

Philosophy through Geometry

Merlin CCC, March 2022

Readings for Week 3: The Divided Line and the Golden Section

Reading 1: Plato, *Republic*, Book VI, 506c–511e.¹

[SECTION 1: LIGHT AND THE SUN (506C–509C)]

SOCRATES: Does it appear just to you, for a man to speak of things of which he is ignorant, as if he knew them?

ADEIMANTUS: By no means, should he speak as if he knew them; yet he should be willing to tell us those things which he thinks, according to how he thinks.

SOCRATES: But what, have you not observed, regarding opinions void of knowledge,² how deformed they all are, and that even the best of them are blind? Or do those who form right opinion without intellect seem to you, in any respect, to differ from those who are blind, and at the same time walk straight on the road?

ADEIMANTUS: In no respect.

SOCRATES: Are you willing, then, that we should examine things deformed, blind, and crooked, when we have it in our power to hear from others what is clear and beautiful?

GLAUCON: By Zeus, Socrates, do not desist at the end; for it will suffice us, if in the same way as you have spoken of justice and temperance, and those other virtues, you likewise discourse concerning the good.

SOCRATES: And I too shall be very well satisfied, my friend; but I am afraid I shall not be able; and, by appearing readily disposed, I shall incur the ridicule of the unmannerly. But, O blessed man! let us at present dismiss this inquiry, what the good is; (for it appears to me a greater thing than we can arrive at, according to our present impulse,) but I am willing to tell you what the offspring of the good appears to be, and what most resembles it, if this be agreeable to you; and if not, I shall dismiss it.

GLAUCON: But tell us, for you shall afterwards explain to us what the father is.

SOCRATES: I could wish, both that I were able to give that explanation, and that you were able to receive it—and not as now the offspring only. Receive now, then, this child and offspring of the good itself. Yet take care, however, that I do not deceive you unwillingly in any respect, giving an adulterate account of this offspring.

GLAUCON: We shall take care, to the best of our ability; only tell us.

SOCRATES: I shall tell, then, after we have thoroughly assented, and I have reminded you of what was mentioned in our preceding discourse, and has been frequently said on other occasions.

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- 1 Based on the translation of Thomas Taylor, significantly modified. In addition to numerous changes of phrasing, I have removed a key element of the way Plato's *Republic* is framed: As the text is actually written, we are not witnessing a "present" conversation, but instead, we are listening to Socrates, as he recalls (out loud) a conversation in which he took part on the previous day. So in Plato's text, the individual speakers are not marked the way they would be in the script of a play; instead, Socrates is the only speaker, and so he uses phrases like "then Glaucon said... and I replied..."
 - 2 Here and throughout, I have substituted "knowledge" for Taylor's "science," as a translation of the Greek term *epistēmē*. (Recall the discussion we had about this, during week 1.)

GLAUCON: What is it?

SOCRATES: That there are many beautiful things, and many good things, and each of these we say is so, and we distinguish them in our reasoning.³

GLAUCON: We say so.

SOCRATES: But as to the beautiful itself, and the good itself, and in like manner concerning all those things which we previously considered as many, now again establishing them according to one idea of each particular, as being one, we assign to each that name which belongs to it; and these particulars indeed we say are seen by the eye, but are not objects of intellectual perception. But we say that the ideas are perceived by the intellect, but are not seen by the eye.

GLAUCON: Perfectly so.

SOCRATES: By what part then of ourselves do we see things visible?

GLAUCON: By the sight.

SOCRATES: And is it not by hearing, that we perceive what is heard; and by the other senses, all the other objects of sense?

GLAUCON: Why not?

SOCRATES: Have you not observed, with regard to the artificer⁴ of the senses, how he has formed the power of sight, and of being visible, in the most perfect manner?

GLAUCON: I have not entirely perceived it.

SOCRATES: Consider it in this manner. Is there any other species, which hearing and sound require, in order that the one may hear, and the other be heard, such that if this third thing were not present, hearing shall not hear, and sound shall not be heard?

GLAUCON: There is nothing.

SOCRATES: Imagine then, that neither do many others (that I may not say none) require any such thing: or can you mention any one that does require it?

GLAUCON: Not I.

SOCRATES: But with reference to the sense of seeing, and the object of sight, do not you perceive that they require something?

GLAUCON: How?

SOCRATES: When there is sight in the eyes, and when he who has it attempts to use it, and when there is colour in the objects before him, unless there shall concur some third genus, naturally formed for the purpose, you know that the sight will see nothing, and the colours will be invisible.

GLAUCON: What is that you speak of?

SOCRATES: What you call light.

GLAUCON: You say true.

SOCRATES: This species then is not to be despised; and by no small idea are the sense of seeing, and the power of being seen, connected together; but by a bond the most honourable of all bonds, if light be not dishonourable.

GLAUCON: It is far from being dishonourable.

3 Or, "in our discourse." This is the same polyvalent term *logos* which we discussed in week 1 (and which appears in bold, throughout the week 1 readings.)

4 The Greek term is *dēmiourgos*, sometimes rendered "demiurge" or "craftsman"—the same term which Plato uses for the artificer of the entire cosmos, in the *Timaeus*.

SOCRATES: Whom then of the Gods in heaven can you assign as the cause of this, that light makes our sight to see, and visible objects to be seen, in the best manner?

GLAUCON: The same as you and others do; for it is evident that you mean the sun.

SOCRATES: Is not the sight then naturally formed in this manner, with reference to this God?

GLAUCON: How?

SOCRATES: The sight is not the sun, nor is that the sun in which sight is ingenerated, which we call the eye.

GLAUCON: It is not.

SOCRATES: But yet I think that of all the organs of sense it is most solar-form.

GLAUCON: Very much so.

SOCRATES: And the power which it possesses, does it not possess as dispensed and flowing from hence?

GLAUCON: Perfectly so.

SOCRATES: Is not then the sun—though it is not sight itself—is not the sun seen by sight itself, since it is the cause of it?

GLAUCON: It is so.

SOCRATES: Conceive then, that this is what I called the offspring of the good: that which the good generates, analogous to itself. And that which this offspring of the good is in the intelligible place, with respect to intellect and intellectual objects, that the sun is in the visible place, with respect to sight and visible objects.

GLAUCON: How is it? Explain to me yet further.

SOCRATES: You know that the eyes, when they are no longer directed towards objects whose colours are shone upon by the light of day, but by the splendour of the night, grow dim, and appear almost blind, as if they had in them no pure sight.

GLAUCON: Just so.

SOCRATES: But when they turn to objects which the sun illuminates, then I think they see clearly, and in those very eyes there appears now to be sight.

GLAUCON: There does.

SOCRATES: Understand then, in the same manner, with reference to the soul. When it firmly adheres to that which truth and real being enlighten, then it understands and knows it, and appears to possess intellect: but when it adheres to that which is blended with darkness, which is generated, and which perishes, it is then conversant with opinion, its vision becomes blunted, it wanders from one opinion to another, and resembles one without intellect.

GLAUCON: It has such a resemblance.

SOCRATES: That therefore which imparts truth to what is known, and dispenses the power to him who knows, you may call the idea of the good, being the cause of knowledge and of truth, as being known through intellect. And as both these two, knowledge and truth, are so beautiful, when you think that the good is something different, and still more beautiful than these, you shall think aright. Knowledge and truth here are as light and sight there, which we rightly judged to be solar-form, but we were not to think that they were the sun itself. So here it is right to judge, that both these partake of the form of the good; but it is not right to suppose that either of them is the good, but the good itself is worthy of still greater honour.

GLAUCON: You speak of an inestimable beauty, since it affords knowledge and truth, but is itself superior to these in beauty. And you never anywhere said that it was pleasure.

SOCRATES: Predict better things, and in this manner rather consider its image yet further.

GLAUCON: How?

SOCRATES: You will say, I think, that the sun imparts to things which are seen, not only their visibility, but likewise their generation, growth and nourishment, without itself being generation.

GLAUCON: Why not?

SOCRATES: We may say, therefore, that things which are known have not only this from the good, that they are known, but likewise that their being and essence are thence derived, whilst the good itself is not essence, but beyond essence, transcending it both in dignity and in power.

GLAUCON (*laughing very much*): By Apollon, this is a divine transcendence indeed!

SOCRATES: You yourself are the cause, having obliged me to relate what appears to me respecting it.

GLAUCON: And by no means stop, if something does not hinder you, but again discuss the resemblance relating to the sun, if you have omitted any thing.

SOCRATES: But I omit many things.

GLAUCON: Do not omit the smallest particular.

SOCRATES: I think that much will be omitted: however, as far as I am able at present, I shall not willingly omit any thing.

GLAUCON: Do not.

[SECTION 2: THE DIVIDED LINE (509D–511E)]

SOCRATES: Understand then, that we say these are two; and that the one reigns over the intelligible genus and place, and the other over the visible, not to say the heavens, lest I should seem to you to employ sophistry in the expression: you understand then these two species, the visible and the intelligible?

GLAUCON: I do.

SOCRATES: If then you took a line, cut into two unequal parts, and cut each section over again according to the same ratio⁵—both that of the visible species, and that of the intelligible—you will then have clarity and obscurity placed next to each other. In the visible species you will have in one section images: but I call images, in the first place, shadows, in the next, the appearances in water, and such as subsist in bodies which are dense, polished and bright, and every thing of this kind, if you understand me.⁶

GLAUCON: I do.

SOCRATES: Suppose now the other section of the visible which this resembles, such as the animals around us, and every kind of plant, and whatever has a composite nature.

5 “Ratio” is our old friend *logos*, in yet another of his many meanings! Compare the way that in English (coming from Latin), we have the words “ratio” and “rational.” And recall that both an argument and a number can each, in their own way, be “rational.”

6 All of these shadows and reflections are included together in the first section of the line, the obscure part of the visible.

GLAUCON: I suppose it.

SOCRATES: Are you willing then that this section appear to be divided into true and untrue? And that the same proportion which the object of opinion has to the object of knowledge, the resemblance has this very same proportion to that which it resembles?

GLAUCON: I am, indeed, extremely willing.

SOCRATES: But consider now again the section of the intelligible, how it was divided.

GLAUCON: How?

SOCRATES: That with respect to one part of it, the soul uses the former sections⁷ as images; and is obliged to investigate from hypotheses, proceeding not to the beginning, but to the conclusion: and the other part, again, is that where the soul proceeds from hypothesis to an unhypothetical principle,⁸ and without those images about it, by the species themselves, makes its way through them.

GLAUCON: I have not sufficiently understood you in these things.

SOCRATES: But again, for you will more easily understand me, these things having been premised. For I think you are not ignorant, that those who are conversant in geometry, and computations, and such like, after they have laid down hypotheses of the odd and the even, and figures, and three species of angles, and other things that are the sisters of these, according to each method, they then proceed upon these things as known, having laid down all these as hypotheses, and do not give any further reason about them, neither to themselves nor others, treating them as being things obvious to all. But, beginning from these, they directly discuss the rest, and with full consent end at that which their inquiry pursued.

GLAUCON: I know this perfectly well.

SOCRATES: And do you not likewise know, that when they use the visible species, and reason about them, their dianoëtic⁹ power is not employed about these species, but about those of which they are the resemblances, employing their reasonings about the square itself, and the diameter itself, and not about that which they describe? And, in the same manner, with reference to other particulars, those very things which they form and describe—among which number, shadows and images in water are to be reckoned—these they use as images, seeking to behold those very things, which a man can no otherwise see than by his dianoëtic part.

GLAUCON: You say true.

SOCRATES: This then, I called a species of the intelligible; but I observed that the soul was obliged to use hypotheses in the investigation of it, not going back to the principle, since it was not able to ascend higher than hypotheses. Instead, the soul made use of images formed from things below, to lead to those above, as perspicuous, as objects of opinion, and distinct from the things themselves.

GLAUCON: I understand that you speak of things pertaining to the geometrical, and other sister arts.

SOCRATES: Understand now, that by the other section of the intelligible, I mean that which reason itself attains, making hypotheses by its own reasoning power, not as

7 That is, the two parts of the visible.

8 "Principle" is the same term (Greek *archē*) that we discussed in week 2.

9 The Greek term *dianoia* (which Taylor here makes into an English adjective, *dianoëtic*) refers to the power of discursive reasoning: the kind of reasoning that proceeds step-by-step from premises to conclusions, and which can be described in ordinary language. We met this term on page 5 of the reading from week 1, where we promised to return to it in more detail during week 3. Here we are!

principles, but really hypotheses, as steps and handles, that, proceeding as far as to that which is unhypothetical—that is, to the principle of the universe—and coming into contact with it, again adhering to those things which adhere to the principle, it may thus descend to the end; using nowhere any thing which is sensible, but forms themselves, proceeding through some to others, and at length terminating its progression in forms.

GLAUCON: I understand, but not sufficiently. For you seem to me to speak of an arduous undertaking: but you want, however, to determine that the perception of real being, and that which is intelligible, by the science of reasoning, are more conspicuous than the discoveries made by the arts, as they are called, which have hypotheses for their first principles; and that those who behold these are obliged to behold them with their dianoëtic power, and not with their senses. But since they are not able to perceive, by ascending to the principle, but rather from hypotheses, they appear to you not to possess intellect respecting them, though they are intelligible in conjunction with the principle. You also appear to me to call the habit of geometrical and such like concerns, the dianoëtic part, and not intellect; the dianoëtic part subsisting between opinion and intellect.

SOCRATES: You have comprehended most sufficiently: and conceive now, that corresponding to the four sections there are these four passions in the soul: intelligence answering to the highest, the dianoëtic part to the second, faith¹⁰ to the third, and assimilation to the last. Arrange them likewise analogously; conceiving that as their objects participate of truth, so these participate of perspicuity.

GLAUCON: I understand, and I assent, and I arrange them as you say.¹¹

Reading 2: Edna St. Vincent Millay (1892–1950), *Untitled Sonnet*.¹²

Euclid alone has looked on Beauty bare.
Let all who prate of Beauty hold their peace,
And lay them prone upon the earth and cease
To ponder on themselves, the while they stare
At nothing, intricately drawn nowhere
In shapes of shifting lineage; let geese
Gabble and hiss, but heroes seek release
From dusty bondage into luminous air.
O blinding hour, O holy, terrible day,
When first the shaft into his vision shone
Of light anatomized! Euclid alone
Has looked on Beauty bare. Fortunate they
Who though once only and then but far away,
Have heard her massive sandal set on stone.

10 Instead of “faith,” this term (Greek *pistis*) might also be translated as “belief” or “trust.”

11 With this, Book VI comes to a close. Up next, at the start of Book VII, Socrates will give yet another analogy, the famous “allegory of the Cave.”

12 First published in 1923 in *The Harp-Weaver and Other Poems*; now in the public domain.