THE ROLE OF INTERMEDIACY: PLATO’S \textit{REPUBLIC} BOOK VI

A thesis submitted
To Kent State University in partial
Fulfillment of the requirements for the
Degree of Master of Arts

by

Colby James Clark

April, 2017
© Copyright
All rights reserved
Except for previously published materials
<table>
<thead>
<tr>
<th>SECTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE OF CONTENTS</td>
<td>iii</td>
</tr>
<tr>
<td>PREFACE</td>
<td>iv</td>
</tr>
<tr>
<td>I. SEPARATION</td>
<td>1</td>
</tr>
<tr>
<td>II. INTERMEDIACY</td>
<td>22</td>
</tr>
<tr>
<td>III. NECESSITY AND TELEOLOGY</td>
<td>56</td>
</tr>
<tr>
<td>IV. CONCLUSION</td>
<td>79</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>83</td>
</tr>
</tbody>
</table>
“Separation” springs from this notion that there is a metaphysical (intelligible - νοητῶ) realm and physical (visible - ὀρατῶ) realm. The term “separation,” or “χωρισμός,” is the designated term Aristotle used in reference to his beliefs regarding Plato’s Forms. What is the “separation” that Aristotle is alluding to? This question is central to the investigation at hand. Plato does not use this term in a manner that relates to his theory of Forms, which leads scholars to believe that the term was a product of the Academy. To gain clarification on the subject of “separation” (χωρισμός), Plato’s division of existence into two different realms (i.e. the intelligible and the visible) seems to be the most fitting place to begin.

The quote above is taken from Plato’s “divided line” analogy towards the end of Republic, Book VI. It is here, in those concluding remarks, where Plato seems to establish a strict dualism. This seems to be the case for two reasons. For one, each realm has an explicit summit: “the Good” (τὸ ἄγαθον ἰδέα) and the sun. Second, as seen in the above quote, each realm of the division is, in fact, a place, as the noumenal realm is denoted by “τόπῳ” which is used to signify

---

1 See Rep. Book VI 508b-c.
2 This is my own translation. Any translation without a footnote going forward is my own translation.
3 See Vlastos “‘Separation’ in Plato.”
locality.\textsuperscript{4} By association, the physical realm will also be a place. The sense in which place is employed is equivalent to the example of a gymnasium which is divided by a drop down partition. There is only one gymnasium, just as there is only one existence, but each half is its own place with a barrier that keeps what is inside in and what is outside out. Paralleling the divided gymnasium, the intelligible and visible are two distinct “places” in the same manner.

Given this, \textit{prima facie}, Plato appears to be establishing a strict dualistic account. Of course, this is very much a \textit{prima facie} assessment of Plato, and is not a representation of the beliefs I wish to propound in this essay. Instead, the position for which I will argue is that Plato’s dualism is not a simple and strict one. Even though Plato most definitely sets up a definitive division between existences (i.e. intelligible and physical) and is consistently exhibiting dualistic sympathies throughout \textit{Republic},\textsuperscript{5} this does not wed him to this notion of “separation” that Aristotle wants to associate with the Forms. The conception for which I will advocate throughout is that of a unified dyad which allows for the complete reconciliation of physicality and abstraction, yet permits distinctions between realms to be made.\textsuperscript{6}

Moving forward, the structure of Plato’s metaphysics will reveal more than a mere double world theory. Instead, I push for an interpretation of Plato’s middle to late dialogues that suggests a reconciling of these two realms in such a manner that they are not entirely separate from one another, but bridged together. A union between the two exists through a mathematical

\textsuperscript{4} The term “τόπος” is the Greek word for place and is used in all sorts of manners to denote an actual location (e.g. “the water is in that place”).
\textsuperscript{5} For those less familiar with this issue, Plato makes the stark divisions towards the end of Book VI and into Book VII with references to the νοητό and the ὄρατό, but also reserves special properties/existences for bodies (σώματα) and souls (ψυχαί). See \textit{Rep.} 556b-c and 591a-b.
\textsuperscript{6} I apologize to the dyad enthusiasts ahead of time. Even though speculation into the unwritten work on the dyad is a topic of much discussion, my investigation will be more so directed at what textual evidence suggests is the connection between the two realms as it appears in the dialogues, not an in-depth investigation of what the associates of Plato hinted at in their own work. For such discussions I recommend W.D. Ross \textit{Plato’s Theory of Ideas} Chapter IX.
intermediacy where each Form is uniquely tied to instantiations of itself by way of innate proportions (συμμετρίαι) whose origins rest in the intelligible model. The best example of this mathematical intermediacy at work would be the Form of roundness in a coin. The Form of roundness becomes realized in a particular coin by the coin’s having a geometrical shape that is akin to a circle. Given this, the Form of roundness becomes expressible through mathematical description: (the coin possesses the Form of roundness because) it has no fixed angles, an area which is expressed in terms of the radius squared multiplied by π, a circumference defined by its diameter multiplied by π, and so on. It is in virtue of these mathematical relationships that the Form of roundness becomes expressed in a coin. Even though the example used here of the coin may seem rather simple and trivial, it will be demonstrated in the next chapter that all Forms, be it justice or blueness, will have the same nature as the coin; it is just that some ratios are more easily attained than others. The “bridging” action is that of these mathematic proportions, or characteristics, which exist intelligibly apart from the physical world, yet can be directly mapped onto physical objects in a way which is ontologically complete.\(^7\)

This project has three separate aims: (a) to identify what this “separation” is, (b) to explain how Plato develops an ontological account (rooted in mathematics) that goes beyond a commonplace dualism that addresses the issues raised by the “separation” criticism, and, finally, (c) to argue that Necessity (ἀνάγκη) is the cause which permits and, effectively, regulates all being in the physical world (i.e. decides what is).

The first chapter is directed towards finding what the origin of the “separation” criticism itself is, both what Aristotle intends when he uses the term “χωρισμὸς” and where the issue

---

\(^7\) Math can be accomplished in theory. Actually, R.M. Hare focuses his article “Plato and the Mathematicians” on the notion that Plato was trying to critique the mathematicians of his time for requiring physical models to do calculation. Hare’s argument is to show that Plato actually valued the purely theoretical mathematics over practical mathematics.
stems from. In my analysis, the answers to both are one and the same: Parmenides. I argue that
the “separation” criticism is an extension of Parmenides’ ontological scope, such that the cosmos
is a unity of being, and, as such, is a completely undifferentiated whole, a single being. However,
I do contend that the accusation of separation directed against Plato’s Forms has two dimensions:
the one-over-many and the one-and-many. Both the one-over-many and one-and-many derive
their origins from Parmenides, and there is strong textual evidence that not only Aristotle made
this connection, but so did Plato in Parthenides.

After establishing where “separation” springs from, I work to give a metaphysical
conception of the structure of the two varying types of “separation.” What I argue for is that
there is both an ontological and a definitional sort of “separation.” As I will demonstrate later,
one prominent scholar, Gail Fine, argues only for the former concept of “separation” and denies
the latter. I contend that both are imperative to understanding what Plato’s Forms are being
charged with. Not only does Aristotle seem to take issue with the universal-predicate (Form-
particular) relationship, arguing that such a dichotomy leads to issues concerning multiple
singular being (an apparent contradiction), but he also seems to make a much stronger claim,
namely, if Forms are substantial beings, then how can many Forms constitute a singular
substance while remaining complete (i.e. how can many wholes be both part and whole at the
same time). This latter adaptation of the “separation” dilemma is what leads Aristotle to give a
detailed description of how definitions operate to constitute substantial formulas in Metaphysics
Book Z.

By Chapter Two, the ‘separation’ criticism has been analyzed to the point that we can
understand what exactly Plato’s Forms must account for if they are not to fall prey to the

---

8 These terms are derived from Gail Fine, but the same language can be found in the work of other scholars such as
Alan Silverman. See Chapter One Section III for more details.
accusations. As such, Chapter Two works to put forth the mathematical intermediacy principle which seems to govern all being for Plato. This principle first appears in Republic Book VI and continues into Book VII. It is in Book VI where Plato puts forth the famous line-diagram. It is the line-diagram that gives the first insights as to how the mathematical intermediacy principle works since the second tier (i.e. “thought” – διάνοια) is filled with mathematical truths, which are considered independent of the Forms. I argue that it is in this second tier that being is transmuted from the Forms to physical instantiations.

After trying to offer strong primary evidence for this belief, I aim to conceptualize how exactly the mathematical intermediacy principle bridges the non-physical realm with the physical realm. The principle itself seems to have existed in nascent form in Republic, but did not receive adequate development until the later dialogues; the principle itself is founded on the standpoint that Forms are paradigms (παραδείγματα). What I aim to argue is that, for Plato, there exist Form-ratios (ἀναλογία, συμμετρία, etc.) which are not the Forms themselves, nor are they physical in any meaning of the word. Instead, Form-ratios are ontological ratios that, when fulfilled, instantiate being. The Form-ratios are definitely noumenal in nature; however, as I expressed above, they are not the Forms; the Forms pertain to specific states of being, whereas Form-ratios are regulations that channel being into reality. To make this point a little clearer, think of a stereo. The Forms are the radio waves that exist in the air even if there is no receiver to broadcast them. A stereo, being a type of radio wave receiver, can transmit the radio waves as long as the stereo is tuned to the correct frequency or amplitude. In this example, a listener trying to tune into their favorite radio station to hear a specific song (i.e. a Form) can only do so if they have their “dials locked” to the right frequency or amplitude on a functioning stereo or receiver (i.e. a Form-ratio).
With this example in mind, the third and final chapter is devoted to making a critical distinction in regards to how Plato’s Forms fulfill their ontological role in the whole system. Returning to the example, having one’s stereo tuned to the right station does not mandate that the stereo receives the signal well. There are an array of physical influences that affect the clarity of the signal; some factors exist because of the physical capabilities and technology of the stereo itself, some factors are outward influences such as weather or even manmade impediments (e.g. a tunnel). All in all, this is why Plato’s Forms seem to require us to view ontology as an expression of teleology. A particular is said to be an instance of a specific Form if and only if it maintains the teleology that defines the Form (i.e. fulfills the innate what-ness it means to be of a specific nature). Since I am arguing for a teleological account of Plato’s Forms, and because I believe that the teleological view is the correct view, I posit that Form-ratios are not as simple as “one over two” (i.e. ½); instead, ratios operate in accordance with a multitude of forces and factors of all kinds that provide a determined range for expression. To give an example of why this seems to be the appropriate view, think about the freezing point of water. The freezing point of water is said to be zero degrees Celsius at one atmosphere of pressure. However, a person who lives high in the mountains does not live at one atmosphere of pressure, so the freezing point for this person will be a little higher (albeit not much higher). If one were to have a cup of pure water at exactly one degree Celsius at exactly one atmosphere of pressure, that person would have the Form of “liquid water” in their cup. If the same cup were taken up to the mountains and the temperature was still at one degree Celsius, that person would have the Form of “ice” in their cup. Granted, this example is not one that Plato would have thought to make, but it illustrates that Forms must operate not on a fixed ratio but on a sliding ratio.
The final chapter is my attempt to outline how this teleological view of Plato’s Forms works and what the major impetus behind this system is, namely the concept of Necessity (ἀνάγκη). As such, I look at both the subtle allusions in Plato’s text to Necessity (e.g. Republic) and the detailed account Plato gives in Timaeus regarding Reason and Necessity as being the two primary forces in the process of actualizing being from a stage of becoming. It is in the Timaeus where Plato offers his strongest evidence for the teleological account of Forms. There, Plato, through Timaeus, seems to suggest that Necessity is a force unique to the physical realm, and it is the force, or cause, that dictates all being and becoming in reality. The strongest evidence in support of this view occurs towards the latter half of the dialogue, where Timaeus proclaims that Reason does not force itself on Necessity; instead, Reason must persuade (πείθει) Necessity in order for being to be instantiated in reality.

In the end, this project is directed towards accomplishing two simple goals: (a) to analyze and discuss how Plato’s metaphysics escapes this notion of a simple dualism and (b) to offer a teleological view of Forms that seems to best account for this tripartite ontology.
Chapter One: Separation

The term “separation,” or “χωρισμός,” is the designated term Aristotle used in reference to his dissenting beliefs regarding Plato’s theory of Forms. Plato does not use this term in the manner Aristotle does with regard to his theory of Forms, which leads scholars to believe that the term was a product of the Academy. So, what is the “separation” that Aristotle is alluding to?

This paper sets forth the argument that the “separation” criticism is directed at two principal types of metaphysical separation, not just one. I look to accomplish this in three steps: a) provide evidence from Platonic texts to support the existence of two distinct types of separation, b) demonstrate Aristotle’s identification of both types of “separation” and his response to them, and c) explain what metaphysical structure each type of separation exemplifies. Underlying each of these topics is the proposal that the origin of “separation” criticism is Parmenidean in nature, and, therefore, can be expressed as both a one-over-many and a one-and-many dilemma. Distinguishing the two types of “separation” is imperative for understanding how Plato’s later texts (e.g. Philebus and Timaeus) address these issues by implementing Pythagorean notions of proportion (συμμετρίας and ἀναλογία) and harmony (ἀρμονία). With that, the most fitting place to begin is with Parmenides and Plato’s response to him.

---

9 See Vlastos “‘Separation’ in Plato.”
Parmenides’ ontology diametrically opposes any concept that might resemble Plato’s theory of Forms.\(^\text{10}\) Parmenides’ paradox is something Plato was fully aware of, and it is likely to have been the most significant impediment to Plato’s theory of Forms. As mentioned above, the paradox has two variants: (a) the one-over-many and (b) the one-and-many. The distinction will be made clear further down, but it is important to note that both sides of the dilemma arise from Plato’s notion of differentiated being. What I mean by “differentiated being” is that there can be said to be independent beings apart from the whole such that a being can exist apart from the existence of any other being. For instance, a particular coin has its own being that can be abstracted apart from all other particulars such that the coin is an independent being among the plurality of beings that occupy the cosmos; the coin is not simply an extension of a single being. On the other hand, Parmenides believed in a single undifferentiated being, the cosmos, and as such his ontology escaped these one-many criticisms. If Plato is to advocate for differentiated being, he will have to respond to Parmenides. Luckily, Plato offers some helpful insights in *Parmenides*.

There are two overarching critiques of Plato’s theory of Forms presented in *Parmenides*: (a) the issue of “participation” and (b) Parmenides’ paradox - the one-over-many and one-and-many. The first has significance in the fact that Plato’s terminology (i.e. “participation”) causes conceptualization issues. There are two interpretations of *Parmenides*, one from W.D. Ross and the other from A.E. Taylor, which put this topic of “participation” in the correct light. Ross believes that *Parmenides* does not pose any real threat to Plato’s theory, but, instead, poses a threat to the language of the theory. He notes that the terms “imitate” and “participate” have

\(^\text{10}\) Parmenides was, of course, before Plato’s time so he would not have been familiar with the theory of Forms, but Parmenides would have been well acquainted with people who posited the notion that wholes are made up of parts.
misleading connotations that lead to misconstruing the true intentions of the theory; however, this misinterpretation is inherent to speech, not the overall efficacy of the theory itself. As Ross posits: “the fact remains that neither here [Parmenides] nor elsewhere does Plato attempt to meet the criticism [copying]; and we may infer that he accepted it, as Socrates does in the dialogue, and realized that ‘copying’ was only a metaphorical way of describing the relation.”

Taylor, too, wants to emphasize that the critique in the dialogue is directed towards the employment of the term “participation,” and not necessarily the theory itself. Taylor states:

… the main point of the objections made by Parmenides to Socrates is not to raise difficulties about the reality of the Forms. That he seems to concede. What he criticizes is the view of Socrates that sensible things ‘partake’ of the Forms, and so have a kind of secondary reality.

I am inclined to agree with Ross’ and Taylor’s approach to the text only in so far that I do not see the “instantiation through participation” relationship to be adequately captured by the term “participation;” rather, the term is the best description of an ineffable process. So, the criticism of this aspect of the theory of Forms seems rather trivial.

The fact that Plato is not married to any specific designator for “participation” provides strong evidence in support of my position. For instance, in Parmenides, Parmenides and Zeno attack Socrates’ use of “μετέχειν” which, when normally translated, equates to “carry above.”

But, in the same text, Plato designates the action of partaking with “μεταλαμβάνειν,” which he does in places in Sophist as well. Then, along with “μεταλαμβάνειν,” in the Sophist Plato mixes in “κοινωνεῖν” also. The point to be made here is that “participation” is not an exact term and

11 See W.D. Ross Plato’s Theory of Ideas Chapter V pg. 89.
12 See A.E. Taylor Plato Chapter XIV pgs. 350-351.
13 See Par. 132e and 151e. Also, the term is used throughout Rep. to reference participation in Forms, but also participation in generic situations. See Rep. 585c and 585c-d.
14 For instances see Par. 131e and Soph. 248d. Also, Rep. 565a and 565b.
15 See Soph. 248b.
16 This is interesting term because “κοινωνεῖν” is the Pythagorean term which conveys “communication” or “reciprocal.” Taylor is the one who puts this forward, but does not make any connections with it. See A.E. Taylor Plato pg. 124.
should not be the focus of the investigation; instead, the focus should be on the one-over-many and one-and-many problems that make up Parmenides’ paradox.

The one-over-many deals with Form predication such that Forms are *one*, in themselves, yet predicated over *many* things.\(^{17}\) In simplest terms, a Form is one, one being, but there are many particulars, many beings, that “participate” in that one Form, thus one Form exists simultaneously in multiple places. Forms’ *existence in multiple places* is referenced in *Republic*:

> εἴδος γάρ πού τι ἐν ἕκαστον εἰσέθαμεν τίθεσθαι περὶ ἕκαστα τὰ πολλά, οἷς ταύταν ὄνομα ἐπιφέρομεν.\(^{18}\)

We are accustomed to assigning one Form for each set of many things to which the same name is given. Plato addresses this line of thought in *Parmenides* as well with the introduction of the sail metaphor; where many people can have a sail spread out on top of them, covering them completely. This is indicative of one Form (i.e. the sail) being instantiated in a multitude of particulars (i.e. the people). The problem is: if Form predication is like the sail metaphor, how do the people participate completely in the Form, because, in reality, the people are only covered by part of the Form (sail)? How can there be part of a Form? A Form can only be fully, not partially, realized. This becomes one aspect of Aristotle’s criticism of Plato’s “separation.”

With that being said, there is the other side of Parmenides’ paradox: the one-and-many. Granted, the discussion in *Parmenides* favors the one-over-many dilemma that addresses Form predication more so than the one-and-many, yet the question persists: how can a *single* and *complete*, constituted whole (i.e. a single, holistic Form) have *many* parts which are equally *complete* wholes (i.e. many Forms)? Plato draws attention to this second aspect of Parmenides’ paradox when Parmenides is first handed over the discussion. Parmenides’ words are as follows:

---

\(^{17}\) This viewpoint is the only scope put forth by Gareth Matthews’ and Marc Cohen’s article “The One and the Many.”

\(^{18}\) See *Rep.* 596a
If one exists, it cannot be permitted that the one is many?... It cannot be parts, nor can it be a whole.... The part is surely part of a whole.... And what is the whole? Is it not the case that the whole is that which no part is set apart?.... In both cases the one would be made out of parts, being whole and having parts. ... Then in both cases the one is many, not one. ... Then, if the one is to be one, it will not be a whole and not have parts.  

To better explain this merelogical argument, take the example of Simmias. If one is to accept that Simmias participates in the Form of “homo sapiens” and the Form of “height,” the commitment is made that Simmias is (a whole) and is a homo sapiens (a whole) and is tall (a whole). The first “is” represents the totality of being that is Simmias’ identity, amassing all other Forms. “Homo sapiens” and “tall” are not specifically Simmias, but are merely predicates of Simmias. But, if each of these beings, each of these Forms, is complete, then the “is” of ontological identity becomes a multitude of complete beings somehow manifest in one, complete being. Obviously, it does not add up, and, in reality, Simmias has many more properties than the ones catalogued here. So, if all of these properties are their own independent, ontologically sufficient wholes, how can one properly say that they should equate to one? Aristotle employs this argument in his criticism of “separation” as well.

As mentioned before, Parmenides does not fall prey to these criticisms because, on his account, the cosmos is pure, undifferentiated being. As such, undifferentiated being escapes these criticisms because there exists no separate being, every being is simply a different mode of the single, cosmological being. Aristotle will not subscribe to Parmenides’ ontology, but he will

---

19 See Parm. 137c-d.
20 The translation is loosely based on H.N. Fowler’s, but some words have been exchanged with others to emphasize the continuity of terms in the text. The important terms to gather from the original Greek are the following: πολλά (many), ἕν (one/unity), μέρος (part), and ὅλον (whole). These terms are central to both Plato’s and Aristotle’s texts.
escape these criticisms on his own merits. However, Aristotle makes it clear that, in his opinion, Plato does not save himself from either the one-over-many or the one-and-many criticism.

II.

*Metaphysics* Book A, Aristotle gives this criticism of Plato:

όστ᾽ ἔσται οὐσία τὰ εἶδη: ταύτα δὲ ἐνταῦθα οὐσίαν σημαίνει κάκει: ἢ τί ἔσται τὸ εἶναι τι παρὰ ταῦτα, τὸ ἐν ἐπι πολλῶν; καὶ εἰ μὲν ταύτῳ εἶδος τῶν ἰδεῶν καὶ τῶν μετεχόντων, ἔσται τι κοινὸν 21

Therefore, Forms will be substance, the same terms are used to signify substance here [physical world] and in that place [intelligible world] or what is the point of saying there is something apart from particulars, the one over many? And if Forms of Ideas and those which participate in them are the same, they will have something in common…

Here, Aristotle gives his principle objection to Plato’s Forms and cites the one-over-many dilemma (τὸ ἐν ἐπὶ πολλῶν). The importance for this issue is to recognize the fact that Aristotle is actively criticizing two concepts: Forms (of Ideas) (εἶδος τῶν ἰδεῶν) and substance, or substantial being (οὐσία). Ultimately, Aristotle will address both aspects of Parmenides’ paradox (i.e. the one-over-many and the one-and-many) when he charges Plato’s Forms with the accusation of χωρισμός, but Aristotle openly emphasizes the one-over-many:

ἐπὶ δόξειν ἄν ἀδόνατον εἶναι χωρίς τὴν οὐσίαν καὶ οὐ ἡ οὐσία 22

It seems impossible that a substance would be separate from what it is a substance of.

In both the quotes above, Aristotle is questioning the sense in which a Form can be a substance (οὐσία), and, as such, how it is separate from its material instantiation in a given material substance. This approach marks some of Aristotle’s preliminary statements that will lead to his sharp criticism of Plato’s “participation” (μέθεξις) theory. As insinuated earlier in this essay, the one-over-many side of Parmenides’ paradox is applied to Plato’s “participation” dilemma by

---

21 See *Met.* Book A 990b33-991a2.
asking how a Form can be participated in completely by many individuals when the Form is only one. When Aristotle gets to Book Z, he wants to completely dismiss this notion of Form-predicate separation and adopt a position that simply mandates Form-immanence in substance. In other words, Aristotle wants to reject the notion of a “realm of Forms” and simply say that there are only Forms for particulars in particulars; without a particular, there is no Form.

In *Metaphysics* Book Z, Chapter XIII, Aristotle attacks Plato’s Forms, but he does it indirectly through a discussion of universals. Ultimately, Aristotle has two motives when he discusses universals in this chapter: (a) he wants to attack Plato’s theory of Forms because, on Plato’s account, each Form is a universal (i.e. many particulars can participate in the same Form) which directly contradicts Aristotle’s position that the only Forms are the Forms of fully differentiated particulars and (b) he must give an account of universals because universals are critical to the establishment of a substance’s overall definition, or formula (as will be demonstrated below). Aristotle needs universal traits, or tropes, to ground his classification system of genera and species; thus, he needs to give an account that can explain what a universal is. As such, he makes the following assertion:

> έοικε γὰρ άδύνατον εἶναι ούσιαν εισα&omicron;σε&omicron;ν τῶν καθόλου λε&omicron;γο&omicron;μένων.

For it is impossible for a substance to be something universally predicated.

The term “universal” (καθόλου) is supposed to designate a non-substance, closely associated with Plato’s Forms, prominently referred to as *secondary substances*; except for the species-Forms (i.e. Forms for particulars). The distinction between primary substance and secondary substance is not a Platonic one, but a distinction Aristotle wants to make. Aristotle does this because he wants to escape from any notion that there is a separation of worlds (νοητῶν φαι&omicron;ν).
and the ὁρατό), and he does this by stating that the only Forms which exist are the ones that have material instantiations. In other words, only species-Forms exist. Be this as it may, Aristotle is doing this, as seen in Metaphysics Z Chapter XIII, because he, himself, is directly attempting to answer to Parmenides’ paradox; thus, after adequately responding to the one-over-many issue, he addresses the one-and-many.

Aristotle’s distinction between primary and secondary substances saves him from the second part of Parmenides’ paradox because only primary substances have being, secondary substances are only part of the complete formula (λόγος) characterizing an essence’s overall definition (ὁρισμός). However, Aristotle’s “parts” (μέρη) are not subject to the same criticism as Plato’s because these “parts” are only potencies (δυνάμει). Aristotle’s example is that of a line. A line is a single line, but potentially two in that a bisecting line can be drawn through it. This bisecting line is not actually existent in the original line, but is only potentially existent in it. Aristotle draws on Democritus for this, stating:

If substance is one, it is not be constructed out of substances in it in this way [line example], which Democritus speaks rightly. He says, by nature, the one cannot be two nor two out of one. For, he identifies the inseparableness of substance. Clearly, therefore, the same holds of number, if a number is a culmination, as said by some. For, either two is not one, or there is no unit in its completeness.

There are two takeaways from this passage. The first is that Aristotle is identifying the existence of many existents in a single existent as the most significant issue for him. The more

26 The term ὁρισμός is used earlier in Book Z as the way in which substances are classified. See Met. Book Z 1034b20-21.
27 See Met. Book Z 1039a6-8 and more explicitly at 1040b5-6.
30 This is for the most part W.D. Ross’ translation.
important second point is his mentioning of two concepts: inseparableness (ἄτομω) and completeness (ἐντελεχεία). Aristotle says that if universals are substances and exist completely, they must be “incomposite” (ἀσύνθετον31), such that they are wholly inseparable, a substance cannot exist without possessing all the intangibles (i.e. all the taxonomic differentia of differentia) to be complete. If this is not the case, if substances are composites and universals are complete beings that can be compounded into a single being, an identity (like the example Aristotle uses above regarding numbers), then there is a conflict between substance and completeness in which every being is simultaneously whole and part. This makes the whole being, which is singular by way of identity, be many whole beings. To make this point clear, take the example of a Dalmatian dog. The Dalmatian is a whole being, but it is both white and black. One might be eager to say that the Dalmatian is part white and part black, but as soon as the statement is uttered it becomes paradoxical. It is true that the Dalmatian is white, and it is also true that the Dalmatian is black; but, also, part of the Dalmatian is not-black (the white parts) and part of it is not-white (the black parts). If this is so, then the whole will have to be divided up into smaller parts reflecting these different truth values.32 Different parts suggest that there exists no overarching continuity; making wholes only the composition of parts. This is Parmenides’ one-and-many criticism at its very core.

After claiming that his own philosophy successfully addresses this part-whole dilemma through the implementation of potencies, in Chapter XVI Aristotle directly critiques Plato’s theory of Forms in light of this issue. In his discussion, Aristotle employs the terms “one” (τὸ ἕν) and “being” (τὸ ὄν) in reference to Plato’s Forms, thereby alluding to a dogma that each Form is

31 For a parallel account, see Plato’s use of “ἀσύνθετον” in the syllable analogy in *Theaetetus* 205c.
32 See Gregory Vlastos “Degrees of Reality in Plato” pgs. 10-17 for a more complete account on the issue of truth values and overall *being*.
its own substantial reality (i.e. existence as οὐσία). As such, Aristotle concludes that if each Form has its own substantial existence within a unity, then many beings (i.e. substances) will be in that unity (i.e. a single substance). This leads Aristotle to the conclusion that no universal (καθόλου) exists apart (χωρίς) from its individuals.

In these passages, Aristotle is explicit with his critique:

ἀλλ᾽ οί τὰ εἴδη λέγοντες τῇ μὲν ὀρθοίς λέγουσι χωρίζοντες αὐτά, εἰπερ οὐσίαι εἰσί, τῇ δ᾽ οὐκ ὀρθοῖς, ὅτι τὸ ἐν ἐπὶ πολλῶν εἴδος λέγουσιν.35

But, those who say Forms exist are right in one sense that they exist separately, but, if they are substances, are not right in the sense that the Forms are said to be one over many.

The terminology in this statement is quite significant. For one, Aristotle uses “εἰδος,” which is in no ways strictly a term of Plato’s, but one can properly surmise that, in this context, it is directed at Plato. Two, “εἰδος” is coupled with “ἐν ἐπὶ πολλῶν,” the “one-over-many.” The reason this is so interesting is because Aristotle is taking the term fundamental to Plato’s theory and directly appealing to the phrase (i.e. ἐν ἐπὶ πολλῶν) fundamental to Parmenides’ paradox. Third, Aristotle ties Plato’s Forms to Parmenides’ paradox with the notion of “separation” (χωρίζοντες). Overall, this evidence adds merit to my argument that Parmenides seems to be the origin of Aristotle’s “separation” claim.

In the quote previously referenced, one should also take note that Aristotle makes an important stipulation: the problem only exists if Forms are substance. Thus, Aristotle’s critique is

---

33 For more discussion on the topic of οὐσία see Allan Silverman The Dialectic of Essence pgs. 121-136.
36 I noted earlier, Aristotle is criticizing Plato’s failure to properly recognize the one-and-many dilemma, not the one-over-many dilemma, but it seems like he is actually emphasizing the latter over the former here. Granted, it seems like Aristotle is engaging with the one-over-many argument based on the language, but, in this context, Aristotle is most definitely addressing the one-and-many side of Parmenides’ paradox.
based on an interpretation in which each Form is, in itself, a substance. Of course, it is reasonable to reject this premise. One could easily suppose that Plato’s Forms are not substances in the sense that Aristotle is claiming they are; however, what is important is that Aristotle believes this to be the appropriate interpretation of Plato’s theory of Forms.

III.

So far, two sorts of “separation” have been identified: (a) separation between Form and particular (the one-over-many) and (b) separation of multiple Forms in a single particular (the one-and-many). Gail Fine suggests the following possible ways to understand the metaphysical-ontological “separation” Aristotle refers to: (a) local, (b) definitional and c) ontological (termed “independent existence”).

Local separation is the notion that things (including Forms) are separated by their position in space. Local separation is both basic and easily dismissed. Fine dismisses it with the example of a desk, stating that the Form of a desk is not separable from the desk itself or else how could a Form be in the desk to begin with? The Form-instantiation relationship mandates that the instantiation participates in the Form, making the Form, by nature, immanent in the object that participates in it. If an instantiation does not have a Form, then what would the instantiation be? For Plato, theoretically, a Form is necessarily in everything which is an object

37 Aristotle also states: “no universal will be a substance and no substances will be made of substances” (ὅτι μὲν οὖν οὐδὲς τῶν καθόλου λεγομένων οὐσία οὐδὲς ἢταν οὐσία οὐδεμία ἢξ οὐσίων, δῆλον.) at the end of Met. Book Z 1041a3-5).
38 A.E. Taylor points out that these are the two issues of “separation” which can be gathered from Parmenides. See A.E. Taylor Plato Chapter XIV pg. 367.
39 See Gail Fine Plato on Knowledge and Forms Chapter XI. Also, Allan Silverman recognizes these three possibilities as well, and argues for definitional separation. Silverman’s argument for definitional separation stems from the property of flux (Fine, too, discusses separation and flux). To see this alternative approach to definitional separation including flux see Alan Silverman The Dialectic of Essence pgs. 121-136.
40 See Gail Fine Plato on Knowledge and Forms Chapter XI pg. 259.
of that kind. This notion of “in” (i.e. immanence) is what discredits local separation because the Form and the particular are properly fused together in a single location. Aristotle wonders how Form and particular become fused together, not whether or not the Form is fused with the particular. In this way, local separation cannot be what Aristotle has in mind when it comes to his criticism of Plato.

Before moving onto definition and ontological separation, Fine mentions the concept of natural priority as being an important component of both. Gregory Vlastos also pins his theory of “separation” to this notion of natural priority, but labels it “antisymmetry.” Fine does not give a proper definition of natural priority, but Vlastos does. According to Vlastos, “antisymmetry” is the notion that: given Form X and particular Y where Y participates in X, if Y ceases to participate in X, X does not cease to exist. However, if Form X ceases to exist, particular Y can no longer exist as an instantiation of the Form, or with property, X. An instance of antisymmetry on Vlastos’ account (natural priority for Fine) is as follows: given that Simmias is a *homo sapiens* (possessing the Form “*homo sapiens*”), when Simmias no longer exists, the Form “*homo sapiens*” does not cease to exist itself. In fact, there are many particular instances of “*homo sapiens*” that still exist despite Simmias no longer existing. Now, if the Form “*homo sapiens*” itself ceased to exist, then Simmias, nor any other particular “*homo sapiens*,” could exist, for, without the Form which instantiations draw their existence from, such instantiations could not exist at all. Thus, antisymmetry (natural priority) creates a division between necessary components and the things that are dependent on them.

---

41 See Gail Fine Plato on Knowledge and Forms Chapter XI pg. 256.
42 Also, see Gail Fine who makes a similar distinction in Plato on Knowledge and Forms Chapter XI pg. 256.
43 See Gregory Vlastos “Separation’ in Plato” (pg. 191).
Going back to the topic of separation, *definitional* separation is the second type that Fine mentions. Most generally, definitional separation is, as it sounds, the ability to extrapolate a single definition from a general formula. For example, Simmias is defined as a “*homo sapiens.*” “*Homo sapiens,*” using Aristotle’s description, has a fixed definition of “rational animal.” However, Simmias is also, by virtue of being a “*homo sapiens,*” a “mammal.” “Mammal,” in turn can be defined as “warm blooded creature that possess fat deposits for storage and fleshy skin.” Taking both “*homo sapiens*” and “mammal,” the definition as expanded to Simmias is “a fat storing, warm blooded, fleshy *rational animal,*” where the underlined portion is the definition of mammal and the italicized portion is the definition of *homo sapiens.* Of course, Simmias has many more properties, which have definitions as well (e.g. tallness, male-ness, etc.), that are compiled into a single definition; so, Simmias’ proper definition will ultimately be: definition 1 + definition 2 + definition 3 … until conclusion. Natural priority is important to this structure because there are definitions which are indicative of other definitions such that “mammal” is naturally prior to “*homo sapiens*” in the way that without the existence of “mammal,” “*homo sapiens*” could not exist because it is a subspecies of “mammal.” “Mammal” could not exist without the classification of “animal,” and so on. In this way, the chain of taxonomy represents hierarchical definitions fixed by necessary genealogical relationships. Natural priority, then, leads to definitions being capable of separation from one another in piecemeal fashion, such that: “A is definitionally separate from B just in case A can be defined without mention of (the definition of) B.”

44 The arbitrary definition of “mammal” I have put forth is a modern definition, but the same general principle would apply.
45 See Gail Fine *Plato on Knowledge and Forms* Chapter XI pg. 255.
Fine objects to this sort of “separation” being applied to Aristotle’s critique of Plato; she argues that the Forms which define a particular’s ontology are subject to variations and changes in such a way that underlying Forms (all but the most fundamental) can come and go (i.e. at one time be instantiated in a particular and at another time be absent from that same particular); thereby making a bulk of the metaphysical apparatus for ontology transient. The issue is that definitions are stagnant words that do not account for alterations over time. Fine believes that ontological separation (or independent existence) is the “separation” to assign to Aristotle’s charge against Plato, but her version of ontological separation only takes into account natural priority with respect to the Form-particular relationship. Within the concept of definitional separation, there exists an ontological element based on independent existence that Fine does not fully realize.

To begin with, I take issue with the citation from Physics upon which Fine bases her assessment of definitional separation:

Both the student of nature and the mathematician deal with these things [differing natures]; but the mathematician does not consider them as boundaries of natural bodies. Nor does he consider things which supervene as supervening on such bodies. This is why he separates them; for they are separate in thought from change, and it makes no difference; no error results. Those who talk about ideas do not notice that they too are doing this: they separate physical things though they are less separate than the objects of mathematics. That becomes clear if you try to define the objects and the things which supervene in each class. Odd and even, straight and curved, number, line, and shape, can be defined without change but flesh, bone, and man cannot.

The quote cited is a discussion of supervenience and demonstrates that a definition is not malleable enough to account for change. I do not dispute her analysis of this passage; the problem lies in the fact that this section of Physics is not concerned with metaphysics. Aristotle is tackling fundamentally different issues in Physics than he is in Metaphysics. Principally, there are two sorts of definition: one, seen here in Physics, accounts for physical change over a

---

46 See Aristotle Physics 193b31-194a6. This is the quote as it appears on pg. 261 of Plato on Knowledge and Forms.
47 See Gail Fine Plato on Knowledge and Forms Chapter XI pg. 261.
measured spatio-temporal interval in a fashion that cannot explain the cause of change (i.e. the gaining and losing of definitions on the account of change). The other, seen in *Metaphysics* Book Z, details the *structure of composition*, and not particularized instances, of ontologically realized properties such as *homo sapiens*-ness, mammal-ness, and so on in a substance (i.e. the parameters set over atemporal definitions, or the formula, of a being).

To clarify, the type of definitional separation found in *Physics* implies that Forms dependent upon the elements in the physical world (e.g. *homo sapiens*, rock, house, etc.) must be separate from particulars because Forms are supposed to be unalterable, and, yet, the world (i.e. the place of particulars) is in a constant state of change; particulars are in a perpetual state of both *being* and *becoming*. As Fine points out: “One cannot adequately define Forms of natural things without reference to change.”48 One moment a particular could have one sort of definition, and at another moment that definition could be supplanted by a different one (e.g. a wall that is originally white and then is painted red). In short, the type of definitional separation discussed in *Physics* boils down to the following: all substances change over time, whereas all Forms are constant; therefore, definitions ascribed to Forms must be separate from the definitions ascribed to particulars to accommodate this difference.

The type of definitional separation stemming from *Metaphysics* Z couches a much stronger claim. There, the ontological structure of any substance’s formula (at any given time) is intended to be organic, such that every definition inherent to the whole are the necessary and sufficient properties required for the whole to exist, and without the whole, the definition cannot *be*. In other words, the specific ontological accounts associated with individual definitions which compose a substance’s formula are not substances themselves. Aristotle seems to suggest that

---

48 See Gail Fine *Plato on Knowledge and Forms* Chapter XI pg. 262.
Plato’s Forms contradict this principle regarding substances and composite substances. Fine engages definitional separation with respect to change, but not definitional separation with respect to overall ontological composition.

Some critical passages out of *Metaphysics* Z that demonstrate Aristotle’s engagement with the second type of definitional separation are the following:

(A) ὥστε τὸ τί ἦν εἰναι ἐστὶν ὅσων ὁ λόγος ἐστὶν ὁρισμός. ὁρισμός δ’ ἐστὶν οὐκ ἂν ὰνομα λόγῳ ταὐτὸ σημαίνῃ (πάντες γὰρ ἂν εἶν τὸ ὡσμον ὰμοντιν λόγῳ. ὥστε καὶ ἢ Ἰλιάς ὁρισμός ἐσται)\(^{49}\)

Therefore, there will be a *being* only of those things with a formula that is a definition. Definition is not where name and formula are identical in interpretation (for all formulae would be definitions expressing sets of words; there will be some name for any sets of words, such that the *Iliad* would be a definition).\(^{50}\)

(B) ὃτι μὲν οὖν ἐστὶν ὁ ὀρισμός ὁ τοῦ τί ἦν εἰναι λόγος, καὶ τὸ τί ἦν εἰναι ἢ μόνων τῶν οὐσιῶν ἐστὶν ἢ μᾶλλον καὶ πρώτως καὶ ἀπλῶς. δῆλον.\(^{51}\)

Clearly, the definition is a formula of a *being* and the *being* is either substances alone or what is primary and simple.

(C) - τούτων δὲ οὐκ ἐστὶν ὁρισμός, ἀλλὰ μετὰ νοήσεως ἢ αἰσθήσεως γνωρίζονται, ἀπελθοῦντες δὲ ἐκ τῆς ἐντελεχείας οὐ δῆλον πότερον εἰσίν ἢ οὐκ εἰσίν: ἀλλ᾽ ἢει λέγονται καὶ γνωρίζονται τῷ καθόλου λόγῳ.\(^{52}\)

- of these there does not exist a definition, but among thinking and perceiving they are, but when they depart out of completeness it is unclear which are and which are not. But, they are always reckoned among discovered through the universal formula.

These three citations from Book Z provide the best picture as to what a definition’s (ὁρισμός) nature is according to Aristotle. Definitions are of course constructed out of words. This can easily be ascertained from quote (A) above. However, they are not merely words. The definition in *Metaphysics* is more associated with ontological meaning in that the essence of *homo sapiens* is not only definable as “rational animal,” but also *is* a rational animal. I do not intend definitions to be ontological entities themselves, but one should not take Aristotle’s notion of definition as

\(^{49}\) See *Met.* Book Z 1030a5-9.

\(^{50}\) Just a translation note: I translate “εἶναι” as *being*. I do not believe “essence” is a proper, direct translation of the term, an, instead, I feel more confident considering it a more nuance sort of “being.” See Lesley Brown “The Verb ‘to Be’ in Greek Philosophy.”

\(^{51}\) See *Met.* Book Z 1031a12-14.

\(^{52}\) See *Met.* Book Z 1036a6-8.
merely an *account* of being, but rather an *attribution* of being. Why is something of such a nature? Because, it possesses the definition necessary to possess such a nature. This distinction is made because “account” conveys a superficial connotation in which arguments can be made for or against a specific account, and those accounts can change; instead, a definition is not the composition of words, but the abstract representation of a fixed being that has a specific *boundary* (the more exact term for “ἕρμημος”). In essence, definitions have an abstract nature akin to Forms; Aristotle just does not want to permit definitions to be substances in the way he contends Plato does with Forms.

Aristotle does not want to grant universals (i.e. secondary substances) the same honor as substances (i.e. primary substances), namely Form-hood. Instead, universals are only capable of being understood as part of the overall formula for a definition. Each universal can be abstracted from the overall ontological definition such that if one were to ask why Callias is white; the reply would be that the construction of his overall ontological formula includes the definition of “white.” No other definition within the confines of the ontological formula (i.e. Callias) produces the reality “white-ness.” “White-ness” can, then, be separated, or distinguished (as Aristotle would advocate for), from the rest of the definitions. This *definitional* separation is inherently different than the one Fine describes, but is essential to describing the one-and-many side of Parmenides paradox.

To push this point further, Aristotle uses “ἐντελεχείας” ("completeness” - quote (C)) and “ἀπλός” (“simple” – quote (B)) to convey that Form-hood only applies to substantially real beings, namely the species-Forms. A compatible reason for Aristotle to do so is to ensure that his theoretical framework can account for parts, yet not imply the existence of many beings in a single being. This returns to Parmenides’ paradox of the one-and-many when the question is
posed: how do universals exist? The universal exists as part of the formula and possesses natural priority with respect to the species-Form, but it is not self-sustaining, or “αὐτὸ καθ’ αὐτὸ,” which means that a universal is a single component of a composite definition and cannot exist independently from the substantial whole. Instead, on Aristotle’s account, universals are necessary properties that are completing factors when it comes to a substance’s definition, and thus its ontological makeup, but are not complete or sufficient in themselves. Aristotle is criticizing Plato based on this definitional separation when he accuses Plato of having substances made of substances.

In summation, the sort of definitional separation that I wish to posit as the basis for Aristotle’s χωρισμός critique, as associated with the one-and-many aspect of Parmenides’ paradox, can be formulated thusly: if every Form is a substance with a self-sufficient formula, and these Forms are compounded into a single formula that is equally self-sufficient, then definitional separation will allow each Form to be extracted out as an independent entity apart from the complete and simple whole.

Returning to Fine’s classification, Plato’s use of “αὐτὸ καθ’ αὐτὸ” can be used to identify the third kind of “separation,” ontological separation. Ontological separation is fundamentally rooted in the qualification of independent existence (IE), which establishes the relationship between Forms and particulars, which in turn engenders the one-over-many dilemma. Forms being αὐτὸ καθ’ αὐτὸ leads to the one-over-many because it fixes Forms as eternal and particulars as transient in order to account for flux. Forms are naturally prior inasmuch as a Form

55 This is the terminology of Gail Fine. See both her article “The One Over Many” and Chapter XI of Plato on Knowledge and Forms “Separation.” This is her abbreviation. She mentions that T.H. Irwin Plato’s Moral Theory uses the acronym “IE,” but does so to reference natural priority. See T.H. Irwin Plato’s Moral Theory pg. 154-155.
56 W.R.F. Hardie A Study in Plato Chapter VIII identifies “separation” with independent existence.
exists regardless of wherever it is participated in by one, many, or no particulars.\textsuperscript{57} This is the step that \textit{ontological} separation takes that \textit{local} separation does not.

Fine identifies ontological separation simply as the “capacity for independent existence (IE)” and conveys this in terms of natural priority.\textsuperscript{58} In Fine’s account, the primary focus in detailing the different sorts of “separation” is to focus on Aristotle’s response, which is helpful in itself; however, in Fine’s explication of the types of “separation,” she does not discuss their origins in the Platonic texts. For this reason, I will employ Vlastos’ investigation of “separation” in \textit{Parmenides} to explain ontological separation. In “‘Separation’ in Plato,” Vlastos identifies two claims as denoting one and the same thing: (a) Forms are “αὐτὸ καθ’ αὑτὸ” and (b) Forms exist separately.\textsuperscript{59} I cite three passages here as evidence:

\begin{quote}
\textbf{Parmenides:}\n
(A) οἶν δικαίου εἴδος αὐτὸ καθ’ αὑτὸ καὶ καλοῦ καὶ ἀγαθοῦ καὶ πάντων αὖ τῶν τοιούτων;\textsuperscript{60}

… there is a Form of justice which is itself by itself and of beauty and good and all such as these?

(B) Τί δ’, ἀνθρώπου εἶδος χωρὶς ἡμῶν καὶ τῶν οἷοι ἡμεῖς ἐσμὲν πάντων, αὐτὸ τι εἴδος ἀνθρώπου ἢ πυρὸς ἢ καὶ ὕδατος;\textsuperscript{61}

It exists, the Form of a man apart from us and all others such like us. Just with the Form of man, just so with fire and water?

\textbf{Metaphysics:}\n
ἐξήτευ μὲν γὰρ ἐοίκαμεν ἄλλην τινά, καὶ τὸ προκείμενον τοῦτ’ ἔστιν ἡμῖν, λέγω δὲ τὸ ἰδεῖν εἰ τι χωριστὸν καθ’ αὐτὸ καὶ μηδενὶ τῶν αἰσθητῶν ύπάρχων.\textsuperscript{62}

This is what was set out to be sought after: to see if something exists separate, by itself, and not belonging to any sensible thing.
\end{quote}

\textsuperscript{57} Fine engages more with the concept of “eternity” in her article “The One Over Many.”
\textsuperscript{58} See Gail Fine \textit{Plato on Knowledge and Forms} Chapter XI pgs. 255-256.
\textsuperscript{59} See Gregory Vlastos “‘Separation’ in Plato.”
\textsuperscript{60} See \textit{Parm.} 130b.
\textsuperscript{61} See \textit{Parm.} 130c.
\textsuperscript{62} See \textit{Met.} Book K 1060a11-13.
First, semantically, the phrase “αὐτό καθ’ αὑτὸ,” itself, translates as “thing towards self,” which connotes supreme independence, a move inwards and a rejection of that which is outside. This reverts back to Plato’s account of differentiated being. For there to be differentiated being, beings must be abstractly clear and distinct from one another; “αὐτό καθ’ αὑτὸ” is the state of being clear and distinct and self-contained. As such, Plato explicitly extends this notion of supreme independence to Forms (εἶδος), as seen in the first quote. Then, in the second quote, Plato states that Forms of this sort are “χωρὶς” (separate). Therefore, “αὐτό καθ’ αὑτὸ” must be a phrase that qualifies a Form as separate (χωρὶς).

Second, textually, at the time of these utterances in Parmenides, Parmenides is critiquing the “participation” that particulars have to engage in to possess a Form. “Participation” on Plato’s view, is central to this ontological dynamic because particulars become the object of knowledge by means of their participation in the Forms. This leads to ontological separation because the critique is directed at Forms (εἶδος) existing apart not only from particulars, but from all other Forms as well, in the sense that Forms are intelligible independent existences in a realm which is detached from the physical realm, and with the added caveat that particulars need the Forms to exist.

As seen in the quote from Metaphysics above, Aristotle definitively assigns Forms (Ideas) (ἰδεῖν) the characterization of “separation” (χωριστὸν) because of their “καθ’ αὑτὸ” nature. Independent existence, as embodied by “αὐτό καθ’ αὑτὸ,” essentially, causes an ontological disparity between Forms and particulars because only Forms can exist in themselves, whereas particulars only are by virtue of the Forms they participate in. This is the underlying reason why natural priority is essential to ontological separation, because Forms are naturally prior, or naturally privileged, with respect to particulars due to their eternality. Aristotle’s
criticism of this is understandable, because it contradicts his view that Forms necessitate particulars and cannot exist without them.

In conclusion, the two significant sorts of “separation” have now been identified. The first sort of “separation” was identified as a definitional separation. This separation addresses the issue of many complete beings (definitions) being able to compose a single being (the structure of definition), and is thus relevant to the one-and-many side of Parmenides’ paradox. The second sort is ontological separation, where the being of the universal and the being of the particular exist apart from one another in such a way that a Form can exist without a particular, but a particular cannot exist without a Form. This sort of χωρισμός is relevant to the one-over-many dilemma. As such, both types of “separation” problematize Plato’s Forms, yet, as the first section of the chapter demonstrated, Plato was aware of both critiques. It seems rather unlikely that Plato simply conceded to these issues; instead, Plato’s later metaphysical appeal to Pythagorean mathematics suggests Plato may have found a satisfactory solution to the dilemmas that Parmenides’ ontology proposes to the theory of Forms. Now that the one-and-many and the one-over-many distinctions have been made, speculation concerning how the Pythagorean influence on Plato’s Forms addresses these issues can ensue.
Chapter Two: Intermediacy

I think you call it the habit of the geometers and their like [mind] but not reason because understanding is an intermediate existence between opinion and reason.

The intermediate, or μεταξύ, is how Plato’s Forms can survive illogical implications sprouting from the “separation” dilemma. The issue that J.D. Mabbott cites as the problematic feature of Forms is the concurrent immanent and transcendent existence of Forms (i.e. their existing in the noumenal realm and in particulars). The simultaneous transcendent and immanent quality of Forms is inherent to Parmenides’ paradox. The reason this is such an issue is that immanence and transcendence appear to be mutually exclusive; if a Form is immanent in particulars, there will be many Forms for the same species which contradicts the notion that all particulars participate in the same Form; if a Form is wholly transcendent of the particulars that participate in the Form, then how can anything be said to possess a Form? So, this chapter is an investigation as to how Plato circumvents this issue, in the process solving the separation dilemma as well. Plato seems to accomplish this with a third ontological plane that blends the physical world and the non-physical world together through mathematical proportions.

While I believe there is evidence for the mathematical intermediacy theory in Plato’s thought, it is never made explicit by Plato himself. For the most part, scholars rely on textual nuances and known philosophical influences on Plato’s work to try to reconstruct this “hidden”

64 See J.D. Mabbott “Aristotle and the ΧΩΡΙΣΜΟΣ of Plato.”
structure of the Forms. In this section, I will examine Plato’s texts, primarily the discussion that begins in *Republic* VI and continues in Book VII, in order to highlight the evidence that Plato believed that Forms have an innate connection to the visible realm (ὁρατό) through mathematical principles. I will accomplish this in four stages. First, I will discuss Plato’s philosophical influences; especially Pythagoras’ influence since Plato demonstrates strong sympathies in accordance with prominent Pythagorean ideologies. Second, I will consider the relationship between metaphysical definitions and mathematical instantiations in Plato’s texts to show how, for him, mathematical principles can be both perfect and physically instantiated. Third, I will advocate a position similar to Hardie’s, such that Plato conceives of this mathematical intermediacy so that Forms can maintain ontological separation (independent existence), yet be the paradigms (παράδειγματα) which regulate mathematical proportions (συμμετρίας) in the physical realm, and by participation in the proper proportions Forms are able to be immanent in beings. Finally, I will suggest that this theory regarding intermediacy is incomplete.

Before moving to the first section, I will issue the following caveat: the term “μεταξύ” is not a technical term for Plato. Many times, Plato uses the term where he is not directly discussing Forms, such as to describe intermediate states of within the soul (e.g. pain and pleasure) and intermediate epistemological states (e.g. ignorance and knowledge). So, in no way claiming that the use of “μεταξύ” signifies the truth of the intermediacy theory as it relates to Forms.

However, there seems to be a significant difference between Plato’s use of “μεταξύ” and his use of the term “μέσος,” or “middle.” When “μεταξύ” is used it signifies a connectivity

---

65 See *Rep.* Book IX 584e-585a.
66 See *Rep.* Book V 478d.
between extremes, such that whatever is “intermediate” is intermediate because it is situated between a binary pair and is inseparable from that binary pair. Take for example creating the color green from a paint pallet. Green is an intermediary between yellow and blue pigments; if yellow is absent from the pallet and there is only blue paint, the intermediate cannot be generated; thus, there would not be a green. “Middle,” or “μέσος,” appears to signify a designated position which is simply between two other points. It differs from “μεταξὺ” in the sense that it has independence from what it is in between. An example from the Republic is that a child can develop a middle (μέσος) way of life between his father’s way of life and the life he learns from sophisticated men. The difference here is that these are not fixed extremes; they are particular extremes such that being in the “middle” means that one adopts some traits from one place and some from another, and creates a middle ground that is developed from two sources which are not in direct conflict. “Intermediacy” (μεταξὺ) designates, at least within the confines of Republic, a place between two poles which are at a binary opposition (e.g. ignorance and knowledge or pain and pleasure). So, in one sense, “μεταξὺ” need not be elevated as a word which signals the theory to be described, but its use should also not be considered trivial because it does designate an important sort of intermediate placement such that it is located between strictly opposing, or conflicting, ideas.

I.

In the previous chapter, I detailed the substantial influence Parmenides and the Eleatics had on Plato’s philosophy, and how this influence was documented by Plato himself in dialogues such as Parmenides, Philebus, Sophist, and Statesman. Before embarking on the discussion

---

about Plato’s intermediacy theory, it is important to bring to light the two influences that propelled Plato in such a direction. Besides Parmenides, there are two other influences I wish to discuss: Heraclitus and Pythagoras.

Heraclitus’ role for Plato is to highlight a persistent problem: how can there be anything in a world occupied primarily by becoming? Last chapter, most of the scholars mentioned during the discussion of separation proposed flux as one of if not the key concept that threatens Plato’s metaphysics. Some may argue against my notion that Heraclitus was an influence on Plato, but Plato never rejects Heraclitus’ suppositions; thus, I argue that Plato accepted Heraclitus’ theory of flux and that Plato’s mathematical intermediacy theory is an attempt to reconcile a fixed intelligible world with an ever-changing physical world.

Grote puts Heraclitus’ position best: “[Heraclitus] denied everything in the nature of a permanent and perpetual substratum: he laid down nothing as permanent and perpetual except the process of change – the alternate sequence of generation and destruction, without beginning or end – generation and destruction being in fact coincident or identical, two sides of the same process, since the generation of one particular state was the destruction of its antecedent contrary.” Plato is obviously tackling these issues regarding the process of becoming and decaying explicitly in his later works (e.g. Sophist, Timaeus, and Philebus), most likely because Plato does not wish to concede Heraclitus’ point entirely (i.e. there exists no fixed being at all). Plato’s Forms require some aspect of fixity that Heraclitus unrelentingly denies. Heraclitus even gets mentioned in Republic with reference to his notion of a new sun appearing each day. Thanks to Aristotle, it is known that Plato was quite familiar with Heraclitus and was introduced

---

68 Terence Irwin, Allan Silverman, and Gail Fine all engage Heraclitus’ flux with respect to the separation dilemma.
69 See George Grote Plato and the Other Companions of Socrates Vol. I pg. 28.
to his doctrine at a young age through his association with Cratylus, who was known to be a follower of Heraclitus.\textsuperscript{71} I argue that Heraclitus’ idea stuck with Plato, just as Parmenides’ ideas did. Evidence for the difficulty that Heraclitean flux posed to Plato’s metaphysics can be seen as early as \textit{Republic} and \textit{Cratylus} with Socrates’ continued distinction between what is (tò ònv) or really exists (oùsiàn) and what is becoming (γεγομένου) or that which becomes (γένευσιν). For example:

\[\text{τί ἄν οὖν εἴη, ὦ Γλαύκων, μάθημα ἕπικης ὅλκον ὑπὸ τοῦ γεγομένου ἐπὶ τὸ ὄν;}\textsuperscript{72}

Oh Glaucon, what would be the subject that would lead the soul away from the realm of becoming to that of what is?\textsuperscript{73}

\[\text{oὐκόν εἰ μὲν οὖσιν ἀναγκάζει θεάσασθαι, προσήκει, εἰ δὲ γένευσίν, οὐ προσήκει.}\]

Then, [geometry] is appropriate when it compels the search for what \textit{is}, but not so when it is directed to becoming.

There are two points to make with regard to these quotes. For one, I understand that these are epistemological claims. Plato, here, is making this distinction to suggest that only dialectic can arrive at truths about what \textit{is}. Other methods only apprehend flux, becoming, which never \textit{is}. Becoming, because it is always in motion, cannot possess any real being in the formal sense because the Forms necessitate a fixed being since they are the objects of truth and truth never changes. However, one should hesitate dismissing these statements as irrelevant to the metaphysical discussion at hand. This would be a mistake. For Plato, metaphysics is what brings about epistemology, ethics, and such; so, Plato associates the intelligible with what \textit{is} and the visible realm with what becomes. The problem is, though, that Plato needs to establish the relationship between these two, which leads into my second point regarding the quotes above.

\textsuperscript{71} See \textit{Met.} Book A Chapter 987a32-987b1.
\textsuperscript{72} See \textit{Rep.} Book VII 521d.
\textsuperscript{73} See \textit{Rep.} Book VII 526e.
The second point is that the quotes are part of a discussion regarding mathematics (geometry) in Book VII of Republic. I disagree, to a certain degree, with R.M. Hare who believes that Plato’s intention is to critique the mathematicians of his time. Hare believes that Plato used this passage from Republic less as a philosophical staple and more of a critique to say that mathematicians, instead of trying to understand intelligible mathematical truths devoid of physical particulars, always require “thises,” therefore not keeping their thoughts wholly abstract.74 Just as an example of this, as seen in Meno, when Socrates draws the square diagram in the earth for the young slave to answer questions about. The idea would be that the study of mathematics does not require physical diagrams; mathematics should only be theorized without the physical examples. Socrates has to employ a diagram, not because Socrates needs to see the diagram, but because the slave boy cannot abstractly think about it; the slave requires a visual aid. Hare argues that Plato wants to demonstrate that the dialectic is the only way to get to abstract truths, but I believe this analysis says more than Hare realizes. Plato is also laying the foundation to assert the connectivity of mathematical principles. Mathematics can account for both unchanging truth and for what moves and changes. Ultimately, this seems to be a fitting place to begin the distinction of being and becoming because it suggests that mathematics - although not as it was conceived of by geometers at the time according to Plato - can bridge the gap it just requires the proper frame of mind. Thus, Heraclitus’ looming ontological issues lead right into Pythagoras’ remedies.

Pythagoras’ influence, like Heraclitus’, is documented by Aristotle in the initial book of Metaphysics. The connection between Plato and Pythagoras is the one that Aristotle emphasized most.75 What Aristotle documents is that Plato seemed to have a foundation that was at its roots

---

74 See R.M. Hare “Plato and the Mathematicians.”
75 See Met. Book A Chapter VI.
Pythagorean, but he subsequently split from their path. For instance, one noteworthy difference that is relevant to the discussion in the previous section on “separation” is the difference in the term that links Forms with immanence:

\[
\text{τὴν δὲ μέθεξιν τοῦνομα μόνον μετέβαλεν: οἱ μὲν γὰρ Πυθαγόρειοι μιμήσει τὰ ὄντα φασίν εἶναι τῶν ἀρίθμων, Πλάτων δὲ μεθέξει, τοῦνομα μεταβαλόν. τὴν μὲντοι γι μέθεξιν ἢ τὴν μίμησιν ἢτις ἢν εἶπ τῶν εἴδων ἠφείσαν ἐν κοινῷ ζητεῖν.}^{76}
\]

The term “participation” alone was introduced, for the Pythagoreans subscribed the term “imitation” (of numbers) to reality, Plato’s “participation” changed the name. Both left the terms “participation” and “imitation,” with respect to Forms, unanswered.

Although Aristotle is not convinced by either of these accounts, the fact that Plato adopted the terminology “participate” (μέθεξιν) versus the Pythagorean term “imitation” (μιμήσει) is significant inasmuch as Plato, on multiple occasions, has explicit conversations strictly devoted to the topic of “imitation” which does seem to lead to a reasonable inference that “imitation” is not the means in which Forms are transcribed onto particulars; particulars take on Forms not because they copy a Form, but because they participate in it.\(^{77}\) However, even though Aristotle notes this as a difference, this may be where Plato developed this notion of immanence with respect to Forms. What I mean is the fact that particulars copying or participating in Forms means that Forms must either innately contain, or amass, a Form or Forms to become complete (i.e. compose a complex definition as demonstrated in the previous chapter); particulars do not just represent a Form as would be the case in Aristotle’s metaphysics. This is also unlike Heraclitus’ philosophy, in which there existing no notion of Forms. So, in reality, Aristotle’s account may actually show the origins of Plato’s notion of Form-immanence, which is critical because Form-immanence seems to be where most of the issues raised against Plato’s metaphysics arise.

\(^{76}\) See Met. Book A Chapter VI 987b10-14.

\(^{77}\) This is extensively elaborated on by Plato in Book X of Republic.
Aristotle’s most intriguing commentary on Plato and the Pythagoreans comes from the same chapter as the quote above. Aristotle states:

τὸ μέντοι γε ἐν οὐσίαν εἶναι, καὶ μὴ ἔτερον γέ τι ὄν λέγεσθαι ἐν, παραπλησίως τοῖς Πυθαγορείοις ἔλεγε, καὶ τὸ τῶν ἀρίθμων αἰτίως εἶναι τοῖς ἄλλοις τῆς οὐσίας ὡσαυτῶς ἔκεινος: τὸ δὲ ἀντὶ τοῦ ἁπείρου ὡς ἕνος δυάδα ποιήσατ... καὶ ἐπὶ ὁ μὲν τῶν ἀρίθμων παρὰ τὰ αἰσθήματα, οἱ δ’ ἀρίθμως εἶναι φασιν αὐτά τὰ πράγματα, καὶ τὰ μαθηματικά μεταξύ τούτων οὐ τιθέασιν.

Indeed, treating the One as being substance and not designating a being as a predicate of the One, [Plato] is similar to the Pythagoreans, and agrees that numbers cause being in substance in everything else... Also, [Plato] regards numbers as apart from sensibles, whereas [Pythagoreans] practice that number are in things, nor do they put intermediates in mathematics.

Here, Aristotle offers great insight for the discussion at hand. For one, Aristotle notes that Plato, for the most part adheres to Pythagorean principles and establishes Plato’s affinity for mathematics. As noted above, Plato shared Pythagorean sentiments with regard to numbers and being. The most interesting claim is that of numerical causation. Aristotle explicitly states that, for Plato, numbers “cause” (αἰτίους) “being” (εἶναι). This is the same term for “being” that he directly associates with substance in Book Z. So, given the terminology, Aristotle, at least, believes that numbers were central to Plato’s ontology.

The other interesting insight the above quote alludes to is this transcendence-immanence dichotomy itself. Aristotle mentions that Pythagoreans believed that numbers are in everything, where Plato is to have said that numbers are apart (παρὰ) from particulars. What is of the greatest interest is that if mathematical principles govern being and if it is in matter, then matter should be pure and unchanging, but, as Heraclitus pointed out, matter is always becoming. However, on the flipside, if Forms make an ontological connection without matter, then matter cannot be physical objectivity in the sense that a realist would desire because the Forms would be the entirety of existence. This would necessitate an extreme idealism, in contrast to Plato’s dualism. So, the fact that Aristotle says Plato believes numbers cause being is important because for the issue of “separation” to be resolved, Plato must have a cause, not another independent realm, or
place, that simply exists between two other realms (i.e. the intelligible and the visible). For Plato to have a complete metaphysical-ontological account, Plato needs to bridge the two realms, he needs something intermediate.

II.

The intermediacy theory springs from the discussion of the line diagram that concludes Book VI, and spills over into Book VII of *Republic*. The discussion is not one that is directed at the intermediacy theory itself. In fact, W.D. Ross, whose view on intermediacy will be expounded in greater detail following this textual analysis of Plato, suggests that Plato endorses the intermediacy theory indirectly, that it exists in Plato’s work unbeknownst to Plato.\(^\text{78}\) While I do not entirely agree with Ross’ position, I can agree that the intermediacy theory was not a dogma that Plato publicized. However, there are passages in *Republic* VI and VII that merit attention when addressing this topic.

The obvious place to begin is with the line diagram itself. The account begins at 509d and goes as follows: given a line that is to represent all ontological possibilities, take the line and divide it such that the line segment above the division is larger than the one below. The larger section is, of course, devoted to the intelligible realm (νοητό), and the lower section is meant to represent the visible realm (ὁρατό). These divisions are then divided once again, such that the divisions within both the intelligible realm and the visible realm are of the same ratio as the intelligible realm is to the visible realm. The topmost (largest) section is to represent “understanding” (νόησιν) and the second, is ascribed to “thought” (διάνοιαν), within the visible realm, the top section is “belief” (πίστιν), and finally, the lowest is “imaging” (ἐικασίαν).\(^\text{79}\)

---

\(^{78}\) See W.D. Ross *Plato’s Theory of Ideas* pgs. 60-62.

\(^{79}\) See *Rep.* Book VI 511d-e.
One may notice here that the terms which define the sections of the line diagram are epistemological in nature. At the end of Book VI, Plato is addressing the topic of dialectic, which is, of course, an epistemological process - the correct epistemological process according to Plato. However, this should not obscure the ontological nature of the discussion. The terms “understanding,” “thought,” “belief,” and “imaging” are epistemological apprehensions of specific types of beings. The line diagram is an ontological representation of all of existence; the terms Plato uses, while epistemological, are not representative of the divisions themselves, but the assignment of ontological magnitude (i.e. degree of reality). This becomes most apparent in the proceeding book, Book VII, with the cave analogy. The person bound in chains that leaves the cave is not gaining new epistemological perspectives, the person sees new particular beings which are more real than the particulars that he had become accustomed to in the cave. Thus, when I discuss the division of διάνοια, it should not focus on the process of “thought,” but on the type of being that is entailed by the section; namely that of the mathematical intermediates.

For one, it is certain that the top of the top section, of the νοητῷ, is the largest section of all. This is undoubtedly the storehouse of the Forms, all the unhypothetical first principles (i.e. all non-mathematical ideas), which means that the greatest range of ontological existences in the totality of the cosmos (i.e. the combination of the intelligible and physical realms) are the Forms, meaning the Forms represent more of reality than anything else (i.e. particular instantiations of Forms). In the previous section, I built a case that Plato is looking to find a suitable metaphysical-ontological response to Heraclitus’ notion of flux. Here, the point is that Plato’s divisions, and the ratio of those divisions, seem to merit a specific sort of outlook to the whole system. There is an emphasis on the metaphysical (that is why the section of the Forms is the
largest); yet, there is a distinct section which resides outside the completely metaphysical realm; something not completely abstract, something physical.

The second remark which merits mentioning is that the second and third sections are equal in size. This point has direct bearing on the current discussion because the third section, the upper half of the visible realm, is attributable to practical mathematical affairs (e.g. retail), whereas the second section, the lower half of the intelligible, the διάνοια, is associated with the geometer. What Plato seems to be suggesting here is that numbers in the intelligible realm are equally represented in the physical realm. This sounds vaguely Pythagorean according to what Aristotle said. It is well established that Plato is familiar with, and at least somewhat fond of, the Pythagoreans. The notion that the quantity of mathematical principles is equal in both realms is the first step in my argument concerning mathematical intermediacy, because διάνοια and πίστιν are the intermediaries in the line diagram and are both regulated by number. Of course, this is mere analysis of what the structure itself of the line diagram means, there is substantial textual support that illuminates this perspective as well.

To begin:

διάνοιαν δὲ καλεῖν μοι δοκεῖς τὴν τῶν γεωμετρικῶν τε καὶ τὴν τῶν τοιούτων ἔξων ἄλλσ ὴ νοῦν, ὡς μεταξό τι δόξης τε καὶ νοῦ τὴν διάνοιαν οὑσαν.

80 ‘Thought’ is the state to which the geometers belong and those associated with them. They are in a state of thought, not reason, which is intermediate opinion and understanding.

As I stated earlier, the epistemological terminology can distract from the ontological content of the text, so the importance of “διάνοιαν” in this sentence should be stressed only in so far of it is the second tier of the line diagram. With that being said, Plato makes the first ascription of mathematical properties to this second tier as it is the geometer who occupies this space. What

80 See Rep. Book VI 511c-d.
Plato wants to do, ultimately, is give this partitioned space strictly to the foundation of mathematics, or, more generally, numbers. Plato’s division of the line diagram offers insight into two important characteristics with respect to the “διάνοια” strata.

For one, clearly, the second tier is not the first, which is to say that mathematics is not the Forms; so, for Plato, it is important to understand that numbers are not Forms. While the Forms only occupy the highest section of the line diagram, here Plato is establishing that there are intelligible objects (i.e. numbers) that are not Forms. This is crucial for the intermediacy theory because if numbers were Forms, then Plato would have an intelligible realm composed entirely of Forms. Since the problem concerns Forms’ simultaneous transcendence and immanence, if the intelligible realm is strictly Forms, then Plato sets himself up for strict transcendence because the “οὐτὸ καθ’ οὐτὸ” distinction would, in fact, signify a complete severance of the two realms, the intelligible and visible. By designating this mathematical tier in the line diagram, Plato is allowing something other than Forms themselves to take up residence in the intelligible realm.

The second point is that Plato says in the quote above that they are “intermediate” (μεταξύ) between understanding and opinion (δόξα). The use of δόξα here actually has great significance because δόξα is used to designate the totality of the visible realm.\(^81\) So, Plato is stating that numbers are intermediate with respect to Forms and their physical instantiations. This allows for numbers to be separate from Forms, yet stay in the intelligible realm. Numbers have equal footing with Forms insofar as they transcend the physical realm, yet they are not the same as Forms. Thus, “separateness” becomes key when solving the transcendence-immanence dilemma, supporting the notion of mathematical intermediacy.

\(^{81}\) See *Rep.* Book VII 533e-534a.
Whereas the previous quote eased introduced the intermediacy theory, the following quote begins to show the connectivity mathematics engenders between physical instantiations and their ties to truth. Here Plato begins to address the issues raised by Heraclitus. Ultimately, mathematics becomes the way to ground *becoming*:

\[SOC\]: ἀλλ’ ἐκ τῶν προαρµηµένων, ἐφη, ἀνάλογιζον. εἰ µὲν γὰρ ἱκανός αὐτό καθ’ αὐτό ὀρᾶται ἢ ἄλλη τινι αἰσθήσεις λαµβάνεται τὸ ἐν, οὐκ ἂν ὅλον εἴη ἐπὶ τὴν σύσιαν, ὅσπερ ἐπὶ τοῦ διακτύλου ἐλέγοµεν: εἰ δ’ ἂσι τι αὐτῶ ἕµα ὀρᾶται ἐναντίοµα, ὅστε µηδέν µᾶλλον ἐν ἢ καὶ τοῦναντίον φαίνεσθαι, τοῦ ἐπικρινοῦντος δὴ δεόν ἦν ἢδη καὶ ἀναγκαῖοιτ’ ἂν ἐν αὐτῶ µυχὴ ἀπορεῖν καὶ ζητεῖν, κινοῦσα ἐν ἐαυτῇ τὴν ἐννοιαν, καὶ ἀνεφόταν τί ποτὲ ἐστὶν αὐτὸ τὸ ἐν, καὶ οὔτω τὸν ἄγωγὸν ἐν εἰή καὶ µεταστρεπτικῶν ἐπι τὴν τοῦ ὄντος θέον ἢ περὶ τὸ ἐν µάθησις.

\[GLA\]: ἀλλὰ µέντοι, ἐφη, τούτω γ’ ἔχει οὖχ ἢκατα ἢ περὶ αὐτό ὑπερ: ἄµα γὰρ ταύτων ὡς ἐν τε ὀρώµεν καὶ ὡς ἀπερα τὸ πλῆθος.

\[SOC\]: οὐκοῦν εἴπερ τὸ ἕν, ἦν δ’ ἐγώ, καὶ σύµπας ἀριθµῆσας ταύτων πέπονθε τοῦτο;

\[GLA\]: πῶς δ’ ὑπερ;

\[SOC\]: ἀλλὰ µὴν λογιστικὴ τε καὶ ἀριθµητικὴ περὶ ἀριθµὸν πάσα.

\[GLA\]: καὶ µάλα.

\[SOC\]: ταῦτα δὲ γε φαίνεται ἄγωγα πρὸς ἀληθεῖαν.

\[GLA\]: ὑπερφυῶς µὲν σοῦν.\(^{82}\)

\[SOC\]: Reason it out from what was said before. If the one is adequately seen itself by itself or is so perceived by any of the other senses, then, as we were saying in the case of fingers, it wouldn’t draw the soul towards being. But if something opposite to it is always seen at the same time, so that nothing is apparently any more one than the opposite of one, then something would be needed to judge the matter. The soul would then be puzzled, would look for an answer, would stir up its understanding, and would ask what the one itself is. And so this would be among the subjects that lead the soul and turn it around towards the study of that which is.

\[GLA\]: But surely the sight of the one does possess this characteristic to a remarkable degree, for we see the same thing to be both one and an unlimited number at the same time.

\[SOC\]: Then, if this is true of the one, won’t it also be true of all numbers?

\[GLA\]: Of course.

\[SOC\]: Now, calculation and arithmetic are wholly concerned with numbers.

\[GLA\]: That’s right.

\[SOC\]: Then evidently they lead us toward truth.

\[GLA\]: Supernaturally so.\(^{83}\)

To begin unpacking the quote, notice that there is the recognition of extremes. Socrates posits the “thing in itself” (αὐτὸ καθ’ αὐτὸ) in contrast with the sensations (αἰσθήσει). Neither of these are going to be sufficient (ἱκανῶς), since sensations are too blind to apprehend the thing in itself, and the thing in itself cannot be immediately apprehended. Plato, through Socrates, is thus demonstrating the greatest impediment to a strict dualism fundamentally grounded in the


\(^{83}\) This is taken directly from G.M.A. Grube’s translation.
existence of perfect ideals: how can perfection be if the physical world is, itself, imperfect? If something is because of the Form(s) it participates in, and those Forms are perfect and fixed, whereas the physical world is completely imperfect and always changing; how can something built upon perfection (i.e. the Forms) ever exist in a world that does not allow for it? As it sits, either: a) Forms do not get instantiated fully in the physical world; if this is so, how can anything be part something? It either is or is not; being is all or nothing; or b) ontology is not necessarily a simple Form-copy relationship. This question is intrinsic to my investigation, and it is the question I aim to answer by the end of the project (ultimately, I will opt for the latter alternative). For now, the important point is that Plato obviously recognizes the issues that Forms pose if there are merely the Forms and their copies; this highlights the necessity of some sort of intermediate bridge between the two and a different scope for ontology.

Secondly, Socrates is concerned with Soul’s orientation towards being (οὐσίαν). This is where the Heraclitian influence starts to come into the picture. Plato is distinguishing being in becoming (i.e. Forms instantiated in physical things). To be sure, Plato is making mention of Forms when he is speaking about this being, as he says that the soul “stirs up its understanding” in search of the “one” (ἕν). The division of the line diagram which belongs solely to the Forms is given the title of “understanding,” and Plato seems to be alluding to this distinction when he references it here. The use of “one” is significant as well. Particulars are many; for instance, Simmias and Callias are proof that there are more than one instantiation of the Form “man” in the physical world. However, there is only one Form of “man” in the intelligible realm. It seems as though Plato is once again trying to give Heraclitus his due by recognizing that, in a world of flux, for there to be any sort of knowledge, or consistency, or any degree of truth, there has to be a definition that fixes that truth to constancy.
After the initial remarks made by Socrates, Glaucon’s reply echoes many of the same sentiments already mentioned, further strengthening the claims I am trying to put forward. Glaucon says that the same thing (ταὐτὸν) is both one (ἕν) (i.e. in a Form) and infinite (ἄπειρα) (i.e. in the various particulars of a Form). Socrates asks if this is the case with all numbers, and Glaucon assents. Now, as stated earlier, numbers are not part of the realm of Forms; what Plato is doing here is not identifying numbers with Forms, but rather assigning numerical identity (i.e. mathematical proportions which correspond to instantiations of Forms) which carries across both of the main divisions, the intelligible and the visible. Plato is not simply advancing the notion that number is physical and number is intelligible, but rather that number is applicable to the visible and number is, itself, intelligible.

Finally, the quote moves back towards Heraclitus near its conclusion. Socrates and Glaucon identify calculation (λογιστική) and arithmetic (ἀριθμητικὴ) as what is wholly concerned with numbers, and, thus, the means by which to understand the nature of numbers. Calculation and arithmetic then become the means by which truth (ἀλήθειαν) is grasped. I believe that Plato is granting great ontological significance to numbers in this passage, but some might disagree. Indeed the line where Socrates notes that calculation and arithmetic are the means to apprehend numbers could be no more than Plato making the case that there is a proper science for each result, in the same way that the eyes are the proper mode of sensation for sight and thus lead towards truth (of sight). However, the context seems to indicate a meaning that goes beyond this, Number is clearly not the main topic of the discussion, but rather it is raised in response to the introduction of flux. The “one” denotes ontological fixity (i.e. the constancy that only Forms have) in Socrates’s initial statement, and it seems farfetched that the semantics would change so rapidly in the matter of a few lines. So, one should not treat the topic of
numbers as arbitrary, such that any other topic could be put in its place and maintain the meaning that it inherently possesses. Also, given the Pythagorean influence, it seems fitting that Plato lists truth apprehension as one of the powers of numbers. In fact, Plato would undoubtedly note that mathematics is one of, if not the only, means of discovering truth in the physical world. Thus the slave boy in *Meno* is put through a mathematical proof, because mathematics can reveal a certain truth, instead of producing mere speculation.

The following quote helps to clarify these points about the mathematical intermediacy theory:

[SOC]: τί οὖν οἴει, ὦ Γλαύκων, εἰ τις ἐρωτηθήτω αὐτοῦς: ἃ δ᾽ ἴδον ἵνα ἀριθμοὶ διαλέγεσθε, ἐν οἷς τὸ ἐν οἷς ὑμεῖς ἀξιοῦτε ἐστίν, ἴσον τε ἕκαστο ἐν πάντι καὶ ὁδὸν εὐοδόθην διαφέρον, μορίων τε ἔχον ἐν ἑαυτῷ ὑμῖν; τί ἂν οἴει αὐτοῖς ἄποκριναις;[GLA]: τοῦτο ἐγωγέ, ὅτι περί τούτων λέγουσιν ὃν διανοηθήναι μόνην ἐγχωρεῖ, ἄλλως δ᾽ ὀὐδὲν ἐν ἑαυτῷ ὑμῖν ἐχομεν., ὑποκρίνοις δεῖν τῷ μάθημα, ὥστε ἐπειδὴ[SOC]: ὃς ἦν δ᾽ ἐγώ, ὧν ἔρωτος ἀναγκαίον ἔχει, ἀλλὰ δοκεῖν ἐν τῇ προσαναγκαίᾳ γινεῖ ἐν τῇ ἀλήθεια καὶ ἐν τῷ μάθημα, ὥστε ἐπειδή[GLA]: ὡς ἦν δ᾽ ἐγώ, ὧν δοκεῖν ἐν τῇ προσαναγκαίᾳ γινεῖ ἐν τῇ ἀλήθεια καὶ ἐν τῷ μάθημα, ὥστε ἐπειδὴ

The opening statement refers to something Socrates had said previously when Socrates and Glaucon were discussing the usage of numbers. One sort of numbers embody metaphysical and ontological states; the other is the practical use of mathematics, the type retailers use to facilitate trade and barter. This discussion stems from the question: what is the *nature* of number (τῶν ἀριθμῶν φύσεως)? The answer to this is that number directs the soul in the physical world to the world of truth and *being* (γενέσεως ἐν αἰώνισκι). Glaucon’s response is

---

84 See *Rep.* Book VII 525e-526b.
85 This is taken directly from G.M.A. Grube’s translation.
86 See *Rep.* Book VII 525c.
87 Ibid.
important because Plato wants to distinguish between the practical application of number (e.g. that of the retailer) and the intelligible numbers which can only be grasped through thought (διανοηθῆναι). Here, Plato is subtly establishing the dual existence numbers will have to be able to maintain if they are to serve as a bridge between the intelligible and visible realms. Numbers are mastered by merchants; this proves that numbers can be concrete in the physical world. As an example of the merchant’s art and use of numbers, if a pack of cards costs five dollars, and I give the merchant ten dollars, I will expect to receive five dollars in change. But the assigning of mathematical values to physical objects by the merchant seems arbitrary. The pack of cards I wish to purchase is not ontologically five dollars; such math is just a representation of created value. Instead, Plato wants to use the sort of math that would lead to ontological truths, which are necessarily intelligible. For example, a circle is a figure that has an area that is equal to \( \pi r^2 \) and a circumference that is equal to \( \pi d \). These formulas could be used to express ontological truths about a penny, but one cannot say that a penny is ontologically one cent. This is what Plato is illustrating in the first part of the quote.

In the other part of the quote, Socrates’ reply to Glaucon, Plato, once again, is positing numbers as what compels (ἀναγκαῖον) the soul towards truth itself (αὐτὴν τὴν ἀλήθειαν). This orientation towards truth itself is another example of Plato attempting to account for Heraclitus’ flux; however, something new is the introduction of “compels,” which I find immensely important. The importance of “ἀναγκαῖον” is rooted in the fact that its root term is “ἀνάγκη” which is the Greek term for “necessity.” For the most part, scholars do not give the proper attention to “ἀνάγκη.” Plato uses this term with great significance;\(^8^8\) it is not merely a stock

\(^8^8\) I will go into great detail on the significance of “ἀνάγκη” in the final section of the thesis. But, as not to leave such a statement invalidated, the entity that sits on the throne in Book X (of Republic) is the goddess of necessity “Ἀνάγκη,” and the cause that the Craftsman does not possess in Timaeus is the cause that is regulated by necessity, by “ἀνάγκη.” In the last section I will focus primarily on the account in Book X.
phrase or term. So, with that in mind, one should read the last statement from Socrates with the appropriate lens. That is, the “compulsion” that mathematics prompts is one that can decipher the being in a world of becoming. “Necessity” is a cause and an important factor in the intermediacy theory, to which I will return; before doing so, I will elaborate on other scholars’ views with regard this theory.

III.

What exactly does mathematical intermediacy look like? In the previous section I demonstrated that the area of thought in the divided line is devoted to mathematical objects and that this is where the mathematical intermediacy originates. In line with this, Plato places the art of geometry in this area. W.F.R. Hardie is a proponent of the mathematical intermediacy theory; he states: “the harmony or proportion on which depends the goodness of the soul is determined in a way analogous to the dependence of the tuning of a musical instrument on definite mathematical ratios.” In this quote, there are two points of emphasis: a) the idea of harmony (ἁρμονία) and proportion (συμμετρία) and b) goodness. The mathematical intermediacy theory is best couched in these terms: the more harmonious and the more aligned an object is to proper proportion, the more good that object is. But what does this mean?

Before getting too far ahead of myself, it is important to note that the language I use sounds very teleological; it is supposed to. The position I have been attempting to describe in this chapter, and will continue refining in next chapter, holds that Plato’s ontology must be fundamentally rooted in teleology, or in the actualizing of a telos. The only way actualization of being can take place is if it undergoes a specific process, namely from a state of becoming to a

89 See W.D.F. Hardie A Study in Plato pg. 36.
state of *being*. Now, the use of “*being*” is not meant to imply that particulars in the physical world can ever possess the strict sense of *being* that Plato attributed to Forms; this is why Heraclitus is so important, since he maintained that flux can never be made into something fixed. Yet, Forms are somehow actualized in particulars or there would be not *being* in the world to speak of; obviously this is not Plato’s stance. Therefore, the actualizing of a Form cannot be fully instantiated through a mere Form-copy relationship (the position I have been trying to reject all along); instead, being is cultivated (i.e. grown and perfected) through a process where the particular likens itself to a proportion which suits the instantiation requirements for the melding of the intelligible and physical worlds. This is the topic the next chapter when the investigation shifts to Necessity as it appears in *Republic* Book X and *Timaeus*; what I am going to argue there is that particulars fulfill these “instantiation requirements” to greater or lesser degrees, reflecting the “*goodness*” of a given particular. This is why I route Plato’s ontology through teleology: the mathematical intermediacy theory works well with mathematical objects, such as shapes, but what about more complex Forms like “justice”? Justice has no physical shape, but there is still a proportion to it (or, more precisely, a ratio). Think of Simonides’ definition for justice: justice is giving to each person what they are due. So, justice is a balancing act; if someone has wronged someone else, then the person who has done the wronging must be punished in proportion to the wrong that they have committed. To do more wrong to the wrongdoer than what the wrongdoer actually incurred would be unjust itself. The important takeaway is this: there are quantifiable magnitudes to all actions, even if they are not transparently evident, that does not mean they do not exist; and since all quantities can be expressed with numbers, even ethical Forms (e.g. justice), at their root, are mathematically based. These shapeless Forms, instantiated in particulars (either physical or nonphysical), are precipitated out through the confluence of
natures which are inherently external to the particular. When the situation is right, a certain telos will be produced, which indicates a Form being instantiated. Like I said, the teleological aspect of Form instantiation will be the topic of the next chapter.

The best place to begin is with a concrete example that exists both intelligibly and materially and is directly identified with the science of the geometer: a triangle. With respect to this distinction between the intelligible and the material, Hardie says: “When the mathematician says that the angles of a triangle are equal to two right angles he is referring not to this particular triangle but to any particular which has the character of triangularity; to any member of the class of triangle.” Universal (i.e. genera and species) are important because, to implement Hardie’s example, triangles (like all other geometrical figures) must have fixed definitions; that is to say, triangles must have universal properties such as three vertexes and three lines. An important point that Hardie makes is that the lines or angles themselves are not part of the universal that is a triangle. The universal triangle is the proportion that exists in a geometrical figure. To suggest that the intelligible triangle has three sides and three angles would be to particularize it. There are countless particular triangles, but all follow a specific proportion in that all triangles have three angles which add up to two right angles. The more a geometrical figure can capture this innate intelligible proportion assigned to triangle-ness (i.e. three angles equaling two right angles) the closer it is to being a true triangle. Something is in the state of becoming a triangle when it is progressing towards the proportion of a being a triangle. For example, many planetary spheres are formed out of space debris that is pulled towards a core in all directions. The debris can be of various sizes and inconsistent shapes in the becoming stage, but, due to natural forces, draw as close as possible to the being of a sphere over the course of some specific time period.

90 See W.D.F. Hardie A Study in Plato pg. 42.
91 See W.D.F. Hardie A Study in Plato pg. 49.
This is where goodness enters the picture because something which is still early in the stages of becoming, or later stages of decaying, will be less good than the becoming which is progressing through the later or higher stages towards true being (i.e. Form). Granted, a particular will never achieve complete goodness (so it will always be in a state of becoming, or incomplete being), but, obviously, some particulars are closer to fulfilling paradigms of being more so than other particulars.

Goodness can be defined by the degree to which an object can follow the proper proportion or harmonize itself with the Form which exists in the divine model (i.e. the totality of the realm of Forms). The intelligible figures of mathematics exist intelligibly perfect in the realm of thought because they are strictly intelligible and not physically manifest. Continuing with the previous example, if the triangle existing in thought were compared to the triangle existing in the realm of objects (i.e. the realm of belief), the triangle existing in thought would always be more good than the triangle existing in the realm of objects because the materialization of any Form corrupts the Form due to imperfect material constituents. This is why Socrates in Phaedo is not too upset that he will soon be free of his earthly body because it only corrupts his pure soul. At best, the objective triangle (i.e. a triangle made out of any assortment of elements or material) may be infinitely close, or, to use a mathematical expression, asymptotic, to the goodness of the triangle existing in the realm of thought; it can never be equal or more good than the intelligible. This account of proportion with respect to goodness is the foundation of the mathematical intermediacy theory.

---

92 See Plato Phaedo 83d-e.
93 Hardie makes a statement that is to the same effect that I elaborated on: “Hence mathematical propositions are about particulars. And Plato assumed that they are about actual particulars. But geometrical propositions at least cannot be about sensible particulars.” The last sentence of the quote is the most important in that Hardie, as I have understood him, is making the claim that the geometrical propositions are perfect in that they are intelligible, and if they were to be placed in sensible particulars, the geometrical propositions would no longer maintain their necessary intelligible qualities. See W.D.F. Hardie A Study in Plato pg. 49.
Two positions that Hardie takes give greater depth to the mathematical intermediacy theory. The first position is that numbers are inherently different than geometry. Hardie, referencing Whitehead, makes an important claim that the *spaciness* of space cannot be directly apprehended, which makes space inherently different than numbers. Instead, perception and imagination must be used in conjunction with one another such that sense-perception will produce the images of lines and enclosed space, but intellect (in the form of imagination) is required to be able to grasp the geometrical figures they actually compose. Hardie’s point here illuminates another facet of this mathematical intermediacy theory: numbers are not what compose innate proportions or *harmonies*; rather specific numerical *relationships* define them. I agree with this point inasmuch as Forms cannot be reduced to a single number such that the triangle *is* the number three. Plato does associate dimensions with numbers (i.e. two is assignable to a plane, three to a figure, etc.), but the higher level Forms are not individual numbers; they are instantiated through complex relationships, which, as I argue, are innately mathematized and rational at their core. So, when conceptualizing the mathematical intermediacy theory, it is important to recognize that Plato is not identifying Form instantiations with a single number, but rather a specific composition of numbers will have the specific proportions attributable to specific Forms.

---

95 See Plato *Timaeus* 31a-b.
96 This is the most critical claim that I make. Where I derive this conception is primarily through the dialectical composition of the dialogues themselves. Especially in the earlier dialogues (e.g. *Meno* and *Euthyphro*), an interlocutor is not wholly wrong when they put forth a definition for such and such a idea, but, instead, they are said to only have part of the proper definition. What does it mean to be virtuous? It does not mean that someone is courageous; but, at the same time, an individual could not be virtuous and cowardly at the same time; so, courage has to be *part* of the definition for virtue. Therefore, some aspect of the mathematical proportion that constitutes the Form for virtue would have to have entail a fragment which is in accordance with the Form of courage’s mathematical proportion. This is why Forms’ mathematical proportion must be complexed. Thus, it seems as though logic leads to the conception of Forms that I put forth (i.e. complex ratios that possess many dimensions). To reiterate what was expressed in the previous chapter, Forms must be able to compose complex definitions as both wholes and parts.

43
To quote Hardie: “there are forms of natural substances in so far as their structure depends on definite and relatively simple mathematical proportions. But the form of a bed or sewing-machine is fixed by the human purpose to which is relative.”

Hardie seems to be making an important distinction; namely that Plato seems to establish two different types of proportions that can be fulfilled to make something an instance of a Form: a) proportion of composition and b) proportion of efficacy. Proportion of composition is the proportion that Plato will attribute to the fundamental material elements of the cosmos (i.e. water, fire, earth, and air) in *Timaeus*. Each element *is* because it has a specific sort of triangular base and geometrical construction that makes it fire, or water, or earth, or air. These are examples where shape rigidly defines what something *is* based on its composition.

Proportion of efficacy is the more important distinction, and, also, the distinction that signifies my departure from Hardie’s views. Hardie says that a Form is fixed by “human purpose” and is “relative.” The point on which Hardie and I seem to agree on this matter is that what I call “proportion of efficacy” is a proportion fulfilled through a purpose or goal. As I have been arguing for, the appeal to a particular’s *telos* is a fundamental aspect to Plato’s ontology, but to say that a *telos* is “relative” and to suggest that relativity influences ontology, seems incorrect; I will explain why momentarily. To use Hardie’s example, the Form of the bed is not dependent upon the shape that certain materials constitute (e.g. a rectangular solid), but rather what it ultimately accomplishes, which is its *function*. In the case of the bed it is to facilitate sleep. On the surface, this conception of the Form “bed” may not seem like a proportion, but, once again, a particular bed is looking to

---

97 See W.D.F. Hardie *A Study in Plato* pg. 37.
98 Granted, the element of earth is a cube, but even the cube has a square base because it is composed of two right triangles.
99 Of course it can be debated whether or not the elements are indeed Forms in *Timaeus*. There is an argument for and against this view, but, for the sake of the argument at hand, they are a good example for the distinction “proportion of composition.”
actualize a specific telos (i.e. facilitate sleep). Since the particular bed cannot sleep itself, something else must be doing the sleeping it is facilitating. So, say that I can only sleep on a soft bed, and say that there is an overly simplified yet accurate chart that can distinguish the stiffness of a bed on a scale of one to a hundred, one being the softest and a hundred being the stiffest. In this hypothetical, say I get my best sleep at a softness ranking of twenty. Of course, twenty might be the optimal stiffness where I get my best sleep, but I can still manage poor nights of sleep on a bed with a ranking as low as eleven but no higher than twenty-five. Therefore, a particular bed at a stiffness ranking between eleven and twenty-five will actualize its telos in facilitating my sleeping. The same can be done with temperature, angle (e.g. sleeping upside down), and so on. All the factors which impact my ability to sleep that can exist in the bed (i.e. its nature) interact with my own personal nature, and ultimately determine whether or not the Form of bed-ness is instantiated in that particular bed.

Now, this begs the question: what if a particular bed facilitates sleep for one person, but another? Does that mean at one time a particular is instantiated with a Form and at another time it is not? The answer has to be that the instantiation of a Form cannot be dialetheic; it either is or is not. This example of the bed may seem troubling, but it is not. Remember, the goodness of an object is a representation of the extent to which the Form is instantiated or, more specifically, actualized; thus, the more individuals a particular bed can facilitate sleep for, the more akin it will be to the Form of bed-ness itself. If there are no potential outcomes where a particular can fulfill the telos of facilitating sleep, then it is completely devoid of the Form of bed-ness.

To give another, more scientific, example, sugar is sweet because its shape binds to the taste receptors in the mouth to produce the mental stimulus associated with sweet-ness. So, sugar possesses the Form “sweet” only insofar as it can produce the proper stimulus to evoke the
sensation of sweetness. However, if a person’s taste receptors are defective such that the sugar molecule does not properly bind to the taste receptors in the mouth, then the sensation is not produced. Does that mean that sugar has lost the Form of sweet-ness? Of course not. The Form of sweetness indicates the ability to activate a specific response. The same sugar molecule could have produced the sensation of sweet-ness in normal taste receptors. In no way does the sugar molecule gain and lose its Form of sweet-ness based on the molecule alone, but rather it activates the Form or the Form remains dormant based on whether or not its latent property (based on its composition) has the proper proportion with respect to the presence of the matching proportion (i.e. reciprocals). Thus, a Form rooted in the end which it produces will always rely upon a proportion that incorporates natural relationships to other proportions that go beyond itself.

W.D. Ross does not support the mathematical intermediacy theory, insofar as he does not see Plato explicitly proposing an ontology consisting of physical objects, mathematics, and Forms. For one, Ross believes that mathematical principles are subsumed under the category of Ideas, or Forms, because mathematicals are spoken of in the singular and not the plural (suggesting that each mathematical is its own Idea); and, secondly, he argues that mathematical principles are usually qualified with “αὐτὸ,” which is the way Forms are customarily qualified (i.e. αὐτὸ καθ᾽ αὑτὸ). However, I do not believe these points are grounds enough to dismiss the mathematical intermediacy theory.

Plato speaking of mathematical principles in the singular is in line with the claims already presented from Book VI and VII of the Republic because the mathematical principles are

---

100 Mathematically, when a number $n$ is multiplied by a factor of $1/n$ it equals one. This is the best way to conceive of how different factors operate with one another to compose something singular and whole (i.e. one). In the sugar example, the reciprocal would be the shape of the taste bud/receptor in the mouth, not some other molecule or entity. Therefore, the sugar and the taste receptor which is shaped to receive the sugar molecule are reciprocals in that they operate together to compose a sensation that is both singular and whole (i.e. sweet-ness).

101 See W.D. Ross Plato’s Theory of Ideas pg. 59-60.
*intelligible*. The designation of “αὐτὸ” does make that sort of distinction in the passages concerning the line diagram, but “αὐτὸ” is not always a telltale sign of Form-hood because Plato often uses it as a tool to simply single out one fundamental aspect of a thing. But, since mathematical principles are intelligible, they are not going to be plural in an intelligible sense or else there will be multiple instances of the same idea. If there were multiple instances of the same Form, be it mathematical or non-mathematical, many Forms for the same thing would engender a Third Man type of argument which cannot happen in the intelligible realm.

It is not wrong to equate the type of existence of mathematicals in the *intelligible* realm with the type of existence of Forms, but mathematical Forms have two qualities which *separate* them from Forms: concrete objectivity and concrete intelligibility. Mathematical Forms can be completely grasped, which means that their properties are expressed by rigidly fixed and exact area formulas. The non-mathematical Forms of the νόησιν division are not. To return to my example from earlier, a coin will have many Forms. Take two of the Forms that constitute it: round-ness and coin-ness. Round-ness is really the same as circular-ness. The Form of a circle can be identified by its area formula such that the Form of round-ness in the coin *is* the mathematical equation $\pi r^2$. Thus, the Form of round-ness is *completely* obtainable theoretically. However, the Form of coin-ness is not. Coin-ness goes beyond *quantifiable* language into *qualifiable* language. *Quantifiable* language embodies concrete and complete truth claims (i.e. one plus two will always equal three). *Qualifiable* language cannot produce truth claims that go beyond mere tautologies; it makes concrete assertions using imperfect designators which can only lead to the construction of opinions, not truths. The distinction between *quantifiable* and *qualifiable* language is derived from my interpretation of the matter and it seems to be the point Plato labors to convey in *Epistle VII* with the discussion concerning the difference between the
real essence (ὀντός) and the quality (ποιόν τι). Plato notes five different stages, each increasing in ontological excellence, and stipulates that the first four can be elaborated at great lengths using qualifiable language, but as soon as a person is courageous enough to attempt an account of the fifth and greatest kind (i.e. a precise ontological account) using the same language, that person would quickly be made to look like a fool.\textsuperscript{102} The reason the person would look like a fool is because qualifiable language can only express qualities that are perceived (i.e. αἰσθήσεις) of a thing, and perceived qualities are not the things themselves (i.e. a thing’s precise ontology).

In the end, despite the doubts which rest upon insufficient textual evidence, Ross’ conclusion is that even though the διάνοιαν division is set over mathematical principles and the νόησιν division is set over unhypothetical, first principle Forms, both of the divisions (i.e. both διάνοιαν and νόησιν) are Forms. Ross notes that the division is one strictly based on their attainability and the method to which they are attained. Other than that, there is no difference between them.\textsuperscript{103} This conclusion neglects one crucial element to the line diagram: each division of the line diagram represents a differing degree of reality. On Ross’ account, based on his conclusion, mathematical Forms are no less real than Forms such as justice, virtue, etc. The line diagram passages greatly suggest that the line represents ontological magnitude, and methodology is not adequate enough to account for a varying degree of reality; explaining why the methodology is different would speak to this issue. Methodology is not a measurement of reality, and the physical world provides the best example of this.

Drawing upon Plato’s own cave analogy, a person sees a shadow on the wall, and a person sees the object that casts that shadow. Since both instances use the same methodology (i.e. seeing), does that mean both objects are equally real? Of course not, especially on Plato’s

\textsuperscript{102} See Plato Epistle VII 343c-e.
\textsuperscript{103} See W.D. Ross Plato’s Theory of Ideas pgs. 63-65.
account. The actual object possesses more reality than its shadow. Ross’ conclusion could not account for this. In fact, the reasoning behind Ross’ conclusion would commit him to concede that there is no ontological division within the visible realm, since objects and images of objects are inherently conceived through the same structures.

Ross’ notion that there are intelligible Forms for mathematics is not necessarily misplaced, because the Ideas of mathematics have to exist for mathematics to actually exist, but mathematicalss are less real than the Forms because mathematicalss are mere descriptions of ontological structures; they are not the structures themselves. However, the composition aspect of Forms is what makes it possible for Forms to exist in the material world. What Plato will want to say is that structures define Forms but are not the Forms themselves. This leads directly into the subject of the next section which concerns Plato’s line diagram as degrees of reality.

IV.

N.R. Murphy supposes that Form representations in physical objects are no less real in the physical world not because the Forms themselves are more real than the Forms instantiated in physical objects, but because Forms are imperfectly thought of. Essentially, Murphy appears to make an ontological claim that all Forms (i.e. the Forms themselves and instantiations of Forms) are uniform with respect to reality, but the Forms existing in particulars are skewed by humans’ epistemological capabilities. Murphy states:

The general rule on which [Plato] is working seems clear enough. Whenever we speak of an unreality it is not with reference to things but to false thoughts. ‘Unreal’ applies only to the objects of false thinking or unfounded suggestion of some kind. It is predicable of what would be real if a false thought were true. But physical things are not brought into existence by thinking, whether true or false, but by making. It may be difficult to have many true thoughts about them, but they are not themselves affected by our ignorance.\textsuperscript{104}

\textsuperscript{104} See N.R. Murphy \textit{The Interpretation of Plato’s Republic} pg. 129.
This statement arrives towards the end of Murphy’s account of opinion (δόξα) and knowledge (νοητῶ). Murphy appears to be making the claim that opinion conceals what is really real in objects, and knowledge would seem to reveal what is really real in those same objects. What Murphy wants to argue in defense of this view is that without there being opinion and knowledge of the same thing there could not be a “learning or discussing” or “the dialectic process itself.”

What Murphy is drawing attention to here should not be surprising; he seems to be pushing for necessary immanence between Forms and their instantiations in particulars. Without immanence of Forms in particulars, there could be no cogency in Plato’s metaphysics. Even though Murphy is right about the need for immanence, that does not mean that Forms have to be completely real in the material particulars; in fact they are not, for reasons expressed earlier.

Murphy is suspicious of this notion of “degrees of reality;” however, Plato has two accounts in Republic that establish the existence of differences in degrees between beings. The first appears immediately after the line diagram, namely the allegory of the cave. The allegory is given to illuminate the line diagram through an example. Despite its familiarity, I will give a brief overview of the allegory for the sake of continuity. The allegory of the cave involves men being chained together (in the depths of a cave) such that they are seated and cannot move their heads. The only view they have is a cave wall which is illuminated by a brazier in the back of the cave; the men have no knowledge of the source of light, let alone the brazier. As the men are forced to view the lit wall, there are other men carrying various shaped objects that cast shadows as they pass through the light. These shadows become the basis of reality for the men who have no idea that the shadows are the production of physical objects blocking out portions of the light. Shadows are the men’s only exposure to objects. Then, one man is able to free himself and

---

105 See N.R. Murphy The Interpretation of Plato’s Republic pg. 116.
106 See N.R. Murphy The Interpretation of Plato’s Republic pg. 126.
comes to realize that everything he has known is not as it once seemed to him. The man realizes that the objects that he believed were concrete are only reflections of an actual object (i.e. the objects being carried in front of the fire). After some time, this man will find his way out of the cave by working upwards (keeping consistent with the line diagram). Upon his exit from the cave, the man will see the true objects of the world, such as trees, rocks, animals, and so on. Finally, the man will look up to the sun (or the Form of the Good as depicted in the line diagram) and take note that the sun is the cause of all things.

What does the allegory of the cave have to do with the structure of Plato’s metaphysics and ontology? Gregory Vlastos explains that:

Plato does not speak of ‘grades’ or ‘degrees’ of reality. He says such things as these: The Form is ‘completely’ real, or ‘purely’ real, or ‘perfectly’ real, or ‘really’ real, it is ‘more real’ than its sensible instances, which are said to ‘fall between the purely real and the wholly unreal,’ because their state is such that ‘they both are and are not.’

What Vlastos means by “Plato does not speak of ‘grades’ or ‘degrees’ of reality” is that Greek contains a richer sense of the verb “is” (εἰμί) than most languages, like English, permit. So, Plato will not speak of degrees in the sense that Forms are first degree being, physical particulars are x degree of being, and so on; instead, Plato intently employs different forms and participles of the verb “to be,” such as εἶναι (being), ὄντος (really), οὐσία (being-substance), ὅν (pure being), and so on, to distinguish different ontological states from one another. An instance of this occurs in the allegory of the cave where the actual figures are said to be more real (μᾶλλον ὄντα) than the shadows that they cast. The important item to note here is that the objects are more real,
not the man’s perception of them. If Murphy’s stance were correct, Plato would have been addressing the man’s *assessment* of his situation as more real, not the objects. This sort of account continues in the allegory of the cave. As Vlastos notes,¹¹⁰ truth is an indicator of reality since absolute truth will be attributable to absolute being. A thing which *is* true. That being said, when the man departs the cave and first comes into the light, he is said to be unable to perceive the things which are said to be true (ἀληθῶν). Once again, the objects are said to be more true, not the man’s capability to apprehend the being of the objects.

Some may attempt to support Murphy’s stance by appealing to the following passage that comes at the end of the allegory of the cave:

{oúkóðn, ἐπον, ὦ Γλαύκων, οὗτος ἢδη αὐτός ἐστιν ὁ νόμος ὃν τὸ διαλέγεσθαι περαίνει; ὃν καὶ ὄντα νοητὸν μιμοῖτ’ ἂν ἣ τῆς ὀφθαλμών δύναμις, ἢν ἐλέγομεν πρὸς αὐτὰ ἢδη τὰ ζώα ἐπιχειρεῖν ἀποβλέπειν καὶ πρὸς αὐτὰ τὰ ἀστρά τε καὶ τελευταίοι τὸν ἥλιον. οὕτω καὶ ὅταν τὸ διαλέγεσθαι ἐπιχειρήματι ἀνεσθείη ἄκινθὲς τὸν ἀντίκτων διὰ τοῦ λόγου ἔπ’ αὐτὸ ὁ ἢδη ῥηθαί ἐκαστὸν ὄρμαν, καὶ μὴ ἄρσεντι πρὶν ὅτι αὐτὸ ὁ ἢδη ἢδη αὐτὴν νοήσῃ λάβῃ, ἔπ’ αὐτὸ γίγνεται τό τοῦ νοητοῦ τέλει, ὥσπερ ἔκεινος τότε ἐπὶ τὸ τοῦ ὀρατοῦ.¹¹¹}

Then isn’t this at last, Glaucon, the song that dialectic sings? It is intelligible, but it is imitated by the power of sight. We said that sight tries at last to look at the animals themselves, the stars themselves, and, in the end, at the sun itself. In the same way, whenever someone tries through argument and apart from all sense perceptions to find the being itself of each thing and doesn’t give up until he grasps the good itself with the understanding itself, he reaches the end of the intelligible, just as the other reached the end of the visible.¹¹²

One could argue that this strongly suggests that the reality of objects is something which is cultivated through intelligible practice or discipline. By means of dialectic, an individual can start to grasp the *things themselves*, such as the animals themselves (αὐτὰ ἢδη τὰ ζώα), the stars themselves (αὐτὰ τὰ ἀστρα), and eventually the sun itself (αὐτὸν τὸν ἥλιον). (On this account, the use of “αὐτὰ” signifies *pure being*, as with “αὐτὸ καθ’ αὐτὸ” which was discussed in the previous chapter). On this view, the Forms would be in the things and dialectic would reveal the latent truth that exists in them already. However, this view is problematic. First, the quote above

¹¹⁰ See Gregory Vlastos “Degrees of Reality in Plato” pg. 5.
¹¹¹ See Plato *Rep.* Book VII 532a-b.
¹¹² The translation comes directly from G.M.A. Grube pg. 204.
concerns dialectic not the metaphysical and ontological structure of existence itself. Of course, dialectic is an epistemological process, so this will support Murphy’s reading of Plato, but Plato says that dialectic leads to a “πρὸς” account. What I mean by a “πρὸς” account is that Plato is not saying that dialectic leads to the things themselves, but that it leads in the direction of the things themselves. This is an important distinction. Dialectic moves the mind to the realm of the intelligible almost as if it is transporting it or extracting it out of the physical world, thus it is apart from sense perceptions (αἰσθήσεων). So, the visible world cannot be said to contain the purest being because it is dependent upon sense perceptions, and Plato is, indirectly, claiming that the greatest being is free of such physical constraints. One cannot say that the visible contains the same degree of reality as the intelligible as Murphy contends because Plato is obviously drawing a distinction between the two.

The second example from Republic that supports my point is in Book X; it concerns three kinds of beds: (1) the divine, (2) the one made by a craftsman, and (3) the one depicted by the painter. The “divine” corresponds to the Form and the bed of the craftsman is only a bed (κλίνην τινά), not the Form (οὐ τὸ εἶδος).\textsuperscript{113} The question is then asked if the carpenter’s production is “completely that which is” (τελέως δὲ εἶναι ὂν)? Would one risk to say something that is “not true” (οὐκ ἂν ἀληθῆ)?\textsuperscript{114} The response is that the craftsman’s bed is not akin to what is completely real, and to make such a claim would be to say something that is not true. This coincides with what was said previously. Ultimately, truth is the purest being and it is associated with Forms. A particular, like the particular bed produced by a craftsman, is not of the same caliber of being as that to which the particular owes its being (i.e. the Form). This discussion is rooted in imitation (μιμητής), and what Plato is trying to get across is that an imitation is real to a

\textsuperscript{113} See Plato \textit{Rep.} Book X 597a.
\textsuperscript{114} Ibid.
lesser degree than the model it is imitating. This is why the painting is said to have the least
degree of reality because it is twice removed from the original; it is an imitation of an imitation.
With each copy, from the initial instantiation of the particular to its n\textsuperscript{th} imitation, a Form’s
proportion begins to deteriorate and deform as each source the copy derives its measure from
does not represent the exact proportion attributable to the abstract Form itself; so, to make any
sort of claim that the physical world, which is filled with copies, is just as real as the models
which they copy would be inconsistent with what Plato is explicitly saying in Book X.\textsuperscript{115}

The copy metaphor may be unclear, but it is obvious that the copying process leads to
lesser degrees of reality than the original. In summary, the copy of a Form will be an instance.
That instance will be most real if it is most near the paradigm proportion of a Form (e.g. a coin
will be said to be a most real circle if it has a circumference which is infinitely close to being
equal distance from the center). The opposite will hold true as well. The instance will be less real
if it is further from the paradigm proportion of a Form (e.g. a coin will be said to be less real a
circle if it has been placed on railroad tracks and turned into more of an oval). Now, no instance
can copy a proportion perfectly due to its imperfect material constituents (i.e. fire, air, water, and
earth). The copy will always possess a lesser degree of reality. Consider the example of a seal
impressing on wax.\textsuperscript{116} Some materials are better at receiving an impression than others.
However, the wax is not the seal, and no matter how receptive the wax is it will never be the
seal.

One final point remains to be made. As it stands, there is something unsatisfying about
the mathematical intermediacy theory with respect to this mixture aspect of ontology. While a
particular that can capture a paradigm proportion will be akin to the Form that is set over it, not

\textsuperscript{115} See W.F.R. Hardie \textit{A Study in Plato} pgs. 57-60 for another account on this copy method with respect to reality.
\textsuperscript{116} See Plato \textit{Timaeus} 50b-51b.
all Forms are dependent upon a single entity. There are Forms which seem dependent upon a plurality of entities to be instantiated in a particular to any sort of reality in the physical world. A Form to be instantiated, like justice, is dependent upon relations between individuals such that the definition that justice is keeping to one’s own affairs, requires the existence of affairs. For Forms such as justice to be the product of affairs requires there to be proportions to be set over those affairs in order to keep consistent with the mathematical intermediacy theory. Such proportions surely could not be in the particulars, at least not explicitly, but in how particulars’ natures interact with one another. So, there must be some sort of ontological principle existing in the fabric of ontological existence that regulates such Forms to be instantiated in the physical world. I will spend the last chapter making the case that this agent is Necessity.
Chapter Three: Necessity and Teleology

The previous chapter discussed what Plato’s “mathematical intermediacy theory” is. The “intermediacy theory” captures Plato’s Pythagorean appeal to proportion and measure as the means through which being is instantiated in particulars. The theory, as it was described previously, is explained as particulars assuming the proportionate and measured nature as established by the paradigm Form. The answer to the “why” question is tacit; to account for ontology. For this reason, this concluding chapter will be directed at the question of how ontology can be based on sheer proportion and measure? How can ontologically transient objects (i.e. objects in a constant state of flux) maintain an identity akin to that of a specific Form? How can immaterial things (e.g. justice, virtue, etc.) have proportions when they have nothing tangible for those proportions to be inscribed on (i.e. no materiality)? A being will be an instance of a particular Form if it has a matching proportion, but how can a world of change ever allow for something fixed? These are the difficult questions. To begin to answer them, Plato’s Forms cannot be seen as fixed in particulars, but rather developed or held in check by some cause. Thus, this discussion needs to be recast in teleological terms. As for what this cause is, I will argue that, for Plato, being is instantiated in the world of becoming by means of Necessity.

To most fully explain the role of Necessity, I will approach this chapter on two separate fronts. One front will be the textual evidence that suggests both the prominence of Necessity in Plato’s work and the apparent ties that Necessity has with the thought of Parmenides and Pythagoras. The other front will address what Necessity actually accomplishes; what the efficacy
Necessity has with regard to Plato’s metaphysics and ontology. Ultimately, I will argue that Necessity (as depicted in the myth of Er) is inveterate to the philosophy of not only Plato, but also the influences on Plato that I have tried to argue for throughout (i.e. Parmenides and Pythagoras). Also, I plan to make the case that what Plato is saying in the myth of Er is more than a fiction constructed to argue for the immortality of the soul; the story of Er has metaphysical and ontological implications as well. Finally, I will argue that Necessity is the answer to the question I opened this chapter with; that is, how near identical proportions and material happenings can emulate the paradigms of being that are associated with specific Forms.

I.

χούτως ἐμπεδον αὕθι μένειν κρατερὴ γὰρ Ἀνάγκη πείρατος ἐν δεσμοῖσιν ἔχει, τὸ μὲν ἁμφὶς ἐργεῖ, οὐνεκεν οὐκ ἀπελεύθητον τὸ ἐὸν θέμις εἶναι· ἐστὶ γὰρ ὅκ ἐπιδεές· μὴ ἐὸν ἃν παντὸς ἔδειτο. Ταύτων δ᾽ ἐστὶ νοεῖν τε καὶ οὐνεκεν ὅστι νόημα.  

And thus it remaineth constant in its place; for hard Necessity keeps it in the bonds of the limit that holds it fast on every side. Wherefore it is not permitted to what is to be infinite; for it is in need of nothing; while, if it were infinite, it would stand in need of everything. It is the same thing that can be thought and for the sake of which the thought exists;…

AND

καὶ φύσιν, εἰδήσεις δὲ καὶ οὐρανὸν ἁμφὶς ἔχοντα ἔνθεν ἔφυ τε καὶ ὅς μὲν ἁγουσ᾽ ἐπέδήσειν Ἀνάγκη πείρατ᾽ ἔχειν ἀστρον.  

…moon, and of her origin. Thou shalt know, too, the heavens that surround us, whence they arose, and how Necessity took them and bound them to keep the limits of the stars . . .

The two quotes above come from Parmenides’ On Nature. The focus is on the prominence of Ἀνάγκη. As it is being used here, “Ἀνάγκη” is directed towards a goddess. The role of this goddess, as Parmenides suggests in the first quote, is to keep matters “constant” (ἐμπεδον) and in

---

118 This translation is loosely based on Burnet’s.
120 This translation is loosely based on Burnet’s.
“bonds” (δεσµοῖσιν). The same “bonding” (ἐπέδησεν) action is manifest in the second quote as well. Its significance can be seen in Book X, when Socrates describes the trip Er makes. Socrates says that Er arrives at a large column of light to which all souls voyage in order to take the next step. There, Socrates states:

ἐκ δὲ τῶν ἄκρων τεταµένων ἀνάγκης ἄτρακτον, δι᾽ οὗ πᾶσας ἐπιστρέφεται τὰς περιφορὰς

And from the extremities was stretched the spindle of Necessity, through which all the orbits turned.

The role of Necessity, as used by Plato, strongly parallels with the role that Parmenides assigns it in his own cosmological structure. Necessity’s role is to tie everything together. It would seem rash to assert Plato is directly appealing to Parmenides here; however, Plato’s mentioning of Necessity seems misplaced. In fact, the whole myth of Er seems misplaced, since the kalipolis that Socrates details throughout Republic sought to rid itself of all mystic stories. It can be safely assumed that the entire myth of Er would violate Plato’s principles regarding imitation as well. So, what could Plato be doing here? That is a question that will likely never receive a definite answer, but, one would be hard pressed to make a case that Plato knowingly contradicts himself. Therefore, it should be assumed that Necessity makes an appearance for a reason. Necessity oversees souls being assigned to bodies for a reason. Necessity is not a happenstantial character for Plato, just as it is not happenstantial in Parmenides’ work. Like I said, it is unlikely that the parallel uses of Necessity by both Plato and Parmenides are an indication of Plato directly appealing to Parmenides, although this could be a possibility. Nonetheless, even if Plato is not referencing Parmenides in the concluding passages from Republic, Necessity, a force that bonds and keeps things constant, plays a pivotal role in both Plato’s and Parmenides’ ontologies.

121 See Plato Republic Book X 616c.
Parmenides is not the only one that has a link to Book X, Pythagoras’ influence is apparent as well. In Book X, Plato states:

στρέφεσθαι δὲ αὐτῶν ἐν τοῖς τῆς ἁνάγκης γόνασιν. ἐπὶ δὲ τῶν κύκλων αὐτοῦ ἀνωθεν ἕρ’ ἐκάστου βεβηκέναι Σειρῆνα συμπεριφερομένην, φωνὴν μίαν ἱείσιαν, ἕνα τόνον: ἐκ πασῶν δὲ ὀκτὼ οὐσῶν μίαν Ἀρμονίαν συμφωνεῖν.122

The spindle itself turned on the lap of Necessity. And up above on each of the rims of the circles stood a Siren, who accompanied its revolution, uttering a single sound, one single note. And the concord of the eight notes produced a single harmony.123

Unlike the link between Parmenides and Plato with respect to the use of Necessity, this is a strong indication of Plato’s Pythagoreanism. The Sirens are composing what is generally referred to as the “music of the spheres.” This is the notion that perfect harmony can arise from constant notes at particular pitches: harmony, in motion, from sounds that are fixed.124

The point to be made in this section is that: the origin of ‘separation’ can be pinned on Parmenides and the central elements to the mathematical intermediacy theory is attributable to Pythagoras. In this section, my aim has been to motivate that these are genuine connections. Plato has strong ties to both. My principal argument stems from Republic, and this section has worked to further tie together all of the aspects of this argument. I will return to Book X in the final section of this chapter, but, for now, I turn the focus to Timaeus, where, once again, Necessity and number meet. Timaeus, being a Pythagorean himself, gives a cosmogony that reveals some of the inner workings of his ontology. It is in Timaeus that Plato addresses ontology in terms of causes and teleology. The two causes are: Intelligence and Necessity. Ultimately, I will argue, Necessity is, for Plato, the cause that engenders all becoming to take on Forms and become actualized as being.

122 See Plato Republic Book X 617b.
123 This is the translation of G.M.A. Grube.
II.

Before discussing Necessity as a cause in *Timaeus*, I believe it is important to look closely at what Plato is doing between 616b and 621b. The intention behind giving a detailed interpretation of this selection of text is not to merely give an interpretation, but to ground what I have said and what I will say going forward. The myth of Er is not just a story that illustrates Plato’s theory of the immortality of the soul; it is saying quite a bit about the metaphysical and ontological in that it attempts to showcase how beings come to be.

First, Er and the party of souls he is accompanying, still on their journey, see a large column of light. The light is said to be “bright” (λαμπρότερον) and “pure” (καθαρωτέρον). Light is an important motif for Plato in his other prominent story, the allegory of the cave in Book VII. Even the term for “Form,” εἶδος, has ties to vision through “εἶδω” (to behold), and to knowledge through “εἰδέναι” (to know). Of course, light is imperative for vision, and there is no reason to doubt that Plato is intentionally employing this motif. As such, if this light is described as *pure* and *bright*, and if a Form (εἶδος) has a connection to light and vision, it seems plausible to suggest that this column of light that all souls venture to is the place where Forms are to be instantiated in bodies. This seems likely since the column of light “stretched over the whole of the heaven and earth” (διὰ παντὸς τοῦ οὐρανοῦ καὶ γῆς τεταμένον φῶς εὐθὺ). Stretching over both heaven and earth makes it sound like this light is attributable to both realms. The mathematical intermediacy theory postulates a bridge to explain how Forms get instantiated in particulars, this column of light seems to be *where* the bridge is located.

Once Er and the other souls arrive at the light, Plato gives a better picture of the column. For one, the light is said to “bind the heaven” (ἐκ τοῦ οὐρανοῦ … τῶν δεσμῶν) like the cables girding a trireme, holding its entire revolution (περιφοράν) together. What this hints at is the
existence of a rigid structure held together by tethers that bind. The light is not just a light that can carry out all of the processes that take place, a complex network of tethers “spread” (τεταμένα) outwardly to maintain an order that is not straightforward but that comes from all directions to focus efforts towards a single goal. The locus for the activity of the coordinated movement of the tethers is the “spindle of Necessity” (ἀνάγκης ἀτρακτον) by which “all revolutions are turned” (ὅτε οὖ πάσας ἐπιστρέφεσθαι τὰς περιφοράς). Not only does the talk of revolutions connote a cyclical shape, but the “turning” process suggests agency. To whom does this agency belong? Necessity. Granted, the argument for Necessity’s agency is better explained by what is discussed in Timaeus, but the idea is still planted here that Necessity is not just in the light per se, but is the Craftsman, the devoted worker, actively spinning the fabric of existence.

In other words, Necessity is not part of the process, but carries out the process.

Necessity delegates roles to her three daughters: Lachesis, Clotho, and Atropos. Each of the daughters sang of a specific orientations of time; Lachesis over the past, Clotho the present, and Atropos the future. What is most interesting about Necessity’s daughters, other than their lineage, is that they aided the spinning of Necessity in different ways. Clotho helps spin the outer circumference, but releases her grip from time to time; Atropos aids in the turning of the inner circumferences; and Lachesis helps with both motions, one with each hand. Each of these seem to have significance.

First, souls must report initially to Lachesis who has a number of lots to decide the selection order for new, specific lives. Each soul picks up a lot number that falls at their feet. Then, the souls decide from “models” (παραδείγματα) based on the lot number they pick up.125

---

125 Plato’s intention seems to posit the assigning of order selection as inherently random, but, at the same time, Plato makes special mention that the souls pick up what lands at their feet. It is probably best understood such that the randomness stems from the ‘throwing’ aspect of Lachesis, but a somewhat fixed aspect with regard to the souls merely picking up the lot that falls closest to them. Given Plato’s discussion of ‘noble lies’ in earlier passages of
The models are more numerous than the souls present; however, it is important to note, Plato does not say that there are an infinite number of models to choose from. What this would insinuate is that, even though Necessity provides for a multitude of models, it does not mean it can provide for any and all models at all times. Therefore, the potential lives that could become actual is limited by what Necessity permits. This point will become clearer later when Necessity’s restriction of the intelligible cause, as it appears in *Timaeus*.

Second, Clotho, being attributable to the present, helps turn the outermost circumference, but periodically takes her hand away; this parallels something the Stranger says in *Statesman*. In *Statesman*, the Stranger states that the universe is not free from change because it is a body as well as a soul. The body of the universe is affected by change due to the divine cause *letting go* of the body. The Stranger states:

\[\text{τοτὲ µὲν ἢπ᾽ ἄλλης συµµοδηγείσθαι θείας αἰτίας, τὸ ἐξὶν πάλιν ἐπικτόµενον καὶ λαµβάνοντα ἀθανασίαν ἐπισκευασµὴν παρὰ τοῦ δηµιουργοῦ, τοτὲ δ᾽ ὅταν ἀνεθῆ, δι᾽ ἔσοµον αὐτὸν ἴναι, κατὰ καιρὸν ἀφεθέντα τοιοῦτον.}\]

…the universe is guided at one time by an extrinsic divine cause, acquiring the power of living again and receiving renewed immortality from the Creator, and at another time it is left to itself and then moves by its own motion,…

The “divine cause” (θείας αἰτίας) that Stranger is speaking of could very well be attributed to Clotho here in Book X. Granted, Plato references the Craftsman here, but the allegory of Clotho parallels the doings of the Craftsman as well; so, if one were to push against my interpretation, it would be with respect to name and not deed, which would seem rather arbitrary.\(^{127}\) Even more significant is the fact that when the divine cause does not have its hand on the universe, the...

---

\(^{126}\) See Plato *Statesman* 270a.

\(^{127}\) I do not believe that Clotho is the same entity as the Craftsman. Simply, I aim to demonstrate that Plato is giving a parallel account for how the universe operates. Clotho and the Craftsman are two different entities, but, importantly, Plato keeps consistent the belief that the universe is at times in the clutches of a divine figure, and then let go.
universe still turns due to its “own power,” or own “fitness” or “appropriateness” (κατὰ καρόν). The term “καρόν” has a great deal of significance in Philebus, where the good life is the life which is both measured (μέτρον) and fit (καίριον); second place goes to proportion (σύμμετρον). So, the universe continues to be, not falling into chaos or absolute becoming, primarily due to the proportionate nature instantiated in particulars, as expressed by the mathematical intermediacy theory. This is the reason I am emphasizing teleology and Necessity together; once proportions are instantiated in the body of the universe, beings with those proportions will continue to be and to be regulated by Necessity. In turn, Necessity is that cause which unfolds a determined string of events. This is also deducible from the fact that Clotho is a descendent of Necessity, yet, even when Clotho does not aid in the turning of the outside circumference, Necessity’s spindle continues to turn.

Atropos aids in the inner turning of the inner circumferences, but her biggest contribution comes after the souls pass over Clotho. Atropos makes it so that everything which is spun, the graphing of souls to their models, is “irreversible” (ἀμετάστροφα). So, Necessity’s daughter, Atropos, singer of the future, solidifies the determined nature of the future. Thus, the transition from the heavenly to the physical, the graphing of souls onto bodies, is something that binds both realms together, and it is a process that takes place under the guidance of Necessity.

In this section, the takeaway should be this: Necessity oversees the work of the Fates, so Necessity is in charge of all the affairs that take place in the column of light. The interpretation I wish to advocate for is that each of the three Fates are symbolic of a specific function performed by Necessity. The past, present, and future of the interconnected physical and non-physical bodies is regulated by Necessity. What is interesting is that Necessity is introduced as a divine

---

128 See Philebus 66a-b.
figure of sorts in Timaeus, and what is interesting is that in the opening of Timaeus Socrates gives a recap of the events of Republic. Granted, there has been much speculation over the years as to what role the literary components play in Timaeus (most notably the myth of Atlantis), but it seems highly plausible that Plato is, at the least, making the audience aware that some of the conversation from Republic carries over to Timaeus.

III.

In this section, I will argue that Plato’s metaphysical ontology, as it appears in Timaeus, suggests that the final cause for being in the natural world is Necessity; not Forms themselves nor the divine model that houses them. This is critical to the overall scope of the thesis because Forms as paradigms cannot give a full explanation for ontology. By the end, this section is to argue that Forms need something more for the mathematical intermediacy theory to properly account for being. Before the investigation can unfold, there are two key parameters that need to be stated.

The first parameter is the way in which I will engage the term ‘cause’ (αἰτία). Some scholars opt for reading ‘αἰτία’ as ‘because,’ rather than ‘cause.’129 ‘Because’ suggests that an αἰτία is a post-instantiation explanation for why a thing has a specific nature. I in no way wish to cheapen these scholars’ claim on this issue because the evidence is compelling in their favor; instead, I merely wish to augment this view from post-instantiation to pre-instantiation such that ‘αἰτία’ is “the reason why something will be of such and such a nature” in addition to “the reason why something is (has become) of such and such a nature.”130

---


130 Some may question how this distinction is ultimately relevant because the two views may be of the same thing. I assure that it is not. The reason they are not is pretty much the basis for the entire discussion (or at least the first
The second parameter is how I will engage the concept of ‘cause’ with respect to teleology. A.E. Taylor identifies two fundamental components to the account in Timaeus: “(a) that the sensible world, being sensible, ‘becomes,’ or, as we might say, is a world of ‘happenings’ or ‘events;’ (b) that whatever ‘becomes’ has a cause, by which Timaeus means that it is the product of an agent.” Taylor’s identification of these two points sets the stage for the analysis to follow. The sensible world is a world of becoming with “happenings” and “events,” and those “happenings” and “events” must have some sort of cause, or reason, for why they occur. What is that cause?

Given these parameters, I suggest there are three possible sources responsible for teleological commitments in the physical world: Forms, the divine model (i.e. all Forms and their interconnected natures with one another) with Reason, and Necessity. Both Forms and the divine model have been put forward as solutions to the central question I propose; the third is a scarcely recognized option. Of course, all of these factors play fundamental roles in teleology, but I will argue that Necessity plays the greatest of roles because it is the cause which ultimately allows for being in the world of becoming.
Gail Fine suggests that Forms direct a particular’s change in ontological state (i.e. Forms actualize ever-changing potentials in substance). Fine states: “In the *Timaeus* the teleological role of Forms is extended to the natural world. For there, Plato introduces the demiurge as the creator of the cosmos… He must, then, have looked to the best possible model to guide his creating; and these are the Forms… Once again, then, Forms are paradigms, or goals aimed at, and so are T-aitia.”

Fine’s positioning Forms in the teleological role reflects this idea that Forms are goals. Goals are aimed towards; thus, they motivate ends. So, being(a), simultaneously in the state of becoming(b), must draw upon some Form as its paradigm for order and structure; namely, the paradigm Form associated with being(b).

Fine’s position is *prima facie* acceptable, although, it should be noted that her approach to ‘αἰτία’ coincides with its interpretation as ‘because,’ rather than the one I put forward in the beginning. However, for the sake of the argument, simply, if every becoming must participate in a Form to ultimately achieve being, then Forms are necessary for teleology. I do not argue this point. What I do argue is that Forms being necessary for teleology does not make them teleological causes, which is what Fine claims. Do Forms possess the necessary influential capabilities to engender *becoming* to become *being*, or are they just goals? I do not believe

---

133 See Gail Fine “Forms as Causes: Plato and Aristotle” pg. 394. The term “T-aitia” is used in reference to “teleological/final cause.” Fine’s investigation uses some Aristotelian language and this is one of those cases.

134 Due to restrictions of length, I go rather quickly over why Forms cannot be the agent of teleology because many scholars have already written on this subject. All of which arrive to the same conclusion for the same fundamental principle that teleology requires a change in state and Forms cannot undergo a change in state. Some of these scholars are cited below and include Julia Annas “Aristotle on Inefficient Causes,” Gregory Vlastos “Reasons and Causes,” and Fiona Leigh “Restless Forms and Changeless Causes.”

135 In the quote above from Fine, it demonstrates that Fine is couching her discussion in Aristotelian jargon (i.e. T-aitia is a reference to Aristotle’s four causes: material, formal, efficient, and teleological), so I take Fine to assess Forms going beyond the formal cause and into the teleological cause, implying substantially different consequences.

136 This phrasing, albeit odd, is the best way to state what is going on for Plato’s ontological account. Since everything exists in the physical world, everything is *always* in a state of becoming; nothing is always fixed or pure being. However, if Forms are in particulars, particulars must have some sort of being which is fixed. This being is not eternal, but it is a state of being which can be said to represent and instantiate a particular Form. No Form should be considered to be in a state of becoming yet also be because a paradoxical paradigm gets established where things yet to be are somehow, at the same time, being. Instead, the more realistic approach to compensate for Forms
Forms can be teleological agents, and I am not alone on this issue. Julia Annas, in a discussion regarding causality (primarily in *Phaedo*), states:

…what [Forms] explain is the possession of a quality, not the causal history of how that quality came to be possessed. Plato’s own later account in the *Timaeus* underlines how distinct these issues are. For there he does try to provide an improved account of coming-to-be and the world’s causal history, while apparently abandoning the search for the explanations which in the *Phaedo* are provided by Forms.137

What Annas aims to convey in her argument is that Forms are fixed and eternal, which inhibits any sort of becoming. If Forms are fixed and eternal, then they should be in a constant state of being; yet, teleology, as outlined previously, is an account for a becoming achieving being. Anything that is fixed and eternal could never be in a state of becoming (which is the state of all physical things), it always is (in the noumenal world).138 Because of this, Forms could not possibly be the teleological cause for the cosmos because Forms are changeless. However, Forms should not be entirely condemned, especially since Forms are necessary to all being. As a consequence, some scholars assert that the divine model coupled with Reason (αἰτία) is the solution to the teleological question because it combines both Forms and a rational cause. However, these scholars also run into issues.

---

137 See Julia Annas “Aristotle on Inefficient Causes” pg. 318.
138 In Fiona Leigh’s investigation of *Sophist*, Leigh notes that the characters arrive to the conculsion: “only things in the realm of becoming undergo action and passion; things in the realm of being do not… The realm of becoming, by contrast, is for them the realm of change.” See Fiona Leigh “Restless Forms and Changeless Causes” pg. 245. Also, Gregory Vlastos claims that it is an absurdity for Forms to be spatio-temporal causes because of the fact Forms would have to govern over multiple particulars as both what is of a certain Form and the negation of it. Such a structure of possession and want with respect to the Forms could not account for any sort of becoming. See Gregory Vlastos “Reasons and Causes” pg. 304.
138 See Plato *Tim.* 28e.
The divine model encompasses not only the composite of all the Forms, but also all the interrelating natures existing amongst the Forms; not just individual, independent beings, but the relationships that those beings have with each other, which creates the entire fabric of rationality. This is imparted onto the physical world through the rational cause (νοῦς). For example, the Form of blueness and the Form of yellowness are independent Forms in themselves, but there is also the Form of greenness which has natural ties to the Forms of both blueness and yellowness (i.e. blue mixed with yellow can produce green). This relationship exists innately in the divine model. Essentially, the divine model is the interconnected web of all Forms with all Forms.

The best textual evidence for believing that the divine model is the teleological cause for the cosmos comes in Timaeus after the following question is posed: what “paradigms” (παραδειγμάτων) did the Craftsman look? Timaeus states:

Was it after that which is self-identical and uniform, or after that which has come into existence? Now if so be that this Cosmos is beautiful and its Constructor good, it is plain that he fixed his gaze to the Eternal; but if otherwise (which is an impious supposition), his gaze was on that which has come into existence. But it is clear to everyone that his gaze was on the Eternal; for the Cosmos is the fairest of all that has come into existence, and He the best of all the Causes. So having in this wise come into existence, it has been constructed after the pattern of that which is apprehensible by reason and thought and is self-identical.

So, what Timaeus is stating here is that there are two different models the Craftsman could look towards in reference to production: either the physical world (i.e. the world of becoming – γεγονός) or the noumenal world (i.e. the realm of the eternal - ἄιδιον). Now, two issues need to be discussed further from this passage: a) how can one be sure that Timaeus is speaking of the divine model and b) what role does the Craftsman have in respect to the divine model?

---

139 See Plato Tim. 47e.
140 See Plato Tim. 28e.
141 See Plato Tim. 29a
142 Credit for this translation goes to R.G. Bury.
The first issue is rather easy to respond to. The intelligible realm must be identified with the “Eternal” (ἀίδιον) because, as noted above, the passage is concerned with what sort of “models” are under consideration here. The term for “models” is “παράδειγμάτων” which has great significance with respect to Plato’s Forms. Aristotle identifies Plato’s Forms as paradigms stating:

δοσὶ φανερὸν ὃτι οὐθὲν δεῖ ὡς παράδειγμα εἶδος κατασκευάζειν

Therefore, it is apparent that not one Form is bound as a paradigm. What Aristotle wants to say is that Forms are not as Plato posits them (i.e. as paradigms), but are only in particulars. Aristotle’s reasoning for or against Plato’s position is not of interest, the quote provides sufficient reason to accept that ‘Forms’ and ‘paradigms’ are interchangeable terms.

From the passage at 29a (cited above) there is even more textual evidence which evinces the ‘divine model’ as the directing agent for the Craftsman’s instantiation process. Not only does Plato appeal to the “Eternal,” which is the state of all Forms, but also to what is apprehensible by both “reason” (λόγῳ) and “thought” (φρονήσει) and always “towards sameness” (κατὰ τὰ ὕτα). The dialectic in Republic Books VI and VII provides sufficient evidence that Forms are that which are apprehensible through “reason” and “thought,” so that seems to parallel the text of Timaeus. Then, “like same” is of the same nature as “towards self” (i.e. καθ’ αὐτό). In Philebus, “καθ’ αὐτό” is used to denote the eternal and changeless class of being, just as in Timaeus. Even Aristotle identifies “καθ’ αὐτό” with Plato’s Forms. Thus, the quote above from Timaeus clearly constitutes Form-talk.

143 See Aristotle Met. 1034a1-2.
144 See Plato Phl. 53d.
145 See Met. 1060a11-13.
This leads into the second issue: what is the role of the Craftsman? Or, more specifically, why is the Craftsman not the teleological agent? There can be no doubt that the Craftsman plays a pivotal role with respect to causality; it is apparent from the quote above when Timaeus says that the Craftsman is “the best cause” (ἄριστος τῶν αἰτίων). However, the Craftsman is not a teleological cause (i.e. final cause); the Craftsman is an efficient cause. It is important to distinguish the two. Being able to produce does not mean that what is produced are purposeful ends. Creating existents or beings does not determine ends just as an oak tree does not control the destiny of all the acorns it releases upon the earth; creation is like putting the chess pieces into place, not determining the outcome of the match itself. This does not mean the Craftsman is expendable; the Craftsman is necessary because without efficient causes there are no beings, and without beings there exists no teleology. However, whether a potential being gets actualized in a particular is out of the Craftsman’s hands, it is a product of whatever is mandated by the divine model. T.K. Johansen notes: “A craftsman is required for making becoming like being. Becoming on its own does not ‘have it in it’ to be or bring about something beautiful.”146 Forms are not able to actualize themselves in the state of becoming because Forms are pure being; becoming cannot spontaneously take on being, something must cultivate it. Johansen likens the Craftsman to a conveyer of information, essentially an input-output machine. Ultimately, Johansen argues that the intelligible cause (i.e. the actualizing of the divine model) acts through the Craftsman to impart order.

Even though Johansen makes some key points, the divine model (as it is imparted by Reason) cannot be what finalizes teleology because, just like Forms, the divine model is entirely

146 See T.K. Johansen “Why the Cosmos Needs a Craftsman” pg. 308.
potential. To return to a previous example, if the Craftsman is the cause identifiable with putting the chess pieces on the board, the divine model is all the rules that regulate possible moves and possible outcomes of a match, but is not the individual moves and outcomes themselves. The intelligible cause will only reflect the stipulating of the predetermined rules (e.g. bishops moving diagonally, rooks moving vertically and horizontally, etc.) inherent to the game. Before being able to make my case for Necessity, I must elaborate on two important points: a) that Necessity is described as a wandering cause and b) Reason persuades (πειθοῦς) Necessity.

First, Timaeus distinguishes two principal causes: Reason (νοῦς) and Necessity (ἀνάγκης). Second, Timaeus also distinguishes the cause pertaining to the Intelligent Nature (ἔμφρονος φύσεως αἰτίας) apart from the auxiliary cause (συναίτια). Then, finally, Timaeus describes Necessity as taking on the form of a wandering cause (πλανομένης ἀιτίας). This begs the question: what are the roles for the lesser three causes?

In Johansen’s words: “An intelligent cause is informed by the results it brings about. It acts in a certain way because so acting brings about certain results.” Basically, the intelligible cause is an extension of reason that establishes the structure and order for all being. Skipping over the auxiliary cause for the moment, the wandering cause becomes a point of contention inasmuch as it is unclear what “wandering” means or how Necessity “wanders.”

---

147 When I say that the divine model and the Forms are “entirely potential” I do not mean that they do not possess actual being, because Forms and the divine model embody being itself. My use of the term “potential” is to say that the Forms and the divine model possess the potential to be instantiated (i.e. actualized) in the physical world. To say that Forms and the divine model are not potential in this sense would be to say that the divine model and all the Forms are actual in the physical world which would wholly contradict the fact that the physical world is in a state of perpetual becoming since the intelligible (i.e. Forms and the divine model) are fixed and unchanging.

148 See Plato Tim. 48a.

149 See Plato Tim. 46d-e.

150 See Plato Tim. 48b.

151 See Johansen “Necessity and Teleology” pg. 94-95.

152 I interpret “auxiliary causes” as the combination of Reason and Necessity, but neither fully one nor the other. Allan Silverman seems to put forth a similar account for this interpretation. For another account of Necessity and Reason as causes see Allan Silverman The Dialectic of Essence Chapter VII.
Necessity should be fixed because if something is necessary, it means it could not be any other way. Johansen argues that the “wandering” aspect is due to the cause being “aimless” in that “it is not directed towards the aims set by the intelligible cause.”\(^{153}\) Only the intelligible will produce truly consequential results (i.e. instantiated being); Necessity should be viewed as “cause and effect” without the provision that a being (i.e. a Form) must be manifestly instantiated.\(^{154}\) In other words, the intelligible cause imparts all the necessary ontological transitions that a particular instantiation of being\(^{(a)}\) must undergo to be actualized as being\(^{(b)}\), whereas Necessity does not possess an ontological compass, yet maintains the entire deterministic fabric of the world of becoming. An example of Necessity would be that an acorn falls to the earth instead of ascending into the outer space. Just because the acorn falls to earth does not mean it will ultimately become an oak tree because the acorn could very well fall on a concrete parking lot or be eaten by a squirrel, not land in fertile soil. Thus, Necessity regulates the determinate qualities of the physical world, but does not have the intelligible foresight to see the ontological end. Now, where I will press on later is the fact that just because it does not see the end does not mean it does not regulate it.

Returning to the auxiliary causes, auxiliary causes will be those causes that are a byproduct of the intelligent cause persuading the wandering cause towards being, but are not the finalized \textit{telos} of a particular. Auxiliary causes are only the causes which set others in motion.\(^{155}\) Going back to the acorn looking to actualize its potential to become an oak tree, the act of the acorn falling from the tree towards the ground would be the doing of the wandering cause. For the acorn to land in a suitable place to germinate and start to receive necessary nutrients (i.e.

\(^{153}\) See Johansen “Necessity and Teleology” pg. 93.
\(^{154}\) See Johansen “Necessity and Teleology” pg. 94. See Francis Cornford “Plato’s Cosmology” as another source which delineates the intention behind “wandering” with respect to Necessity.
\(^{155}\) See Plato \textit{Tim.} 46e.
water, nitrogen, etc.) would be auxiliary causes; they are all necessary for the acorn to turn into an oak tree, but do not provide the complete actualization of the oak tree by themselves.

Taking a step back and looking at the big picture, why are there these three causes? The ‘intelligible cause’ corresponds to the divine model, the ‘wandering cause’ corresponds to the physical world devoid of intelligibility, and the ‘auxiliary cause’ corresponds to the mixture of the two. This ‘corresponding’ nature between cause and what the cause is set over is such that each cause has a particular teleological ability that is sui generis with respect to the other two causes. The bigger picture becomes that an auxiliary cause does not have the ability to realize the divine model in its totality (that is the duty of the ‘intelligible cause’) nor the ability to cause the determinate qualities innate in physical nature (that is the duty of the ‘wandering cause’); but, on the same token, neither the intelligible cause nor the wandering cause can intermingle and produce the necessary intermediate steps that ‘auxiliary causes’ perform to bring about being in the world of becoming. Viewing the account from this perspective is beneficial because it is clear how Necessity is set over the world of becoming. What does this mean? It means that the ‘intelligible cause’ is not wielding Necessity like a tool, but is negotiating with it so that order (being) can be established in it. In principle, being is attempting to “unnaturally”156 supervene on the world of becoming, but can only do so if Necessity permits. This is why Reason must persuade Necessity.

So, what is the significance of this ‘persuasion’ aspect? Timaeus states:

καὶ δὴ καὶ τὸ τῶν ἀναλογίων περὶ τὰ πλήθη καὶ τὰς κινήσεις καὶ τὰς ἄλλας δυνάμεις πανταχῆ τὸν θεόν, ὄσπηπερ ἡ τῆς ἀνάγκης ἐκούσα πεισθεῖσα τε φύσις ὑπείκεν, ταύτῃ πάντῃ δὴ ἀκριβείας ἀποτελεσθεῖσσον ὑπ᾽ αὐτοῦ συνηρμόσθαι ταύτα ἀνὰ λόγον. 157

156 I put “unnaturally” in quotes here because one should not take “unnatural” to mean that being is unnatural. The use of “unnatural” here is to emphasize that the physical world is naturally in a state of becoming.

157 See Plato Tim. 56c.
And, moreover, as regards the numerical proportions which govern their masses and motions and their other qualities, we must conceive that God realized these everywhere with exactness, in so far as the nature of Necessity submitted voluntarily or under persuasion, and thus ordered all in harmonious proportion.\textsuperscript{158}

The ontological aspect of the quote demonstrates that the being of the divine model is conveyed by the Craftsman through proportions (ἀναλογίων), so being is imparted by way of the Pythagorean model of mathematics. Why is something of such and such a nature? Because it has a harmonious (συνημόσθαι) proportion akin to a certain paradigm of being (i.e. a Form). How does this occur? Necessity submits voluntarily (ἐκοῦσα) or is persuaded (πεισθεῖσά).

Despite the wording, one should not perceive Necessity to have psychological agency because it submits “voluntarily.” Nor is Necessity something that should be viewed as possessing a cognitive deliberation process deciding whether or not the intelligible cause has persuaded it. As Johansen notes: “Timaeus refers to the persuasion of necessity as voluntary in so far as necessity is made to behave in accordance with its own nature.”\textsuperscript{159} What Johansen means is that the ‘intelligible cause’ (via the Craftsman) activates being in the world of becoming by playing to Necessity’s natural propensities. The ‘intelligent cause’ cannot force (βία) a paradigm being onto Necessity (i.e. in the world of becoming) if the elements targeted to take on a being are not apt for it. Thus, the ‘intelligent cause’ is \textit{limited} by the capabilities of the natural world (i.e. Necessity).

To return once more to the example of the chess match, the intelligent cause is what constitutes all the possible moves that any given piece could make; however, in the very beginning of a match, a pawn occupies the space immediately in front of, and a knight in the position immediately to the right of, a rook; thus, at that point a rook cannot actualize the potential to move in either direction, the rook has become necessarily restricted. The restriction

\textsuperscript{158} Credit for this translation goes to R.G. Bury.
\textsuperscript{159} See T.K. Johansen “Necessity and Teleology” pg. 99.
of the rook is not intelligible, it is a product of its particular position on the board with respect to other pieces. Once those spaces open up, the rook is no longer necessarily restricted and can actualize the being given to it by the divine model to the extent that the board will allow.

To illustrate this point further and express the idea in terms of the Craftsman, take the classic oak tree example again. The teleological goal for the Craftsman is to instantiate the Form ‘oak tree’ in the actual world; however, Necessity does not permit the immediate instantiation of the tree. Instead, the instantiation of the Form ‘oak tree’ begins its journey as an acorn. Now, the fact that there is a mediated journey (i.e. steps – ‘auxiliary causes’ – necessary to the Form’s actualization) rather than an immediate instantiation suggests that something restricts the Craftsman. That restriction is most likely the result of one of two issues: a) the necessary elements needed for construction (i.e. fire, air, water, earth) of the oak tree are not available in the physical reality at the time the Form is attempted to be instantiated by the Craftsman or b) the elements (i.e. fire, air, water, earth), or laws of nature in general, possess physical limitations which makes immediate instantiation impossible. Either way, Necessity restricts the Craftsman in such a way that immediate instantiation of a Form is impossible unless doing so is within the bounds set by Necessity.

Given what has been said up to this point, it can be asserted that both Reason (i.e. the divine model and cause) and Necessity are required for teleology. To be sure, both Necessity and Reason are required for teleology because without Reason there could be no being in the physical world (i.e. the domain of Necessity) because the physical world is strictly becoming. Also, Reason could not be at an impasse with Necessity because Necessity overrules Reason when it comes to the world of becoming; this is why the physical world is prone to flux instead

---

160 That is not to say that the Forms are not required, but the Forms are entailed by the divine model.
of order. Order must be maintained through Necessity’s cooperation with Reason, flux, on the other hand, is the default state of the physical world. So, if both Reason and Necessity are necessary causes for teleology, how can it be decided which is the ultimate teleological agent?

Johansen believes that, in some respects, the ‘intelligent cause’ is identifiable with Aristotle’s teleological cause (i.e. T-aitia) in particular because: a) the cause gives purpose to the ends it serves, b) both take that purpose to be directed towards good ends, and c) the cause is prior to both the causation and explanation of a particular being.\footnote{See T.K. Johansen “Necessity and Teleology” pg. 109.} Johansen also asserts that final causes “operate as aitiai via god’s intelligence” and that “final causes presuppose the agency of an intellect.”\footnote{See T.K. Johansen “Necessity and Teleology” pg. 109-110.} So, Johansen is arguing that the cosmos needs the Craftsman and the Craftsman works using the divine model to produce teleology. Therefore, teleology would be a product of the divine model.

While Johansen is not wrong, the ‘final cause’ Johansen is detailing is radically different from the one this paper looks to identify. Looking back to the criteria established in the introduction; the aim of this paper is to identify the teleological agent that is both: a) compatible with the pre-instantiation view (i.e. that which will produce a teleology, not that which explains a teleology) and b) the cause that engenders “happenings” and “events” in the world of becoming. Johansen’s appeal to “final causes” is driven mainly towards explanation (i.e. the post-instantiation view) and goal setting. Johansen thereby neglects the fundamental necessity of Necessity because, in the end, Necessity meets the criteria more so than the divine model. Necessity is the cause set over all becoming, and since all teleology is rooted in the world of becoming, Necessity must be the ultimate agent that permits being and allows for teleology to be realized in physical particulars.
While it is true that, without the divine model and the Craftsman there can be no teleology, Necessity allows Reason to impart being into the world of becoming.\textsuperscript{163} If a nature is unsuited to transmit the paradigms into the world of becoming, those paradigms will not be instantiated because Necessity will not allow it. Once again, this is a matter of restriction. Reason is restricted by Necessity. Reason must persuade Necessity. This “restriction” signifies that being (in the world of becoming) is dependent upon Necessity most of all. As was said earlier, the divine model is pure being (i.e. fully actual) in the noumenal world. The divine model itself never goes from becoming to being; that only occurs in the physical world. Teleology was taken to be “events” or “happenings;” because of this, the divine model could never undergo such changes because the divine model is always fixed and never changes. It is Necessity that regulates ‘events’ and ‘happenings’ and causes them to occur.

Teleology thus gives birth to being which is regulated by Necessity. That being is a reflection of both the paradigmatic expression of particulars and the degree to which a being captures a specific Form’s paradigm proportion; the greater the degree of paradigm consonance, the greater the degree of actualized being. The issue of similar but not identical proportions still instantiating the same Form is grounded in a particular’s teleology. That is, a particular will be said to have a satisfiable proportion instantiated in it if and only if the teleology associated with the instantiated Form can be actualized. The greater the efficiency with which a particular engenders the Form, the greater degree of being the particular will have, due to its being more akin to the Form, and vice versa. Therefore, being (the instantiation of a Form) is accomplished

\textsuperscript{163} Brisson will echo most of the sentiments already presented before. He touches on Necessity but assigns it a secondary role as something wielded by the Craftsman who is directed by the intelligent model. Brisson goes awry because he attempts to go beyond nature. By going beyond nature for his account, Brisson misses Necessity’s place in nature (i.e. the mixture called physical reality) he over extends the role of the intelligible model. Ultimately, Brisson will suggest that the intelligible model assigns mathematical ratios to the intelligible Forms so that they can become instantiated in physical reality. See Luc Brisson “Plato's Natural Philosophy and Metaphysics.”
through a particular body (the receptacle) assuming a paradigmatic proportion; that proportion is permitted and transmitted into the realm of becoming as a product of Necessity’s doing. All Forms are a product of both composition and teleology. A particular’s composition is self-contained, whereas teleology is a product of a particular’s engagements with other particulars. In both circumstances, proportionality is the *raison d’être* for Plato’s ontology.
Chapter Four: Conclusion

This discourse on Plato has been aimed at three primary goals: a) to identify and investigate the nature of the ‘separation’ criticism, b) to explicate and advocate for Plato’s mathematical ontology, and c) to suggest that what regulates Plato’s mathematical ontology is a material cause (i.e. Necessity). The takeaway I hope to leave readers with is that there is much more going on in Plato’s metaphysics than a simple participation relationship between a particular and a Form. While most recognize that Plato’s theories were fine-tuned with time, I do not believe that Plato abandoned his original position; instead, he took his theory of Forms from Republic and gave more insightful descriptions as to the inner workings of a theory that was rather general in the beginning. I do not believe that it is just to say that Plato ever rejected his initial approach, and I believe the evidence that I have presented strongly supports this claim.

Some may try to differentiate between what one would call ‘mathematical Forms’ and ‘ideal Forms;’ I do not disagree that there are differences between the two, but, in reality, they are merely two sides of the same coin. Whenever the mathematical Form is realized, so is the ideal Form; and, whenever the ideal Form exists, there exists a corresponding mathematical Form in the real world such that, if it became realized, so would the ideal Form. Therefore, the Forms present in Republic should not be considered to be of a different breed than the ones from Timaeus. In reality, they are both the same Forms, just different ways of viewing ontology (either from the perspective of the noumenal realm or from the perspective of the material realm).
In the end, the contribution I hope this investigation can make to the existent literature is to emphasize the role of teleology in Plato’s ontology. While all being is derived from the noumenal realm (i.e. Forms), it is reasonable to argue that the being Plato was trying his hardest to give an account of is the being that we engage with in the physical realm. This is not to say that Plato wanted (or at least sought) to reach the knowledge of Forms, for to know the essence of a thing is to have true knowledge; but, especially in the later dialogues, Plato is asking fundamentally different questions (mainly about the physical world). Teleology seems to be the necessary link or concept for Plato to be able to unite his metaphysics with the physics of the real world while maintaining differentiated beings (as opposed to Parmenides), both becoming and being (influenced by Heraclitus), and mathematical proportions (adopted from Pythagoras).

In the introduction I gave the example of water freezing at different temperatures depending on the altitude of where the water was located; I believe that it is because of examples like these that teleology is the only means of understanding Plato’s ontological system. There must be a confluence of different influences all acting on one another since Plato is not subscribing to Parmenides’ ‘One;’ so, in the example given there is the chemical composition of water, the bond angles of H\(_2\)O, the wind speed, the amount of pressure, and the temperature all acting on the water molecules at once, dictating whether or not water is a solid (ice), liquid, or gas. Each state is a different Form, and they must be because each can produce different effects; that is, they each have a different teleology. In this situation, all the environmental influences can be measured to some degree of accuracy such that a skilled chemist can calculate exactly what the state of affairs has to be for the water to turn to ice. There is an infinite number of states of affairs that would lead to water changing to ice; it all is a matter of whether or not all the proportions are satisfied in relation to one another. Therefore, there is not only one way for a
Form to come to be, but many. If this is the case (which I am confident that it is), it is not enough for a particular to possess a correct proportion to be an instantiation of a Form, but it also requires that the proportion that constitutes a particular is in suitable, proportional conditions conducive for the transmitting of a Form in the physical realm.

In the end, an appeal to teleology is the only way I see Plato being able to have a functioning ontology, and it is also a concept he would have been very familiar with. It seems like if one were to reject my position they would have to propose an alternative that I have not been able to conceive of. I concede that this is very much a possibility, but the conception I have argued for with regard to teleology seems to be able to tackle any counterexample that one could raise against Plato’s account; therefore, I do not believe it to be fruitful to find an alternative when I believe the notion of teleology fits so well. Although, with that being said, I do not claim that this essay encompasses all that could be said on this topic; there is much evidence that still warrants analysis. Simply, I just wish to assert that the account I have given is a good foundation for approaching Plato’s metaphysics and ontology.

Much more work is left to do. The account I have given of teleology is underdeveloped. Plato’s natural philosophy, something discussed sparingly in contemporary literature, seems to be what he was building towards in his later work, especially in the entirety of *Timaeus.* I believe that, with this additional emphasis on teleology, a very potent conversation can take place with respect to Plato’s use of ‘φύσις’ (nature) and ‘πέφυκε.’ (to be by nature) Plato’s use of these terms seems to be methodical and deliberate, at certain times, such that to say a particular has a specific *nature* or that something occurs *naturally* or something happens *by way of nature* (κατὰ φύσιν) has metaphysical and ontological significance. This could be a fruitful direction in which

---

164 For an example, see the use of Necessity in *Laws* 818e.
research could go from here, using what has been discussed in the preceding discourse as a sturdy foundation from which to begin.
References


84