

Chapter One

Plato's Divided Line

1. The Line

Plato's allegory of the cave distinguishes three orders of intelligibility: there are shadows on the cave's rear wall, cast by statues carried between a fire and the wall, and the things outside the cave imitated by the statues.¹ His divided line is a more complex and abstract expression of these differences:

Conceive . . . that there are these two powers I speak of, the Good reigning over the domain of all that is intelligible, the Sun over the visible world. . . . [Y]ou have these two orders of things clearly before your mind: the visible and the intelligible? . . . Now take a line divided into two unequal parts, one to represent the visible order, the other the intelligible; and divide each part again in the same proportion, symbolizing degrees of comparative clearness or obscurity. Then one of the two sections in the visible world will stand for images. By images I mean first shadows, and then reflections in water or in close-grained, polished surfaces, and everything of that kind, if you understand. . . . Let the second section stand for the actual things of which the first are likeness, the living creatures about us and all the works of nature or of human hands. . . . Will you also take the proportion in which the visible world has been divided as corresponding to degrees of reality and truth, so that the likeness shall stand to the original in the same ratio as the sphere of appearances and belief to the sphere of knowledge? . . . Now consider how we are to divide the part which stands for the intelligible world. There are two sections. In the first the mind uses as images those actual things which themselves had images in the visible world; and it is compelled to pursue its inquiry by starting from assumptions and

travelling, not up to a principle, but down to a conclusion. In the second the mind moves in the other direction, from an assumption up towards a principle which is not hypothetical; and it makes no use of the images employed in the other section, but only of Forms, and conducts its inquiry solely by their means.²

And:

[T]he Sun is not vision, but it is the cause of vision and also is seen by the vision it causes. . . . It was the Sun, then, that I meant when I spoke of that offspring which the Good has created in the visible world, to stand there in the same relation to vision and visible things as that which the Good itself bears in the intelligible world to intelligence and to intelligible objects. . . . Apply this comparison, then, to the soul. When its gaze is fixed upon an object irradiated by truth and reality, the soul gains understanding and knowledge and is manifestly in possession of intelligence. But when it looks towards that twilight world of things that come into existence and pass away, its sight is dim and it has only opinions and beliefs which shift to and fro, and now it seems like a thing that has no intelligence.³

An example focuses these claims. Imagine a life-preserver hanging from a yardarm and reflected in a pond:

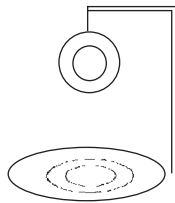


Figure 1.1. The Lower Part of the Divided Line: Physical Objects and Their Appearances.

The life-preserver and its reflection are the two levels below the divided line. They exhaust materiality, and provide all the content for perception. Aristotle described such things as primary substances and their perceptual effects. They are the only realities he acknowledged.⁴ We move beyond the divided line when the form of things perceived is abstracted from their instantiations:

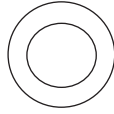


Figure 1.2. Geometricals.

Abstraction also facilitates the fourth and last step. We simplify the concentric circles, reducing them to one:

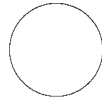


Figure 1.3. A Form.

These figures, representing its four sections, confirm that the line is more than allusive. Figure 1.4 supplies other details:⁵

<i>subject matters</i>	<i>states of mind</i>	<i>method</i>	<i>value</i>
Forms:	Knowledge:		
i. the Good	i. Intuitive	i. Rational intuition	
ii. Others	ii. Discursive	ii. Dialectic	
Mathematicals	Mathematical knowledge	Deduction	
Physical objects	True opinion or belief	Perception	
Images	Opinion or belief	Imagination	

Figure 1.4. The Divided Line.

The arrows representing *value* indicate that all activity intends the Good (the upward-pointing arrow), and that lower orders derive their character from it (the downward arrow). Every next lower order is a further privation of the Good: there is little character or value in the back of the cave.

Thought as awareness—*nous*—is insufficiently represented. It appears only once in figure 1.4—under *method*, as rational intuition—though it has successively attenuated expressions at every lower level of the line. For everything that is, is as perceived. Figure 1.4 should be three-dimensional, with successive degrees of awareness (from more or less confused perception through deduction to rational intuition) represented by a plane parallel to the plane of the line. This alignment would express the isomorphism of perception and its object: rational intuition, like the Forms, is eternal; imagination and sensation are as corruptible and changeable as things imagined or seen.

2. The Line's Transmission

A. Plotinus

Plotinus was the principal source of information about Plato for Augustine, though he was subsequently neglected or unknown until Ficino's translations of the *Enneads* in the late fifteenth century. These remarks about him emphasize considerations that were decisive for Descartes.

Plotinus's restatements of the divided line describe the ascent from sensibles to intelligibles:

All human beings from birth onward live to the realm of sense more than to the Intellectual. Forced of necessity to attend first to the material, some of them elect to abide by that order and, their life throughout, make its concerns their first and their last....And those of them that pretend to reasoning have adopted this as their philosophy; they are like the heavier birds which have incorporated much from the earth and are so weighted down that they cannot fly high for all the wings Nature has given them. Others do indeed lift themselves a little above the earth; the better in their soul urges them from the pleasant to the nobler. . . . But there is a third order—those godlike men who, in their mightier power in the keenness of their sight, have clear vision of the splendour above and rise to it from among the cloud and fog of earth and hold firmly to that other world, looking beyond all here, delighted in the place of reality, their native land, like a man returning after long wanderings to the pleasant ways of his own country.⁶

The three orders of this passage somewhat parallel the three orders of Plato's cave: Plato writes of images, the statues they represent, and the things represented by the statues. These are metaphors, respectively, for images or impressions, material things, and the Forms. Plotinus conflates the first two orders by merging sensations with the material things perceived. He emphasizes the ascent to the intelligibles, but fails to distinguish mathematical from the Forms. We expect him to repair this omission in a later *Ennead*, saying, after the *Republic*, that mathematical are located above the divided line, and, after the *Timaeus*, that geometricals—triangles especially—are the structural basis for every qualitative infusion of space.

Plotinus does write of mathematical; but not in the way anticipated, given his Platonism:

Number must be either the substance of Being or its Activity; the Life-Form as such and the Intellectual-Principle must be Number. Clearly Being is to be thought of as Number collective, while the Beings are Number unfolded: the Intellectual-Principle is Number moving within itself, while the Living-Form is Number container of the universe. Even Being is the outcome of the Unity and since the prior is unity the secondary must be Number.⁷

And:

Next we come to Being, fully realized, and this is the seat of Number; by Number Being brings forth the Beings; its movement is planned to Number; it establishes the numbers of its offspring before bringing them to be. . . . As a unity, it suffers no division, remaining self-constant. . . . Thus Number, the primal and true, is Principle and source of actuality to the Beings.⁸

Plotinus writes copiously of number but says little of geometricals, because the transition from One to the diversity of many is a central mystery of his theory. The issue is joined when he affirms that the multitude of intelligibles (Forms) emanates from an undifferentiated One, and that the material world emanates from the intelligibles, each sometimes having many instances. Number—the one and the many—is, therefore, critical for the explication of Plotinus's three orders—the One, Being, and Soul. The status of geometricals is less plain, because Plotinus all but avers that space is a delusion: "How can the Soul take magnitude even in the mode of accident?" he asks, given that Soul is "immaterial and without magnitude." He amplifies:

But how account, at this, for extension over all the heavens and all living beings? There is no such extension. Sense-perception, by insistence upon which we doubt, tells of Here and There; but reason certifies that the

Here and There do not attach to that principle; the extended has participated in that cosmos of life which itself has no extension. . . . If, then, the divided and quantitatively extended is to participate in another kind, is to have any sort of participation, it can participate only in something undivided, unextended, wholly outside of quantity. Therefore, that which is to be introduced by the participation must enter as itself an omnipresent indivisible.⁹

This is the consequence of saying that extension is the Soul's manner of exhibiting Nature to itself. Here, where extension is merely an appearance, geometricals are best described numerically: "continuous quantity is measured by the discrete."¹⁰ For space is a "counterfeit unity, an appearance by participation."¹¹ It is a Soul's obscure representation of the Forms:

It is therefore by identification that we see the good and touch it, brought to it by becoming identical with what is of the Intellectual within ourselves. In that realm exists what is far more truly a cosmos of unity. . . . And what is there to hinder this unification? . . . We may be told that this unification is not possible in Real Beings; it certainly would not be possible, if the Reals had extension.¹²

Plato implied in the *Timaeus* that space is a reality coordinate with Forms that are more or less perfectly inscribed in it: "This new beginning of our discussion of the universe requires a fuller division than the former, for then we made two classes; now a third must be revealed. . . . What nature are we to attribute to this new kind of being? We reply that it is the receptacle, and in a manner the nurse, of all generation."¹³ Nothing in this implies that space is merely an appearance, or that geometricals are not its fundamental structuring principles. Plato has made a *deus ex machina*—the Demiurge—responsible for space's creation. Plotinus is more rigorously Platonic: space, he thinks, is a degenerate mode for exhibiting such things as participate in the Forms.

His ontology is also rigorously Platonic, as when he affirms the duality of eternal mind and instrumental body:

We may treat of the Soul as in the body—whether it be set above it or actually within it—since the association of the two constitutes the one thing called the living organism, the Animate. Now from this relation, from the Soul using the body as an instrument, it does not follow that the Soul must share the body's experiences: a man does not himself feel all the experiences of the tools with which he is working. . . . But, we ask, how possibly can these affections pass from body to Soul? Body may communicate qualities or conditions to another body: but—body to Soul? Something happens to A; does that make it happen to B? As long

as we have agent and instrument, there are two distinct entities; if the Soul uses the body it is separate from it.¹⁴

Soul is never diminished by its utilitarian relation to body, for like knows like so that Soul ascending to the Forms is, like them, eternal and incorruptible.

Soul's status is nevertheless problematic. For we need to ascertain the relation of All-soul, the animator of material being at large, to individual souls, the movers of particular bodies. Plotinus answers that each individual soul has all of the Forms within it, not merely a selection:

(T)he We is constituted by a union of the supreme, the undivided Soul—we read—and that Soul which is divided among (living) bodies. For, note, we inevitably think of the Soul, although one and undivided in the All, as being present to bodies in division, in so far as any bodies are Animates, the Soul has given itself to each of the separate material masses; or rather it appears to be present in the bodies by the fact that it shines into them; it makes them living beings not by merging into body but by giving forth, without any change in itself, images or likenesses of itself like one face caught by many mirrors.¹⁵

Just as the Form of sail is altogether in every sail,¹⁶ so are all the Forms imprinted in every soul. Each is, in principle, an autonomous knower: none need rely on any other for knowledge of one, several, or many Forms:

(T)o localize thought is to recognize the separate existence of the individual soul. But since the soul is a rational soul, by the very same title by which it is an All-Soul, and is called the rational soul, in the sense of being a whole (and so not merely 'reasoning locally'), then what is thought of as a part must in reality be no part but the identity of an unparted thing.¹⁷

Every particular soul is both conscious of its content, and conscious of itself:

(S)elf conversing, the subject is its own object, and thus takes the double form while remaining essentially a unity. The intellection is the more profound for this internal possession of the object. This principle is the primarily intellective since there can be no intellection without duality in unity. . . . [T]here must be a unity in duality, while a pure unity with no counterbalancing duality can have no object for its intellection and ceases to be intellective: in other words the primarily intellective must be at once simplex and something else.¹⁸

Plotinus may have believed that Plato would agree, though Plato does not say that the embodied shards of soul reflect on themselves while

intuiting the Forms. Accordingly, self-consciousness—the self-perception that attends every perception of the Forms—is a personalizing emphasis that distinguishes him from Plato. What is the status or role of the I hereby discovered? Plotinus explains that such thinking—self-thinking—is productive. “Thus the act of production is seen to be in Nature an act of contemplation, for creation is the outcome of a contemplation which never becomes anything else, which never does anything else, but creates by simply being a contemplation.”¹⁹ Self-consciousness is self-creation. “All the forms of Authentic Existence spring from vision and are a vision”²⁰: I am, because of perceiving that I am.

Plotinus is also sensitive to those intensifications of self occurring during meditations that abstract us from bodily states:

In order, then, to know what the Divine Mind is we must observe Soul and especially its most God-like phase. One certain way to this knowledge is to separate first, the man from the body—yourself, that is, from your body; next to put aside that Soul which moulded the body, and very earnestly, the system of sense with desires and impulses and every such futility, all setting definitely towards the mortal: what is left is the phase of the Soul which we have declared to be an image of the Divine Intellect, retaining some light from that source, like the light of the sun which goes beyond its spherical mass, issues from it and plays about it.²¹

Descartes will say that nothing is better known to mind than the mind itself.²² Plotinus anticipates him: “[W]e are most completely aware of ourselves when we are most completely identified with the object of our knowledge.”²³

Selfhood expresses itself in self-control:

In childhood the main activity is in the Couplement [of Soul to materiality], and there is but little irradiation from the higher principles of our being; but when these higher principles act but feebly or rarely upon us their action is directed towards the Supreme; they work upon us only when they stand at the mid-point. But does not the We include that phase of our being which stands above the mid-point? It does, but on condition that we lay hold of it: our entire nature is not ours at all times but only as we direct the mid-point upwards to downwards, or lead some particular phase of our nature from potentiality or native character into act.²⁴

This implies free will:

We begin with evil acts entirely dependent upon the souls which perpetrate them—the harm, for example, which perverted souls do to the good and to each other. Unless the fore-planning power alone is to be charged with the vice in such souls, we have no ground of accusation, no claim to redress: the blame lies on the Soul exercising its choice. Even a soul, we have seen, must have its individual movement.²⁵

These passages confirm that Plotinus anticipated the principal features that Descartes later ascribed to the cogito: souls are individualized, inscribed with innate ideas of the Forms, self-aware, endowed with free will, and distinguishable from the bodies they animate. Soul elevates us: we control bodily impulses, while seeking knowledge, not merely opinion. Why seek knowledge? Because having it locates soul within the exalted domain from which it derives. In Plotinus, as in Plato and Descartes, there is tension wherever intellect is joined to materiality. Soul rises:

Imagine, then, the state of a being which cannot fall away from the vision of this [the Eternal] but is for ever caught to it, held by the spell of its grandeur, kept to it by virtue of a nature itself unfailing—or even the state of one that must labour towards Eternity by directed effort, but then to rest in it, immovable at any point, assimilated to it, co-eternal with it, contemplating Eternity and the Eternal by what is Eternal within the self.²⁶

Body falls:

The souls peering forth from the Intellectual Realm descend first to the heavens and there put on a body; this becomes at once the medium by which as they reach out more and more towards magnitude (physical extension) they proceed to bodies progressively more earthy. Some even plunge from heaven to the very lowest of corporeal forms; others pass, stage by stage, too feeble to lift towards the higher the burden they carry, weighed downwards by their heaviness and forgetfulness.²⁷

Reason draws us up; bodily impulses drag us down. The self-conscious, self-controlled thinker is haplessly bound to its body:

(T)he steersman of a storm-tossed ship is so intent on saving it that he forgets his own interest and never thinks that he is recurrently in peril of being dragged down with the vessel; similarly the souls are intent upon contriving for their charges and finally come to be pulled down by them; they are fettered in bonds of sorcery, gripped and held by their concern for the realm of Nature.²⁸

Bodies are firmly material. Indeed, their materiality is sometimes understood in mechanical—physiological—terms: “The vehicles of touch are at the ends of the nerves . . . the nerves start from the brain. There brain therefore has been considered as the centre and seat of the organism as a living thing.”²⁹ Materiality is, nevertheless, ambiguous, for Plotinian matter is not a separate principle or entity existing alongside, or allied to soul (whether All-soul or individual souls). Recall that space and time are introduced—as degenerate modes for perceiving the intelligibles—when All-soul expresses itself materially. Accordingly,

Plotinus's dualism is qualified: it is better described as the variable state or change of state appropriate to the degree of reality things embody.³⁰

What could Descartes have learned of the divided line from Plotinus? The *Enneads* describe all of it, except for the geometricals.

B. Augustine and Proclus

The line's essential features were emphasized by Augustine in the Latin West, and by Proclus in the Hellenistic East: both write of an ascent from sensory experience to the Forms; both suppose that cosmic reason (nous) is fractured and personalized when Forms are instantiated in our finite minds and in nature. Augustine and Proclus agree that we are autonomous, self-conscious thinkers with responsibility for, and control of, ourselves. Augustine's concerns were focused by his Christianity: how do individual souls redeem themselves by repressing impulse while rising to the perception of God?³¹ Proclus was more philosophically ambitious. No matter if space is delusory from the standpoint of Being and the Forms: this is the arena where bodies integrate their parts and interact. Anticipating Descartes, he provided for the geometricals passed over when Plotinus emphasized number: geometry is essential to nature because bodies are extended.³²

The divided line is each one's keel:

And thus by degrees I was led upward from bodies to the soul which perceives them by means of the bodily senses, and from there on to the soul's inward faculty, to which the bodily senses report outward things—and this belongs even to the capacities of the beasts—and thence on up to the reasoning power, to whose judgment is referred the experience received from the bodily sense. And when this power of reason within me also found that it was changeable, it raised itself up to its own intellectual principle, and withdrew its thought from experience, abstracting itself from the contradictory throng of fantasms in order to seek for that light in which it was bathed. Then, without any doubting, it cried out that the unchangeable was better than the changeable. From this it follows that the mind somehow knew the unchangeable, for, unless it had known it in some fashion, it could have had no sure ground for preferring it to the changeable. And thus with the flash of a trembling glance, it arrived at *that which is*.³³

Twelve hundred years separate Descartes from Augustine and Proclus. Are they his sources or only his antecedents? Consider Descartes' revisions of Plato's figure, then some possible answers.

Chapter Two

Descartes' Revisions of the Line

1. Platonic Themes

A. *Knowledge versus Belief*

The first *Meditation* reminds us that opinion is less than knowledge, and that the beliefs surveyed—in everyday life and science—are opinion only: “[R]eason already persuades me that I ought no less carefully to withhold my assent from matters which are not entirely certain and indubitable than from those which appear to me manifestly to be false, if I am able to find in each one some reason to doubt, this will suffice to justify my rejecting the whole.”¹ Belief is less than knowledge, because casual assent to received “truths” is no substitute for the inspection—the intuition—of ideas set before the mind.² This is Descartes’ standard, as it was Plato’s: we take the measure of things by looking up the divided line to essences or Forms known with certainty, not down the line to the objects and enthusiasms of popular belief.

The myth of Cartesian skepticism starts here, in Descartes’ method of universal doubt. Wanting to distinguish knowledge from belief, he exaggerates the difference between them, as when he insists that all our beliefs about contingencies could be false. We wrongly infer that Descartes doubts the truth of most ideas we have of the world: typically, they are true contingently if at all. This misconstrues Descartes’ aim. He requires that we distinguish beliefs about contingencies—they may be mistaken—from necessary truths—their negations are contradictory. His skepticism is heuristic only. For opinions are often reliable. They are innocuous, unless confused with knowledge. The apparent skepticism of

the first *Meditation* is staged: systematic doubt emphasizes the distinction—graphic in the divided line—between knowledge and opinion.

B. *Mind-Body Dualism*

The difference of knowledge and opinion parallels the contrast between knowing mind and perceiving body. Like knows like, implying that mind inspects eternal ideas, grasping their content without distortion, when isolated from bodily effects. Compare data seen or heard. They vary with changes in eyes or ears, implying that the instability of perceptual judgments is an effect of body's instability. Dualism, for Descartes and Plato, is a strategy that makes knowledge possible. Minds liberated from bodies can have rational intuition and knowledge. Minds coupled to bodies are distorted and distracted. They perceive and believe, but cannot know.

The duality of thinking mind and body is one of four ways that body is traditionally set apart from a significant human activity or condition. Life, morality, and immortality are also said to have bases distinct from body. Descartes' dualism provides for three of these at once. The separability of thought and body implies immortality, because body's corruption doesn't affect the mind,³ and because Descartes assumes that a mind knowing eternal essences is also eternal. More, he affirms (see below) that the self-valorizing thinker is the highest good, other things being good or bad because of their effects on it. Live and let live—in the style of Mill's *On Liberty*—is the principle underlying the ethical theory this view promotes. Only the duality of body and its animating principle is unaffected by the duality of thought and body. For Descartes was not a vitalist. Body, including all its states and activities, is, he says, a mechanical system.⁴¹

2. Four Alterations: Descartes Amends Plato's Figure in These Critical Ways

A. *Imaginings and Material Particulars Merged as Empirical Differences*

Plato distinguished images from the physical objects that are their causes, as images on the walls of a cave are cast by statues carried before a fire. Descartes reduces these two to one. The wax experiment of the second *Meditation* emphasizes the shifting appearances of the

sensible world.⁵ Explaining one set of images (those on the cave walls) by referring them to physical objects (carved figures) makes no deep ontological point if the figures too are altered by heat or pressure. *Everything* below the line is a more or less ephemeral appearance. We look elsewhere for its stable foundation.

B. Forms Replaced by Geometricals

Plato divided the area above the line into two parts: mathematical and the Forms. Forms are instantiated in myriad primary and secondary properties (impenetrability, weight, color, and sound, for example). Descartes proposed that qualitative differences reduce to the spatial properties of figure, magnitude, and motion. This eliminates the qualitative Forms, leaving mathematical to fill the space between the horizontal line and the Good:

[B]efore examining whether any such objects as I conceive exist outside of me, I must consider the ideas of them in so far as they are in my thought, and see which of them are distinct and which confused. In the first place, I am able distinctly to imagine that quantity which philosophers commonly call continuous, or the extension in length, breadth, or depth, that is in this quantity, or rather in the object to which it is attributed. Further, I can number in it many different parts, and attribute to each of its parts many sorts of size, figure, situation and local movement, and, finally, I can assign to each of these movements all degrees of duration. . . . I counted as the most certain those truths which I conceived clearly as regards figures, numbers, and the other matters which pertain to arithmetic and geometry, and, in general, to pure and abstract mathematics.⁶

The third *Meditation* is subtitled in part, “*Of the essence of material things.*” This passage is Descartes’ cryptic way of saying that mathematical natures (hence kinematics) are necessary and sufficient to explain the diverse appearances of things. Extending the tradition of Pythagoras, the *Timaeus*, Iamblichus, and Proclus, we dispense with qualitative Forms and their derivative, Aristotelian essences.

There is also this corollary: Plato said that Forms are distorted when instantiated, because matter is unstable.⁷ But matter cannot distort the instances of Forms, if matter is identical with clear and distinct geometrical ideas.

C. *The Cogito Substituted for the Good*

Plato's figure is much simplified. There is no division below the line. The mathematical fill a larger space above it. Now, when they, with the Good, are the only entries above the line, Descartes makes the first of two momentous changes: he substitutes the cogito for the Good.

Plato's Good, like the Sun, grounds the being and intelligibility of every other thing: each of them is created and made visible by its light.⁸ Essentialism and instrumentalism are derivative criteria: athletes and warriors are good because of being instances of their kind; knives are good if they cut. Both criteria presuppose the Good that makes difference intelligible, and both apply to particular things or regions. Neither can be used to appraise the goodness of the whole, because the whole of Being is neither the instance of a kind, nor an instrument for some purpose beyond itself. Having no point of reference beyond the whole, we appraise it by taking the measure of some factor within it. Plato supposed that the goodness of the whole is the harmony of its parts, as the good of the state is the harmony of its citizens.⁹

Each of these four points survives when Descartes substitutes the cogito for the Good. Good ideas are the undistorted instances of their kind; instruments are good because of serving our aims; the whole is good if ordered; and I—the cogito—am good because of being the self-illuminating—self-conscious—ground of the rest. Nothing else exists if it is not in me as one of my qualifications. None of them is good or bad except as it is good or bad for me: "I observe . . . that the objects which stimulate the senses do not excite different passions in us because of differences in the objects, but only because of the various ways in which they may harm or benefit us, or in general have importance for us."¹⁰

The *us* in this passage is particular: I appraise utilities as they are good or bad for me. I am their final cause and measure, and, in this respect, their self-valuing, unconditioned Good.

D. *The Line Ensouled*

Descartes now makes a final change: he supposes that all the line is incorporated within the cogito. All intelligibility is here, within me. I think the geometricals, using them to explain the perceived sensibles (as implied by the wax experiment). I who embody the line am its final cause, its self-elected, unconditioned Good: other things—the states

qualifying me—are good or bad as they affect me. Where *esse est percipi*,¹¹ I am the ground and condition for everything that is or can be.

These are claims more often made on God's behalf. The justification for making them of the cogito is deferred to section 4.

3. The Line Redrawn with Descartes' Emendations

Descartes' emended line is simpler than the original (figure 2.1).

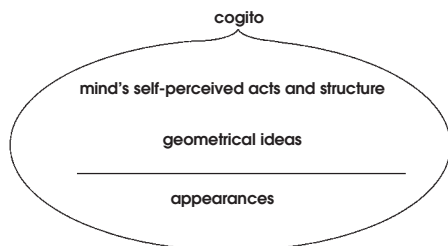


Figure 2.1. *The Divided Line Redrawn.*

Geometricals are the standard for clarity and distinctness among mind's contents, because some of their relations cannot be denied without contradiction. Appearances, occurring below the dividing line, are empirical data. Discerning their immanent, geometrical forms would explain their generation. Mind, possessed of its own light, strives to see one in the other. And always, mind perceives its own structure and acts, interests and desires. Every content thought or perceived is appraised: is it good or bad for me?

Notice the explicit anomaly: Descartes joins the universality and necessity of geometrical ideas to the particularity of the cogito. I never lose track of myself while contemplating universals, because I can't think of them without thinking of me and my interests.

4. The Equivocal Status of God and Space: The Richer and Leaner Theories

Locating all of the line within the cogito plainly violates two of Descartes' claims: he says that God, not the cogito, is the ground of being and intelligibility; and that space is a distinct substance, not merely the projection or assembly of geometrical ideas. I explain this discrepancy by proposing that there are competing metaphysical theories in the

Meditations. The ontologically richer theory invokes God and space as well as the cogito to account for our knowledge of external, material things: God guarantees the truth of geometrical essences, if mind certifies that its ideas of them are clear and distinct. This is Descartes' way of justifying the impression that we have knowledge of things existing apart from us. The leaner theory acknowledges only the cogito. Knowledge is achieved when mind confirms the clarity and distinctness of its ideas.¹² Clarity and distinctness are sometimes the intuitionist requirement that matters exhibit their character as they are inspected while standing before the mind: mind's own states—its thinking and passions, for example—are known because perceived. Other times, clarity and distinctness are a logical criterion: it is clearly and distinctly perceived that ideas are necessary when their negations are contradictions, as it would be contradictory that I think but do not exist. The leaner theory shrinks the domain of things known to those that satisfy this truth test: namely, the cogito and its clear and distinct ideas. There is no extra-mental reality—no extra-mental space—in which truths have application. (We nevertheless infer that the domain of their application is not restricted to one mind only. We extrapolate, describing the domain of their application as *rational space*. This, the domain of thought, is the Cartesian equivalent of Platonic nous. It comprises the aggregate of individual thinkers, each one knowing or capable of knowing the same necessary truths.) Which theory provides for the divided line? Both do, though one locates it within God, the other within the cogito. Why did Descartes advance these two, apparently contrary views? Did he bury his true beliefs about mind's self-sufficiency to avert the Inquisition, making God the linchpin of his story? Or is the leaner theory merely the part extracted by successors who stripped Descartes' views of their speculative assumptions about God and extra-mental space? The historical question is unresolvable, because the *Meditations* can be read in either way. It culminates in the second *Meditation* with mind's self-discovery, or in the third with the argument that an infinite God is the necessary ground for finite minds and their every knowledge claim.¹³

Evidence for the richer theory is pervasive in Descartes' texts. God is the necessary ground for contingent beings, the source of all motion, and the guarantor of clear and distinct ideas. Still, the issue isn't settled, because mind's self-discovery is evidence of its self-sufficiency—I exist as long as I perceive that I do, for nothing could make it seem that I am not when I perceive that I am.¹⁴ The method of universal doubt—doubt every claim whose truth mind cannot determine for itself—is also evidence for the leaner theory. For mind's truth test, clarity and distinct-

ness, is either presentational or logical: I don't need God to guarantee my ideas if the matters perceived are set directly before me without distorting mediation (mind's own structure, for example), or if my ideas are true because their negations are contradictions. The richer theory affirms that God guarantees the truth of clear and distinct ideas in an extra-mental space. The leaner theory abjures this guarantee, because it dispenses with everything extra-mental, including God and space.

There is only the uncertainty provoked by Descartes' contention that God could have created a world in which the principle of noncontradiction is suspended:¹⁵ one could not prove the necessity of one's beliefs by determining, in such a world, that their negations are contradictions. We can ignore this claim if we have already abandoned the richer theory, and with it the God so empowered. Or we establish the leaner theory and mind's autonomy in this other way. Assume the richer theory, but suppose that God has suspended the principle of noncontradiction. We thinkers are perpetually misled, for we believe that we have discovered necessary truths when we have not. This outcome subverts the richer theory. For it implies that God is a deceiver, hence imperfect and not God. Accordingly, we assume as before that the principle is not suspended. Proving our judgments necessary—because their negations are contradictions—we affirm their truth without needing God to guarantee them.

Notice that suspending the principle of noncontradiction entails that the principles of identity and excluded middle are also suspended. Everything that is should also not be; nothing should have a distinguishing identity because every property is and is not posited of it; contradictories should be everywhere intermingled rather than mutually exclusive. Having no evidence of this breakdown, we infer the steady application of all three principles. God and his guarantee are superfluous, because these principles (or noncontradiction alone) are sufficient to establish the necessity of candidate truths. Space, too, is dispensable, because geometrical truths are all we can know of it.¹⁶ The ontology of the leaner theory—the self-sufficient cogito—is reaffirmed.

It is relevant to practical life and science, though not to Descartes' Platonic views about knowledge and opinion, that this ontology is frustrated by its meager implications for knowledge. For the range of necessary truths accessible to a priori reflection is much narrower than Descartes supposed. His principal examples of necessity, the theorems of Euclidean geometry, are restricted to its flat space; they don't obtain in possible worlds where space is curved. Only the principles of noncontradiction, identity, and excluded middle, hence the truths of arithmetic, are necessary in the strong sense that they apply to all possible

worlds. Nor do we enlarge the array of confirmed necessities by scrutinizing empirical data to discern their immanent geometrical essences, as Descartes proposed in his wax experiment. He supposed that thought would discern a geometrical structure responsible for the divers forms of the wax (when heated or cold), and that altering this form in imagination would expose its structural limits, limits that could not be superseded without violating—contradicting—its geometrical essence. Yet, altering a suspected form generates a contrary, not a contradiction (as compressing a circle creates an ellipse, not a contradiction). Descartes' project is also confounded by the infinity of geometrical forms that might have generated any particular effect. Compare the fragment of a shape with the many figures having this fragment as a part. We might prove necessary truths about every such figure, but not that one or another is responsible for the data at issue. There is, finally, this obstacle to Descartes' passion for necessities. The objects of inquiry are contingent only, or contingent to any depth we can discern: which is preferred, tea or coffee? Jeune contingencies are the principal content of experience. The cogito would likely inspect them; but it could find nothing in them worthy of knowledge.

These are some reasons for saying that the cogito has very limited authority as validator of its ideas. This is, nevertheless, the engine tuned by Descartes' successors. Prizing mind's self-sufficiency, they fortify it or reduce its burdens. God is the switchboard operator in Malebranche's occasionalism,¹⁷ but he is excused from every intervention when Hume argues that causality is only contiguity.¹⁸ Space disappears as an extra-mental domain when Descartes' successors assimilate it to the cogito. Leibniz reduces space to a confusedly perceived ordering principle.¹⁹ Kant describes it as the form of external intuition²⁰ Almost no prominent philosopher after Descartes affirms that space is the extra-mental arena or matrix in which the physical world is arrayed. Newton thought otherwise, but this is evidence that realist physics and idealist philosophy have different trajectories.

Descartes was equivocal: he invoked the richer theory whenever there were tasks that mind could not do for itself. His successors rejected his posits—God and space—because they understood the promise of the leaner theory. Elaborating mind's powers, hence its autonomy as world-maker, became their principal task. It is the leaner theory that distinguishes Descartes and the lineage he inspired

5. Skepticism

The skepticism of the first *Meditation* is a ploy used to set knowledge against opinion. There is nothing timid about the richer theory,

and nothing explicitly skeptical when the leaner theory emphasizes mind's self-sufficiency, not its doubts about God and the extra-mental world. Still, the issue lingers, because we are rightly suspicious of the motive for affirming mind's self-sufficiency: namely, the fear that judgments about extra-mental states of affairs are always fallible, never validated. How shall we avoid this skeptical snare on the way to establishing the possibility of knowledge? The leaner theory is Descartes' solution. We eliminate the gap between thought and its objects—hence error—if all being is located within the space where it is faultlessly seen.²¹ Everything known is mind's qualification.

6. Descartes' Sources

How shall we explain Descartes' appropriation of the divided line? There are three alternatives: he learned of Plato's line from Plotinus, Augustine, or Proclus; his views resemble theirs, but are otherwise unrelated; or Descartes read Plato's basic works, including the *Republic* and the *Timaeus*.

Similarity without influence is all my argument requires. Still, this alternative is implausible. It ignores the considerable evidence that both Augustine and Proclus were powerfully influential in the thought of Descartes' time. Antoine Arnauld reminded Descartes—in a friendly set of objections to the *Meditations*—that his argument for the cogito recapitulates Augustine.²² Still, Augustine cannot be Descartes' only source, because Augustine's use of Plotinus is restricted by his religious aims: to affirm God's existence and nature, to describe a practice that makes God accessible, and to affirm human free will, thereby relieving God of responsibility for evil.²³ And, critically, Augustine knew Plato by way of Plotinus, so that he, like Plotinus, has nothing to say of geometry.²⁴

Proclus was more systematic than Augustine, and he is the possible source for such claims as these: (i) Proclus emphasized the self-sufficiency of derivative realities, including souls,²⁵ and (ii) the essential unity of every distinct being.²⁶ (iii) He described thought thinking itself: "Every intellect in activity knows that it thinks; for the character of thinking is not distinct from thinking that it thinks."²⁷ (iv) Proclus distinguished thinking and its object from the thinker:

Non-discursive thought in Neo-Platonism is usually studied in Plotinus. This misses the important differences in Proclus. The Athenian School took the Iamblichean analysis of *nous* further. Proclus distinguishes three senses of non-discursive thought. There is the intellect thinking of itself in the act of thinking (the thinker), intellect having as its object the process

of thinking, and intellect having a substantial object of thought. So there are three levels, each with its appropriate intellect and thoughts.²⁸

(v) Proclus alleged that subordinate intellects have innate ideas of all the Forms.²⁹ (vi) Proclus' "canon"—the idea that there must be as much reality in the cause as there is in the effect—is familiar in Descartes' "new" argument for God's existence in the third *Meditation*.³⁰ (vii) Space is acknowledged as the domain of bodies, not merely as a delusory mode of perception: "The place of things is a pure body extended in three dimensions. There is a place for all the corporeal universe, which is cosmic space. Space, the true place, is a body of light."³¹ (viii) There is no void, because space pervades all of nature.³² (ix) Geometry, as kinematics, is the science of space. Proclus "is a pioneer of dynamical geometry, the geometry of the moving point, *locus*. A single point generates complex curves by following at the same time many different simple trajectories in space."³³ Vortices may be the simplest trajectories for moving points. The elision of mathematics—especially geometry—with physics is almost complete.³⁴ (x) Proclus rejected Aristotle's substantial forms. His elements link "mathematics with dynamics. . . . [They] are delineated geometrically, but they exhibit active powers."³⁵ The elements are "quanta, particles of quantity, not pure qualities."³⁶ They are triangles joined to create the Platonic solids (the only regular figures inscribable in spheres), figures of four, six, eight, and twenty sides. (xi) Body is inert. All activity is generated by nous.³⁷ (xii) Our finite minds cannot penetrate the higher causes of the phenomena, we perceive. We are restricted to hypotheses that may make good sense of the phenomena though the entities they postulate are fictions.³⁸

Each of these claims prefigures an idea in Descartes, though there are few or no citations of Proclus in Descartes' writings (none in the indexes to the Tannery and Adam volumes of his *Oeuvres*). The apparent debt to him is uncanny, E.R. Dodds suggests a plausible link. Proclus's *The Elements of Theology* was recast in Christian form within a generation of his death by someone writing as "Dionysius the Areopagite." "Descartes owed much to his contemporary and intimate friend the theologian Gibieuf, who was steeped in ps. Dion[ysius]."³⁹

Descartes may not have read Plotinus, Augustine, or Proclus. He may never have spoken of them or Pseudo-Dionysius to Gibieuf. These are plausible sources for his ideas, but the evidence can also be explained in this other way: Descartes could have learned of the divided line and all that is Platonic in these other notions by reading Plato. His references to him are rare and unsystematic; but here the chance of cor-

relation rather than derivation is vanishingly likely. Is it plausible that Descartes did not read Plato's *Republic*, *Parmenides*, or *Timaeus*, the bedrock of European science and education? His reformulation of the divided line is strong internal evidence to the contrary. Add the Augustinianism of his milieu, and the similarity of his views with those of Proclus. The latter two alternatives—direct and indirect contact with Plato's texts—are likely true, though the first alone would be sufficient for our purpose: Descartes' formulation parallels the one of the divided line, even if he did not consciously rework it. Recall Heidegger's description of this lineage: "inhuman fidelity to the most covert history of the West."⁴⁰

Descartes' reluctance to detail his sources is well known. The usual explanation cites his vanity, though his motive in this case may be philosophic and dialectical, not psychological. We usually suppose that his targets in the *Meditations* are the conceptual fixtures of medieval Aristotelianism—substantial forms and prime matter, for example. Could it also be true that the *Meditations* is a critique of the neo-Platonists? Descartes' mathematical physics is death to the qualitative forms of the one, but his retreat into the cogito and his emphasis on truth and certainty cripple the exotic speculations of the other. Neo-Platonists had elaborated Plato's figures and myths into doctrinaire claims about the One (= the Good), the intelligibles, World soul, finite souls, nature, and its finite modes (bodies), all with myriad cosmetic refinements. Neo-Platonism was a cascade of subtleties. It had lost most of its credibility by Descartes' time, but not so long before as to escape his ascetic call to order. Hence the irony when Descartes resurrects Platonism on the basis of the one surviving element of the neo-Platonic ontology. What can be known with certainty when all its graded orders have evaporated or collapsed? Only the solitary, self-critical thinkers that were a late but best-known emanation from the One and the Forms. Tacitly renouncing neo-Platonic excess, Descartes fails to acknowledge his role as spokesman for a Platonism made sober and testable because private.

All this is interpretation, given the near absence of references to Plato or Platonists in Descartes' texts. What stops us from explaining a theory by citing myths or metaphors that may have been incidental to its development? Conceding the possibilities for abuse, I suggest that a surmise like mine is least vulnerable when the idea at issue is widely known and espoused, often by people who believe it innocuous, safe, and true. Descartes' use of the line satisfies this standard. The Platonism he assumed was regarded in his time as the uncontested intellectual birthright of European thought. Plotinus, Augustine, and

Proclus were the waterwheel for these views in the centuries before Descartes. He is their sponsor in modern times. More strongly, his emendation of Plato's line has organized Western philosophic thinking for nearly four hundred years, a point confirmed by the thinkers—Kant, Nietzsche and Heidegger, Carnap and Quine—considered in chapter Four.

No one is barred from proposing a different metaphor to explain the evolution of philosophic thought before and after Descartes. But let that alternative meet three tests: Does it have the allusiveness and historical weight of Plato's figure? Does it apply as tidily to the details of Descartes' ideas? Is it conspicuous still in the writings of his successors? No figure but Plato's line has these virtues.