et selon la vérité ce que c'est que la cire, si je ne pensais qu'elle est capable de recevoir plus de variétés selon l'extension, que je n'en ai jamais imaginé.* » *Ibid. Méditation Seconde [Second Meditation], AT IX, 24, pp. 85-87.*

It is important to note here that Descartes says that the understanding of extension as a general category to which all substances belong is a clear and distinct idea (which is a vague term to which I will return in my last argument):

But what is this wax which can only be conceived by the understanding of the mind? Certainly it is the same that I see, touch, and imagine—the same that I thought it was from the beginning. But we should notice that perception is not an act of seeing, touching or imagining, and never was, although it seemed that way previously, but only an inspection of the mind, which can be imperfect and confused, as it was previously, or clear and distinct, as it is now, according to how attentive I am to the things that are in it, and of which it is composed.⁹

⁹ « *Or quelle est cette cire, qui ne peut être conçue que par l'entendement ou l'esprit? Certes c'est la même que je vois, que je touche, que j'imagine, et la même que je connaissais dès le commencement. Mais ce qui est à remarquer, sa perception, ou bien l'action par laquelle on l'aperçoit, n'est point une vision, ni un attouchement, ni une imagination, et ne l'a jamais été, quoiqu'il le semblât ainsi auparavant, mais seulement une inspection de l'esprit, laquelle peut être imparfaite et confuse, comme elle était auparavant, ou bien claire et distincte, comme elle est à présent, selon que mon attention se porte plus ou moins aux choses qui sont en elle, et dont elle est composée.* » *Ibid. Méditation Seconde [Second Meditation], AT IX, 24, pp. 87.*

Descartes observed that the piece of wax could be known *clearly and distinctly* by the mind through the general category of extension. Because Descartes can only know that an object is self-subsistent through the clear and distinct inspection of his mind, he concludes that “there is evidently nothing easier for me to know than my own mind.¹⁰ This passage is meant to show that not even objects of sense perception are properly known through sensory perception, but only through the intellect. Therefore, I can know my mind more clearly than I can the objects of my sense perception, and in so far as I can know objects of sense perception, they can only be clearly and distinctly known through intellection.

Third Meditation:

At the beginning of the Third Meditation, Descartes reaffirms that the measure of truth is contained within himself: “I am certain that I am a thinking thing; but do I not therefore know what is required to render me certain of anything?”¹¹ However, even while saying that “I am *certain* that I am a thinking thing,” Descartes renders everything uncertain once again:

¹⁰ « Mais enfin me voici insensiblement revenue où je voulais ; car, puisque c'est une chose qui m'est à présent connue, qu'à proprement parler nous ne concevons les corps que par la faculté d'entendre qui est en nous, et non point par l'imagination ni par les sens, et que nous ne les connaissons pas de ce que nous les voyons, ou que nous les touchons, mais seulement de ce que nous les concevons par la pensée, je connais évidemment qu'il n'y a rien qui me soit plus facile à connaître que mon esprit. » *Ibid. Méditation Seconde [Second Meditation], AT IX, 26, pp. 91.*

¹¹ « Je suis certain que je suis une chose qui pense ; mais ne sais-je donc pas aussi ce qui est requis pour me rendre certain de quelque chose ? » *Ibid. Méditation Troisième [Meditation Three], AT IX, 27, pp. 94-95.*

And certainly, since I have no reason to believe that there is some deceiving God, and since I haven't yet considered the proofs for the existence of any God whatsoever, the ground of doubt that rests only on this supposition is very slight, and, so to speak, metaphysical. But in order to be able to completely remove it, I should inquire as to whether there is a God as soon as the opportunity presents itself; and, if I find that there is one, I should also find out if he can be a deceiver, for without the knowledge of these two truths, *I don't see how I can ever be certain of anything.*¹²

According to Descartes, the only way to dispel the evil genius is by showing that God does exist, and that he is not a deceiver. Furthermore, he claims that he cannot be certain of *anything* until he proves these two things. This means that Descartes claims that even clear and distinct ideas, i.e., the *cogito* and mathematical propositions, depend on the existence of a non-deceiving God.

The first argument for the existence of God, as explicated in the third Meditation, is not the famous ontological argument. Instead, the first argument states that the idea of God is not a fiction of my mind because I cannot even imagine an idea of absolute perfection while being myself imperfect. Descartes believes that there must be at least as much reality in a cause as in its effect, and this is why one cannot even conceive of some higher perfection without it actually existing: "Now it is manifest by the natural light that there must be at

¹² « *Et certes, puisque je n'ai aucune raison de croire qu'il y ait quelque Dieu qui soit trompeur, et même que je n'aie pas encore considéré celles qui prouvent qu'il y a un Dieu, la raison de douter qui dépend seulement de cette opinion est bien légère, et pour ainsi dire métaphysique. Mais afin de la pouvoir tout à fait ôter, je dois examiner s'il y a un Dieu, sitôt que l'occasion s'en présentera ; et si je trouve qu'il y en ait un, je dois aussi examiner s'il peut être trompeur : car sans la connaissance de ces deux vérités, je ne vois pas que je puisse jamais être certain d'aucune chose.* » My italics. Ibid. Méditation Troisième [Meditation Three], AT IX, 28, pp. 97.

least as much reality in the efficient cause and total cause as in its effect; for from whence can the effect draw its reality if not from its cause?"¹³ Thus, the cause of my idea of a perfect God must come from a real perfect God.

Furthermore, I cannot create a fictitious idea of God as I can of sensible objects, whose existence, as we have already established, can be doubted. This is stated quite clearly in *Discourse on Method*:

Although I have many thoughts of things outside of myself, like the sky, the earth, light, heat and a thousand others, I did not at all struggle to know where they came from, but because I saw nothing in them which would render them superior to me, I could believe that, if they were true, they were dependant on my nature...¹⁴

¹³ « Maintenant c'est une chose manifeste par la lumière naturelle qu'il doit y avoir pour le moins autant de réalité dans la cause efficiente et totale que dans son effet : car d'où est-ce que l'effet peut tirer sa réalité sinon de sa cause ? » *Ibid. Méditation Troisième [Meditation Three]*, AT IX, 32, pp. 107.

¹⁴ René Descartes, *Oeuvres et Lettres : Discours de la Méthode, Quatrième Partie [Works and Letters : Discourse on Method, Part Four]*, (Bruges, 1963: Sainte Catherine; reprint, 1953, Gallimard) pp. 149. All future references of this work are to this edition and all translations from the French are my own: « Pour ce qui est des pensées que j'avais de plusieurs autres choses hors de moi, comme du ciel, de la terre, de la lumière, de la chaleur et de mille autres, je n'étais point tant en peine de savoir d'où elles venaient, à cause que, ne remarquant rien en elles qui me semblât les rendre supérieures à moi, je pouvais croire que, si elles étaient vraies, c'étaient des dépendances de ma nature... »

To reiterate, I know that I err and am therefore not perfect, yet I have an idea of a perfect being. This perfect being must exist and therefore be the cause of my idea of it, because perfection cannot be born from imperfection. On the other hand, the perceived world of senses may only be a fiction of my mind because all the objects therein are less perfect than me.

Fourth Meditation:

Now that we know that God is perfect and exists, we can also deduce that God would not deceive, for deception is a sign of imperfection. However, according to Descartes, God can only assure us of our clear and distinct ideas. In other words, error is still possible. But how is error possible if God is perfect and does not deceive? Descartes concludes that we err because we have the freedom to affirm or deny. The will is in essence different from the understanding; it is unlimited, whereas the understanding is limited. Therefore, I fall into error when I will or affirm something to be true or false beyond the bounds of my understanding:

Then where do my errors come from? They can only come from the will covering a much wider range than the understanding because I don't contain it within the same limits, but I extend it even to things that I don't understand. And as the will is itself indifferent, it easily

chooses the bad instead of the good or the false instead of the true.¹⁵

The will is the cause of error, but only when it goes beyond the understanding. According to this reasoning, we can infer that upon doubting, the will places a check on itself, preventing itself from going beyond the understanding and thus preventing us from falling into error.

However, my will can no longer place a check on itself when I doubt clear and distinct ideas such as the cogito, for as we have seen, the cogito cannot be doubted without engendering contradiction. Thus, there can be no way of falling into error once I know that God is not a deceiver and that my will has not affirmed anything beyond my understanding, the latter of which can only be verified in the act of doubting everything. This means that knowledge of God's existence can only render certain clear and distinct ideas.

Fifth Meditation:

The next argument for the existence of God is often referred to as the ontological argument. Its placement in the fifth Meditation seems strange, for Descartes has already provided a proof for the existence of God and there seems to be no reason for a further proof. However, it is there, and disappointing

¹⁵ « *D'où est-ce donc que naissent mes erreurs? C'est à savoir de cela seul que, la volonté étant beaucoup plus ample et plus étendue que l'entendement, je ne la contiens pas dans les mêmes limites, mais que je l'étends aussi aux choses que je n'entends pas ; auxquelles étant de soi indifférente, elle s'égare fort aisément, et choisit le mal pour le bien, ou le faux pour le vrai.* » *Ibid. Méditation Quatrième [Méditation Four], AT IX, 46, pp. 145.*

though it may be, it is nonetheless clear enough. I will suppose that all arguments for the existence of God are, in themselves, both valid and sound for the purposes of this paper. According to Descartes, the idea of God implies *the existence of God*, by definition:

For, being accustomed to distinguish between existence and essence in all other matters, I easily persuaded myself that existence can be separated from the essence of God, and that therefore one can conceive of God as not actually existing. But nevertheless, when I think of it more attentively, I clearly find that existence can no more be separated from the essence of God than the equality of three angles to two rights angles from the essence of a rectilinear triangle, or even the idea of a valley from the idea of a mountain; in such a way, there is no less repugnance in thinking of a God (or in other words, a perfect being) to which existence is lacking than to conceive of a mountain with no valley at all.¹⁶

¹⁶ « *Car, ayant accoutumé dans toutes les autres choses de faire distinction entre l'existence et l'essence, je me persuade aisément que l'existence peut être séparée de l'essence de Dieu, et qu'ainsi on peut concevoir Dieu comme n'étant pas actuellement. Mais néanmoins, lorsque j'y pense avec plus d'attention, je trouve manifestement que l'existence ne peut non plus être séparée de l'essence de Dieu, que de l'essence d'un triangle rectiligne la grandeur de ses trois angles égaux à deux droits, ou bien de l'idée d'une montagne l'idée d'une vallée ; en sorte qu'il n'y a pas moins de répugnance de concevoir un Dieu (c'est-à-dire un être souverainement parfait) auquel manque l'existence (c'est-à-dire auquel manque quelque perfection), que de concevoir une montagne qui n'ait point de vallée.* » *Ibid. Méditation Cinquième [Meditation Five], AT IX, 52, pp. 161.*

In other words, absolute perfection necessitates existence; an absolutely perfect thing could not at the same time be a mere fiction of my mind and yet retain its perfection. God cannot be anything but absolute perfection, for God would not be God without at the same time being perfect (all-powerful, non-deceiving, etc). In other words, God's essence is existence. Therefore, God exists by definition just as geometrical demonstrations contain within themselves their proofs, and as A is equal to A.

Sixth Meditation:

Proof of the existence of a non-deceiving God was necessary in order to show that clear and distinct ideas are really true, and to ensure that I can properly deduce other knowledge from these without being deceived. Now that Descartes has proven that a non-deceiving God exists (and, as I have said previously, I will not take up dispute with these proofs), he here tries to show how material things are to be known in the sixth and last Meditation:

The only thing left for me to examine is the existence of material things: Certainly at the very least I already know that they exist in so far as they are objects of geometrical demonstrations, seeing that in this way I conceive of them very clearly and very distinctly.¹⁷

¹⁷ « *Il ne me reste plus maintenant qu'à examiner s'il y a des choses matérielles : et certes au moins sais-je déjà l'objet des démonstrations de géométrie, vu que de cette façon je les conçois fort clairement et fort distinctement.* » *Ibid. Méditation Sixième [Meditation Six], AT IX, 57, pp. 173.*

Material things are known clearly and distinctly through mathematical propositions. By returning to the wax example, we see that Descartes had already assumed the above statement—that material things may be known clearly and distinctly in so far as they are known through mathematics—and only needed to verify that God is not a deceiver. In the example, the piece of wax could not be known by the properties that we would normally associate with it, i.e., hardness, color, smell, etc., but only by the idea of extension in general, as it is applied to all objects. Furthermore, extension in general can be known mathematically or geometrically, and Descartes claims that this is the proper way to know material objects.

Now we know in what way material objects are to be known, if they are to be known, but we have yet to see Descartes prove that they really exist. Descartes concludes that because a perfect, non-deceiving God exists, it is highly unlikely that we would be deceived in believing that corporeal objects exist as well:

Because he [God] has not given me any faculty for knowing this is the case, but on the contrary, a very strong inclination to believe that they have been given to me or that they come from corporeal objects, I don't see how we can excuse him of deception if, in fact, the ideas came from or were produced by causes other than corporeal things; therefore, we must admit that corporeal things exist.¹⁸

¹⁸ « *Car ne m'ayant donné aucune faculté pour connaître que cela soit, mais au contraire une très grande inclination à croire qu'elles me sont envoyées ou qu'elles partent des choses corporelles, je ne vois pas comment on pourrait l'excuser de tromperie, si en effet ces idées partaient ou étaient produites par d'autres causes que par des choses corporelles. Et partant il faut confesser qu'il y a des choses corporelles qui existent.* » *Ibid. Méditation Sixième [Meditation Six], AT IX, 63, pp. 189.*

So, Descartes does not *prove* that material objects exist, strictly speaking. Descartes finds that, while he has not been given the ‘faculty for *knowing*’ this is the case,’ he must believe that material objects exist. He brings up the point that God would have to be a deceiver if material objects didn’t really exist, for Descartes believes that God has given him a ‘strong inclination to believe’ in corporeal objects. Therefore, as he says, “we must admit that corporeal things exist.” After a rigorous application of extreme doubt, Descartes seems to permit one belief, or rather, God-given ‘strong inclination.’

However, while Descartes concludes that corporeal objects exist since God has given him a strong inclination to believe so, he does not say that they exist in just the way that we perceive them. External objects are known in so far as they can be understood mathematically as extension:

However, perhaps they [external objects] are not entirely such as we perceive them by our senses, for sense perception is very obscure and confused in many cases; but at least it is necessary to admit that all the things which I conceive clearly and distinctly, or in other words, everything that is included as an object of speculative geometry, is, generally speaking, truly external to me.¹⁹

God does not guarantee that which is derived from sense perception, but only clear and distinct ideas and the existence of external objects in general.

¹⁹ « *Toutefois elles ne sont peut-être pas entièrement telles que nous les apercevons par le sens, car cette perception des sens est fort obscure et confuse en plusieurs choses ; mais au moins faut-il avouer que toutes les choses que j'y conçois clairement et distinctement, c'est-à-dire toutes les choses, généralement parlant, qui sont comprises dans l'objet de la géométrie spéculative, s'y retrouvent véritablement.* » *Ibid. Méditation Sixième [Meditation Six], AT IX, 63, pp. 189.*

It is important to briefly sum up all that Descartes believes we can know with certainty. We know that God exists and is no deceiver. Because we know that God exists, we can be assured that our clear and distinct ideas are true. The clear and distinct ideas are: the cogito, mathematics, and the proofs for the existence of God (I will ignore the circularity of this argument for now). Therefore, according to Descartes, we can know nature through mathematics, which is, in turn, rendered certain by the knowledge of God. Now that we have a basic understanding of Descartes' arguments as well as what he concluded from them, we can see whether or not religion has been excluded.

Criticism

The Absence of Religious Knowledge:

From Descartes' method, we have come to understand that the world is not necessarily what it seems. Common sense can never yield certain knowledge, for we must begin with doubt in order to ensure that the will does not affirm anything beyond the understanding. On the other hand, common sense does not doubt that there is a certain order in the universe, and while we may not know exactly what that order is, the idea that every entity serves a function that benefits us and an organic whole is an idea that guides the way we understand and live in the world. We can conclude that, in Descartes' method, a teleological understanding of the world cannot be considered knowledge, for teleology is common sensical.

In the following passage, Descartes clearly denies a common sense teleological understanding of nature:

Considering this more attentively, the first thing that comes to my mind is that I should not be at all surprised if my intelligence is not capable of grasping why God does what he does...and this reason alone is sufficient to persuade me that the whole class of causes, which we have a custom of taking all the way up to the final cause, is of no use in [studying] physical or natural things; for it seems to me that I cannot, without the charge of temerity, seek and undertake to

discover the impenetrable ends of God.²⁰

In other words, although Descartes admits that God created the world, he also says that we cannot study nature or come to know God by understanding the world as a teleologically designed universe, for we “cannot, without the charge of temerity, seek and undertake to discover the impenetrable ends of God.” Descartes rejects teleology altogether as if it were an act of hubris to consider such an idea.

The conclusion that teleology must be excluded is one that is directly derived from his method: God can only assure us of clear and distinct ideas. If nature is to be known at all, it must be known through mathematics as extension, because, as we recall, this was the only clear and distinct idea that could tell us anything about external objects. However, nature may not be as we perceive it, and therefore, for all we know, it may not have any moral order at all. Hence, God’s order (teleological order) is taken out of the material world completely, for this supposition belongs only to the imagination (or common sense), meaning that it could be fictitious and can’t really be considered knowledge. Thus, Descartes separates God from nature altogether.

²⁰ « *Considérant cela avec plus d’attention, il me vient d’abord en la pensée que je ne me dois point étonner, si mon intelligence n’est pas capable de comprendre pourquoi Dieu fait ce qu’il fait...Et cette seule raison est suffisante pour me persuader que tout ce genre de causes, qu’on a coutume de tirer de la fin, n’est d’aucun usage dans les choses physiques, ou naturelles ; car il ne me semble pas que je puisse sans témérité rechercher et entreprendre de découvrir les fins impénétrables de Dieu.* » Ibid. Méditation Quatrième [Meditation Four], AT IX, 44, pp.139.

Descartes recognized that *his* mechanistic view of nature was fundamentally antagonistic to a common sense teleological view of nature. However, Descartes sometimes speaks of God as the Creator of the universe, thereby implying that God is not separated from nature:

And considering the nature of God, it does not seem possible to me that he would give some faculty [to his work] which is imperfect in its kind... but if it is true that the more the craftsman is an expert, the more the works which leave his hands are perfect and complete, what being could we imagine to have been produced by the sovereign Creator of all things that is not completely perfect and entirely complete in all its parts?²¹

But Descartes goes on to say that, "I should not at all be surprised at myself if my intelligence is incapable of understanding why God does what he does."²² Descartes ends up with the conclusion that, although the Creator is perfect, and although a perfect creator can only create a perfect world, we cannot have any knowledge of the Creator's order of which we partake. In other words, for all practical purposes, the idea that God created a morally ordered world is rendered useless to us.

Furthermore, Descartes claims that we have to have knowledge of a non-deceiving God's existence to know anything, yet his reasons for why this is so are

²¹ « *Et considérant la nature de Dieu, il ne me semble pas possible qu'il ait donné quelque faculté qui soit imparfaite en son genre...car s'il est vrai que plus l'artisan est expert, plus les ouvrages qui sortent de ses mains sont parfaits et accomplis, quel être nous imaginerons-nous avoir été produit par ce souverain Créateur de toutes choses, qui ne soit parfait et entièrement achevé en toutes ses parties ?* » *Ibid.*, *Méditation Quatrième* [*Meditation Four*], *AT IX*, 44, pp.137.

²² « ...je ne me dois point étonner, si mon intelligence n'est pas capable de comprendre pourquoi Dieu fait ce qu'il fait... » *Ibid.*, *Méditation Quatrième* [*Meditation Four*], *AT IX*, 44, pp.137.

quite superficial—we need to know that we are not deceived by an evil genius when doing mathematical deduction and that memory does not fail us while we are reasoning:

For on the one hand, although I am of such a nature that, as soon as I understand something very clearly and distinctly, I am naturally inclined to believe it is true; nevertheless, on the other hand I am also of such a nature that I cannot always have my mind constantly fixed on the same thing, and I often recollect having judged a thing to be true, but when I stop considering the reasons that obliged me to judge it so, other reasons are presented to me at this time which would make it very easy for me to change my opinion had I not known that God exists. And thus, I would never have a true and certain science of anything, but only vague, ever-changing opinions.²³

From what Descartes supposes, it seems as though we no longer have to think much about God after we've proven that God exists and is not a deceiver. We only need to remember that God exists, and from then on we can have confidence that we are not altogether deceived or wrong about our clear and distinct ideas and our deductions based on them. Once again, the idea of God does not drive our understanding of anything, but instead only serves as a loose anchor in the Cartesian methodology, from which we take off completely on our own.

²³ « *Car encore que je sois d'une telle nature, que, dès aussitôt que je comprehends quelque chose fort clairement et fort distinctement, je suis naturellement porté à la croire vraie, néanmoins, parce que je suis aussi d'une telle nature, que je ne puis pas avoir l'esprit toujours attaché à une même chose, et que souvent je me ressouviens d'avoir jugé une chose être vraie ; lorsque je cesse de considérer les raisons qui m'ont obligé à la juger telle, il peut arriver pendant ce temps-là que d'autres raisons se présentent à moi, lesquelles me feraient aisément changer d'opinion, si j'ignorais qu'il y eût un Dieu. Et ainsi je n'aurais jamais une vraie et certaine science d'aucune chose que ce soit, mais seulement de vagues et inconstantes opinions.* » *Ibid. Méditation Cinquième [Meditation Five], AT IX, 55, pp. 167.*

Not only does the idea of a perfect God teach us nothing about the world, according to Descartes, but also the world teaches us nothing about God. By rejecting teleology, Descartes' mechanistic universe can only teach us to "shun what causes in me the sensation of pain, and to pursue what affords me the sensation of pleasure and other things of this sort."²⁴ In other words, Descartes understands nature as that which teaches him how to survive and how to live a hedonistic life, but it doesn't teach him how to live a good life or how to seek happiness (which may be different from the momentary pleasure that he speaks of here). According to Descartes, nature does not teach us anything about our place in a moral order.

If knowledge of God does not teach us anything about nature, and nature does not teach us anything about God, meaningful religious knowledge is impossible. According to Descartes, we may only have *faith* in most religious matters, with the exception of the knowledge that God exists. But if religion is not a way of *rationally* knowing, then it is excluded from the collective human endeavor to obtain truth. Descartes does not seem to take issue with this idea, for it seems to be enough that we can rationally know that God exists. However, this bit of religious knowledge does not yield additional *religious* (teleological) truths, but instead security in mathematical deductive reasoning, of which religion does

²⁴ « *Or cette nature m'apprend bien à fuir les choses qui causent en moi le sentiment de la douleur; et à me porter vers celles qui me communiquent quelque sentiment de plaisir...* » *Ibid. Méditation Sixième [Meditation Six]*, AT IX, 65, pp. 195.

not take part of. Thus, religious knowledge is, for the most part, excluded from Descartes' philosophy.

The Exclusion of Ethics:

Not only does Descartes exclude religious knowledge, but he also excludes knowledge of ethics or morality, although he seems to think that some kind of ethical or moral code can be deduced from the proofs for God's existence. In the *Principles of Philosophy*, Descartes claims that metaphysics is to provide the foundation for science, medicine, and ethics:

All philosophy is like a tree, of which metaphysics is the root, physics is the trunk, and the branches that grow out of the trunk are all the other sciences, which are reduced to three principal; namely, medicine, mechanics, *and ethics*. I understand that the highest and most perfect science, morality, which presupposes the complete knowledge of all the other sciences, is the last degree of wisdom.²⁵

But do we have to know that God exists in order to have a science of ethics? Descartes pretends that we do; furthermore, as was shown previously, he says that we have to know that God exists in order to know anything at all.

However, although Descartes claims to be interested in securing a science of ethics, Descartes did not sufficiently address it. In fact, one finds a remarkable

²⁵ « *Ainsi toute la philosophie est comme un arbre, dont les racines sont la métaphysique, le tronc est la physique, et les branches qui sortent de ce tronc sont toutes les autres sciences, qui se réduisent à trois principales, à savoir la médecine, la mécanique et la morale ; j'entends la plus haute et la plus parfaite morale, qui présupposant une entière connaissance des autres sciences, est le dernier degré de la sagesse.* » My italics. *Ibid. Des Principes de la Philosophie, [Principles of Philosophy]*, Le Préface, pp. 566.

absence of any treatise on ethics in Descartes' philosophy, despite the fact that he lists it in the above citation as the 'highest and most perfect science' to be upheld by metaphysics. What he does say about ethics, in a more concrete way, can only be found as a provisional moral code in *Discourse on Method*:

And, finally, as it is not enough that a house be pulled down and materials and builders be provided before beginning to rebuild the house in which we live, or that we engage in the work ourselves according to a plan which we have carefully drawn out beforehand, but as it is also necessary that we be furnished with some other house in which we may live commodiously throughout this time; likewise, so that I might not remain irresolute in my actions while reason compelled me to suspend my judgment, and so that I might not be prevented from living as happily as I am able from now on, I formed a provisional code of morals composed of three or four maxims which I would like to share with you.²⁶

However, nothing more secure emerged later to replace it; there was no reconstruction of morality, only deconstruction, and now we are left with the provisional shack. Where is the science of ethics that Descartes promises and is it even possible? Shall morality remain provisional? We should see what would happen if it does.

Descartes claims that there are three or four maxims to his provisional moral code: 1) obey the laws of my country, 2) be firm and resolute in my actions

²⁶ « *Et enfin, comme ce n'est pas assez, avant de commencer à rebâtir le logis où on demeure, que de l'abattre et de faire provision de matériaux et d'architectes, ou s'exercer soi-même à l'architecture, et outre cela d'en avoir soigneusement tracé le dessin, mais qu'il faut aussi s'être pourvu de quelque autre où on puisse être logé commodément pendant le temps qu'on y travaillera ; ainsi, afin que je ne demeurasse point irrésolu en mes actions, pendant que la raison m'obligerait de l'être en mes jugements, et que je ne laissasse pas de vivre dès lors le plus heureusement que je pourrais, je me formai une morale par provision, qui ne consistait qu'en trois ou quatre maximes dont je veux bien vous faire part. » *Ibid. Discours de la Méthode, Troisième Partie, [Discourse on Method, Part Three]*, first line, pp. 140.*

3) change my desires rather than the order of the world. Unfortunately, his provisional moral code was only meant to safeguard (in a rather unconvincing way) against nihilism. "To obey the laws of my country" is a common sense attitude on morality and it might be a good maxim to follow—but only if one's country's laws are just. However, it is not difficult to imagine cases where obeying the laws of one's country might prove to be the wrong thing to do; blindly following one's country's laws seems not only ridiculous, but dangerous. The second maxim, the idea that we ought to change our desires rather than the world, is Stoicism. Perhaps there is truth to this idea, yet it is merely taken from those same traditions and beliefs that Descartes finds dubious. Resolution, which is the third maxim, is undoubtedly a practical one, but once again, we must act quickly and firmly, but not necessarily thoughtfully, with regard to what is right or wrong. Thus, his moral code, if not altogether disappointing, is definitely not what a thoughtful and conscientious moralist would say.

Strangely enough, we find no other moral code superior to this one after these works on method, nor do we find them in any other sections of his works. Instead, we find that morality receives some scattered mention, with little to no elaboration. There is a remarkable silence in this area, a silence which speaks when listened to. Despite his efforts to construct a provisional moral code,

Descartes fails to show that knowledge of God's existence serves as a principle upon which a science of ethics can be founded.

The Cartesian Circle:

There is still the question of circularity that I said I would address at the end. To what extent do Descartes' arguments for the existence of God provide a foundation for the quantification of nature?

Both arguments for the existence of God are often deemed circular in Descartes' method because they rely on deduction when the existence of God is meant to prove the reliability of deduction. It is often put in this way: A non-deceiving God exists because I clearly and distinctly perceive this to be true. My clear and distinct ideas are true because a non-deceiving God exists. This argument, as stated, is indeed circular. However, before charging Descartes with circularity, it will first be necessary to define what is meant by 'clear and distinct' ideas in order to make sure that we are not using the term equivocally.

'Clear and distinct' is a term that Descartes often *seems to use* to define certainty. We are often led to think that when we arrive at a clear and distinct idea, we have reached a point at which we know when to stop doubting and can claim some proposition to be true; however, it is usually around the time when we believe that we have obtained a clear and distinct idea—i.e., a certain truth—

that the ‘evil genius’ comes in to render our ideas uncertain once again. Yet time and time again, Descartes admits that he would not accept anything as true unless he could *clearly and distinctly* know it to be such, as we will see from excerpts in the text. What are we to make of this term, ‘clear and distinct’? Ironically, the phrase ‘clear and distinct’ is vague, and this ends up being the cause for many problems in the Cartesian method.

While no clear definition of ‘clear and distinct’ ideas can be found in the *Meditations*, Descartes defines it in this way in Part one of the *Principles of Philosophy*:

There are indeed some people who never perceive anything in a way necessary for judging of it properly throughout their whole lifetime, for the knowledge upon which we can establish an indubitable judgment must not only be clear, but also distinct. I call that clear which is present and manifest to the attentive mind, just as we are said to see objects clearly when, being present, they stimulate our eyes with sufficient force such that we are disposed to regard them; but distinctness is that which is so precise and different from all other objects, only comprehending in itself what appears manifestly for those who consider it as they should.²⁷

Here, he defines ‘clear’ as being present at this very moment, and ‘distinct’ as something absolutely different from all other objects, “comprehending in itself what appears manifestly.” However, Descartes seems to conceive of a more

²⁷ « *Il y a même des personnes qui en toute leur vie n'aperçoivent rien comme il faut pour en bien juger ; car la connaissance sur laquelle on peut établir un jugement indubitable doit être non seulement claire, mais aussi distincte. J'appelle claire celle qui est présente et manifeste à un esprit attentif ; de même que nous disons voir clairement les objets lorsque étant présents ils agissent assez fort, et que nos yeux sont disposés à les regarder ; et distincte, celle qui est tellement précise et différente de toutes les autres, qu'elle ne comprend en soi que ce qui paraît manifestement à celui qui la considère comme il faut.* » *Ibid. Des Principes de la Philosophie, [Principles of Philosophy]*, 45, pp. 590.

precise definition of clear and distinct ideas in the *Meditations*, although he does not properly define his own term. What Descartes means by this phrase can only be gathered through its usage, which I believe can be summarized as *that which cannot be doubted without engendering a kind of rationally-intuited contradiction is clear and distinct, and only in the actual moment of doubting/apprehending it*. To verify that this definition is how Descartes conceived of it, I will give a few examples of how he uses this term, as this is the only way by which we can fully understand what he meant by ‘clear and distinct’ ideas.

The first time that we hear of ‘clear and distinct’ ideas (and not just ‘clear’ in the colloquial sense) is in the second Meditation, where Descartes describes how we can look at the same piece of wax either confusedly or ‘clearly and distinctly’:

But what is this wax which can only be conceived by the understanding of the mind? Certainly it is the same that I see, touch, and imagine—the same that I thought it was from the beginning. But we should notice that perception is not an act of seeing, touching or imagining, and never was, although it seemed that way previously, but only an inspection of the mind, which can be imperfect and confused, as it was previously, or clear and distinct, as it is now, according to how attentive I am to the things that are in it, and of which it is composed.²⁸

²⁸ « *Or quelle est cette cire, qui ne peut être conçue que par l'entendement ou l'esprit? Certes c'est la même que je vois, que je touche, que j'imagine, et la même que je connaissais dès le commencement. Mais ce qui est à remarquer, sa perception, ou bien l'action par laquelle on l'aperçoit, n'est point une vision, ni un attouchement, ni une imagination, et ne l'a jamais été, quoiqu'il le semblât ainsi auparavant, mais seulement une inspection de l'esprit, laquelle peut être imparfaite et confuse, comme elle était auparavant, ou bien claire et distincte, comme elle est à présent, selon que mon attention se porte plus ou moins aux choses qui sont en elle, et dont elle est composée.* » *Ibid. Méditation Seconde [Second Meditation], AT IX, 24, pp. 87.*

As we recall, the piece of wax was ‘clearly and distinctly’ perceived when he realized that it was an object belonging to the category of extension, and that it was confusedly perceived when he thought that it was a compilation of properties such as hardness, color, smell, etc. Here, Descartes says that it is only properly perceived by the mind, or as he puts it, an ‘intuition of the mind.’ We must take note of what ‘intuition of the mind’ means.

We often hear the word ‘intuition’ in the context of ‘women’s intuition’ or ‘I follow *my* intuition more often than my *reason*.’ However, here, ‘intuition’ does not refer to an individual’s special understanding that surpasses reason’s grasp, but instead the opposite—it is collective to all rational minds. Moreover, ‘intuition of the mind’ is used to designate a foundational truth that cannot itself be formally proven, for if it could be, it would cease to be foundational. However, foundational truths are intuited by reason rather than ‘intuition’ in the common use of the word because upon doubting its truth, one falls into contradiction and absurdity. As we recall, extension is the way by which we know that a perceptual object is the self-same object through change. If I supposed that nothing were extended, I would not be able to conceive of objects at all; the word ‘object’ would have no meaning, as no ‘thing’ would be

distinguishable from anything else. There are no formal arguments to prove that this is the case—one needs only to think about it in order to realize the truth of it.

Furthermore, we can gather from this quote that clearness and distinctness is a quality that can only emerge through focus and attention. It is not that the object is clear and distinct in itself, for it can be seen either confusedly or clearly and distinctly. In the first case, I viewed the piece of wax as an object with several properties, but I later reflected upon this same piece of wax and realized that those properties such as hardness, color and smell really aren't essential to the object itself. Thus, my attentiveness (concentrated reflection) allowed me to realize that I really only know the object's essence through my 'mind's eye,' but not through my senses.

We now have a better idea of what 'clear and distinct' means; however, we still cannot be sure of what it means until we look at its usage in more than one context. The second time that he uses this term is upon reiterating the *cogito*. Here, he says:

But finally, what will I say of this mind, that is, of myself? For up until this point I have only admitted that I am a mind. What can I say of myself, who seems to conceive so clearly and distinctly this piece of wax? Do I not know myself, not only with more truth and certitude, but even more clearly and more distinctly?²⁹

²⁹ « *Mais enfin, que dirai-je de cet esprit, c'est-à-dire de moi-même? Car jusques ici je n'admetts en moi autre chose qu'un esprit. Que prononcerai-je, dis-je, de moi qui semble concevoir avec tant de netteté et de distinction ce morceau de cire ? Ne me connais-je pas moi-même, non seulement avec bien plus de vérité et de certitude, mais encore avec beaucoup plus de distinction et de netteté ?* » Ibid. Méditation Seconde [Second Meditation], AT IX, 25-26, pp. 89.

So now we can add to our definition that there are *degrees* of clearness and distinctness. He seems to believe that knowledge of the cogito is *more* clear and distinct than the previous example of the extension of the wax. Furthermore, he later states: "...it seems to me that I may now take as a general rule that everything very clearly and distinctly conceived is true."³⁰ Taking all of this into account, we see that because 'clearness and distinctness' can vary in degree, and because 'clear and distinct' ideas are also *true*, there is a serious problem with Descartes' conception of 'clear and distinct' ideas; we cannot say that one proposition is 'truer' than another, for truth and falsity are *not* matters of degree, logically speaking. If we allow 'clear and distinct' ideas to vary in degree such that they can be more or less true, we cannot allow them to be at the same time manifestly contradictory.

Nevertheless, I will give Descartes the most generous interpretation for now by defining clear and distinct ideas as *that which cannot be doubted without engendering a rationally-intuited contradiction*. If this interpretation leaves him with a circular argument, we will try to understand his argument differently as an attempt to bring him out of circularity.

³⁰ « *Et partant il me semble que déjà je puis établir pour règle générale, que toutes les choses que nous concevons fort clairement et fort distinctement, sont toutes vraies.* » *Ibid. Méditation Troisième [Meditation Three], AT IX, 27, pp. 95.*

Now that we have a better understanding of the term ‘clear and distinct’ ideas, we can more properly decide if Descartes constructs a circular argument, from all possible meanings of the term. From the interpretation that we are now taking, the argument ought to be considered circular if Descartes says that the proofs for the existence of God are certain because they are clear and distinct ideas, and that clear and distinct ideas are true because of God’s existence. In fact, he does say that the knowledge of the existence of God is a clear and distinct idea:

...the idea of a complete and independent being—that is to say, of God—occurs to my mind with such distinction and clearness that I conclude, from the fact alone that this idea is found in me, or that I, who possess this idea, exist, that the existence of God is so evident, and that my own existence depends on his in every moment of life, that I don’t think the human mind can know anything more evidently or certainly.³¹

In the above quote, Descartes says that knowledge of God’s existence occurs to Descartes’ mind with ‘distinction and clearness.’

On the other hand, Descartes explicitly says that the proofs for the existence of God are meant to prove that clear and distinct ideas are true:

...because every clear and distinct conception is undoubtedly

³¹ « ...l’idée d’un être complet et indépendant, c’est-à-dire de Dieu, se présente à mon esprit avec tant de distinction et de clarté ; et de cela seul que cette idée se retrouve en moi, ou bien que je suis ou existe, moi qui possède cette idée, je conclus si évidemment l’existence de Dieu, et que la mienne dépend entièrement de lui en tous les moments de ma vie, que je ne pense pas que l’esprit humain puisse rien connaître avec plus d’évidence et de certitude. » *Ibid. Méditation Quatrième [Meditation Four], AT IX, 42, pp. 133.*

something real and positive and as such cannot come from nothing, it must necessarily have God as its author—and God, being supremely perfect, cannot without contradiction be the cause of any error; and consequently it is necessary to conclude that such a conception or judgment is true.³²

The two quotes above prove that Descartes believed that his argument for the existence of God was a clear and distinct idea, and also that clear and distinct ideas depend on the existence of God. In arguing for God's existence, Descartes pretends to move the measure of truth outside of his own judgment in order to assure his own judgment; however, he cannot move the measure of truth beyond 'clear and distinct' ideas, if he is to admit of any foundational truth at all. For example, when Descartes shows how the idea of God necessarily contains the existence of God (in the ontological argument), he never shows how this 'clear and distinct idea' differs from the *cogito* or '2+2=4'. In fact, the ontological argument depends on the definition of God just as the conclusion '4' depends on the definition of 2 added to 2. Therefore, we ought to conclude that his argument is indeed circular.

In order to make sure that I am not misinterpreting Descartes, I will now suppose that 'clear and distinct' ideas are only true in the actual moment of apprehending them unless we have knowledge of God's existence. Descartes

³² « ...parce que toute conception claire et distincte est sans doute quelque chose de réel et de positif, et partant ne peut tirer son origine du néant, mais doit nécessairement avoir Dieu pour son auteur, Dieu, dis-je, qui, étant souverainement parfait, ne peut être cause d'aucune erreur; et par conséquent il faut conclure qu'une telle conception ou un tel jugement es véritable. » *Ibid. Méditation Quatrième [Méditation Four]*, AT IX, 49-50, pp. 151-153.

believed that God ensured our memory in logical deduction, and that we would not be deceived when we have clear and distinct ideas. If I didn't have knowledge of God, my other clear and distinct ideas would only be certain when I attend to them, and only then. As long as I remember having once attended to them in the past, and as long as I remember having once proven the existence of God to myself, I can rest assured that my valid arguments from these premises will be sound.

If the above is in fact what Descartes is saying, and if knowledge of God gives logic its glue by providing us with memory, then Descartes' argument is still circular, for memory is required in order to *deduce and remember* that God exists. I have to first of all determine that the meaning of God entails perfection, and that existence is more perfect than non-existence. If I remember these two premises, from here I can conclude that God exists. For the other argument, I have to remember that perfection cannot be born from imperfection, that I am imperfect and that God is perfect, therefore God exists and created the idea I have of him. Granted, there may not be *much* memory involved in either of these arguments, but it is memory nonetheless, for these are arguments, and as such, they necessitate that I remember the first premise in order to move to the next.

Thus, either way we chose to interpret the term 'clear and distinct' ideas, Descartes makes a circular argument. The only better option for Descartes'

argument is that clear and distinct ideas do not need validation by the existence of a non-deceiving God. If Descartes were to leave out the “evil genius” function in his method, he could still show that God exists, the cogito is true, and mathematical proofs are certain, for the ‘evil genius’ function only serves to render clear and distinct ideas dubious without knowledge of God’s existence. However, God’s existence cannot be considered a foundational truth upon which all the others rest, even if, as I have shown, we give Descartes’ writing the most generous interpretation. Clear and distinct ideas do not depend on knowledge of God’s existence, but rather the other way around.

Conclusions on Descartes

In the first argument, we saw that we no longer have to think about God after we've proven that God exists. God only assures us that we can make mathematical deductions using reason, but not that our common sense understanding is true. Thus, knowledge of God's existence is superficially used to serve as a foundation of all knowledge. However much we can thank God that we have the memory capacity to reason and to make moral decisions, it was technology and medicine that Descartes concerned himself with securing—not knowledge of religion or morality. It is true that the physical universe could be studied and manipulated to the benefit of mankind, producing various comforts and health benefits, but we have yet to know what it means to benefit mankind, for this was never explored in itself. Thus, science has no guiding light, and this could prove to be dangerous, as Descartes' provisional moral code suggests. We can conclude that Descartes' method excludes meaningful knowledge of religious and ethical matters by denying us a teleological understanding of the universe.

In the last argument, I showed that Descartes created a circular argument; clear and distinct ideas—i.e., mathematical propositions—do not depend on knowledge of God's existence. We now see that the proofs for the existence of God are tacked on to Descartes' overall argument, just like his provisional moral

code in the Discourse on Method. They are left dangling on their own along with the closed off thought-world of the cogito, which was never fully explored or understood.

What can be concluded of Descartes' method is that we know nothing about God through nature, nothing about our place in this mechanistic universe that runs much like a wind-up clock, started by God but then ignored, little to nothing about morality or ethics, psychology, the soul, or the good life, in so far as these things cannot be quantified. We find that the only useful knowledge that we can take out of Descartes' method is mathematical certainty, and this certainty comes at the price of religious and moral understanding, tearing both mind out of nature, and nature out of cosmic order.

While my arguments may seem to suggest a disdain for modern science, this has not been my intent. In itself, there is nothing wrong with the Cartesian way of investigating physical nature, for it has undoubtedly helped us to understand many things that we would not have been able to do previously. Instead, my intent has been to show that Cartesianism as a philosophical and scientific worldview is lacking, and that perhaps we ought to find a way to reconcile the modern worldview that Descartes has left us with to a teleological,

or purpose-driven, understanding of the world. It could be that without this reconciliation, we will be left with the disparity between science and religion.

Plato: Teleology and Science

Introduction

Thus far I have talked about teleology as the key factor in understanding the disparity between science and religion today, and I showed that it was clearly rejected in Descartes' method. However, I have yet to explain what teleology really means, other than that it is based on the idea that the universe is designed. One might ask, how, exactly, is the universe designed, and what exactly is this order? Plato was very much occupied with this question. It will be necessary to explain what his conception was without trying to discern whether or not he was right or wrong. In the general conclusion of the entire paper, I will tackle the question of whether or not Plato was right, keeping in mind that the purpose of this entire work is to try to reconcile science and religion as we understand them today.

In the first section on Plato, I will start with an explanation of Plato's conception of the difference between mechanism and teleology, as it is explained in the *Phaedo*. In the second section, it will be necessary to explain how Plato conceives of the idea of the good as the foundation of knowledge in the *Republic*,

and then lastly, how the good orders the cosmos in the *Timaeus*, in which Plato gives us clues on how he thinks we ought to conduct scientific investigation.

Phaedo: The Distinction between Mechanism and the Good

There are many other important themes in this dialogue (such as Socrates' death), but in the section that I will discuss (96a-99d), Socrates explains why mechanistic causality is insufficient for understanding the world. By examining this section in depth, I believe that we will have a better understanding of Plato's conception of teleology.

Socrates begins by explaining that when he was younger, he had "an extraordinary passion for that branch of learning which is called natural science."³³ However, Socrates soon became disenchanted with the natural sciences, for he found that they could only provide a limited mechanistic explanation, one which failed to account for the moral order of the universe. Socrates continues to explain how one day he met someone who claimed to be able to provide the kind of account that he had been seeking:

However, I once heard someone reading from a book, as he said, by Anaxagoras, and asserting that it is mind that produces order and is the cause of everything. This explanation pleased me.³⁴

When Anaxagoras asserted that mind (*nous*) was the cause of everything, Socrates assumed that he would be graced with a full teleological account of the

³³ Plato, *Phaedo*, *The Collected Dialogues of Plato* (Princeton, New Jersey: Princeton University Press, 2002), taken from *The Last Days of Socrates*, translated and with an introduction by Hugh Tredennick (Harmondsworth, Middlesex: Penguin Classics, 1954). All future references are to this edition, and are in accordance with Stephanus citation, 96a.

³⁴ *Ibid.*, 97b-c.

universe. In other words, Socrates hoped that Anaxagoras would tell him how everything within the universe was morally ordered by the good.

Socrates' hope would end in disappointment, for he discovered that Anaxagoras accounted for everything by use of mechanistic causal explanations rather than by mind (or goodness). In the following citation, Plato implies that just as a purely mechanistic account cannot explain human behavior, so too is it insufficient in accounting for the cause of everything:

As I read on I discovered that the fellow made no use of mind and assigned to it no causality for the order of the world, but adduced causes like air and aether and water and many other absurdities. It seemed to me that he was just about as inconsistent as if someone were to say, The cause of everything that Socrates does is mind—and then, in trying to account for my several actions, said first that the reason why I am lying here now is that my body is composed of bones and sinews, and that the bones are rigid and separated at the joints, but the sinews are capable of contraction and relaxation, and form an envelope for the bones with the help of the flesh and skin, the latter holding all together, and since the bones move freely in their joints the sinews by relaxing and contracting enable me somehow to bend my limbs, and that is the cause of my sitting here in a bent position.³⁵

Plato here implies that when Anaxagoras adduced all things from mechanism rather than mind, he was not only inconsistent, but also reductionist, thereby missing the true cause of everything.

However, we ought to note that Plato does not find anything wrong with the mechanistic understanding of nature, in itself. It is not that the particular

³⁵ *Ibid.*, 98b-d.

construction of the limbs and joints do not, to some degree, enable Socrates to be sitting in the prison cell, but simply that Socrates' physical capacity to sit in a particular way is not a proper causal explanation for his *moral* behavior:

Or again, he tried to account in the same way for my conversing with you, adducing causes such as sound and air and hearing and a thousand others, *and never troubled to mention the real reasons*, which are that since Athens has thought it better to condemn me, therefore I for my part have thought it *better* to sit here, and *more right* to stay and submit to whatever penalty she orders. Because, by dog, I fancy that these sinews and bones would have been in the neighborhood of Megara or Boeotia long ago—impelled by a conviction of what is best!...*But to call things like that causes is too absurd. If it were said that without such bones and sinews and all the rest of them I should not be able to do what I think is right, it would be true. But to say that it is because of them that I do what I am doing, and not through choice of what is best—although my actions are controlled by mind—would be a very lax and inaccurate form of expression.*³⁶

One who completely denies or excludes moral order also implies that the common sense understanding of causality is wrong, and that Socrates is really sitting there *only* because his bones and sinews operate mechanically and allow him to take a particular physical position inside the prison cell, but not because he made a moral decision and chose to stay rather than to flee.

A purely materialistic or mechanistic cause attributes the wrong cause to *why* we behave the way we do. If I were to ask “Why is Socrates in prison?” it would seem strange to us if someone responded that he sits there because of the positioning of his bones and sinews—in fact, this response would seem so absurd

³⁶ My italics. *Ibid.*, 98d-99b.

that one would probably think that it was a joke. To respond in this way would be to answer an entirely different question: "What makes it possible for Socrates to physically sit down in the prison cell?" Mechanistic causation cannot tell us why Socrates is in prison, for a true account would have to be teleological, which means it would have to tell us why Socrates thought it *best* to stay in prison.

While the reduction of all of *our* actions to mechanistic explanation seems wrong to us, the mechanistic reduction of *nature* does not seem so wrong. We feel that we are impelled to act by our moral convictions, but not by our physical ability to carry out our moral convictions. On a basic level, we understand ourselves as free-thinking beings, and the cause for human behavior will generally be some kind of value judgment. On the other hand, the idea that the universe is ordered according to goodness is not so evident. The question we must ask ourselves now is this: Does teleology apply to all of nature in the same way that it does to human behavior? Most of us would not deny that we have an idea of goodness that drives our behavior, but could the same idea of goodness drive the entire universe as well?

It seems to me that the contemporary scientist would respond in the following way, according to a Cartesian attitude: When speaking of the universe, we do not know that any of it is or has been constructed by a mind choosing the best possible mode of existence for everything within it. However, we do know

nature in so far as we can describe it with our physics, which we can do for the most part with great accuracy by virtue of mathematics. Because it is possible that the universe is not morally ordered, we should not attribute a non-physical cause to what may be a purely physical entity. Even if the universe is good, we wouldn't know it.

Plato would not agree with this view. He would say that science ought to include a teleological understanding of the universe, and that on the contrary, we ought to assume that the world is guided by goodness. In the example of Anaxagoras, Socrates explains how one ought to explain the causality of the universe:

I assumed he would begin by informing us whether the earth is flat or round, and would then proceed to explain in detail the reason and logical necessity for this *by stating how and why it was better that it should be so*. I thought that if he asserted that the earth was in the center, he would explain in detail that it was better for it to be there; and if he made this clear, I was prepared to give up hankering after any other kind of cause...it never entered into my head that a man who asserted that the ordering of things is due to mind would offer any other explanation for them that it is best for them to be as they are.³⁷

Thus, Plato wants the scientist to begin by describing the physical universe and to then proceed by explaining 'the reason and logical necessity for this by stating how and why it was better that it should be so.' In other words, Plato wants our understanding of the physical universe to be guided by an ideal *purpose*. Plato

³⁷ My italics. *Ibid.*, 97d-98a.

implies here that we *shouldn't* assume that all things can be reduced to materialistic/mechanistic explanations. If we did this, we could find ourselves assigning false causes, just like in the example of Socrates sitting in the prison cell. Thus, Plato holds that the idea of the good drives *both* human behavior *and* the physical universe.

Thus far we have talked about how teleological causality seems natural and correct in understanding human behavior. To entirely refuse teleological causality in this realm would be to refuse free will, for purely physical explanations would replace the value judgments that we would normally assume are being made, and hence the person's ability to make a decision in regard to what is best would also have to be denied. Plato wants to go further to say that, just as reason or mind guides our behavior, so too does God's reason or mind dictate the ordering of the universe. God's mind is simply a macrocosmic version of our own, and because this is so, all things ought to be deduced from *nous* or mind.

The leap from human behavior to the entire universe is one that very few contemporary intellectuals would take. In the rest of this work, I will try to show how Plato thought this gap was bridged (for this theory was not easy for his contemporaries to adhere to either). If this analogy is true, then we will see that a

teleological understanding of the world is not necessarily unscientific, nor is it antagonistic to a mechanistic explanation.

The Republic: The Idea of the Good and the Divided Line

The section of the *Republic* that relates to what I am addressing begins just before the divided line analogy in Chapter VI (starting on 504d). We want to know if it is true that the good (God, mind, or purpose) drives the universe.

The Idea of the Good:

Plato does not describe the good and then explain how it guides and orders the universe, although this would seem to be the clearest starting point. In fact, Plato talks as if he were ignorant of the good: "For they say it is the knowledge of the good, as if we understood their meaning when they utter the word 'good.'"³⁸ Why would Socrates continue to talk about the good when he doesn't even know what it is? This is typical Socratic irony. What Plato alludes to here is that we *do* have some sense of what the good is, even if we may not be able to properly define it. Not much later Socrates says that the good is "that, then, which every soul pursues and for its sake does all that it does, *with an intuition of its reality*, but yet baffled and unable to apprehend its nature

³⁸ Plato, *The Republic*, *The Collected Dialogues of Plato* (Princeton, New Jersey: Princeton University Press, 2002), taken from *Plato: The Republic*, with an English translation by Paul Shorey (Cambridge, Mass. and London: Loeb Classical Library, 1953, 1956; first printed, 1930), 2 vols. All future references are to this edition, and are in accordance with Stephanus citation, 505c.

adequately.”³⁹ In other words, we have a fuzzy idea of the good, but we pursue it anyway.

So far, we presume that the idea of the good is what drives our behavior, but we do not know what drives the universe. When Glaucon asks Socrates to explain what the good is, Socrates replies:

Nay, my beloved, let us dismiss for the time being the nature of the good in itself, for to attain to my present surmise of that seems a pitch above the impulse that wings my flight today. But of what seems to be the offspring of the good and most nearly made in its likeness I am willing to speak if you too wish it, and otherwise to let the matter drop.⁴⁰

A likeness to the good is what will be elaborated, but not the good itself. In any case, Plato never gives a definition of the good.

However, one might point out that in order for Socrates to know ‘the offspring of the good,’ he must already know the good itself. For example, in order for me to know that someone looks like Jean-Paul Sartre, I have to know what Jean-Paul Sartre looks like. However, for whatever reason, Plato does not wish to tell us what the good is straightforwardly.

To begin with, the likeness of the good is given to us in the form of an analogy. We see with our eyes, but vision can never be said to exist *only* in the eyes, for vision requires light: “Though vision may be in the eyes and its

³⁹ My italics. *Ibid.*, 505e.

⁴⁰ *Ibid.*, 506d-e.

possessor may try to use it, and though color be present, yet without the presence of a third thing specifically and naturally adapted to this purpose, you are aware that vision will see nothing and the colors will remain invisible.”⁴¹ In fact, vision is the result of the relationship between (healthy) eyes and light, but exists neither solely in one or the other. Furthermore, the cause of light is the sun, so vision is dependent on it: “Neither vision itself nor its vehicle, which we call the eye, is identical with the sun...And does it [the eye] not receive the power which it possesses as an influx, as it were, dispensed by the sun?”⁴² The analogy here is that the eye represents the soul, light represents truth, and the sun represents the idea of the good, which gives the light of truth to the soul. The result is vision, or knowledge. Thus, the true cause of all knowledge and truth is the idea of the good, just as the cause of vision is the sun. Plato offers this analogy as a way to see what the good itself is indirectly; however, he later gives more details about the good itself (without, however, defining it).

One of those details is that the good is *always* the object of desire. When we seek to find out what is good, we can safely say that we would never want the mere semblance of goodness:

And again, is it not apparent that while in the case of the just and the honorable many would prefer the semblance without the reality in

⁴¹ *Ibid.*, 507d.

⁴² *Ibid.*, 507e.

action, possession, and opinion, yet when it comes to the good nobody is content with the possession of the appearance but all men seek the reality, and the semblance satisfies nobody here?⁴³

We have to think about the proper meaning of the word ‘good’ in order to understand how Plato conceives of it. Goodness as a quality or idea is the object of desire in all cases and pursued for its own sake. In other words, we don’t want what might merely *seem* good if it really isn’t, and we would rather forego these semblances than settle for less. We could never rationally say that we want what is not good, or even that we would desire anything less than good, for anything less than good is necessarily lacking a desired quality. We wouldn’t want anything “bad” either (or rather, the complete negation of goodness), unless of course we are assuming the “bad” *thing* (such as, for example, smoking cigarettes) to be *really* good. But even here we can see that if someone were to say, “I like being bad,” what he really means is that he doesn’t agree with the mainstream majority about what is good. Instead, he perceives smoking cigarettes, drinking alcohol, driving a motorcycle, etc. as being good things or activities. Thus, if he were to be more exact with his words, he would have to admit that he thinks that these activities are good, and that the majority is wrong in perceiving them as bad. He could very well be wrong about calling these things good, but nonetheless, he must admit that he pursues the idea of

⁴³ *Ibid.*, 505d-e.

goodness. The idea of the good must be the true object of all of our desires, regardless of whatever thing or activity we perceive to be good.

However, it turns out that the idea of the good is not any one particular thing or group of things, for particular ‘goods’ can never be ends in themselves, but must always be good by virtue of the idea of the good: “...you are aware that it would avail us nothing, just as no possession either is of any avail without the possession of the good.”⁴⁴ In other words, the idea of the good is neither refraining from smoking, going to college, being healthy or wealthy, or any of these particular things or activities.

Furthermore, the idea of the good is *not* to become intelligent or to have knowledge, for the idea of the good is the *object* of knowledge (and desire):

But, furthermore, you know this too, that the multitude believe pleasure to be the good, and the finer spirits intelligence or knowledge.

Certainly.

And you are also aware, my friend, that those who hold this latter view are not able to point out what knowledge is but are finally compelled to say that it is the knowledge of the good.

Most absurdly, he said.⁴⁵

⁴⁴ *Ibid.*, 505a.

⁴⁵ *Ibid.*, 505b-c.

While it is easy enough to see that being healthy or wealthy or any of these activities are not ends in themselves, it is not so clear that knowledge is not an end in itself. However, Plato thinks that knowledge is always knowledge *of something*, and in its highest and most general sense, this ‘something’ turns out to be the idea of the good.

Because the idea of the good is the highest form of being, knowledge of the good is the highest form of knowledge. We can claim to have knowledge in proportion to and in so far as we know the idea of the good; therefore, the idea of the good is the measure of all knowledge and truth:

This reality, then, that gives their truth to the objects of knowledge and the power of knowing to the knower, you must say is the idea of good, and you must conceive it as being the cause of knowledge, and of truth in so far as known.⁴⁶

The point that Plato makes here is that knowledge and truth are made possible by the idea of the good, and therefore the idea of the good is to be held as the highest principle.

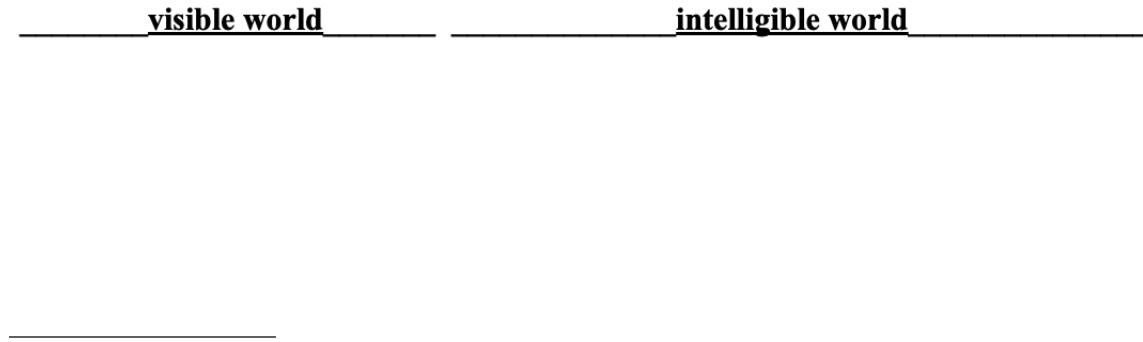
Plato conceives of the relationship of the good to knowledge and reality in this way: Various objects of knowledge partake in higher levels of reality in proportion to their proximity to the Good. Conversely, one might be tempted to say that the reality of objects is “measured” in direct proportion to the extent by

⁴⁶ *Ibid.*, 508e-509a.

which these objects can be known. For all practical purposes, the latter is not altogether off, yet it seems to make reality or ontological meaning relative to the knower. But Plato wants to say more than this, and he would not say that being is relative to the knower. Instead, objects contain *in themselves* certain degrees of reality* depending upon what the object is and its likeness to the good. Objects of knowledge can only be known to the degree or extent that they partake in Goodness, or Being. In what is known as the divided line analogy, objects are shown to have existence to the degree that they partake in the good, and they are knowable in these same proportions.

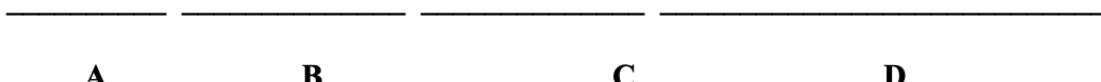
The Divided Line:

In the divided line described at the end of Book VI (beginning at 509e), Socrates asks Glaucon to picture a line cut into two unequal parts, like this:



* These objects are not necessarily material objects. In fact, Plato believes that ideas have more reality than anything material or perceived through the senses, as we will see in the divided line. Furthermore, ideas are not merely in someone's mind, unless we are to say that they are in God's mind, for mind (*nous*) is everywhere in nature.

The first cut represents the visible world (the realm of the many) and the second represents the intelligible world (the realm of the ideas or forms). Then he asks us to make the same cut within each line, in the same unequal proportions, roughly like this:



Each letter (A-D) represents the corresponding line that appears above it. While it may not appear so in this document, the various relationships of the segments are supposed to create a particular mathematical proportion that can be represented in this way: **[A:B::C:D]::A+B:C+D**. The result is that lines **B** and **C** are equal. Furthermore, each section of the line represents a section of the soul:

...assume these four affections occurring in the soul—intellection or reason for the highest, understanding for the second, belief for the third, and for the last, picture thinking or conjecture—and arrange them in a proportion, considering that they participate in clearness and precision in the same degree as their objects partake of truth and reality.⁴⁷

⁴⁷ *Ibid.*, 511d-e.

Each part of the soul grasps knowledge to varying degrees, in proportion to the extent to which the corresponding objects of knowledge partake of being. Ultimate Being, the good, is somewhere on the “d” line to the right.* Objects along the line participate in Being (the Good) in a progressively greater degree as we move from “a” to “d.”

* I have noticed that most diagrams represent the divided line vertically rather than horizontally as I have done here. The vertical representations captures the symbolic ‘upward’ movement of the soul as it moves closer to attaining the idea of the good, but the proportions outlined here are still the same.

Ontology

*objects of sense perception** (A & B) *ideas or forms* (C & D)

- A) **images:** shadows, illusory objects
 - B) **physical objects:** objects that we perceive through the senses
 - C) **intermediate forms:** mathematical representations
 - D) **intelligible forms:** the forms of everything, truth, beauty, the universe...
-

A

B*

C

D*

*The Sun is somewhere toward the end of line B as the guiding principle of the visible world.

*The idea of the good is somewhere toward the end of line D as the supreme principle that guides everything.

Epistemology

opinion (A & B) *knowledge* (C & D)

- A) **eikasia:** picture-thinking
- B) **pistis:** faith or belief
- C) **dianoia:** understanding
- D) **noesis:** reason (dialectic), pure intellection

The following is a more detailed explanation of how each section compares to the next.

Picture-thinking (eikasia):

A) The first segment of the first cut represents *images or representations* of the visible world, which are known through what might be called *picture-thinking or conjecture*. In the allegory of the cave at the beginning of Book VII (which is an extended explanation of the divided line), objects of representations are described as shadows on the cave wall and reflections in water, and other things like these. All of these images are *copies* of physical objects, but are mistaken for the real objects which they represent:

For, to begin with, tell me do you think that these men would have seen anything of themselves or of one another except the shadows cast from the fire on the wall of the cave that fronted them?

How could they, he said, if they were compelled to hold their heads unmoved through life?

If then they were able to talk to one another, do you not think that they would suppose that in naming the things that they saw they were naming the passing objects?

Necessarily...

Then in every way such prisoners would deem reality to be nothing else than the shadows of the artificial objects.

Quite inevitably, he said.⁴⁸

⁴⁸ *Ibid.*, 514c-515b.

Thus, the images on the cave wall are believed to be real objects, not representations of real objects. These partake to the lowest degree in reality, for they are generally only known by virtue of what they represent, but not *as* representations. It is possible for us to imagine that television and movies are included in the realm of picture-thinking. In fact, all art falls into the realm of picture-thinking, for although Plato does not mention paintings, poetry, and copies of this sort, he describes them in a similar fashion later in Book X such that it would make sense to include these kinds of objects in this realm.

We can take television as an example of how we rarely think of the image itself as an image: When watching television, we rarely (if ever) think that the moving picture on the screen before us is only a series of photographs being flashed before our eyes in a little box in the living room. This is, of course, the reality of the situation. The box in the living room projects a series of photographic images that give the illusion of movement. Instead, we think about what is happening on the screen—there are people saying things to one another as if they were really there, and the images represent nothing less to us than real life. Similarly, when we watch television, it is possible for us to learn about things that can and often do happen before our eyes, outside of virtual reality. The images, in a sense, point away from themselves, and their reality is only known by virtue of the things that the images represent.

The world of picture-thinking is the lowest of all, and it is the most degenerative form of being. Nevertheless, it still partakes in some kind of being. While an image or shadow must always be of something else, the image in itself is *something*. Images partake in some kind of reality, regardless of the fact that we rarely regard images in themselves. It is for this reason that they are knowable at all. (We should note that the allegory of the cave is itself a representation of the kind that Plato is talking about here. It is an image of the soul's journey towards the idea of the good, which is once again represented by the sun, as in the prior analogy.)

*Belief or Faith** (pistis):

B) The second segment of the first cut represents objects that we perceive with our senses, or those things which materialists would call 'real,' such as bats, basketballs, desks, pencils, plants, animals, etc. In other words, these are physical objects, the things that are studied by empirical science. Here, however, these objects are not meant to be understood as objects of scientific inquiry, but instead as mere perceptions which are only apprehended through the senses. These are the things we *believe* we know or have *opinions* about, and their reality appears

* Here, the Greek word "pistis" does not mean religious faith. Instead, it refers to the act of taking physical or empirical objects as given, blindly accepting the truth of our sensory perceptions.

so evidently to us that we often assume that knowledge is given through sense perception.

Understanding (dianoia)*:

C) The first section of the second divide represents the realm of science and mathematics, and these studies are considered knowledge on the divided line. However, these studies serve as the transition from opinion to knowledge. It is for this reason that astronomy and geometry aid the soul in coming to understand that the universe is guided by the good:

For anyone acquainted with geometry who saw such designs would admit the beauty of the workmanship...

Do you not think, said I, that one who was an astronomer in very truth would feel in the same way when he turned his eyes upon the movements of the stars? He will be willing to concede that the artisan of heaven fashioned it and all that it contains in the best possible manner for such a fabric.⁴⁹

We see here that Plato thinks that the study of astronomy and geometry will aid the soul by allowing it to come closer to recognizing the true object of inquiry and desire, which is knowledge of the good.

* Once again, there is a problem with our contemporary translation of the Greek. We often use the word “understanding” interchangeably with the word “knowledge.” To understand, for us, is to know. However, “understanding” is not equivalent to knowledge or intellection here, but refers specifically to the kind of knowledge that scientists might have.

⁴⁹ Ibid., 529e-530a.

These studies are also valued because they allow one to move away from empirical observation to the study of ideas and concepts. Sciences such as astronomy and geometry would provide the link between empirical reality and the reality of ideas, for in these studies, the two realms overlap. According to Plato, astronomers study the most important and most divine of all empirical objects, the study of which prepares the soul to be more adapted or able to apprehend ideas and concepts:

These sparks that paint the sky, since they are decorations on a visible surface, we must regard, to be sure, as the fairest and most exact of material things, but we must recognize that they fall far short of the truth, the movements, namely, of real speed and real slowness in true number and in all true figures both in relation to one another and as vehicles of the things they carry and contain. These can be apprehended only by reason and thought, but not by sight, or do you think otherwise?

By no means, he said.⁵⁰

Astronomy and geometry is the study of a mixture of both ideas (forms) and empirical reality, depending on how one conducts these studies. One could say that they stand at an intermediate position between belief and understanding. On the one hand, the astronomer could regard the 'sparks that paint the sky' as such, or he could regard them with the concepts of the understanding, such as 'real speed and real slowness.'

⁵⁰ *Ibid.*, 529c-d.

Plato also thinks that astronomy provides a link between opinion and knowledge because it forces one to reconcile contradictory perceptions or ways of looking at the same thing. As he puts it, "Some reports of our perceptions do not provoke thought to reconsideration because the judgment of them by sensation seems adequate...The experiences that do not provoke thought are those that do not at the same time issue in a contradictory perception."⁵¹ The contradictory perception is simply the clash between looking at the universe through sensory perception and thinking about its ideal reality. The astronomer is forced to reconcile these two ways of perceiving or knowing the universe, and if he does so correctly, he will see that sensory perception on its own does not give him true knowledge of the cosmos. Thus, sensory perception plays a role here, but only a negative one, for it forces the astronomer to reconsider its value in relation to the value of ideas and abstract thinking.

Arithmetic appeals to Plato even more than astronomy because it propels the mathematician into the realm of ideas, away from physical reality (to a degree higher than science and geometry): "It seems likely that it is one of those studies which we are seeking that naturally conduce to the awakening of thought, but that no one makes the right use of it, *though it really does tend to draw the mind to essence and reality.*"⁵² Pure mathematics, specifically arithmetic, stands

⁵¹ *Ibid.*, 523b-c.

⁵² *Ibid.*, 523a.

at an even higher level than the other sciences, unifying them: "This trifling matter, I said, of distinguishing one and two and three. I mean, in sum, number and calculation. Is it not true of them that every art and science must necessarily partake of them?"⁵³ When we do mathematics there are certain rules and axioms that regulate the outcome of our deductions. The rules of mathematics are never gained from mere sense perception, but only by the ***understanding***. After the rules are established, one can deduce the answers without relying on the senses at all.

Pure Reason (noesis):

D) The last segment of the second cut represents the realm of philosophy, or rather, Plato's idea of philosophy, which is called the dialectic.* The point of philosophy is to reach the unhypothetical principle of everything, which is knowledge of the good. Plato's dialectic is that which "the reason itself lays hold of by the power of dialectic, treating its assumptions not as absolute beginnings but literally as hypotheses, underpinnings, footings, and springboards so to speak, to enable it to rise to that which requires no assumption and is the starting point of all."⁵⁴ A soul that rests in the other realms without moving higher will

⁵³ *Ibid.*, 522c.

* *Plato's dialectic is often tied to the idea of definition, classification and analysis or division. The purpose of this dialectic is to identify each form or idea in relation to all other forms and to identify that which separates it from everything else, such that it exists on its own. On the other hand, the word dialectic is derived from the Greek word, dialegesthai, 'through speech' 'conversing', which one would more commonly associate with the Socratic dialectic, although the two conceptions are probably related.*

⁵⁴ *Ibid.*, 511b.

not make use of the dialectic, and therefore, cannot attain knowledge of the idea of the good.

The dialectician tries to discern what all the forms are by clearly defining them. Notice that at this point, the philosopher is trying to discern each ideal object with pure reason just as the prisoners in the cave try to discern shadow-objects on the cave wall through picture-thinking, only now the philosopher tries to get at the truth by defining their essences:

This, then, at last, Glaucon, I said, is the very law which dialectic recites, the strain which it executes, of which, though it belongs to the intelligible, we may see an imitation in the progress in the faculty of vision, as we described its endeavor to look at living things themselves and the stars themselves and finally at the very sun. *In like manner, when anyone by dialectic attempts through discourse of reason and apart from all perceptions of sense to find his way to the very essence of each thing* and does not desist till he apprehends by thought itself the nature of the good in itself, he arrives at the limit of the intelligible, as the other in our parable came to the goal of the visible [my italics].⁵⁵

From the starting point of having studied the empirical sciences, the philosopher aspires to the good by trying to discern what each thing is in its essence, without making use of sense perception.

While the principles of mathematics transcend the world of opinion, the principles of philosophy transcend the prescribed rules of mathematics. As Plato

⁵⁵ *Ibid.*, 532a-b.

says in the following passage, the philosopher is not to assume the principles that mathematicians do, but advances by *doing away* with hypotheses:

Then, said I, is not dialectic the only process of inquiry that advances in this manner, doing away with hypotheses, up to the first principle itself in order to find confirmation there? And it is literally true that when the eye of the soul is sunk in the barbaric slough of the Orphic myth, dialectic gently draws it forth and leads it up, employing as helpers and co-operators in this conversion the studies and sciences that we enumerated, which we called sciences often from habit, though they really need some other designation, connoting more clearness than opinion and more obscurity than science. 'Understanding,' I believe, was the term we employed.⁵⁶

We may understand why we use mathematics to make sense of the world, but we soon find that mathematics doesn't answer all questions. There are certain rules that math and science rely on, but these foundations were never questioned. Where did they come from? If we seek knowledge, it seems proper to ask what knowledge is! The principles of mathematics and science are questioned and play a negative role for the philosopher. The philosopher searches for the first principle, and is not content with a set of principles that are assumed to be true.

Plato says that the philosopher who has attained the idea of the good must come back down through all the sections, but this time he makes use only of ideas:

⁵⁶ *Ibid.*, 533c-d.

...after attaining to that again taking hold of the first dependencies from it, so to proceed downward to the conclusion, making no use whatever of any object of sense but only of pure ideas moving on through ideas to ideas and ending with ideas.⁵⁷

After the philosopher attains the first principle, which is what Plato calls the ‘starting point,’ he turns around to all those questions he asked before and is now equipped to answer them. When the philosopher comes back down to those prior questions, not only does he no longer look to the world of sense perception to determine what things are, but also he makes no use of assumption. This time he clearly knows all essences and their interrelations as a unified whole brought together under the idea of the good.

To recapitulate, the movement up (or rather, to the right, as my drawing indicates) the divided line is a progression towards the first principle. This movement takes place when the philosopher questions hypotheses such as those derived from math and science, but then renders them unhypothetical through an inquiry into the nature of the good. Then, after attaining the first principle, we are told that the wise must come back down to all the previous questions, answering each and every kind from an enlightened standpoint.

⁵⁷ *Ibid.*, 511b-c.

All knowledge is shaped like a pyramid. We must start from the many and move our way up to the unity of everything. We must understand the pyramid as a whole as well as all of the parts that make up the whole. The idea of the good unifies *everything*. This is why, in a later passage in Book VII, Plato says of the idea of the good that it not only gives birth to knowledge and truth in the intelligible world, but also light in the visible world:

But, at any rate, my dream as it appears to me is that in the region of the known the last thing to be seen and hardly seen is the idea of the good, and that when seen it must needs point us to the conclusion that *this is indeed the cause for all things of all that is right and beautiful, giving birth in the visible world to light, and the author of light* and itself in the intelligible world being the authentic source of truth and reason, and that anyone who is to act wisely in private or in public must have caught sight of this.⁵⁸

Thus, the idea of the good is not only the supreme principle that guides the intelligible world, but it also guides the visible world. It seems plausible to call the idea of the good the Form of all forms, for as we have seen, it is the supreme principle of *everything*.

⁵⁸ My italics. *Ibid.*, 517b-c.

Definition, Function, and Goodness:

As we have learned, philosophy makes use of a “science”* called the dialectic in which the philosopher attempts to come up with the definition of every essence or form.* But how does definition relate to teleological order? My supposition is that when the dialectician attempts to define all forms, he must describe the form’s function. If essence is function, and function is goodness (or usefulness), then the dialectician describes the goodness of each form as it relates to the good itself.

If we consider a car engine as an example, we might get a clearer picture of the kind of teleology that I think Plato puts forth. Pistons in a car engine produce the power to make the car move, but the pistons rely on spark plugs, which ignite gas to keep the pistons moving. Spark plugs rely on the distributor to distribute a certain amount of spark to the spark plugs at a certain time. Each part of the car engine relies on something else, such that the car could not move if one of these parts were missing. In other words, each part has a function which works to make the car move. But in order to know how any part of an engine

* *Plato thinks the dialectic is the science of all sciences. The object of the ‘science’ of the dialectic was not the physical realm, as we have seen previously.*

* *To be sure, Plato here says that the dialectic is the study of forms: “And do you not also give the name dialectician to the man who is able to exact an account of the essence of each thing?” (Ibid., 534b.) Furthermore, Plato says, on the subject of what the guardians of the city-state ought to study, “That it [pure knowledge] is the knowledge of that which always is, and not of a something which at some time comes into being and passes away. (Ibid., 527b.) In other words, defining a form would entail exacting an account of its essence such that it would have to be true in every case.*

functions, we must first understand what an engine is to be used for; otherwise, we could not explain why any part should be necessary to the whole.

Perhaps the idea of the good is to the moving car as the forms are to the engine parts. If this analogy is not far from how Plato conceived of it, each form has a function that relies on all the other forms, such that they are completely interconnected. Presumably, there is no idea that is completely separated from the whole, for everything exists in an organic unity such that no part can be removed without destroying the whole. If my interpretation is correct, then each form's function (goodness) is grasped only after knowing the idea of the good. In this way, every form would have the idea of the good as its teleological end, and would thereby be infused with goodness to the extent that they partake in it.

The Timaeus: The Order of the Cosmos

In many respects, the *Timaeus* is unlike the other dialogues in both form and content. It is a likely myth (mythos : “story”), which contains an astronomical system (on the heavens) and an explanation of human nature in relation to this system. The dialogue is narrated by the astronomer, Timaeus, while Socrates is placed in the background, listening intently after having given his presentation of the outline of the ideal political state the prior day.* Socrates watches as his system grows beyond the human soul and city, and moves into the speculative realm of the created cosmos, directly affirming a microcosmic/macrocospic relationship between the individual soul and the universe. According to the *Timaeus*, human virtue, or morality, is a copy of cosmic order and harmony.

The main point of the *Timaeus* is to show that, although the details of the explanation may change, a proper explanation of the universe ought to demonstrate how each thing is best the way that it is, in accordance with goodness. It is meant to serve as a basic sketch of the kind of scientific

* Francis M. Cornford believes that this description of the perfect political state is not the *Republic*, for there is a mention of the feast of Bendis in the *Republic*, and the *Timaeus* takes place at the festival of Athena, setting the dialogue at a different time. Thus, he proposes that the *Timaeus* is the first of an unfinished trilogy, but the *Republic* is not a part of this trilogy. Plato’s *Timaeus*, translated by Francis M. Cornford and reprinted from his work *Plato’s Cosmology* (1959: New York, The Liberal Arts Press), Translator’s Introduction, p. xxi-xxii. All references to this work, unless otherwise indicated, will be to this translation.

explanation that Plato sought in the *Phaedo*, in which the Good (mind) orders the universe.* Timaeus says:

Let us, then, state for what reason becoming and this universe were framed by him who framed them. He was *good*; and in the good no jealousy in any matter can arise. So, being without jealousy, he desired that all things should come as near as possible to being like himself. *That this is the supremely valid principle of becoming and of the order of the world*, we shall most surely be right to accept from men of understanding.⁵⁹

Because the good is the first principle of the cosmos, and ‘since he judged that order was in every way better,’ the universe must be *morally* ordered.

However, while the universe (‘the world of becoming’) is brought into moral order *because of* the good, it was once disordered:

Desiring, then, that all things should be good, and, so far as might be, nothing imperfect, the god took over all that is visible—not at rest, but in discordant and unordered motion—and brought it from disorder into order, since he judged that *order was in every way the better*.⁶⁰

The Demiurge had to create the universe out of disorder. The universe is less perfect than the good itself, yet it was created to be the best that it could possibly be. But if we start from the principle that all is ordered by the good, and that the universe is less perfect than the good itself, we must first answer this: Why

* From here on out, I will sometimes refer to the Demiurge (which literally means ‘craftsman’ or ‘creator’) as the ‘Good,’ treating them synonymously. However, the Good is not the same thing as the Demiurge, but is instead the blueprint from which the Demiurge forms matter.

⁵⁹ My italics. *Ibid.*, 29e.

⁶⁰ My italics. *Ibid.*, 30a.

should a perfect being decide to create a lesser being (the universe, the world of becoming) at all? In other words, why is there anything other than the Good?

I'm not so sure that Plato answers this question correctly, yet he does give an answer in anticipation to this problem. After giving an account of the universe as a whole and some of those details, Plato goes on to describe a second cause for the visible world. This second cause is the answer to the problem of why the good would have to create the universe at all. The cause is known under many titles, which include "Necessity," "The Errant Cause," "Non-Being," and "The Receptacle." All of these mean the same thing, and for Plato, this cause makes the realm of becoming possible, although he admits of it only under the auspices of 'bastard reasoning.' In the following passage, Plato explains that the world of becoming must be negatively caused by Necessity:

Now our foregoing discourse, save for a few matters, has set forth the works wrought by the craftsmanship of Reason; but we must now set beside them the things that come about of Necessity. For the generation of this universe was a mixed result of the combination of Necessity and Reason. Reason overruled Necessity by persuading her to guide the greatest part of the things that become toward what is best; in that way and on that principle this universe was fashioned in the beginning by the victory of reasonable persuasion over Necessity. If, then, we are really to tell how it came into being on this principle, we must bring in also the Errant Cause—in what manner its nature is to cause motion.⁶¹

⁶¹ *Ibid.*, 47e-48a.

The problem of why the Good would create anything at all is answered by the existence of the “Receptacle.” If a negative principle were to ‘exist’ in some way, then the Demiurge would have a reason to render the universe better. The Good creates the realm of becoming because it wants to make the universe more like itself, in so far as this is possible. However, the universe is not absolutely perfect, but it is the best that it could possibly be, for Reason must persuade Necessity ‘to guide the greatest part of the things that become toward what is best.’

Furthermore, the Receptacle was “filled with powers that were neither alike nor evenly balanced, there was no equipoise in any region of it; but it was everywhere swayed unevenly and shaken by these things, and by its motion shook them in turn.”⁶² The material world, or the world of becoming, is created by the Good from this formless matter, such that the material realm is no longer chaotic, but infused with form in so far as is possible. The following passage explains the differences between Form, Copy, and Space, which are qualities that describe Being, Becoming and Necessity, respectively:

This being so, we must agree that there is, first, the unchanging Form, ungenerated and indestructible, which neither receives anything else into itself from elsewhere nor itself enters into anything else anywhere, invisible and otherwise imperceptible; that, in fact, which thinking has for its object.

Second is that which bears the same name and is like that Form; is sensible; is brought into existence; is perpetually in motion, coming

⁶² *Ibid.*, 52e.

to be in a certain place and again vanishing out of it; and is to be apprehended by belief involving perception.

Third is Space, which is everlasting, not admitting destruction; providing a situation for all things that come into being, but itself apprehended without the senses by a sort of bastard reasoning, and hardly an object of belief.⁶³

However, while Necessity serves to explain why the material world would have to come into being at all, it is itself neither a material object nor an object of belief or sense perception, according to the quote above. Instead, it causes objects of the realm of sense perception to be in motion, but is itself outside of sense perception and motion.

While Necessity serves only as a secondary cause for the world of becoming, it nevertheless influences the extent to which the universe can be known. Because the universe is not perfection itself, any account of the universe can only be a 'likely story':

Concerning a likeness, then, and its model we must make this distinction: an account is of the same order as the things which it sets forth—an account of that which is abiding and stable and discoverable by the aid of reason will itself be abiding and unchangeable (so far as it is possible and it lies in the nature of an account to be incontrovertible and irrefutable, there must be no falling short of that); while an account of what is made in the image of that other, but is only a likeness, will itself be but likely, standing to accounts of the former kind in a proportion: as reality is to becoming, so is truth to belief.⁶⁴

⁶³ *Ibid.*, 52a-b.

⁶⁴ *Ibid.*, 29b-c.

What is the purpose of this reservation? As we have been told before in the *Republic*, one can know an object in so far as it admits of Being, or the good. The same idea holds true here, for Plato says that “an account is of the same order as the things which it sets forth.” As we have seen in the divided line of the *Republic*, objects of sense perception are only objects of opinion (*eikasia* or *pistis*: picture-thinking or belief), whereas forms or ideas are objects of knowledge. The reason why objects of sense perception can only be objects of opinion is because non-being negatively influences the objects of sense perception, although non-being cannot be properly known at all in itself. While the universe as a whole is ordered and made good because of the ultimate being, the idea of the good, the universe is itself the realm of becoming, for we see it changing in time through Space or the Receptacle of becoming. This means that an explanation for why the universe is the way it is can only be based on probability or likelihood, for the visible universe (our object of inquiry) is always changing because of the negative influence of non-being.

However, when Plato says that an explanation for the cause of the universe can only be based on likelihood, he here refers to the *details* of such a description, for the premise that the universe is designed by the good is, for him, a foundational self-evident truth. For example, in Plato’s time it was considered likely that the earth is the center of the universe, and now we say instead that it

revolves around the sun. This detail, in itself, would not be a fundamental problem for Plato's system. Plato was not particularly tied to the particular details of his explanation in the *Timaeus*, nor was he tied to the geocentric model that he describes therein, and this is why he reiterates that this account is a 'likely' or 'probable' explanation, but not certain. It seems likely that he would have approved of the heliocentric theory of planetary motion (had he been alive) once he saw that it unified the empirical phenomena in a holistic way that was better than the Aristotelian/Ptolemaic system. However, one would have also to show that the earth revolves around the sun because this planetary motion is *better* than geocentric planetary motion. The Good must be the supreme cause and first principle of everything; therefore, everything must be explained accordingly. Plato is here proposing an outline or sketch of what a good scientific explanation ought to be like, but he does not insist on the particular details drawn out here.*

Now that we see that Plato has included non-being into his cosmos as a negative principle which has a kind of eternal 'existence,' we ought to ask ourselves if Necessity or Non-Being ought to serve as a principle, for it functions

* I will not draw out the details of Plato's description of the cosmos in the *Timaeus* because they do not serve the purposes of this paper and because Plato did not insist on these details. However, I do urge anyone interested to read them, for they are quite beautiful. For instance, Plato describes how the world has a soul and is not only intelligible, but also itself intelligent. He also describes how the planets are created and set in motion in order to preserve time. The sun is created in order to reveal the heavenly motions of the planets to all creatures so that we can see this divine order and take it as an example of how to model our own souls. Each soul has a corresponding star that it returns to once it achieves harmony. These poetic accounts are worth reading.

as a second cause for the universe when everything is supposed to be deduced from only one. In effect, Plato poses two principles or causes for the existence of the universe, although the Good was supposed to be the transcendental unity and sole cause of all things. What Plato is saying is that “non-being exists” in some way, although it is impossible to picture in our minds or even conceive of. Furthermore, Necessity is a kind of second ‘first’ principle because the world of becoming would have no existence without it, for it would have no reason to be created in the first place.

It seems as though Plato has created a dualism and cannot truly deduce the universe from one ultimate principle. But it is also true that Plato was aware of this problem, for in the above passage he calls the solution a kind of ‘bastard reasoning,’ and in the Jowett translation, Necessity is described as ‘hardly real.’⁶⁵ Furthermore, the role of the Receptacle explains the cause of error in our souls, just as it does in the cosmic soul. If there were no Receptacle, then everything would have to be perfectly good. Unless we want to say that the universe *is* perfectly good, then we must allow for a second principle. It is, in brief, Plato’s proposed solution to what may be called the problem of evil (which turns out to simply be a lack of goodness). Therefore, while the acceptance of non-being or

⁶⁵ *Ibid.*, (Jowett translation), 52b.

chaos into the ordered cosmos may seem contradictory, it nonetheless serves a purpose and Plato thought that it was necessary—hence the term “Necessity.”

Necessity is indeed the second ‘first’ principle, which causes problems for Plato’s system. However, Necessity is not the primary, *active* cause of the universe. Necessity doesn’t *do* anything, but all things are influenced by its complete passivity. On the other hand, Plato speaks of the Good as that which ‘forms’ the world of becoming or that which ‘persuades’ Necessity.

The Good is the primary cause for the universe, for it actively creates a moving universe as a mirror of itself in order for the universe to be infused with goodness as much as possible. The universe (below called ‘heaven’) is in constant change, yet it is to be understood as forever in the state of ‘becoming’ eternal being:

Now the nature of the ideal being was everlasting, but to bestow this attribute in its fullness upon a creature was impossible. *Wherefore he resolved to have a moving picture of eternity*, and when he set in order the heaven, he made this image eternal but moving according to number, while eternity itself rests in unity, and this image we call time.⁶⁶

This passage explains that the Good, which is eternal unity and outside of time, sets all things to motion for eternity in time. However, ‘to bestow this attribute in

⁶⁶ I find the Jowett translation more poetic in this particular instance. The Cornford translation states: “But he took thought to make, as it were, a moving likeness of eternity.” Plato, *Timaeus* The Collected Dialogues of Plato (Princeton, New Jersey: Princeton University Press, 2002), taken from *The Dialogues of Plato*, translated with analyses and introductions by B. Jowett (4th edn., revised by order of the Jowett Copyright Trustees, (1953: Oxford; 1st edn., 1871) 37d (my italics).

its fullness upon a creature was impossible' because of the existence of Necessity; therefore, the Demiurge creates the best possible world in so far as matter would allow. To do this, the Demiurge creates time, which is here explained as a movement according to number and is presumably the best kind of movement possible. This movement according to number resembles the unity of the Good in so far as possible; matter moving to perfect time is the way by which the Good creates a mirror of itself.

In conclusion, we have seen that, according to Plato, the Good (or Reason) must order the universe by bringing chaotic matter into harmony with itself. The existence of non-being is necessary for explaining why the universe must have been created at all, although it is difficult to conceive of and creates some problems (while solving others). However, we have also seen that Plato presents the *Timaeus* to us as a *probable* explanation, which is only meant to outline the basic idea of how the universe ought to be accounted for as a dependency of the good. I have yet to address the plausibility of Plato's idea of teleology as it is explained throughout these three dialogues, which I will do in the next section.

General Conclusion

We have seen how Descartes' method excludes the possibility of meaningful discourse on religious matters by limiting knowledge to mathematical certainty, which in turn supports only the physical sciences. We have also seen how Plato goes beyond Descartes' epistemology by rejecting a mechanistic explanation of nature as insufficient for obtaining true knowledge. We must now ask ourselves if Plato's teleological conception will aid us in understanding how religion and science can be reconciled. Furthermore, as I have said in the introduction to this work, I will not assume that Plato's understanding of science is exactly the same as ours, nor will I assume that it is so altogether different such that we cannot compare it to our own. The purpose is to find out if scientific and religious knowledge can and ought to be reconciled as *we* understand them.

Moderation as the Requisite for Reconciliation

I have been speaking of the disparity between science* and religion in broad terms, yet we must clearly specify where the real conflict lies. The heart of the disparity turns out to be between science and teleology, but only in so far as science (or scientists) reject teleology as knowledge. The conflict between science and religion is not one between teleology and science *as such*, but instead between the extreme, opposing beliefs of scientific reductionism (scientism) and, on the religious side, lack of faith in human reason to attain religious truth.* These are the extreme beliefs that must be overcome in order for science and religion to be reconcilable. A true reconciliation can only occur, as in most cases, when our beliefs lie in-between these two extremes.

* I here use 'science' in a contemporary sense to refer in a general way to all empirical science, but not in the broadest sense in which it was used in Plato's time to refer to all knowledge. Plato believed that science (*episteme*, from which we derive the word 'epistemology') constitutes knowledge or understanding, the former being religious inquiry and the latter being theoretical-based study of the empirical world. The term has changed throughout the years, and now when we say 'science,' we often refer to the kind of science that is done in a laboratory and is based on empirical observation, such as physics, chemistry, and biology (which is an interesting effect of empirical science's growing status over religious knowledge). Later I will specify between *dianoia* to refer to 'science' in the contemporary sense mentioned above and *noesis* to refer to Plato's idea of the science of religious inquiry (the dialectic) in order to avoid misunderstanding.

* I use the term scientism to refer to the belief that the only knowledge we can have is through science. It must be noted that there are scientists who do not agree with scientism. On the other hand, when I say that a religious person who has a lack of faith in human reason is directly opposed to the scientific endeavor, this category includes anyone who thinks that we should only read the Bible or any religious text literally (not some parts more literally than others, some parts metaphorically). To deny the human ability to interpret meanings of words and passages, especially from an ancient text, is to deny rationality. This is not to say that interpretation should allow for unfounded distortion of the text (for this would be an interpretational problem), but only that interpretation must be involved to some degree or another in all communication through speech and writing. To deny interpretation is to deny that we have the ability to understand one another.

Reductionists and those who maintain a position known as “scientism” view natural science as an inquiry that demystifies the universe, totally replacing ‘irrational’ or ‘supernatural’ religious explanations, thereby rendering them unnecessary. While it is true that science tries to demystify the universe through rational understanding, it does not necessarily do so as a replacement of religious knowledge or teleology. If science tries to overreach its boundaries by reducing value and purpose in the universe to mere mechanistic or physical explanations, it may wrongfully claim full knowledge when it only has partial knowledge.

On the other hand, some religious people have grown to distrust science altogether, probably because of the championing of scientism as a replacement of religion. Instead of recognizing the difference between scientism and science itself, they view the whole of science as a reductionist project which misses the truth entirely. Furthermore, seeing that science has become, in many minds, the height of reason, they opt to place undue emphasis on the weaknesses of human rationality to grasp religious truth. While this emphasis is meant to weaken science’s claim to truth, it also weakens religion’s claim to knowledge. If mysticism altogether denies that human rationality can obtain religious truth, maintaining that truth can *only* be known to those who have experienced direct divine revelation, it thereby closes the dialogue between science and religion. The effect of such a position is that the study of nature (or any other rational

endeavor) can never yield meaningful knowledge of religious matters. By claiming that the study of the visible universe is useless in the search for divine wisdom, mystics also fall into the absurd conclusion that, although God is good and creates the world, the visible universe yields no trace of intelligible divine order. Therefore, this view is not only directly opposed to science, but it is also paradoxically opposed to the teleological view that might allow religion the status of knowledge and rationality as opposed to irrationality and dogmatism.

Instead, if there is to be a reconciliation of science and religion, religious thinkers must allow the possibility that we can study the intricate natural order with the intent of learning about divine purpose. On the other hand, in so far as scientists at least *allow for* a teleological view as a reasonable and meaningful explanation for the universe, whether it serves as an ideal that guides research within science or serves as a plausible explanation that goes beyond its realm, they at least *allow for* a religious or spiritual understanding *through* nature. Science must allow that the religious search for truth *can* be a rational inquiry, and religion(s) must understand itself as a rational endeavor if reconciliation is to take place at all.

Plato offers us a moderate perspective that can aid us in understanding the problems that arise from science's past attempt to claim univocal truth and religion's attempt to define itself accordingly. Plato asks us to define knowledge

as it *must* be in its very essence, and this question will allow us to take a step back from the science/religion debate to see that the issue is itself dependent on a broader one. If we have yet to ask what knowledge is in itself, it seems highly unlikely that we are going to know if religion or science can provide it for us. Plato attempts to define knowledge by claiming that it is knowledge of the good. In order to find out if we can reconcile science and religion from Plato's definition of knowledge, we must at least be able to say that his definition includes them both. Our purpose here is to find out if Plato provides a means of reconciling religious or spiritual ideas to scientific knowledge through a teleological understanding of the universe.

Plato's Conception of Teleology

First of all, we must not confuse Plato's conception of teleology with what may be known as the teleological argument for the existence of God. In these arguments, we are told that the universe is so complex and structured that it must have been created, and we call the creator of the universe God. The most famous example of this argument is that of William Paley (1743-1805), who in essence said that when we study the universe, we recognize that it is ordered and that each part within it serves a purpose. The analogy that he makes is between the universe and a watch found in the middle of a desert. If we found a watch, even very far away from civilization, we would have to assume that someone created it because of its complexity and order. All of nature is ordered like the watch, such that each part serves some purpose for the sake of the whole. From this we must conclude that the universe has a maker, for nothing that is so ordered could possibly come into existence as such on its own accord.

This is not Plato's argument. Plato does not ever try to prove the existence of God, nor does he try to show how the universe is ordered and *therefore* must have a creator. Instead, Plato moves *from* the existence of God (the idea of the good) to the objects of empirical observation, or God's creation, showing that they must be ordered in accordance to the idea of the good. It is important to keep this in mind. Plato claims that we must start from the self-evident principle,

the idea of the good, and then *deduce* from this that the world must be ordered and intelligent.

Plato's conception of teleology can only come after one has attained knowledge of the good, as Plato claims in the divided line in the *Republic*. Plato says that we can have knowledge of the idea of the good only after philosophical/religious speculation by use of the dialectic in the realm of *noesis*, where pure ideas are the object of inquiry. This level can be reached only after one has attained some kind of theoretical understanding of empirical objects through scientific inquiry in *dianoia*. In *dianoia*, Plato said that we make use of hypotheses as foundations, and from here move downward to reach conclusions about material reality:

I think you are aware that students of geometry and reckoning and such subjects first postulate the odd and the even and the various figures and three kinds of angles and other things akin to these in each branch of science, regard them as known, and, *treating them as absolute assumptions, do not deign to render any further account of them to themselves or to others, taking it for granted that they are obvious to everybody*. They take their start from these, and pursuing the inquiry from this point on consistently, conclude with that for the investigation of which they set out.⁶⁷

These sciences believe that they have advanced foundational truths when really, they define 'foundational' truth by using the measurement of universality, 'taking it for granted that they are obvious to everybody.' If everyone agrees on

⁶⁷ *Ibid.*, *Republic*, Book VI, 510c-d (my italics).

some particular idea, such as a mathematical axiom, this idea is taken as a foundation. We can learn from this that the true foundation that Plato conceives of must be more than some idea that everyone finds true.

But how is a true foundation attained if not from the universal truth of some proposition? Perhaps universality is a part of what constitutes a true foundation of all knowledge, but is not the only thing required. Plato says that we must also make use of hypotheses in the realm of *noesis* (pure reason by use of the dialectic), but this time *with the understanding that we are making use of hypotheses as such*, moving upwards to knowledge of the idea of the good:

...by the other section of the intelligible I mean that which the reason itself lays hold of by the power of dialectic, *treating its assumptions not as absolute beginnings but literally as hypotheses*, underpinnings, footings, and springboards so to speak, to enable it to rise to that which requires no assumption and is the starting point of all...⁶⁸

Noesis is at least partially defined as an inquiry of self-reflection, in which one is aware that one is making use of hypotheses rather than treating them as absolute beginnings. From these hypotheses, we are to move upwards to the idea of the good, which is self-evident. Once we obtain “that which requires no assumption and is the starting point of all” we move back downward to conclusions about the entire universe:

⁶⁸ *Ibid.*, *Republic*, Book VI, 511b.

...and after attaining to that again taking hold of the first dependencies from it, so proceed downward to the conclusion, making no use whatever of any object of sense but only of pure ideas moving on through ideas to ideas and ending with ideas.⁶⁹

Noesis is a realm of knowledge that goes beyond *dianoia* at least in part because it does not assume that scientific hypotheses constitute foundations. The philosopher, or lover of wisdom (philo-sophia, “I love” “wisdom”), seeks broader truth by using the ‘foundations’ of science as hypotheses. But those who reason only in the realm of *dianoia*, stopping there, miss teleological truth because they make use of presuppositions, claiming that they are foundations when they are not.

From this description, it seems that science (in our sense of the word) conceives of itself as all-encompassing when it really isn’t, thereby making it difficult for those within it to allow for religious truth. So from the perspective of empirical science, as such, religion does not constitute truth or knowledge, for it lies outside of its realm. I find that Plato’s understanding of how empirical science conceives of itself remains true, at least to some extent, today. Perhaps this is, at least in part, where the disparity lies. But according to Plato, when one reaches the level of *noesis*, one realizes that the so-called foundations of the empirical sciences are really hypotheses, and one begins to seek religious truth

⁶⁹ *Ibid.*, *Republic*, Book VI, 511b-c.

by use of the dialectic. Thus, true knowledge depends on religious truth, or knowledge of the good, and the result of this knowledge is a teleological account of the universe.

It seems as though *dianoia* or scientific understanding is rendered secondary by Plato's account, although not inessential. Plato does seem to render science secondary to religion by asserting the priority of religion over science on the divided line. However, he does not conceive of religious knowledge as a closed system of thought that rejects *dianoia*, but instead as an all-encompassing system which includes *dianoia* while going beyond it. It is *dianoia* that presents itself as a closed system, yet it mirrors the truly all-encompassing system of knowledge which begins with the dialectic.

While those who reason in the realm of *dianoia* try to determine an empirical object's function and makeup by studying it in the context of other empirical objects and their interactions, the dialectic tries to determine an ideal object's function by making use of pure reason in order to ascertain the interrelations of all ideas in their unity. The unity of empirical objects according to *dianoia* would be scientific theories, such as atomic theory, the theory of relativity, string theory,* etc. These theories would make use of mathematics by

* Of course, Plato did not conceive of the theory of relativity or string theory (although there are hints of atomic theory in Plato's writings as well as in other writings of his time). These are meant to provide examples of scientific theories in general and how they unify empirical data by making use of theoretical concepts in the same way that Plato conceived of, particularly by the use of mathematics.

appeal to the universality of its axioms, supposing them to constitute true foundations. There would more than likely be a plurality of them, yet *dianoia* would nonetheless try to start with the smallest number of axioms in order to deduce the broadest number of truths out of them, using these deductions to understand the empirical world.

On the other hand, *noesis* seeks the transcendental *unity* of all ideas (or forms) which is knowledge of the good, or God. After obtaining knowledge of the good, one would then *deduce* all truths from this singular principle, and this deduced knowledge would have to be teleological in nature.

In other words, science tries to unify and simplify empirical data by positing theories that explain the empirical phenomena, and the dialectic tries to reach knowledge of God as the unification and harmonization of all theories or ideas (forms) in the world, including empirical phenomena. The main difference between the two kinds of inquiry is the broadness of their scope, the former being the theoretical study of the material world and the latter being the theoretical study of *both* the spiritual world or realm of ideas *and* the material world. If my interpretation is correct, it seems that Plato conceives of scientific inquiry as a mirror of religious inquiry. Thus, Plato does not try to replace scientific understanding with religious truth, but instead insists that the scope of inquiry must be broadened to include a study of pure ideas.

However, on this interpretation we do not have to accept every aspect of Plato's theory of forms if we are to admit teleological order in our understanding of the universe,* but we must at least admit that certain ideals common to both endeavors (such as order, harmony, simplicity, and reason) constitute reality and truth. In fact, both inquiries strive to achieve the same results on their most basic levels, for they both prefer unity and simplicity over multiplicity and complexity. They both agree that inquiry must start with self-evident foundations and, by the use of deduction, produce the desired results. However, the dialectic is self-reflective upon its own hypotheses, whereas *dianoia* is outward gazing and does not reflect upon itself. *Dianoia*'s flaw is that it is not self-reflective, and this is why scientific understanding must be accompanied by knowledge of the good.

Plato has a strong complaint about science. When taken alone, it is simply insufficient. Is science *really* insufficient for obtaining true knowledge, and if so, how can we know this? Is the idea of the good really necessary for obtaining complete knowledge? If the idea of the good is truly necessary, then Plato is right, and we ought to include teleological understanding as not only a means amongst others of obtaining some kind of knowledge, but as the only means of obtaining perfect knowledge.

* Plato questions his own theory of forms in the *Parmenides*, demonstrating that he did have some reservations about it and did not find the theory beyond question or explanation. However, there is some debate as to whether or not he ever conclusively abandoned the theory.

Teleology Depends on the Idea of the Good

A teleological explanation of the universe can only be true if the idea of the good really does serve as the foundation of all knowledge. Plato asserts that the starting point of all knowledge is the idea of the good, yet he asserts this without much explanation at all. But, one might ask, why should we take the idea of the good as the first principle? Much in Plato's philosophy isn't proven, nor was it meant to be. This is especially true of the idea of the good, which, as we have seen, is only partially described by analogy. Plato claims that the idea of the good is self-evident, yet it does not appear this way for most of us. We can easily criticize him on this point.

However, before we criticize Plato for not clearly proving why we should begin with the idea of the good as the first principle, we must not overlook the possibility that Plato meant to withhold this truth (if, in fact, the idea of the good is the first principle) while pointing out a way for us to find it on our own. It is reasonable to suppose that Plato didn't believe we need to *truly* know the idea of the good in order to know that we *must* suppose it for perfect knowledge. After all, it seems unreasonable to assume that Plato would simply leave out an explanation for the idea of the good without at the same time making it possible for us to see why it *must* be presupposed. If he didn't leave us with some kind of explanation for why such a supposition is necessary, the entire discussion on the

likeness of the idea of the good in the *Republic* is really pointless and Plato should not have wasted his time in writing it or even mentioning it. In the analogy, Plato asserts that the idea of the good is to knowledge as the sun is to vision. We know that the sun is necessary for us to have vision (in natural light), but we do not know if Plato's analogy is sound. If Plato is right, the idea of the good must be necessary in order for knowledge to be possible, and I suspect that Plato has tried to prove this relationship somewhere in his writings.

If the idea of the good makes all knowledge possible, then this relationship must be proven, which would require a kind of abstract thinking about knowledge; or in other words, epistemological study. To get an idea of what kind of presupposition I am talking about, we can take an example from another part of the *Republic* that has not yet been addressed here: "Do you think that a city, an army, or bandits, or thieves, or any other group that attempted any action in common, could accomplish anything if they wronged one another?"⁷⁰ Plato is here saying that even if a band of robbers were to succeed, as a *band*, they must at least operate on a minimal level of trust and avoid robbing from each other. This small amount of justice within the group is required in order for the group or band to exist at all. We do not have to know anything about a band of robbers, such as who is in it, what their personalities are like, their backgrounds,

⁷⁰ *Ibid.*, *Republic*, Book I, 351c.

what it is they plan on robbing, where they plan on doing it and how, etc., in order to know that they must cooperate and refrain from robbing one another in order for them to succeed as a group. In order for this analogy to be true, the idea of the good must serve as a requirement or necessary supposition for all knowledge just as the small amount of justice described here serves as a requirement for a band of robbers to exist.

It seems likely that Plato has left us with an explanation or argument that would allow us to know what *must* constitute knowledge, without it being at the same time necessary to actually *have* this knowledge, in its fullest and broadest sense. I do not know what the explanation or argument is, but I do suppose that Plato conceived of one and that it can be understood once we reach a deeper analysis of his texts, even without fully knowing the idea of the good itself. I do know, however, that Plato uses this kind of argumentation throughout the *Republic* and the other dialogues, which leads me to believe that the same kind of argumentation is probably being used in this case.

Because I am unable to show how Plato's conception of the idea of the good makes all knowledge possible, I cannot from here conclude that knowledge of a teleological order is the correct way of obtaining knowledge of the universe, making it necessary for science to be reconciled to teleology (and thereby religious knowledge). The most I can put forth here is that *if* Plato's idea of the

good is that which makes all knowledge possible, then teleology must be included to scientific understanding. But it could be that the idea of the good really isn't necessary for obtaining knowledge. Plato's conception of teleological order as the true explanation of causality could simply be wrong, and science really *is* better off without religion interfering with it.

Unfortunately, Plato never clearly argued for a teleological order, but instead appears (at least by my analysis) to have presupposed it, or at least kept it hidden within his writings such that it would be quite an interpretational challenge to unlock his true argument for it. It is certainly a possibility that the physical universe really *isn't* ordered according to goodness and that Plato ought to be charged with anthropomorphism. I cannot come to Plato's defense, "for to attain to my present surmise of that seems a pitch above the impulse that wings my flight today." While I do see that Plato's conception of a teleologically-ordered cosmos offers a possible means of reconciling science and religion, I am not entirely certain that they ought to be reconciled.

The key to resolving this problem is to remember that Plato started from the idea of the good and showed that the universe must be ordered according to this principle. In order to find out if Plato's conception of teleological order is true, we must first find out if the idea of the good *necessarily* guides our understanding of the universe, such that it really must be presupposed in order

to have knowledge at all. If this could be proven, then we could not reasonably deny that the universe is not only ordered, but also the best of all possible worlds.

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Descartes et l'esprit moderne

Par Tina Forsee

Introduction

Il y a plusieurs idées de la révolution scientifique qui sont ancrées dans nos esprits même encore aujourd’hui ; pas seulement l’idée que les planètes tournent autour du soleil (quoi que cela soit le cœur de la révolution). Je parle ici de tout de ce qui tourne autour de la théorie héliocentrique; à savoir, la transformation épistémologique causée par la convergence des diverses idées philosophiques et religieuses de la Renaissance.

Comme il y avait plusieurs idées qui ont influencé la révolution scientifique et ses conséquences (en fait, trop à explorer en détail dans cette œuvre), il serait suffisant d’en identifier quelques-unes importantes. Par la suite, je vais faire des remarques sur l’attitude générale de l’esprit moderne en utilisant la philosophie de Descartes. Cette explication de sa philosophie va nous servir comme un bon exemple d’une synthèse de plusieurs idées centrales de cette époque-là. Je tenterai de comparer les *Méditations Métaphysiques* de Descartes à

quelques aspects de la révolution scientifique et la Renaissance, mettant au point l'attitude moderne vis-à-vis le rapport entre la science et la religion.

Tout d'abord je vais commencer la première partie en expliquant comment quelques idées grecques anciennes (celles de Platon et Aristote) ont influencé (soit positivement, soit négativement) la révolution scientifique. Puis, on va voir la réaction religieuse à cette révolution. Et, à la fin, on verra la réponse à ces notions dans les écrits de Descartes.

Les influences anciennes sur la révolution scientifique

L'harmonie de la religion et de la raison : la téléologie

Il faut étudier le cadre intellectuel avant la révolution scientifique pour voir comment les idées de cette période-là se sont développées. Donc, on va commencer en étudiant les Scolastiques, ou bien, Thomas d'Aquin, qui incarne la culmination de l'esprit médiéval. Comme Richard Tarnas dit: « Rétrospectivement, le *summa* de Thomas d'Aquin avait été la dernière démarche de l'esprit médiéval vers l'indépendance intellectuel complète. »⁷¹ Thomas d'Aquin, dans sa grande œuvre, *Summa Theologica*, avait réconcilié la philosophie d'Aristote avec le Christianisme d'une manière si compréhensive qu'il n'y avait presque rien à y ajouter. L'importance de cette œuvre c'était que Thomas d'Aquin avait démontré que les idées anciennes pouvaient servir comme des exemples de la manière que la raison (ou bien, « la lumière naturelle » en nous) peut être utilisé au service de la foi Chrétienne. Il pensait qu'en étudiant la nature, on peut connaître Dieu dans la mesure où il nous donne la capacité de le voir dans sa création.

En comprenant la nature et le monde, il pensait que l'on pouvait plus facilement être élevé jusqu'au principe suprême qui est la connaissance de

⁷¹ Richard Tarnas, *The Passion of the Western Mind: Aristotle and the Greek Balance*. (New York: Random House, 1991), [Ma traduction de « In retrospect, Aquinas' summa had been one of the final steps of the medieval mind toward full intellectual independence.»] p. 201.

l'existence de Dieu ; autrement dit, Dieu est la cause première, la pensée suprême, la cause efficiente et finale du monde, et « le moteur immobile »^{*} de tout de ce qu'on étudie dans la nature. Comme Aristote, Thomas d'Aquin pensait qu'il y avait plusieurs causes dans le monde naturel et des différents moyens de tout catégoriser. La cause finale s'appelle Dieu ; donc, la raison humaine peut fonctionner dans la religion, même dans la foi Chrétienne. Par exemple, il dit :

La quatrième voie procède des degrés que l'on trouve dans les choses. On voit en effet dans les choses du plus ou moins bon, du plus ou moins vrai, du plus ou moins noble, etc. Or, une qualité est attribuée en plus ou en moins à des choses diverse selon leur proximité différente à l'égard de la chose en laquelle cette qualité est réalisée au suprême degré ; par exemple, on dira plus chaud ce qui se rapproche davantage de ce qui est superlativement chaud. Il y a donc quelque chose qui est souverainement vrai, souverainement bon, souverainement noble, et par conséquent aussi souverainement être, car, comme le fait voir Aristote dans la *Méta physique*, le plus haut degré du vrai coïncide avec le plus haut degré de l'être. D'autre part, ce qui est au sommet de la perfection dans un genre donné, est cause de cette même perfection en tous ceux qui appartiennent à ce genre : ainsi le feu, qui est superlativement chaud, est cause de la chaleur de tout ce qui est chaud, comme il est dit au même livre. Il y a donc un être qui est, pour tous les êtres, cause d'être, de bonté et de toute perfection. C'est lui que nous appelons Dieu.⁷²

Cette doctrine philosophique dans laquelle on peut voir la fin ou la raison d'être de toutes choses s'appelle « téléologie » (le mot en grec pour « finalement » c'est « telos »). La téléologie permet l'harmonie de la religion et la raison parce qu'elle inclut toutes les sciences dans un cadre spirituel. Voici l'exemple classique : le gland est un arbre en puissance parce que cette forme est inhérente dans le

* Le moteur immobile c'est un terme ici qui est bien entendu celui d'Aristote.

⁷² Saint Thomas D'Aquin, *Somme de théologie* Trad. d'A.-M. Roguet, (Paris : Ed. du Cerf, 1984) tome 1, I, question 2, art. 3, p. 173.

gland. Mais un petit arbre, même s'il n'est peut-être pas en bonne santé, va en avoir plus d'actualité que le gland parce qu'il est plus proche à ressembler à un arbre. Toutes les choses du monde naturel « veulent » être parfaites, selon leur genre ; donc, l'arbre est la réalisation parfaite d'un gland. D'ici, on peut voir que le monde entier existe comme un « gland » de Dieu, et Dieu est donc « dans » toutes choses.

Mais comment peut-on distinguer la différence entre un gland et un arbre en puissance, qui doit apparaître comme étant le même objet de notre recherche ? Aristote a inventé une classification qu'il pensait pouvait nous donner une réponse à toutes les questions ontologiques. Cette classification aiderait le physicien à étudier le monde naturel et elle est connue comme « les quatre causes ». Ces causes sont :

1. La cause matérielle.
2. La cause formelle.
3. La cause motrice ou efficiente.
4. La cause finale.

Tout d'abord, il y a plusieurs causes pour chaque chose. Par exemple, une statue est constituée du bronze. Le bronze est la cause matérielle, qui répond à la question « Cet objet est composé de quoi ? » Si la statue est une statue d'un homme, on peut dire que cela c'est la cause formelle. La cause formelle répond à la question « Cet objet veut être quoi ? Quelle est l'essence ou la perfection de cet objet ? » Mais la statue ne pourrait pas être en existence sans l'artiste qui l'a créée.

Donc, le sculpteur est la cause efficiente ou motrice. La cause efficiente ou motrice répond à la question « Qui ou quoi est la première source de changement de cet objet ? » La cause finale pour la statue peut être pour l'art, ou pour l'esthétique, et elle répond à la question « Quelle est la raison d'être de cet objet ? » Cet exemple est un peu différent de celui du gland parce qu'Aristote a distingué la différence entre les causes efficientes pour l'art et celles de la nature. La cause efficiente ou motrice du gland est Dieu, mais Dieu n'est pas « l'artiste » qui l'a créée. C'est distinction est très importante parce que Dieu n'est pas le créateur de l'univers, mais l'objet de désir et la cause finale logique. Selon Aristote, la cause efficiente du gland est le désir intérieur d'être parfait et ce désir va en sens unique.

Tout de même, la cause finale pour l'univers est Dieu, l'Être qui est incausée. Donc, on peut dire « Quelle est la cause de l'univers ? », et la réponse, selon Thomas d'Aquin et Aristote, va être « Dieu qui est la forme pure et universelle de tout ». Sinon, on n'arrêtera jamais de trouver une régression de causes pour chaque chose, à l'infinie :

Mais si l'on devait monter à l'infini dans la série des cause efficientes, il n'y aurait ni effet dernier, ni cause efficiente intermédiaire, ce qui est évidemment faux. Il faut donc nécessairement affirmer qu'il existe une cause efficiente première, que tous appellent Dieu.⁷³

⁷³ *Ibid. tome 1, I, question 2 art. 3, p. 172.*

Cette réponse, que Dieu est la cause finale, est une nécessité logique. Donc il est facile à voir pourquoi Saint Thomas d'Aquin voulait utiliser les textes d'Aristote pour réconcilier la raison et la foi.

Toutefois, il y a des différences entre Thomas d'Aquin et Aristote. La première différence est évidente : Thomas d'Aquin était Chrétien, et selon lui, Dieu n'est pas tout simplement une nécessité logique qui est la première cause d'une série des autres entités. Au contraire, toutes entités ont leur existence grâce à Dieu, car il nous les a données par son amour immense. De l'autre côté, selon Aristote, Dieu est l'aspiration finale de toutes choses dans l'univers mais Dieu n'a pas exactement *créé* l'univers (comme chez les Chrétiens) ; on doit plutôt dire que l'univers est éternellement en train de se créer.* Selon Aristote, Dieu est l'objet de désir, l'intelligence divine qui s'appelle « nous » ou « l'esprit ». Les cieux (où les astres sont enchaînés dans des sphères célestes et qui ont les mouvements parfaits parce qu'ils sont circulaires) suivent ce principe d'ordre comme une manifestation divine, mais Dieu ne les a pas créés. Plutôt, Dieu existe en même temps que toutes autres choses et il existe éternellement comme un objet de désir.

Bien qu'Aristote fût païen, la vérité que Thomas d'Aquin a trouvée dans sa philosophie était qu'il y a un lien entre la raison et la loi divine, puisque Dieu

* Pourtant, il y avait chez Platon une idée de la création de l'univers, qui se trouve dans le Timée.

est l'auteur de l'ordre naturelle. Selon Thomas d'Aquin, il y a toujours un ordre morale dans le monde ; il y a toujours une relation intime entre la nature et la grâce. En suivant « *Le philosophe* » (comme Thomas d'Aquin appelait affectueusement Aristote), Thomas d'Aquin pensait que si tout était « créé » par Dieu et que si tout participe dans l'intelligence divine, chaque chose à sa façon et à son genre, en étudiant le monde naturel le physicien trouverait un ordre morale, tandis qu'en même temps il affirmerait et apprécierait l'ordre divine dans laquelle il participe aussi.

En conclusion, Thomas d'Aquin avait utilisé la raison au service de la foi en utilisant la philosophie d'Aristote. Selon les grecs anciens comme Aristote et Platon, c'était évident que l'âme est comme un miroir de l'univers ou qu'elle a été créée d'une certaine manière afin d'avoir l'univers dans elle. À cause de cela, la raison naturelle peut connaître l'univers de Dieu ; la raison humaine participe à l'esprit universel (nous) de Dieu. Cette façon de penser nous donne une bonne explication des similarités entre Thomas d'Aquin et Aristote. Selon leurs philosophies, la raison donc n'est pas antithétique à la foi, mais au contraire, le défenseur le plus fort de la foi. C'était dans cette manière de penser, sous l'influence de ces idées et de ces doctrines scolastiques et anciennes, que la révolution scientifique a eu lieu.

La révolution de Copernic : un tour Platonique

La révolution scientifique a commencé après que l'Eglise Catholique ait accepté cette harmonisation des idées anciennes, et surtout celle d'Aristote grâce à Thomas d'Aquin, dans la doctrine du Christianisme. En fait, l'Eglise était perçue comme un symbole d'intellectualisme où on avait tellement de liberté qu'on pouvait même contredire les hypothèses scientifiques d'Aristote qui jusqu'alors étaient acceptées par l'Eglise. Par exemple, Richard Tarnas dit:

By the fourteenth century, a leading Scholastic such as the Parisian scholar and bishop Nicole d'Oresme could defend the theoretical possibility of a rotating Earth (even while personally rejecting it), out of sheer logical vigor proposing ingenious arguments against Aristotle concerning optical relativity and falling bodies—arguments that would later be used by Copernicus and Galileo to support the heliocentric theory.⁷⁴

Grâce à cette liberté intellectuelle, il y avait un type de Platonisme qui avait été accepté au commencement chez les scientifiques, mais ce Platonisme n'était pas complètement issu des doctrines de Platon. Par exemple, comme on verra, la théologie de Platon avait été rejetée avec celle du Scolasticisme.

Toutefois, au moins dès la publication de *De Revolutionibus Orbium Caelestium* (*Des Révolutions des Orbies Célestes*) de Copernic en 1543, le même Platonisme a été reconstitué d'une nouvelle manière dans la pensée moderne, parfois en opposition à quelques aspects de la philosophie d'Aristote et celle du

⁷⁴ *Ibid.*, 201.

scolastique, Thomas d'Aquin. Aristote et les scolastiques avaient mis l'accent sur l'empirisme dans leurs méthodologies, mais Platon avait mis l'accent sur le rationalisme. C'était l'accent sur le rationalisme de Platon, qui a influencé les scientifiques de l'époque.

On pourrait dire que les pensées scientifiques de Platon avaient finalement atteint son point culminant pendant la Renaissance : les mathématiques et l'ordre esthétique sont devenus finalement la clé de l'univers qui a donné de l'élan à la théorie héliocentrique du mouvement des planètes. Pourtant, « sauver les apparences »^{*} c'était le problème. Parfois, il semblait que les apparences étaient en contradiction avec la théorie héliocentrique. Comme par exemple le fait que la terre ne part pas de dessous de nos pieds quand nous sautons dans l'air vers le haut, ce qu'on penserait se produirait si, en fait, la terre se déplaçait. « Sauver les apparences » était aussi une exigence Platonicienne⁷⁵—c'était cela que les scientifiques avaient besoin de résoudre, pas directement ou nécessairement en opposition au dogme de l'Eglise, comme on verra. Donc, les problèmes de la théorie héliocentrique étaient, au commencement, des problèmes internes à la science.

* *Le besoin d'avoir une théorie qui corresponde aux apparences ou à la perception.*

⁷⁵ Platon avait contredit Parménide en disant que les apparences (les choses qu'on voit ou connaît par le sens) ont au moins un petit peu de réalité, et qu'elles n'étaient pas complètement d'illusions.

Pourtant, au début, la révolution scientifique n'était ni complètement dirigée par l'empirisme ni par le problème de sauver les apparences, mais plutôt par le rationalisme, comme celle de Platon.* Par exemple, le système de Copernic était conduit premièrement par l'idée Platonique de l'unité et de l'interdépendance de tous les éléments et tous les planètes dans l'univers. Copernic a dit:

...if the motions of the rest of the planets be brought into relation with the circulation of the Earth and be reckoned in proportion to the circles of each planet, not only do their phenomena presently ensue, but the orders and magnitudes of all stars and spheres, nay the heavens themselves, become so bound together that nothing in any part thereof could be moved from its place without producing confusion of all the other parts and of the Universe as a whole...⁷⁶

Il y avait aussi une idée d'interdépendance de toutes choses dans le cosmos chez Platon, comme il explique dans le *Timée*, (un dialogue qui traite de l'origine de l'univers, raconté par l'astronome, Timée):

Or, de tous les liens, le meilleur est celui qui, de lui-même et des choses qu'il unit, forme une unité aussi parfaite que possible, et cette unité, c'est la proportion qui est de nature à le réaliser complètement.⁷⁷

Et aussi, dans le *Timée*:

* L'empirisme c'est que la connaissance vient premièrement par l'expérience. Le rationalisme c'est l'inverse—la connaissance est déjà dans l'esprit avant l'expérience et que la raison est la source de toute connaissance.

⁷⁶ Nicholas Copernic, *Des Revolutions des Orbis Célestes*, reproduit dans le livre par Thomas Kuhn, *The Copernican Revolution* (Massachusetts and London, England : Harvard University Press, 1985) p. 142.

⁷⁷ Platon, *Le Timée*, Traduction, notices et notes par Emile Chambry, (Paris, Garnier Frères, 1969) Toutes les citations de cette œuvre sera de cette édition, 31c.

Chacun des quatre éléments est entré tout entier dans la composition du monde, car son auteur l'a composé de tout le feu, de toute l'eau, de tout l'air et de toute la terre sans laisser en dehors de lui aucune portion ni puissance d'aucun de ces éléments.⁷⁸

Autrement dit, il y avait un besoin de *simplifier* et *unifier* la théorie scientifique, quoi que la théorie géocentrique de Ptolémaïs expliquait suffisamment les phénomènes et les données empiriques.

Dans le modèle Ptolémaïque, les mouvements des planètes ne peuvent être calculées que par rapport aux astres le long de l'écliptique. Rétrécir un épicycle* n'affecterait pas les orbites des autres planètes. Cela veut dire que l'ordre des planètes n'était point fixé. Copernic a pensé que le modèle Ptolémaïque était trop adaptable et compliqué. Il n'aimait pas que l'on pouvait remplacer la position relative des planètes et leur ordre avec presque n'importe quelle autre position afin d'intégrer les nouvelles données empiriques. Il n'aimait surtout pas l'idée des équants (l'idée d'un point hypothétique dans l'espace qui permet à une planète de retenir sa vitesse constante autour de son orbite), parce qu'il a voulu que les planètes tournent en cercles à une vitesse constante, par rapport au centre de l'univers. Donc, au début, le problème n'était pas qu'on a vu (littéralement) quelques phénomènes qui avaient contredit la théorie géocentrique, mais plutôt que la théorie en soi était trop adaptable (ou, comme

⁷⁸ *Ibid.*, 32c.

* C'est-à-dire, une orbite d'une planète autour d'un point hypothétique dans l'espace.

on dit, « *ad hoc* »). Mais aussi, elle n'était pas suffisamment simple, ni unifiée. Donc, la théorie n'était ni assez scientifique, ni assez esthétique. C'étaient ces problèmes qui ont conduit Copernic à changer les positions des planètes et de leurs mouvements autour du soleil.*

La théorie héliocentrique se présente comme une solution au problème que posait le système géocentrique Ptolémaïque/Aristotélicienne. Avant, il y avait des dispositifs correctifs *ad hoc* pour rendre compte de tous les mouvements des planètes et des phénomènes visibles. De plus, il n'y avait pas de moyen de prédire les positions des planètes avec précision. En outre, le système de Copernic a pu être falsifié, mais le système Ptolémaïque/Aristotélicienne n'a pas pu l'être, parce que, si on voyait un phénomène qui semblait contradictoire au système, on pourrait ajouter un autre cercle (un épicycle) sur un autre, jusqu'à ce qu'on a « sauvé l'apparence ». Les scientifiques avaient finalement résolu ces problèmes en utilisant la théorie héliocentrique.

À la fin, la théorie héliocentrique a prédominé, mais surtout parce que Galilée a inventé le télescope d'où on pouvait voir littéralement qu'il y avait des mouvements des comètes, des lunes, etc., dans le même univers qu'on auparavant pensait était immuable. Donc, la dernière condition des idéaux

* Pourtant, on dit qu'au début, la théorie héliocentrique de Copernic était aussi confondue que la théorie de Ptolémaïs. C'était les avancements par Kepler et Galilée qui ont vraiment amélioré cette théorie d'une manière rationaliste et empirique en même temps. Voyez *The Copernican Revolution* par Thomas Kuhn, d'où je prends mon information de cette révolution. Ibid., dans le chapitre « *The Problem of the Planets* » (*Le Problème des Planètes*).

scientifiques de Platon avait été réalisée, à savoir, « sauver les apparence » (sauf une conception de la téléologie, un sujet auquel on va retourner plus tard). Tous les scientifiques—comme Johannes Kepler, Tycho Brahe, Galilée, Isaac Newton et même Descartes—partageaient cette même notion de Platon de l'esthétique, de la simplicité, de l'unification organique. Ils avaient aussi bien pensé que c'était important d'être capable de prédire des phénomènes empiriques par cette nouvelle théorie. Rien de cela ne pourrait être satisfait par la théorie Ptolémaïque / géocentrique.

La religion contre la révolution scientifique

Il y avait une opposition religieuse contre la théorie héliocentrique, mais cela n'était pas évident dans de ce que je viens de dire. On a vu que la théorie héliocentrique avait ses propres problèmes à résoudre. Aussi, on a vue que la philosophie scolastique et l'Eglise Catholique ont encouragée en général au départ les idées scientifiques et l'intellectualisme. En fait, l'Eglise a changé leur calendrier à cause des trouvailles de Copernic et les universités Catholiques ont utilisé *De Revolutionibus* dans leurs cours d'astronomie.⁷⁹ Les Scolastiques avaient tendance à utiliser leur logique puissante pour réunir et réconcilier toutes les pensées ou doctrines qui semblaient contradictoires. On penserait qu'ils pouvaient réconcilier la théorie héliocentrique à la doctrine Catholique en interprétant la Bible différemment, comme ils faisaient auparavant avec la philosophie d'Aristote et le Christianisme. Donc, jusqu'ici, ce n'est pas facile à voir pourquoi la révolution scientifique poserait un problème pour la religion.

Toutefois, c'était cette liberté de l'Eglise d'interpréter la Bible à sa façon qui avait provoqué la critique des Protestants, surtout de Martin Luther, le moine allemand qui a vraiment commencé la Réformation Protestante et qui pensait que l'on doit lire la Bible littéralement. Les Protestants ont vu l'intellectualisme comme un jeu sophistiqué contre la révélation personnelle, contre le rapport

⁷⁹ Richard Tarnas, *The Passion of the Western Mind*, p. 251.

direct avec Dieu, et contre la foi individuelle. En outre, Martin Luther avait prononcé que les indulgences sont immorales dans les *95 Thèses* (les indulgences sont l'offre de l'argent afin d'être soulagé des péchés, et à cette époque-là, on pouvait même être acquitté du purgatoire en payant une indulgence). Luther pensait qu'on n'a pas de libre arbitre, et donc, on ne peut pas savoir où on va dans l'au-delà—aucune quantité d'argent ne peut acheter un billet au ciel. En fait, aucune quantité d'actes charitables non plus ne peut rien changer de l'avenir. Tout était prédestiné par Dieu. On ne peut qu'en avoir de la foi Chrétienne et lire la Bible avec l'espérance que Dieu nous donnera une révélation pour nettoyer nos esprits et nos âmes. Donc, Luther était contre le libre arbitre, comme on voit même dans les titres de ses écrits «Le Bondage de la Volonté ».⁸⁰ Cela veut dire que l'Eglise Catholique, les affaires des Scolastiques et leurs jeux intellectuels n'étaient que « hubris »* parce qu'ils ont essayé de trouver un moyen de connaître Dieu par la raison. Richard Tarnas dit :

Moreover, Luther had been educated in the nominalist tradition, leaving him distrustful of the earlier Scholastics' attempt to bridge reason and faith with rational theology. There was for Luther no "natural revelation," given by the natural human reason in its cognition and analysis of the natural world.⁸¹

⁸⁰ On peut voir une discussion sur ce sujet de libre arbitre et la volonté dans une série des correspondances entre Martin Luther et Desiderius Erasmus (*le défendeur du libre arbitre*).

* C'est un mot dérivé du grec qui veut dire (presque) « outrance ».

⁸¹ *Ibid.*, p. 240.

Donc, c'était Luther qui a pensé que la raison ne pouvait pas être réconciliée à la foi Chrétienne.

Pourquoi, donc, est-ce que Luther a usurpé si rapidement le pouvoir de l'Eglise si ses idées religieuses étaient si évidemment contre la tradition intellectuelle et même contre la raison ? Cette réaction contre l'Eglise Catholique était non seulement contre l'interprétation très libre de la Bible qui était caractéristique des Scolastiques, mais aussi une réaction à la corruption des prêtres et des hommes d'autorité dans l'Eglise, qui paraissaient être trop riches, avides, et corrompus pour être perçues comme étant vraiment religieux aux yeux du reste du monde. Le pouvoir de l'Eglise était trop fort ; la raison pour laquelle beaucoup de monde a suivi la nouvelle religion de Luther était parce qu'il a fourni un alternatif à la vie de l'Eglise qui paraissait immorale. Autrement dit, cette nouvelle religion était suivie parce qu'elle a non seulement donné la pouvoir à l'individu d'avoir une relation direct avec Dieu, mais aussi parce que le monde de ce temps-là avait *besoin* d'un changement. Il y avait une crise spirituelle ; il y en avait beaucoup qui pensait que le « mot inspiré de Dieu » qui se trouve dans la Bible avaient été remplacés par l'Eglise Catholique. On considérait l'Eglise comme une barrière entre Dieu et l'individu.

L'Eglise Catholique a changé par la suite leur avis sur la théorie héliocentrique, qu'elle avait accepté auparavant. En 1616, l'Eglise a déclaré la

théorie de Copernic « fausse et erronée ». In 1632, l’Inquisition a condamné Galilée à résidence surveillée. Pourquoi est-ce que l’Eglise Catholique a décidé d’être contre les nouvelles idées scientifiques ? La réponse n’est pas évidente. Pourtant, Richard Tarnas pense que c’était la division de l’Eglise qui a provoqué les autorités d’essayer à trouver la solidarité qu’ils ont perdue ; cette motivation se manifeste à travers une résistance à toutes nouvelles idées :

For with the revolt of Luther, Christianity’s medieval matrix split into two, then into many, then seemingly commenced destroying itself as the new divisions battled each other throughout Europe with unbridled fury. The resulting chaos in the intellectual and cultural life of Europe was profound. Wars of religion reflected violent disputes between ever-multiplying religious sects over whose conception of absolute truth would prevail. The need for a clarifying and unifying vision capable of transcending the irresolvable religious conflicts was urgent and broadly felt. It was amidst this state of acute metaphysical turmoil that the Scientific Revolution began, developed, and finally triumphed in the Western mind.⁸²

Donc, les sectes et les divisions différentes avaient commencé à diminuer le pouvoir de l’Eglise pour trouver une solidarité. Cette disparité interne avait provoqué les gens de cette période-là à trouver une nouvelle *Weltanschauung* plus solide.

Pour toutes ces raisons, la religion de l’individu (comme le Calvinisme et le Luthéranisme) avait remplacé l’idée que la raison humaine collective pouvait avoir une vraie connaissance de Dieu (comme dans la présupposition téléologique d’Aristote et des Scolastiques). Afin d’être vraiment religieux, selon

⁸² *Ibid.*, p. 247.

le Protestants, il fallait qu'on a une foi inébranlable—même si cette foi semblait contradictoire à la raison collective. La révélation individuelle était plus désirée qu'une synthèse de la science et la religion—on considérait ces synthèses comme étant jeux intellectuels des Scolastiques. Cela veut dire que si on nie la raison, ou plus précisément, si on nie que raisonner est un moyen d'être religieux, l'intellectualisme (et, donc, la science) se sépare de la religion. Participer à la nature et étudier la nature comme une création de Dieu (une vue télologique) n'était plus soutenable. La science devient alors un symbole de la raison tandis que la religion devient un symbole de la foi.* Donc, la division entre la science et la religion provient d'une période réactionnaire et radicale contre la corruption de l'Eglise.

* Ce symbolisme n'était pas toujours le cas. Dans la philosophie de Platon, par exemple, il dit dans *La République* que la connaissance de L'idée du Bien (Dieu) constitue une étape connue comme « *noesis* », qui peut être traduit comme « la raison pure », tandis que la connaissance des choses matérielles constitue « *pistis* », qui peut être traduit comme la foi ou la croyance. Voyez livre VI de la République où se trouve une métaphore qui s'appelle « la ligne coupé ».

Descartes et l'esprit moderne

On a suivi jusqu'ici quelques étapes de l'histoire des idées. Il faut les considérer maintenant dans la mesure où Descartes les a incorporées dans sa philosophie ; il faut aussi considérer comment il a créé sa propre méthode et sa propre philosophie. Autrement dit, on va demander comment Descartes a réagit à l'atmosphère intellectuelle de son époque.

Descartes est le symbole de l'homme moderne—raisonnable, pratique, scientifique. Descartes n'était vraiment pas ni comme les Scolastiques, ni comme les Protestants, mais on peut voir quelques idées dans la philosophie de Descartes qui se rapprochent à ces pensées. Comme ceux là, par exemple, il croyait qu'on a le libre arbitre, mais comme ceux-ci, il n'adhérait point aux doctrines Scolastiques avec lesquelles on pouvait réconcilier les textes anciens au Christianisme, qui permettaient plusieurs réponses véritables à un seul et même problème :

Je ne dirai rien de la philosophie, sinon que, voyant qu'elle a été cultivée par les plus excellents esprits qui aient vécu depuis plusieurs siècles, et que néanmoins il ne s'y trouve encore aucune chose dont on ne dispute, et par conséquent qui ne soit douteuse, je n'avais point assez de présomption pour espérer d'y rencontrer mieux que les autres; et que, considérant combien il peut y avoir de diverses opinions touchant une même matière, qui soient soutenues par des gens doctes, sans qu'il y en puisse avoir jamais plus d'une seule qui soit vraie, je réputais presque pour faux tout ce qui n'était que vraisemblable.⁸³

⁸³ René Descartes, *Oeuvres et Lettres : Discours de la Méthode, Première Partie*, (Paris : Ed. Gallimard, Pléaide, 1953) pp. 130.

Comme on voit, Descartes pensait que l'antiquité (surtout l'antiquité compris par le Scolasticisme) pourrait nous donner des opinions dubitables et disputables, et pas de vérités certaines. Descartes a observé que, après avoir accumulé toutes les opinions qu'on doit accumuler pour vivre, et après avoir étudié les philosophes anciens, il n'a pas trouvé dans leurs philosophies une certitude qui peut fonctionner comme la fondation de la connaissance. Ainsi, la philosophie de Descartes commence premièrement en niant la tradition Scolastique.

Descartes était individualiste comme les Protestants. Pourtant, les similarités entre les Protestants et Descartes s'arrêtent là ; selon Descartes, et aussi selon presque tous les intellectuels contre le Scolasticisme de ce temps-là, la vérité était mesurée par la rationalité humaine et la Bible n'était pas l'autorité finale (il fait référence à la Bible seulement après qu'il fasse ses propres arguments, selon le cas). En fait, l'autorité finale était la raison de l'individu, en opposition aux « opinions » de la tradition Aristotélicienne. Comme on verra, Descartes représente la culmination de cette idée de l'individualisme.

Descartes a nié l'autorité de la tradition Scolastique, comme les Protestants, mais pour des raisons différentes. Dans *L' Abrégé Des Six Méditations Suivantes*, Descartes dit :

...il est à remarquer que je ne traite nullement en ce lieu-là du péché, c'est-à-dire de l'erreur qui se commet dans la poursuite du bien et du mal, mais seulement de celle qui arrive dans le jugement et le discernement du vrai et du faux ; et que je n'entends point y parler des choses qui appartiennent à la foi, ou à la conduite de la vie, mais seulement de celles qui regardent les vérités spéculatives et connues par l'aide de la seule lumière naturelle.⁸⁴

Il faut remarquer que les Protestants demanderaient, « Qu'est-ce qu'il y a au sujet de la métaphysique ? » parce que pour eux, la raison ne sert pas grand-chose pour trouver les vérités de la religion. De plus, il ne va pas non plus parler des choses qui appartiennent « à la conduite de la vie » ; donc, il ne traite pas ni de la moralité ni de la religion rationnelle des anciennes, comme celles de Platon et d'Aristote. Descartes rejette toute autorité de ses contemporains et des anciennes.

Toutefois, comme on a vu, le Platonisme était reconstitué, *d'une certaine manière*, dans la conception du monde scientifique. Cela n'exclut pas Descartes, qui a pensée d'une manière rationaliste comme Platon. Comme Platon, Descartes pensait que les mathématiques étaient importantes pour trouver des vérités. De plus, il pensait, comme Platon, que la perception du sens ne nous donne pas la connaissance certaine du monde. Pourtant, Descartes pensait que les mathématiques nous serviraient à trouver la certitude dans toutes les sciences, mais Platon pensait que les mathématiques n'étaient pas suffisantes pour nous donner toute connaissance. Pour Platon, les mathématiques aiderait nos âmes à

⁸⁴ René Descartes, *Méditations Métaphysiques: Première Méditation*, Edition bilingue en français et en latin. Introduction par Michelle et Jean-Marie Beyssade: (Paris : Garnier-Flammarion, 1979 ; Paris: Flammarion, 1992) AT, IX 11, p.52. Toutes les références de cette œuvre seront de cette édition.

s'accoutumer à penser en utilisant des concepts plutôt qu'en utilisant la perception du sens, mais les mathématiques en soient ne nous donnent pas la certitude parce qu'on emploie des hypothèses non fondamentales dans les déductions mathématiques:

Tu sais bien, je pense, que ceux qui s'occupent de géométrie, de calcul et d'autres choses du même genre font l'hypothèse du pair et de l'impair, des figures et des trois espèces d'angles, et de toutes sortes de choses apparentées selon la recherche de chacun, et qu'ils traitent ces hypothèses comme des choses connues ; quand ils ont confectionné ces hypothèses, *ils estiment n'avoir à en rendre compte d'aucune façon, ni à eux-mêmes ni aux autres, tant elles paraissent évidentes à chacun* ; mais ensuite, en procédant à partir de ces hypothèses, ils parcourrent les étapes qui restent et finissent par atteindre, par des démonstrations progressives, le point vers lequel ils avaient tendu leur effort de recherche.⁸⁵

Donc, pour Platon, la mathématique ne nous donne pas *toute* connaissance, mais elle nous enseigne comment penser d'une manière rationnelle, sans ayant besoin de perception du sens.* La fondation de toute connaissance c'était l'idée du bien, à savoir, la connaissance de Dieu comme le créateur de l'univers, et la cause de toute perfection et de toute connaissance.

D'autre part, je maintiens que Descartes a réduit toute connaissance aux mathématiques pour justifier la supériorité de la science naturelle sur la religion. Cela n'est pas évident d'un premier coup d'œil des *Méditations Métaphysiques*,

⁸⁵ Platon, *La République*, Livre VI, Traduction inédite, introduction et notes par Georges Leroux, (Deuxième édition corrigée. Paris : Flammarion, 2004 ; 2002), 510c-d. Toutes les références de *La République* sont de cette édition. C'est moi qui souligne.

* Voyez *La République*, Livre VI, où se trouve ce qui s'appelle « la ligne coupée » pour voir le rapport entre la connaissance des idées pures et la perception du sens.

mais comme on verra, la méthodologie de Descartes rendait la connaissance du monde naturel dépendant des mathématiques, et non pas de la connaissance de Dieu.

Toutefois, même si Descartes a rejeté quelques idées traditionnelles de ses contemporaines et des anciennes, il paraît, *d'un premier coup d'œil*, concevoir que la raison nous permettait de connaître quelques vérités religieuses et que toute connaissance dépend de l'existence de Dieu. Parfois l'écriture de Descartes nous rappelle les mots de Thomas d'Aquin, que nous avons déjà entendus, « Il y a donc un être qui est, pour tous les êtres, cause d'être, de bonté et de toute perfection. C'est lui que nous appelons Dieu. » En fait, Descartes paraît penser que l'on peut connaître l'existence de Dieu par la raison: « ...je conclus si évidemment l'existence de Dieu, et que la mienne dépend entièrement de lui en tous les moments de ma vie, que je ne pense pas que l'esprit humain puisse rien connaître avec plus d'évidence et de certitude. »⁸⁶ Donc, la raison humaine, selon Descartes, peut connaître *l'existence** de Dieu par la « lumière naturelle » qui est en nous.

Néanmoins, on verra que ce style de parler, qui se trouve partout dans *Les Méditations Métaphysiques*, n'est qu'un moyen de cacher une nouvelle perspective

⁸⁶ Ibid., Méditation Quatrième, AT IX, 42, p.133.

* Selon Descartes, on peut connaître l'existence de Dieu par la raison naturelle, mais rien d'autre de Dieu, comme par exemple son essence.

moderne de l'individualisme qui contredit le Scolasticisme et leur conception de la théologie qui permettait l'harmonisation de la religion et la raison. À savoir, Descartes fournit la fondation philosophique qui rend la science mécanistique supérieure à une conception théologique en mettant l'autorité finale de toute connaissance dans l'individu.

Tout d'abord, je vais résumer et critiquer certains aspects de sa méthode telle qu'elle est expliquée dans *Les Méditations Métaphysiques*, mais non pas les arguments de l'existence de Dieu, qui se trouve dans la Troisième et la Cinquième Méditations. Et puis, je vais montrer comment Descartes a mis la certitude dans l'individu et comment, en faisant cela, il a réduit toute connaissance à la certitude mathématique, à l'exclusion de la connaissance des vérités religieuses. Enfin, je vais montrer comment Descartes a créé un antagonisme entre la religion et la science en niant la théologie.

La méthodologie de Descartes dans les Méditations Métaphysiques

Le doute

Descartes commence sa méthode par le doute extrême de toutes choses. Dans la première partie des *Principes de la Connaissance Humaine*, Descartes a dit « Que pour examiner la vérité il est besoin, *une fois en sa vie*, de mettre toutes choses en doute autant qu'ils se peut. »⁸⁷ Toutefois, Descartes n'était pas sceptique, mais au contraire, contre le scepticisme. Comme il y avait un intérêt renouvelé au scepticisme et au relativisme (surtout celui de Sextus Empiricus) à son époque,* il voulait trouver une fondation de la connaissance que personne ne peut nier sans tomber dans la contradiction logique et sans tomber dans l'absurdité :

Il y a déjà quelque temps que je me suis aperçu que, dès mes premières années, j'avais reçu quantité de fausses opinions pour véritables, et que ce que j'ai depuis fondé sur des principes si mal assurés, ne pouvait être que fort douteux et incertain ; de façon qu'il me fallait entreprendre sérieusement une fois en ma vie de me défaire de toutes les opinions que j'avais reçues jusques alors en ma créance, et commencer tout de nouveau dès les fondements, si je voulais établir quelque chose de ferme et de constant dans les sciences.⁸⁸

Donc, il commence par le doute afin de trouver une fondation si ferme qu'elle ne peut pas être doutée. Ainsi, la méthode de Descartes ne doit pas être reconnue

⁸⁷ René Descartes, *Les Principes de la Philosophie : La titre de la première principe. C'est moi qui souligne.* p. 571.

* Peut-être à cause du bouleversement de la conception du monde Scolastique et Aristotélicienne.

⁸⁸ Ibid., AT IX, 13, p.55.

comme celle du sceptique, mais plutôt une réaction contre le scepticisme en se servant de leur propre méthode. C'est-à-dire, c'est une méthode que l'on ne peut pas pratiquer dans le monde ordinaire dans lequel nous vivons quotidiennement. C'est pourquoi, dans la troisième partie du *Discours de la Méthode* il a dû établir des règles et des codes moraux provisionnels séparés de sa méthode philosophique. Ce doute extrême est réservé pour les moments philosophiques et il est vraiment détaché de nos vies quotidiennes.

Par exemple, Descartes dit qu'on peut douter qu'on a un corps, parce que toutes choses peuvent n'être qu'un rêve. De plus, il doute que le monde existe tel qu'on le voit, parce qu'il se peut qu'il existe un Dieu (ou bien, un mauvais génie) qui « me^{*} trompe toujours », même si je veux ajouter deux et deux :

...il se peut faire qu'il ait voulu que je me trompe toutes les fois que je fais l'addition de deux et de trois, ou que je nombre les côtés d'un carré, ou que je juge de quelque chose encore plus facile, si l'on peut imaginer rien de plus facile que cela.⁸⁹

Nos opinions, même nos opinions fortes, comme la croyance dans l'existence du monde et dans notre corps, ne sont pas suffisantes parce qu'il est possible que ces opinions ne correspondent pas à la réalité ; on peut imaginer que nous n'ayons pas de corps et que le monde ne soit qu'un rêve, ou bien, qu'il y ait un mauvais génie qui me trompe. Toutefois, Descartes ne *nie* pas la réalité du monde, mais il

* Parfois, il faut parler du premier point de vue afin de retenir la signification de Descartes.

⁸⁹ *Ibid.*, AT IX, 16, p.65.

dit que *il se peut* qu'il n'existe pas. Donc, à la fin de la Première Méditation, on tombe dans le doute, sans qu'il y ait aucune opinion qui ne soit nécessairement vraie. Il a conclu ici non seulement que nous ne pouvons pas chercher la certitude à l'extérieur de nous-mêmes, mais aussi que nous ne pouvons peut-être pas du tout trouver la certitude.

Le *cogito*

Dans le Deuxième Méditation, Descartes semble résoudre ce problème du mauvais génie. Descartes pensait que l'on pouvait trouver la certitude à travers le *cogito* (le « je pense » de *cogito ergo sum* « je pense ; donc, je suis »). Le *cogito* est la seule chose dont on ne peut pas douter sans y apporter une contradiction : « Il n'y a donc point de doute que je suis, s'il me trompe ; et qu'il me trompe tant qu'il voudra, il ne saurait jamais faire que je ne sois rien, tant que je penserai être quelque chose. »⁹⁰

La vérification du *cogito* est assez simple : Est-ce que l'on peut douter que l'on doute ? Non. Mais est-ce que l'on peut douter que l'on pense ? Non, c'est impossible parce que le doute est une des activités de la pensée. Mais si je pense, il faut que j'existe. Afin de le clarifier logiquement, elle peut être vue avec ce pur

⁹⁰ *Ibid.*, AT IX, 19, p.73.

syllogisme hypothétique suivant :

Si je doute (A), je pense (B)
Si je pense (B), j'existe (C)
Si je doute (A), j'existe (C)

Et on peut conclure, logiquement :

1. (A) ; donc, (C) = « Je doute ; donc, j'existe »
2. $\neg(C) ; \text{donc}, \neg(A) = \text{« Je n'existe pas ; donc, je ne doute pas »}$

Mais on ne peut pas conclure :

3. $\neg(A) ; \text{donc}, \neg(C) = \text{« Je ne doute pas ; donc, je n'existe pas »}$
4. $(C) ; \text{donc}, (A) = \text{« J'existe ; donc, je doute »}$

Bien qu'il soit logique, à proprement parler, on ne peut pas dire « je n'existe pas ; donc, je ne doute pas » parce qu'il est évident que quand je dis « je n'existe pas » il faut que j'existe. Donc, la certitude qu'il a trouvé est la fondation de toute la connaissance parce qu'elle est la seule chose dont il est impossible de douter sans engendrer une contradiction. De plus, on n'a pas besoin d'autres raisons pour savoir que « *je pense, donc, je suis* » est vraie. Elle est « claire et distincte » (fondamentalement vraie) parce qu'elle est indépendante des autres preuves.

On peut contester au sujet de cette façon de concevoir le *cogito* comme un syllogisme. Descartes a dit que les choses « claires et distinctes » sont des « intuitions »—pour cette raison, il y en a quelques-uns qui pensent que le *cogito*

ne peut pas être considéré un syllogisme. Pourtant, Descartes a aussi dit que le *cogito* et toutes les idées « claires et distinctes » sont nécessairement vrais : « *Et partant il me semble que déjà je puis établir pour règle générale, que toutes les choses que nous concevons fort clairement et fort distinctement, sont toutes vraies.* »⁹¹

Autrement dit, les intuitions sont *rationnelles* (mais pas émotionnelles) qui servent comme des principes de la connaissance. Cela veut dire que les idées claires et distinctes peuvent être conçues logiquement, même si elles ne sont pas elles-mêmes des arguments, (mais plutôt des fondations des arguments, proprement dit). Il faut interpréter le terme « claire et distincte ». Je maintiens qu'elle doit être définie comme le suivant : *Les choses « claires et distinctes » sont les intuitions rationnelles qui ne peuvent être doutées sans engendrer un type de contradiction.* Cela veut dire que le *cogito*, qui est une idée « claire et distincte » peut être conçue comme un syllogisme, parce qu'elle est rationnelle.

⁹¹ *Ibid. Méditation Troisième [Meditation Three], AT IX, 27, pp. 95.*

L'exemple de la cire—l'étendu et les mathématiques

Néanmoins, le *cogito* tout seul ne paraît pas nous donner la connaissance du monde naturel ; donc, Descartes commence à chercher une autre idée « claire et distincte ». Il est possible que ce soit la raison pour laquelle Descartes commence à regarder les objets de la perception du sens ; en particulier, un morceau de cire. Il remarque que la cire change quand elle est fondue. Si je considère que toutes les propriétés de la cire change, comment puis-je savoir qu'elle est la même cire pendant tous ces changements ? Autrement dit, qu'est-ce qu'il y a de constant pendant toutes ces changements qui peut signaler que l'objet (la cire) est le même objet de ma perception ? La seule propriété constante de la cire c'est l'étendu qui unifie mon expérience de la cire et me fait comprendre que je regarde le même objet en dépit de tous ces changements.

Toutefois, ce n'est pas l'étendu *de* la cire qui nous fait savoir que la cire est le même objet, mais plutôt c'est l'extension (les coordonnées spatiales) en général : « Je ne concevrais pas clairement et selon la vérité ce que c'est que la cire, si je ne pensais qu'elle est capable de recevoir plus de variétés selon l'extension, que je n'en ai jamais imaginé. »⁹² Bien que la cire soit capable de prendre des formes différentes, et bien que je ne puisse pas déterminer la taille de la cire, je sais qu'elle appartient à la catégorie de l'extension en général. Cela peut être mieux expliqué

⁹² *Ibid. Méditation Seconde, AT IX, 24, pp. 85-87.*

si on pense à l'exemple de l'eau. Nous admettons que l'eau est étendu de quelque degré, et quoi qu'elle puisse évaporer au delà de notre capacité de la voir, nous admettons que l'eau soit une substance étendue. Donc, on peut conclure que l'extension n'appartient pas à un objet en particulier, mais plutôt aux objets en général. Si cela est vrai, l'extension ne peut pas être attribuée à la perception du sens, car je ne peux pas la percevoir avec mes cinq sens comme je le fais avec les odeurs, les couleurs, la dureté, etc.

De plus, parce que je sais qu'un objet est le même objet par l'intuition de mon esprit, Descartes conclut que l'on n'obtient aucune connaissance par la perception du sens:

Mais enfin me voici insensiblement revenue où je voulais ; car, puisque c'est une chose qui m'est à présent connue, qu'à proprement parler nous ne concevons les corps que par la faculté d'entendre qui est en nous, et non point par l'imagination ni par les sens, et que nous ne les connaissons pas de ce que nous les voyons, ou que nous les touchons, mais seulement de ce que nous les concevons par la pensée, je connais évidemment qu'il n'y a rien qui me soit plus facile à connaître que mon esprit.⁹³

Cette citation prouve que même pas les objets de la perception du sens sont proprement connus par la perception du sens, mais seulement par l'esprit. Donc, je peux connaître mon esprit plus clairement que les objets de la perception du sens, et pour autant que je puisse connaître les objets de la perception du sens, je les connais par l'intellect.

⁹³ *Ibid. Méditation Seconde, AT IX, 26, pp. 91.*

Dans les Méditations suivantes, Descartes nous offre les preuves pour l'existence de Dieu (qui ne sont pas importantes pour cet exposé) et puis les preuves pour l'existence des choses matérielles :

Il ne me reste plus maintenant qu'à examiner s'il y a des choses matérielles : et certes au moins sais-je déjà l'objet des démonstrations de géométrie, vu que de cette façon je les conçois fort clairement et fort distinctement.⁹⁴

Autrement dit, les choses matérielles sont connues pour autant qu'elles puissent être reformulées en propositions mathématiques. Dans l'exemple de la cire, on voit que Descartes avait déjà supposé que les choses matérielles peuvent exister pour autant qu'elles sont connues à travers les mathématiques ; Descartes n'avait besoin que de vérifier que Dieu existe et qu'il n'était pas trompeur.

Maintenant on sait comment les objets matériaux se connaissent, s'ils peuvent être connus, mais on ne sait pas encore comment Descartes a prouvé qu'ils existent. Descartes dit que, comme il existe un Dieu qui n'est pas trompeur, il n'est pas probable que nous soyons trompés en croyant que les objets corporels existent aussi:

Car ne m'ayant donné aucune faculté pour connaître que cela soit, mais au contraire une très grande inclination à croire qu'elles me sont envoyées ou qu'elles partent des choses corporelles, je ne vois pas comment on pourrait l'excuser de tromperie, si en effet ces idées partaient ou étaient produites par d'autres causes que par des choses corporelles. Et partant il faut confesser qu'il y a des choses corporelles qui existent.⁹⁵

⁹⁴ *Ibid. Méditation Sixième [Meditation Six], AT IX, 57, pp. 173.*

⁹⁵ *Ibid. Méditation Sixième, AT IX, 63, pp. 189.*

Si Dieu n'est pas trompeur, il faut que les choses corporelles existent en général parce que Dieu nous a donné une « très grande inclination à croire qu'elles me sont envoyées ou qu'elles partent des choses corporelles ».

Même si Descartes conclut ici que les objets corporels existent en général, ou que nous avons besoin de le croire s'il y a un Dieu non trompeur, il ne conclut point qu'ils existent tels qu'on les perçoit. L'idée de l'étendu en général est dérivée de l'intellect, mais non pas de la perception du sens. Les perceptions du sens, comme nous nous rappelons, ne sont point des idées claires et distinctes. Donc, les objets corporels n'existent pas nécessairement comme ils paraissent :

Toutefois elles ne sont peut-être pas entièrement telles que nous les apercevons par le sens, car cette perception des sens est fort obscure et confuse en plusieurs choses ; mais au moins faut-il avouer que toutes les choses que j'y conçois clairement et distinctement, c'est-à-dire toutes les choses, généralement parlant, qui sont comprises dans l'objet de la géométrie spéculative, s'y retrouvent véritablement.⁹⁶

Donc, Dieu ne nous promet pas les idées qui sont dérivées de la perception du sens, mais seulement les idées claires et distinctes et l'existence en général des objets hors de moi (ou bien, l'étendu, connue par les mathématiques ou la géométrie). On voit maintenant que les idées « claires et distinctes » sont importantes pour la philosophie de Descartes parce qu'elles constituent les

⁹⁶ *Ibid. Méditation Sixième [Meditation Six], AT IX, 63, pp. 189.*

fondations de la connaissance. Je vais commencer la partie suivante en expliquant et en critiquant leur fonction dans les argument de Descartes.

L'indépendance et l'autorité de la raison humaine

Dans les *Méditations*, Descartes voulait mettre au point l'autonomie de la raison humaine comme le point de départ duquel on pourrait déduire toute connaissance. Lorsque Descartes disait que le *cogito* est certain, cela veut dire que « je suis » la mesure de la certitude, parce que, même lorsque je doute, c'est moi qui doute et c'est moi qui trouve que j'existe même lorsque je doute. Comme Descartes dit : « Je suis certain que je suis une chose qui pense ; mais ne sais-je donc pas aussi ce qui est requis pour me rendre certain de quelque chose ? »⁹⁷ Donc, Descartes déclare ici qu'il est lui-même la mesure de la certitude.

D'ici, il va tenter de prouver l'existence de Dieu dans la Troisième Méditation et aussi dans la Cinquième Méditation, où l'argument ontologique se trouve.* Paradoxalement, pour rendre cette preuve nécessaire, il faut rendre incertaines ses idées « claires et distinctes », comme le *cogito* et les propositions mathématiques. Pourtant, Descartes va prétendre que Dieu est la cause de toute certitude et de la fondation de la connaissance, même s'il a déjà dit que la raison

⁹⁷ Ibid., *Troisième Méditation*, p.95.

* Une explication des arguments pour l'existence de Dieu n'ajoute rien pour ma thèse ; alors, je ne vais faire des remarques que sur sa méthodologie ici.

de l'individu est la mesure de la certitude (ou plutôt, « je suis moi-même la mesure de la certitude »). À savoir, bien que Descartes ait dit auparavant que le *cogito* soit une idée « claire et distincte »,⁹⁸ il décide de le rendre incertain.

Descartes commence à utiliser encore la fonction du « mauvais génie » afin de rendre le *cogito* moins certain. En faisant cela, il décide alors que la certitude du *cogito* dépend de l'existence de Dieu. Comme on a vu, il a dit que le *cogito* ne peut pas être douté, même s'il y a un mauvais génie qui le trompe. Pourtant, il dit dans la Troisième Méditation :

Et certes, puisque je n'ai aucune raison de croire qu'il y ait quelque Dieu qui soit trompeur, et même que je n'aie pas encore considéré celles qui prouvent qu'il y a un Dieu, la raison de douter qui dépend seulement de cette opinion est bien légère, et pour ainsi dire métaphysique. Mais afin de la pouvoir tout à fait ôter, je dois examiner s'il y a un Dieu, sitôt que l'occasion s'en présentera ; et si je trouve qu'il y en ait un, je dois aussi examiner s'il peut être trompeur : car sans la connaissance de ces deux vérités, *je ne vois pas que je puisse jamais être certain d'aucune chose*.⁹⁹

Mais pourquoi a-t-il décidé de rendre toutes choses encore incertaines, surtout après qu'il ait trouvé une certitude évidente en soi comme le *cogito* ? La raison pour cela n'est pas évidente, mais on peut spéculer qu'il l'a fait parce que son œuvre était adressée à la faculté de théologie à Paris et qu'il voulait que son

⁹⁸ Ici, il dit que le *cogito* est clair et distinct : « Mais enfin que dirai-je de cet esprit, c'est-à-dire de moi-même? Car jusques ici je n'admetts en moi autre chose qu'un esprit. Que prononcerai-je, dis-je, de moi qui semble concevoir avec tant de netteté et de distinction ce morceau de cire ? Ne me connais-je pas moi-même, non seulement avec bien plus de vérité et de certitude, mais encore avec beaucoup plus de distinction et de netteté ? » Ibid., Méditation Seconde, AT IX, 25-26, p.89.

⁹⁹ C'est moi qui souligne, Ibid., AT IX, 29, p.97.

œuvre soit approuvée par les théologiens. Donc, il fallait que tout dépende de Dieu.

Comme Descartes disait dans la lettre adressée à la faculté de théologie, « je m'assure que vous en aurez aussi une si juste de le prendre en votre protection. »¹⁰⁰ Descartes a voulu protéger son œuvre de la critique des gens religieux en ayant l'approbation de la faculté de théologie. Il est possible que Descartes ait soupçonné que son œuvre n'allait pas être approuvé par les gens religieux. Pourtant, il paraît défendre son œuvre de la critique des athéistes lorsqu'il dit : « on ne saurait néanmoins proposer cela aux infidèles, qui pourraient s'imaginer que l'on commettrait en ceci la faute que les logiciens nomment un Cercle. »¹⁰¹ A-t-il vraiment commis la faute de raisonner dans un cercle ? Est-ce que Descartes a voulu protéger son œuvre des gens religieux ou des athéistes intellectuels ?

Je soupçonne que Descartes ait voulu protéger son œuvre des gens religieux du fait qu'en 1633, l'Inquisition a condamné Galilée à résidence surveillée pour ses idées scientifiques. Ce n'était que huit ans après ce fait que *Les Méditations Métaphysiques* a été publié. De plus, si on dit qu'il a voulu protéger son œuvre des athéistes, il semble que Descartes prouverait qu'il n'a pas raisonné

¹⁰⁰ Ibid., une lettre qui se trouve au début de cet édition : *À Messieurs Les Doyens et Docteurs de la Sacrée Faculté de Théologie de Paris*, p. 35.

¹⁰¹ Ibid., p. 36.

dans un cercle. Pourtant, Descartes n'a pas non seulement rien dit en sa faveur au sujet de cette critique, mais je crois moi-même qu'il a vraiment raisonné dans un cercle, et aussi qu'il le savait probablement.

Le cercle Cartésien

En disant auparavant qu'il sait « ce qui est requis pour me rendre certain de quelque chose », il *doit* prouver l'existence de Dieu par cette mesure de certitude dans lui-même, surtout après avoir douté de toutes choses d'une manière tellement extrême. Mais au lieu de cela, il a essayé de prouver que toute connaissance dépend de l'existence de Dieu. Il dit que les idées « claires et distinctes » sont certaines *parce que* Dieu les rend certaines :

...il ne se peut faire que je me trompe ; parce que tout conception claire et distincte est sans doute quelque chose de réel et de positif, et partant ne peut tirer son origine du néant, mais doit nécessairement avoir Dieu pour son auteur, Dieu, dis-je, qui, étant souverainement parfait, ne peut être cause d'aucune erreur ; et par conséquent il faut conclure qu'une telle conception ou un tel jugement est véritable.¹⁰²

Mais il dit aussi que l'existence de Dieu est « claire et distincte » :

...l'idée d'un être complet et indépendant, c'est-à-dire de Dieu, se présente à mon esprit avec tant de distinction et de clarté ; et de cela seul que cette idée se retrouve en moi, ou bien que je suis ou existe, moi qui possède cette idée, je conclus si évidemment l'existence de Dieu, et que la mienne dépend entièrement de lui en tous les moments de ma vie, que je ne pense pas que l'esprit humain puisse rien connaître avec plus d'évidence et de certitude.¹⁰³

¹⁰² *Ibid.*, *Meditation Quatrième*, AT IX, 49-50, p.151-153.

¹⁰³ *Ibid.*, *Meditation Quatrième*, AT IX, 42, p.133.

Il dit que les idées claires et distinctes dépendent de l'existence de Dieu et, à la fois, il dit que l'existence de Dieu est une idée claire et distincte. Donc, il raisonne dans un cercle et cette démarche est connue comme « Le cercle Cartésien ».

Pourtant, il y a en a quelques-uns qui pensent que Descartes a pensé que l'idée « claire et distincte » de Dieu soit *plus* claire et *plus* distincte que les autres. Comme Descartes dit partout, on a besoin de savoir que Dieu existe et qu'il n'est pas trompeur afin d'avoir la connaissance. Comme il dit :

Car encore que je sois d'une telle nature, que, dès aussitôt que je comprends quelque chose fort clairement et fort distinctement, je suis naturellement porté à la croire vraie, néanmoins, parce que je suis aussi d'une telle nature, que je ne puis pas avoir l'esprit toujours attaché à une même chose, et que souvent je me ressouviens d'avoir jugé une chose être vraie ; lorsque je cesse de considérer les raisons qui m'ont obligé à la juger telle, il peut arriver pendant ce temps-là que d'autres raisons se présentent à moi, lesquelles me feraient aisément changer d'opinion, si j'ignorais qu'il y eût un Dieu. Et ainsi je n'aurais jamais une vraie et certaine science d'aucune chose que ce soit, mais seulement de vagues et inconstantes opinions.¹⁰⁴

Descartes pense, comme on voit ici, que nous sommes capable de raisonner grâce à notre souvenir de la preuve de l'existence de Dieu. Si on ne pouvait pas se rappeler que Dieu existe et qu'il n'est pas trompeur, on n'aurait pas la capacité ni de raisonner ni d'être assuré qu'on ne se trompe pas chaque fois qu'on dit que deux et deux font quatre, parce que, si on « cesse de considérer les raisons qui m'ont obligé à la juger telle, il peut arriver pendant ce temps-là que d'autres

¹⁰⁴ *Ibid., Méditation Cinquième, AT IX, 55, p.167.*

raisons se présentent à moi, lesquelles me feraient aisément changer d'opinion. »

Autrement dit, Dieu nous donne la mémoire des vérités, afin d'être capable de faire des déductions de ces vérités.

Toutefois, Descartes avait utilisé la raison (et sa mémoire) afin de prouver l'existence de Dieu. Si Descartes dit qu'on ne peut pas avoir la capacité de raisonner sans connaître l'existence de Dieu, parce que nous n'aurions pas la mémoire des vérités que nous avons déjà conclu, Descartes ne peut pas, dans ce cas là, prouver l'existence de Dieu ni avec la raison ni avec la logique. Donc, il raisonne encore dans un cercle. On voit ici que selon la méthode de Descartes, l'existence de Dieu ne nous rend pas plus certain d'aucune chose. Descartes avait besoin de prouver l'existence de Dieu par la logique afin de prouver que la logique ne nous trompe pas. Il ne nous prouve pas que l'existence de Dieu soit la fondation de la connaissance, mais plutôt que nous avons besoin de logique afin de prouver l'existence de Dieu.

Le réductionnisme de la connaissance à la certitude mathématique

Supposons que Descartes n'ait pas créé un argument circulaire et qu'il ait prouvé que toute connaissance dépend des idées claires et distinctes (mais que les idées claires et distinctes ne dépendent pas de l'existence de Dieu). Si c'était vrai, les idées claires et distinctes pourraient être capables de nous servir comme

principes de la connaissance ; les idées claires et distinctes, ou bien, les principes de toute connaissance, seraient :

- 1) Le *cogito*
- 2) L'existence de Dieu
- 3) Les propositions mathématiques et géométriques (l'étendue*) Ici, Descartes parle au sujet de la conception claire et distincte de la cire, mentionné auparavant :

Mais ce qui est à remarquer, sa perception, ou bien l'action par laquelle on l'aperçoit, n'est point une vision, ni un attouchement, ni une imagination, et ne l'a jamais été, quoiqu'il le semblât ainsi auparavant, mais seulement un inspection de l'esprit, laquelle peut être imparfaite et confuse, comme elle était auparavant, ou bien *claire et distincte, comme elle et à présent*, selon que mon attention se porte plus ou moins aux choses qui sont en elle, et dont elle est composée.¹⁰⁵

Comme on a déjà vu, Descartes parle de l'étendue en soi, mais pas vraiment de *quelque chose* qui est étendue. Autrement dit, la catégorie de l'étendue comme concept est ce qui Descartes appelait « clair et distinct », mais pas la cire en tant que telle, celle qu'il regarde avec la perception du sens. La cire ne peut être connue clairement et distinctement qu'avec le concept de l'étendu par les mathématiques (et la géométrie) ; avec la perception du sens, elle n'est qu'imparfaite et confuse, comme on a déjà vu. Donc, les mathématiques sont une

* Comme Descartes était surtout mathématicien, il a inventé le système par lequel nous pouvons représenter graphiquement la fonction mathématique dans l'espace deux ou tridimensionnelle.

¹⁰⁵ Ibid., Méditation Seconde, AT IX, 24, p. 87. C'est moi qui souligne.

idée « claire et distincte » qui nous sert comme un principe de la connaissance.

On doit demander comment toute connaissance peut être dérivée de ces principes, surtout à partir du premier principe, supposant que Descartes n'a pas raisonné dans un cercle.

Le cogito comme principe:

Le premier principe, le *cogito*, nous dit que chaque fois que je pense à l'acte de penser, je sais que je suis ou que j'existe. Le *cogito* est très puissant comme intuition rationnelle, peut-être plus puissante que Descartes ne le pensait. Descartes n'a peut-être pas vu l'importance de ce principe ; il l'a ignoré aussitôt qu'il l'a fondé afin de rendre Dieu le principe suprême. Pourtant, le *cogito* n'est pas neuf comme concept. Saint Augustin a trouvé quelque chose de pareille dans ses écrits (*Les Confessions*), mais Descartes était le premier de le formuler dans ce contexte de doute contre le scepticisme. À cause de Descartes, on a fait plus d'attention au *cogito*, et les philosophes comme Edmund Husserl l'ont utilisé dans leurs philosophies pour construire une nouvelle philosophie qui s'appelle la phénoménologie. Pourtant, dans ce contexte de doute extrême de Descartes, on ne peut pas savoir que le monde existe tel que je le vois, même pas qu'il existe du tout parce qu'on ne sait que *j'existe*. Je ne peux rien connaître de la

nature hors de moi-même à partir de cette idée claire et distincte. Le *cogito* ne peut pas nous aider à trouver les vérités du monde naturel.

L'existence de Dieu comme principe et le rejet de la théologie:

La deuxième idée « claire et distincte » c'est l'existence de Dieu. Descartes prétend qu'on a besoin de connaître l'existence de Dieu afin d'avoir toute connaissance. Pourtant, même supposant que Descartes n'a pas raisonné improprement, on ne sait rien de Dieu dans la philosophie de Descartes, sauf qu'il existe et qu'il n'est pas trompeur. En niant qu'on peut connaître les fins de Dieu dans la nature, comme il dit dans cette citation, Descartes a nié la conception théologique du monde :

Et cette seule raison est suffisante pour me persuader que tout ce genre de causes, qu'on a coutume de tirer de la fin, n'est d'aucun usage dans les choses physiques, ou naturelles ; car il ne me semble pas que je puisse sans témérité rechercher et entreprendre de découvrir les fins impénétrables de Dieu.¹⁰⁶

Lorsqu'il dit qu'il n'y a pas d'usage pour les fins de Dieu dans la nature, il veut dire que les perfections de Dieu, et donc, Dieu lui-même, ne peuvent pas être trouvées dans la nature. Descartes dit qu'on ne peut avoir que la connaissance de *l'existence* de Dieu, car je ne peux pas « découvrir les fins impénétrable de Dieu ».

¹⁰⁶ *Ibid.*, Méditation Quatrième, AT IX, 44, p.139.

Alors, le Dieu de Descartes n'est qu'un principe qui est encore moins impliqué dans nos affaires que « le moteur immobile » ou Dieu d'Aristote, parce qu'Aristote avait au moins utilisé ce principe pour donner le monde naturel un but. Ici, contrairement, Descartes rend insignifiante la connaissance de l'existence de Dieu, surtout pour acquérir la connaissance du monde.

On ne peut pas dérivé la connaissance de la religion à partir de ce principe que Dieu existe parce que Descartes a nié la théologie. En niant la théologie, Descartes nie que l'on peut connaître Dieu en étudiant la nature, et il nie aussi que l'on peut connaître la nature en utilisant un idéal de Dieu comme le créateur de l'univers. La conséquence c'est que la nature ne nous enseigne aucun moyen de voir la signification religieuse de l'univers dans lequel nous vivons.

C'est à remarquer que cette position, qu'on ne peut pas savoir « les fins impénétrables de Dieu », n'aurait pas été prise sérieusement avant la Réformation. Auparavant, l'idée que le monde est une création de Dieu aurait été la preuve que l'on *peut* étudier le monde et la nature, même par la science, afin de voir les « fins de Dieu ». Mais après la Réformation, cela n'était plus évident.

Les mathématiques comme principe

Même si on admet que Descartes a prouvé que les idées claires et distinctes peuvent nous servir comme des principes de la connaissance, le seul

principe qui peut nous aider à étudier le monde ou l'univers, ce sont les mathématiques. Ni le *cogito* ni la connaissance de l'existence de Dieu peuvent nous aider à connaître le monde naturel.

On voit maintenant que c'était les mathématiques qui intéressaient Descartes, pas la métaphysique. Selon la méthodologie de Descartes, le seul principe qui peut nous aider à étudier le monde hors de nous-mêmes, c'est la quantification de l'espace dans la nature. Toute connaissance peut être réduite de la quantification, selon les conséquences de Descartes. En fait, on voit maintenant que la structure de sa méthode ressemble à la structure de la déduction mathématique. On commence avec quelques principes ou maximes desquels on déduit toutes choses afin de trouver la certitude.

Descartes dit que toute connaissance est comme un arbre dans *Les Principes de la Philosophie* dont «les racines sont la métaphysique, le tronc est la physique, et les branches qui sortent de ce tronc sont toutes les autres sciences qui se réduisent à trois principales, à savoir la médecine, la mécanique et la morale.»¹⁰⁷ Toutefois, Descartes ne commence pas aux «racines» de la métaphysique, comme il prétende. De plus, il ne déduit pas la morale de sa méthode. En fait, il ne dit pas grand-chose de la morale, sauf dans le *Discours de*

¹⁰⁷ *Ibid.*, *Des Principes De La Philosophie : Le Préface*, p. 566.

la Méthode dans lequel il présente un code provisionnel, dérivé de la tradition.¹⁰⁸

Donc, la religion *et aussi la morale* sont absentes de sa philosophie, au contraire de ce qu'il dit dans cette citation, parce que Descartes a nié la conception téléologique du monde.

¹⁰⁸ *Ibid. Discours de la Méthode, Troisième Partie, p. 140.*

Conclusion

Le monde naturel, après la révolution scientifique, était conçu comme un mécanisme mort dans lequel Dieu n'existe plus. Cela crée une disparité entre la religion et la science parce que, selon ce cas, on ne peut plus utiliser la raison afin de voir les « fins » de Dieu dans la nature. Donc, la religion n'est plus nécessaire pour étudier l'univers ; on peut étudier l'univers sans qu'il y ait un Dieu qui l'a créé. Mais cette idée crée un problème théologique : Si Dieu a créée l'univers, pourquoi est-ce qu'on ne peut pas voir son ordre *dans* l'univers ? Pourquoi, selon Descartes, est-ce que les « fins » de Dieu sont « impénétrables » ? Descartes n'a pas répondu à cette question. En tout cas, il est claire que Descartes pensait qu'on n'aurait pas besoin de la téléologie afin d'étudier la nature.

En conclusion, on ne sait rien de Dieu en étudiant un univers qui fonctionne comme un horloge que Dieu a créé mais que Dieu ignorait dès qu'il l'a créé. On ne sait rien de nous-mêmes dans le cadre de l'univers mécanistique de Descartes. On ne sait rien de la moralité ou comment la moralité peut prospérer dans cet univers mécanistique, qui est compris par les mathématiques, mais pas compris par les jugements de valeur. On ne sait rien de nos âmes, surtout pas comment trouver le bonheur (si on admet que le bonheur comprend plus que la santé physique). La seule chose qu'on sait, avec certitude, c'est que les mathématiques

nous aident à étudier la nature corporelle. Descartes a tiré l'esprit humain de la nature et la nature de l'ordre cosmique.

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