

Plato and Epiphenomenalism

Plato, in his dialogue *Phaedo*, presents and criticizes a theory of the relationship between mind and body, known today as ‘supervenience theory.’ In the person of Simmias, he presents the thesis that the mind is an emergent property of matter, and is dependent upon a particular organization of matter for its very existence. He likens it to a harmonious sound, brought about by tuned strings on a musical instrument. Plato presents several arguments against this thesis. This paper will look at one of his arguments. The argument hinges crucially on an assertion concerning the ability to control. The claim:

No entity or phenomenon (like a “harmony”) which comes into being only because there is a certain arrangement of physical objects, can exert control over its constituent objects unless each of the constituents is also able to exert control over itself in the same way.

Plato derives this thesis from a further and primary assumption:

Anything that comes into being thanks to an arrangement of a complex of objects cannot be acted upon or act in any way that its parts do not also exhibit.

Based on these theses, Plato attempts to prove that the human soul (or at least its rational element) cannot be the result of such an attunement or harmony. Plato notes that reason can control the human body and overcome passions and irrational inclinations. He also thinks that this controlling entity is metaphysically independent of the human body. The argument which depends on the above two statements is an effort to prove this.

In addition to our target argument, he also presents one based upon his recollection theory of learning. The strength of the control argument is that it does not crucially hinge on the theory of recollection; it only relies upon the above two claims. On its face, it is more plausible. For this reason, we examine the argument. I want to explore the relationship that exists between the argument, and the mind/body theory called “epiphenomenalism.” Epiphenomenalism does not accept the primary assumption, but does accept the assertion concerning control (call it the control thesis for short). According to that thesis, even though mental properties not exhibited by their parts can emerge from material complexes, nevertheless, such properties have no causal efficacy themselves. This means (contrary to daily experience) that the mind cannot really control the human body. Mind is only an aftereffect of physical processes, as smoke is to fire. Biological processes of a certain order of complexity cause mental phenomena, but no mental phenomena cause physical processes. In reality,

according to epiphenomenalism, only physical processes can cause physical events, even though it may appear from first or third person perspectives that mental phenomena can cause them.

I will show, through various examples, that the control thesis needs argument, and is most likely false. There are (I hope!) uncontroversial cases of things or complexes which clearly are self-regulated or self-controlled. Their parts do not exhibit the same sort of behavior. These examples show us that Plato's control thesis is mistaken. This leads us to a problem. Plato apparently does believe his control thesis and the primary assumption. He derives the first from the second. However, he also does recognize that 'harmonies' exist. Yet, harmonies are things that exhibit characteristics or powers that are not possessed severally by the arranged physical objects that make them possible. Therefore, they seem to be counterexamples to his primary assumption. Surely, he was aware of this. We must then ask what it is that would have led Plato to think that he could still make use of that primary assumption.

Applying the principle of charity, I assume that Plato was familiar with such examples but considered them to be beside the point. His primary sphere of concern was with examples of rational and reasoned guidance. He gives a majority of weight to the control thesis even though it is derived from the primary assumption. Plato's use of a literary example from Homer lends credence to this reading. When we consider the example and revise Plato's argument accordingly, we get a much stronger argument. However, in the end, if we are correct in asserting uncontroversial cases exist which show novel properties can arise from arrangements of physical bodies, it is still not certain that reason and rationality cannot find their explanation on similar grounds. The materialist may still be right. I begin by sketching the supervenience theory and epiphenomenalism.

Supervenience and Epiphenomenalism

Supervenience is the thesis that mentality is a property that arises only when we arrange matter in certain kinds of way. Putting together physical substances sometimes brings into being a new *physical substance with mental properties*. The new substance is nevertheless dependent on the simpler substances. It cannot exist unless they do. It cannot come into being unless they are arranged in just the right way. Those simpler substances can also survive the demise of the new substance. E.g., we say, upon a person's death, that his or her body is with us, but he/she is not. Similarly, we say that the charred remains of a burnt chair survive the chair's demise.

Examples of further supervenient substances or properties are common. Water is a supervenient substance. Neither hydrogen nor oxygen exhibits room temperature liquidity until both combine in the

right proportion. Schoolchildren are familiar with a combination of liquid laundry starch and school glue that becomes a colloidal solution commonly known as “goop”. Goop is unlike glue, and unlike laundry starch. It is not adhesive for instance.

Some supervenience theories claim that it is more a matter of the complexity of the form (over type of matter) which gives rise to mentality. These theories claim that a sufficiently complex set of hardware could become conscious, if arranged in just the right way. Other theories argue that a body or complex must have the right form and a particular sort of matter in order for mental properties to emerge. They hold that the sort of matter that can support mind must be of a family that can enter into certain complex chemical combinations. These latter theories divide into those partial to carbon-based chemistry, and those that think other bases could exist (silicon perhaps). These theories usually claim that only networks of neurons or something very much like them can bring about mentality.

Epiphenomenalism

This section serves to place epiphenomenalism in its theoretical family. It is a form of supervenience theory. We have divided the supervenience family into two camps so far: the ‘friends of the forms’, and the ‘friends of complex chemistry’. There is another way to divide the family. One camp (a) holds the mind can control the body, the other camp (b) denies this. The last camp is the epiphenomenalist’s place. Both camps live by a common creed, but oddly, because they do, they end up going in radically different directions: Both hold respect for the thesis that physical effects can only have physical causes explainable by physical laws. What flows from this?

Camp (a) draws a conclusion that the mind must be physical, and indeed is the brain. The mind exercises choice and deliberates while, at the same time, being constrained by natural law. It is constrained by physical law because it is compositionally identical to its physical basis, even though in the Aristotelian sense it is logically distinct from that physical basis. This leads to vexed questions surrounding the notions of free will and determinism. Is the will utterly hemmed in by natural law and its own ‘initial conditions,’ or not? The members of this camp have reason to be uneasy.

Camp (b), on the other hand, avoids this problem altogether by denying the existence of mind to body causation. To them, mental events are aftereffects of physical processes in the brain. However, camp (b) has cause to be uneasy as well:

Undoubtedly, the epiphenomenalist must concede that his position entails that physical processes give rise to first person experiences. Many of these experiences throw doubt upon epiphenomenalism in the

most obvious way. We clearly have experiences of deliberation and volition. Phenomenologically, nothing could be clearer than that we are, not only free, but responsible for our actions. Our future actions are entirely up in the air until we make decisions. It is too weak a claim to say that this 'seems' to be the case. Nothing could be more evident to us. Often, we deliberate, weighing options before we make decisions. The results of many of our choices are physical actions. According to the common creed in the supervenience camp, physical actions can only be brought about by physical entities acting according to physical laws. Therefore, it follows either that those things reported to us by our first person experiences must, in some deep sense, be wrong, or they are basically correct, but the physical world somehow provides room for free material beings, that is; persons.

If we grasp the epiphenomenalist horn, and take it that our experience is fundamentally misleading, while also holding that physical laws and conditions determine all physical events, then any actions we, or any other persons take have been determined in some other way despite our deliberations and choices. It is not our deliberations, and chosen actions that bring events about, but some underlying physical process, determined by natural laws. The mind must not really have any causal efficacy at all, and in fact does not control the body even though it thinks it does! If anything controls the body's actions, it is the environment in concert with processes in the body. However, all that control is on a level, and quite distinct from the conscious level. This underlying layer of physical events causes all conscious experiences we have including the systematic error of believing we control our bodies. To be clear: Consciousness has no reciprocal causal connection or control over this underlying physical realm.

For instance, if I choose to get up now and pour a third cup of coffee, what in fact happens is physical causation, below the conscious level. Certain causal chains are instantiated between my body parts. There is also such a chain between my body as a whole and the outside world (which includes the coffee!). These processes produce certain mental aftereffects. Among them are thoughts or feelings of deliberation ("Should I really drink so much coffee?"), volition ("I am going to get more coffee!"); and 'doings,' ("Here I am walking to get more coffee.").

In reality, there are no such activities or efforts going on, according to epiphenomenalism. The experience is illusory, somewhat like watching the setting sun. The sun appears to change from bright yellow-white, to a deep orange-red. It also appears to flatten as it nears the horizon. The sun itself is not undergoing such alterations, but the physical medium through which the sun is visible produces this illusion as a sort of aftereffect. Similarly, the complex processes of our biological organism create, as an

aftereffect, the experience of deliberative reason and volitional initiation of bodily movement. No choice, no action initiated by an act of will, truly exists. Therefore, to the extent that our experiences report these things to us, our experiences are illusory. The extent is systematic.

It is obvious that epiphenomenalism conflicts with our experience quite strongly. Why is the epiphenomenalist willing to swallow this? It is out of respect for the naturalist thesis held by both camps (a) and (b). The compelling nature of the scientific world-view outweighs the testimony of common sense, the first person data of our everyday lives. The phenomenalist feels his position is no more or less embarrassing than that held by members of camp (a). Camp (a) has to swallow the notion of there being some anomalous odd balls in the universe, islands of freedom, in the midst of great oceans of 'unfreedom,' or they have to maintain some form of compatibilism. Camp (b) has to swallow the notion that we are systematically misled by our direct first person experiences into thinking we are in control of ourselves when we are not. Neither camp has an easy time of it.

Transition to Next Section

Plato's control thesis and his primary assumption seem to deny the existence of supervenient properties, and in particular, supervenient control, i.e., controlling properties or functions that arise from organization of physical matter. There are nevertheless examples of control or regulation that show he is mistaken. These examples show that physical objects can exhibit supervenient control while churning along and following physical laws, even if their constituent parts exhibit no similar abilities to control. Novel and controlling properties can emerge from organized matter. This comes about with relatively simple complexes of objects. It should not be at all surprising that more sophisticated controlling properties should also emerge from highly complicated material complexes (like organisms) as well. We see examples throughout organic nature. Cells are classic examples. We should not think it is impossible that a further level of control should arise in organisms of greater complexity (like humans), manifesting as mental properties such as consciousness. Empirically, we see gradations in level of control sophistication, concomitantly variant with levels of mechanical, electrical or chemical complexity. A metaphysically unprejudiced look at this undeniable fact of the natural and artificial world would lead one in this sort of materialist direction. This position, if tenable, is especially attractive if we are convinced Aristotelians with regard to the material 'substantiality' of persons. For what else could exert control or have causal efficacy over a set of physical substances (like a human body) but a physical substance? The question persists; why would Plato be averse to this position? That is what we will examine now. We begin by looking at arguments in the *Phaedo*:

Plato and the 'Harmony' Theory of the Soul

We begin by giving the theory as stated by Simmias (85e to 86d).

You might say the same thing about tuning the strings of a musical instrument, that the attunement is something invisible and incorporeal and splendid and divine, and located in the tuned instrument, while the instrument itself and its strings are material and corporeal and composite and earthly and closely related to the mortal. Now suppose that the instrument is broken, or its strings cut or snapped. According to your theory, the attunement survives and does not perish. It cannot have been destroyed, because it would be inconceivable that when the strings are broken the instrument and the strings themselves, which have a mortal nature, should still exist, and the attunement, which shares the characteristics of the divine and immortal, should exist no longer, having perished before its mortal counterpart. You would say that that the attunement must still exist somewhere just as it was, and that the wood and strings will rot away before anything happens to it. I say this Socrates, because, as I think you know, we Pythagoreans have a theory of the soul, which is roughly like this. The body is held together at a certain tension between the extremes of hot and cold, wet and dry, and so on. Our soul is a temperament or an adjustment between these extremes, when they are combined in just the right proportion. Well, if the soul is really an adjustment, obviously as soon as the tension of our body is relaxed or increased beyond the proper point, the soul must be destroyed, divine though it is, just like any other adjustment, either in music or in other arts and crafts. This is true even though, in each case, the physical remains last considerably longer, and either decompose or are burned.

In response, Socrates presents three arguments. One relies on his theory of recollection, the second tries to derive an implausible moral consequence of the harmony theory, while the third proceeds from the primary assumption we introduced above. We are concerned with the third. The text we are concerned with begins at 92e, and ends at 95a. You will notice that the second and third arguments occur simultaneously:

There is this way of looking at it also Simmias, said Socrates. Do you think that an attunement, or any other composite thing, should be in a condition different from that of its component elements?

No, I do not

So, it should not act or be acted upon differently from how they act or are acted upon?

He agreed

So, an attunement should not control or lead its elements, but should follow their lead, or be controlled by them?

He assented.

There is no question of its conflicting with or opposing them, either in movement or in sound or in any other way.

No, none at all.

Very well then, is it not the nature of attunements that they in some way depend upon the way in which the elements are harmonized?

I do not understand.

I mean to say that an attunement admits of degrees, and is more harmonious, more completely attuned when more fully tuned; and less of an attunement, less harmonious when the elements are tuned to a lesser degree.

True

But does the soul admit of degrees, or in other words, is one soul in even the slightest respect more or less a soul than another?

Not at all.

Yet, do we not often say that one soul possesses intellect, and goodness, while another is stupid and evil? Is this true?

Yes, it is true.

How will a person who holds to the harmony theory account for the presence of good or evil in the soul? Are good and evil yet further attunements within attunements? Will he say that the good soul is not only itself in tune, but possesses another harmony within, while the evil soul in turn is out of tune, and also lacks this other attunement?

I really cannot tell, but obviously, anybody that does hold the view would have to say something of the sort.

But have we not already admitted that no soul is more a soul than any other, which is tantamount to admitting no attunement can be any more or less of an attunement than another? Is this not so?

Certainly.

So, that which is neither more nor less tuned, is neither more nor less of an attunement.

True.

Under this condition, it cannot contain a greater proportion of discord or harmony?

Certainly not.

And, again, given this condition, can one soul contain a greater proportion of evil or of goodness as compared to another, assuming, of course as we have, that evil is a sort of discord, and goodness a sort of harmony?

No, it does not seem possible

Rather, it seems much more like this would be the case Simmias. No soul will contain any amount of vice if it is in fact an attunement, because, surely, since an attunement is absolutely an attunement, and nothing else, it is not possible for it to contain any amount of discord.

No indeed

So, the soul, since it is absolutely a soul can contain no share of evil.

Not in the light of what we have said.

So, on this theory, the soul of every living creature will be equally good, assuming it is in the nature of souls to all be equally souls and nothing else besides.

I think that follows Socrates.

Do you think the view is right? Would we have ever come to this if our initial hypothesis that the soul is an attunement or harmony had been correct?

Not a chance of it.

Well, said Socrates, do you hold that any other part of a man governs him than his soul, especially if the man is wise?

No, I do not.

Does the soul yield to the feelings of the body, or oppose them? For instance, when a person is feverish and thirsty the soul sometimes will impel him the other way, away from drink, and when he is hungry, away from eating, and there are thousands of other examples in which we see the soul opposing the promptings of the body. Is that not the case?

But, did we not agree just a little while ago that if it is an attunement, it can never sound a note that conflicts with the tension or relaxation or vibration or any other condition of its constituents, but must always follow their lead, never directing or commanding them?

Yes we did, of course.

But, surely, the soul works in just the opposite way, leading the elements out of which it is composed. It directs, commands, coerces, and opposes them in almost everything all through life, sometimes by severe and unpleasant methods, like those of physical training and medicine, sometimes by gentler means, sometimes threatening, scolding, or even arguing with the desires fears and passions as if they were quite separate and distinct from it, just as Homer, in the *Odyssey*, gives us Odysseus doing in the words:

He beat his breast and thus reproved his heart, Endure my heart; far worse have you endured!

Do you think that Homer wrote this under the impression that the soul is an attunement or harmony, open to the sway of the physical feelings? Isn't it rather the case that he felt the soul was capable of mastering them, being something of a more divine nature than an attunement?

It seems that way to me Socrates

Good. So there is no justification for saying that the soul is an attunement, or a harmony, for we will not only be inconsistent, but will be contradicting Homer.

Critical Assessment

Thus ends the passage. There are several elements of argument. In one, Plato constructs a reductio argument. We first look at that argument:

1. Souls are harmonies supervenient upon attunements between physical objects. Ass.
2. All attunements between physical objects come in degrees. Ass

3. Therefore, souls come in degrees 1, 2.

4. But, souls do not come in degrees. So, the first assumption is false.

Next, he considers how such a theory would explain the existence of good and bad souls. He attributes the following explanation to the harmony theorist:

1. Goodness of soul is a type of harmony possessed by some souls. Evil is a lack of that sort of harmony.

Now, given that,

2. Souls have various levels of goodness,

It follows that,

3. Souls have various levels of harmony.

So

4. Some souls are more harmonies than other souls.

But if,

1. Souls are souls only insofar as they are harmonies

It follows that,

2. The good soul is more a soul than the evil soul

Plato does not accept the last result. He has an "all or nothing" view of the soul. The word "absolute" is used. All souls are absolutely or equally souls. So restating in a brief way we come up with this:

1. All phenomena that depend upon attunement for their existence will manifest themselves to greater or lesser degrees depending upon the amount of attunement there is in the things upon which they depend.

2. Souls do not manifest greater or lesser degrees of being souls.

3. It follows that no soul can be a harmony supervenient upon attunement between physical objects.

The problem is with (2). We can measure degrees of mentality by quality of consciousness, ability to deliberate and choose, richness of life, self-consciousness, ability to experience certain pains or pleasures, etc. There does not seem to be a reason we cannot count degrees of mentality as being

degrees of soul-hood. Why not count human souls as greater in degree than the souls of chimps, these, in turn, greater in degree than those of birds, bird greater than amoeba's and so on?

If we think Platonically of the tripartite soul, and measure the relative amount of control the rational element has over the appetitive and 'spirited' elements, on that basis we can form a hierarchical list of degrees of soul. We can include human souls somewhere in that list, ranking the insane, or the addict as having a soul of lower degree than that of the sane or non-addicted person. We can claim, on this basis, that souls can increase their degree of 'soul-hood', via some sort of harmonizing procedure, with reason as the harmonizing element. Plato gives us reason throughout his corpus to believe that the good soul is a well-regulated soul, where reason rules and harmonizes the other elements. Why not say that the good soul is more of a soul than the evil soul? Why not say that a chimp has a greater degree of soul than a snake because it has more of the higher reasoning faculties?

While there may be possible distasteful ethical or political consequences of such views, logically speaking, there seems to be nothing preventing us from articulating them. On the other hand, if one has a strong reason to believe that the capacity for deliberation, reason, and self-control is something that cannot be exhibited by supervenient entities or properties, no matter how complex the physical bases of those things can be, then one would not be tempted by the above view. Plato does in fact believe he has strong reason to make this claim: The 'control' argument. We turn to this argument, our main subject, after a quick look at another line of argumentation Plato uses. It too is a reductio. It also leads us to look at the control argument. Read it as applying to human souls:

1. Assume souls are harmonies arising from attunements between physical elements.
2. If any set of physical elements lacks any degree of attunement, it is in discord. Ass.
3. No set of physical things that is discordant can produce a harmony. Ass.
4. Therefore, all souls arise from things that are at a similar level of attunement. 2-3
5. If (4) is true, then all souls will exhibit a similar level of harmony. 1,4
6. Goodness is harmony of soul. Ass.
7. Therefore, all souls have a similar level of goodness. 5-6

While Plato believes that good souls have more harmony than evil souls, he also believes that the harmony arises from greater degrees of control exercised by the rational element over the appetitive

and spirited elements. He does not think that rational control is merely an adjustment of physical elements. However, if rational control or goodness is a supervenient control feature, arising at certain thresholds of physical complexity, then while it is not logically identical to its physical basis, it can still be compositionally identical to it. Further, if the capacity to reason and deliberate can be present, but not exercised, then to some extent, Plato's argument is correct. All souls are equally good in potential. Those that exercise that potency are actually good. (4) seems to respect the fact of threshold phenomena. (3) is perhaps too strong in the light of those phenomena. However, it seems we can recast the argument along these lines, and not throw supervenience theory into serious jeopardy.

The crux of the above argument must revolve around (6), and the notion of control that it presumes. This is why Plato presents his control argument. He believes that argument will show that there is no way reason based control could arise from any sort of arrangement of physical elements, no matter how complex they may be. Reason cannot be a supervenient property, because, in some important sense, it is so utterly unlike anything in the physical world that we can account for its existence only by admitting that it is a different sort of thing from our bodies or any physical properties. We now turn to a couple of versions of that argument:

The Control Argument, version 1:

1. Nothing that comes into being because of organization of matter can exhibit any characteristic unless the things from which it is composed already possess it.
2. A particular way of being affected by other beings is a characteristic. A particular way of affecting other beings is a characteristic.
3. It follows that it is not possible for anything that comes into being because of organization of matter to be affected by other things, or act on other things, in any way that is different from the way its parts are affected or act.
4. The capacity to govern and command their own bodies is a property of persons.
5. The physical constituents of a person do not command or control.
6. It follows that persons do not come into being as a result of the organization of the matter of human bodies.

The argument as presented is open to technological and natural counterexamples. They show that premise 1 is false. Curiously, I believe that Plato was not convinced of the universal applicability of premise 1. He does admit the existence of supervenient properties, as for instance, Simmias's example: The harmonious sounds of the lyre. No individual part of the lyre can create the harmonious sound, yet the composite can. Plato does not seem overly concerned with this. His primary concern is really a person's ability to command his or her body. We often regulate and command our bodies consciously and deliberately. Plato believes this capacity is so extraordinary that it cannot be carried out by a supervenient substance or property. However, Plato's actual argument starts from the more general premise. Therefore, faithful to the text, we start by examining the premise. The following are counterexamples aimed in its direction:

Technological Example

A hot summer day, outside, the familiar thud and hum of fan and compressor switching on reminds me of the relieving cool air in the controlled atmosphere of my house. Nevertheless, I plow on, mowing the foot high grass that I have neglected for two weeks. I have to pause every twenty feet or so to clean out the riding mower. It clogs due to the heavily overgrown grass. I curse my own procrastination, and long for the cool of the air-conditioned house.

The air conditioner is a marvel of modern technology. It not only reduces the mean kinetic energy of air in enclosed spaces, but also regulates that level, keeping it within a narrow range of values. To do this it incorporates an ingenious device. Inside the house, there is a bimetallic coil, created by cementing two strips of metal together. This in turn holds a small glass ampoule of mercury, which if it aligned correctly, closes a circuit, allowing electrons to flow a certain way, which switches on the compressor and fans of the air conditioning unit. The bimetallic coil loosens or tightens depending on the room temperature. Depending on how the device is set, once it relaxes or tightens to a certain degree, it will cause the mercury to align itself, the circuit will close, and that wonderful sound will hit my ears as I continue to mow. The device is a thermostat. It and the air conditioner functioning in concert regulate the room temperature, and regulate when and for how long the air compressor will actually run. This is an example of a self-regulating, self-governing mechanism. There are many others of course. They all serve as counterexamples to the premise. In each case, the parts exhibit no such control abilities, while the whole does.

Natural Example

As I mow, I inadvertently take down a stand of wild daisies that I intended to keep. As they disappear under the machine, I notice that all of them face the fiercely burning sun as if watching it. I remark to myself that this is a classic example of plant phototropism. A very complex chemical reaction is set up in the stems of plants. This process has the result of maximizing the amount of solar energy plants can harvest from their environment. None of the atomic and molecular parts of the plant could do this alone. Once they combined into cells with all the complex abilities to synthesize the various growth hormones that plant cells possess, phototropism becomes possible, and the regulation and maximization of energy intake becomes possible. The entire biological realm is full of further examples of such self-regulation by living things. Once again, we have a counterexample to Plato's premise.

Accidental Control or Regulation

Walking down the middle of creeks as a child, no shoes, hoping to scare snakes and turtles into moving, so as to chase and capture them, I always noticed that the larger rocks were located toward the middle of the stream while the softer treading was found toward the sides of the creek. This always mystified me. Wouldn't the larger objects be pushed out of the middle of the creek bed by the stronger currents, and find themselves closer to the edges? This sounded correct until I thought about it. The swiftness of the current would in fact invariably create a turbulent 'cloud' of mud and other smaller particles, picking up the matter from the creek bed. It would easily carry all this away down the stream. Now, as the particulate matter swirled about in the turbulent flow, some of it would end up toward the edges of the stream where less water flowed with less velocity. The matter would, of course, lose velocity, lose momentum, and settle out, creating for me the soft footing. Once I figured this out, and looked more closely, I realized there was an order evinced in the creek beds. From edge to center-stream, there was a gradation of particle size from silt to small gravel to larger gravel and stones. The whole system together, stream, stones, silt, laws of nature involved, all of it, is in fact a sort of regulatory system, which has the appearance of being in place for the purpose of sorting objects in just the way it does. Of course, it is not designed or set up to do this sorting at all, but the crucial thing to note is that it does do this. Once again, a natural process, one here that happens quite by accident, is such that it introduces order and regulation. This ongoing organization is as natural a feature of the creek as are its waters. There are other examples like this one. A chance combination of dead fallen branches, if caught

so as to create a canopy, can let through snowflakes of certain sizes, excluding others. Rock formations act as natural filters. Stars create just enough outward pressure from nuclear reactions to offset gravitational collapse, while at the same time gravity is just strong enough to prevent the gasses and particles from jetting off into the cosmos. It looks, perhaps at first glance, as if all of these things have been carefully designed and balanced (all of the elements, and all of the natural laws), to bring about the more organized entities or situations. Nevertheless, we can see how each of these is the result of natural laws and chance combination of physical objects. None of the objects involved self-regulate or control when they are in isolation from such systems or organizations. This is why such phenomena serve as counterexamples to Plato's premise.

We have seen two things so far; Plato does admit the existence of supervenience, and provides an example. However, he also thinks that supervenient phenomena cannot control or govern the physical complexes from which they arise unless the members of those complexes already exhibit such behavior. Yet, we have counterexamples to this thesis. They serve to throw the first of the two arguments below into doubt. I assume that Plato was aware of such examples, and would grant them, thereby admitting that 1(A) is false. Plato really was more concerned with the second argument (B).

A

1. Nothing that comes into being as a result of organization of matter can exhibit any regulatory or governing characteristics unless those characteristics are already possessed by the things from which it is composed.
2. The physical constituents of a person do not exhibit any of the regulatory or governing characteristics that persons do.
3. It follows that persons do not come into being as a result of the organization of the matter of human bodies.

B

1. Nothing that comes into being as a result of organization of matter can exhibit any deliberative, rational, or 'Homeric' self-controlling characteristics unless the things from which it is composed already possess those characteristics.
2. The physical constituents of a person do not exhibit any of the deliberative, rational or Homeric self-controlling characteristics that persons do.

3. It follows that persons do not come into being as a result of the organization of the matter of human bodies

The first argument's initial premise suffers from the counterexamples. They show we can completely explain higher-level regulatory phenomena as resulting from, and constituted by complexes of simpler non-regulatory physical/chemical phenomena.

However, the second argument's main premise is less assailable. When it comes to reason and its ties to Homeric self-control, we can be more sympathetic with Plato. The difference between reasoned governance and physical/chemical governance does not seem to be so much a difference in level of complexity but of quality. We cannot see how putting together simpler biological constituents in just the right way will result in reason, deliberation, and consciousness. On the other hand, if we know how metals, gasses, and electric circuits behave, we can see how an air conditioner will operate if we put parts together in a certain way. The regulatory phenomena can be completely explained and predicted based on our knowledge of the materials and structure of the machine. Even the regulatory and metabolic phenomena within cells and organs are reducible to biochemistry. Once we are aware of the chemical properties of all of the various molecules involved, and the organs' typical behaviors, it becomes theoretically possible, even if immensely complex, to map out cellular behavior in a similar fashion. (This is not to say that we would have a coherent idea of how such complexes could have originated. That is a quite different problem.)

Things are noticeably different when it comes to mentality. We sometimes consciously resist the urgings of our body because we have a health or safety related reason to do so. We sometimes override the fear of pain for health reasons. We put off present pleasures for future well-being. These examples fall under the general head of rational self-control. Plato gives us an example from Homer. It is from book XX of the *Odyssey*. It happens the night before Odysseus is to rid himself and his wife of the Suitors:

Meanwhile, Odysseus prepared himself for sleep in the portico. He spread an untanned ox hide on the floor and piled it up with plenty of fleece, from the sheep that the young lords had slaughtered as their habit was; and Eurynome cast a mantle over him when he had settled down. As he lay there brewing trouble for his rivals and unable to sleep, a party of women, the suitors' mistresses, came trooping out of the house laughing and exchanging pleasantries. Odysseus's rage rose within him. Yet, he was quite uncertain what to do and he debated long. Should he dash after them and put them all to death; or

should he let them spend this last night in the arms of their profligate lovers? The thought made him snarl with repressed fury, like a bitch that snarls and shows fight as she takes her stand above her helpless puppies when a stranger comes by. So did Odysseus growl to himself in sheer revolt at these licentious ways. But, in the end he brought his fist down on his heart and called it to order. "Patience my heart!" he said. "You had a far more loathsome thing than this to put up with when the savage Cyclops devoured those gallant men. And yet you managed to hold out, till cunning got you clear of the cave where you had thought your end had come."

But though he was able by such self-rebuke to quell all mutiny in his heart and steel it to endure, Odysseus nevertheless could not help tossing to and fro on his bed, just as a paunch stuffed with fat and blood is tossed this way and that in the blaze of a fire by a cook who wants to get it quickly roasted."

Odysseus reproves, and admonishes his "heart", demanding that it endure, because otherwise he will not be able to give the suitors their due, and take back his household. To use Plato's terminology, Odysseus's spirited element wants to rush the women, killing them in retribution for their disloyal contribution to his house's state. His rational element, his "cunning" checks this impulse. Interestingly enough, as he continues to toss and turn, worrying about his chances of success, Athena appears in a dream to encourage him. Athena, both warrior and goddess of Wisdom, interestingly serves to personify both of the forces at play in the episode. She, contrasted with Ares the God of irrational raging warfare, personifies rational and justified conflict. She reminds Odysseus that to give in to his desire for instantaneous retribution would do no good. Only by keeping his wits about him does Odysseus have a chance to succeed in ridding himself of the suitors. Self-control in Plato's Homeric example is essentially rational, reasoned and thought out. Odysseus's "cunning" presents reasons for not acting on the desire for instantaneous retribution. His heart submits to practical reasoning.

This sort of self-control is not mechanistic, not chemical, not biochemical. It is obviously not something we can fully explain as a concatenation of underlying simpler physical and chemical properties or events, as we could with the phenomenon of control we see with air conditioners. Because this is so obviously the case, the temptation is great to surmise that the agent of control must be a distinct sort of entity. Odysseus has an immaterial soul while a machine or a cell does not. Why must this be the case? Because we cannot reconstruct an account of how rational self-governance occurs by examining the electro/chemical behavior of neurons. All we can observe from a third person perspective is electro/chemical behavior. This sort of information is sufficient for a complete account of the control

features of air conditioners and cells. We can completely map out how it turns out the AC unit does its 'magic.' The case is markedly different with Odysseus.

We can completely describe, from a third person perspective, all the neural activity that goes on while Odysseus tosses, turns, and deliberates, but unless we have first person reports, we have no idea that these events are in some way connected with his reasoning. On the other hand, all we can experience from a first person perspective is thought, reason, deliberation, passion, and inner conflict. Unless we have the third person information provided by neuroscience, we have no idea that these events are in some way connected with brain activity. We can even theoretically experience episodes like Odysseus's from the first and third person points of view simultaneously, if we set up devices that allow us to observe our brains or their impulses, while we at the same time live through the deliberative episode. However, this would only serve to drive home the dualistic hypothesis. We have some very strong phenomenological evidence pointing toward some sort of radical ontological difference between minds or persons and brains. We could interpret what we see as we watch ourselves in this dual way with the device, as our seeing either our mind or soul's affects upon our brains, or as seeing one and the same thing in two aspects, one first person and mental, the other physio/chemical. The experience would not allow us to determine which of these readings is correct.

Is the evidence so strong as to command assent to the former reading? Revisit our three examples: the air conditioner, water's liquidity, and tropism.

The situation with the air conditioner is such that we can predict that it will exhibit its governing abilities if, before we have experience of it, we have a thorough knowledge of how its parts behave and how they will be arranged. We can trace the path electrons will follow. We are familiar with the behavior of the bimetallic coil in various temperatures, and the ability of gasses to absorb and transport kinetic energy. Since we are familiar with these things, we can predict that the complex will end up turning itself on and off at particular times, and will govern the temperature of an enclosed space quite nicely.

Consider tropism: once we are familiar with the behavior of the various chemicals and compounds that make up plant cells, it becomes possible to predict cellular behavior, and the behavior of groups of cells (organisms and organs). Tropism, for instance, is predictable. While our knowledge here is incomplete, there is no reason to believe that this is impossible. At some point, we will arrive at a position where we will be able to completely account for and predict biological events like this one, just as we now can predict the behavior of mechanisms before we construct them.

But notice I've qualified both paragraphs saying things like: *Once we are familiar with the behavior of the various physical and chemical compounds it becomes possible to predict behavior* including any behavior that ends up being regulatory or governing. We cannot make these predictions based only upon our knowledge of the behavior of atoms or molecules *outside* of the physio/chemical contexts within which we experience them. Consider our third example:

Water exhibits qualities that we could not predict if all we had to go on was the observed behavior of hydrogen and oxygen in isolation. Even if we were aware of how these two elements combined with carbon and other elements, it seems doubtful that we would be able to predict their behavior when combined with each other in just the proportion indicated by the formula " H^2O ". Among other things that happen, we get a compound that exhibits room temperature liquidity. Before such combination, both elements are gasses at room temperature.

There are three key points here. One is metaphysical. It is certainly a common feature of the world that novel characteristics emerge upon complication of elements. Not only that (and this is the second more epistemological point to be made), it is also undeniably true that we cannot be in a position to know or predict that things have these properties unless we have the appropriate experiential background. This leads to the third point: We should take all this as a cautionary tale when we consider the mind/body problem. The history of natural science has given us many cases where differences between compound and elements lead people to surmise that the compound is an entirely distinct element itself, on par with the other elements. That same history has also taught us that such theories are often risky business. For instance, it was discovered that water is a compound. Water owes its existence to a combination of simpler elements. Given such historical evidence, we should approach any similar phenomena with caution, and not accede too readily to dualistic Platonic arguments like those above.

We must exercise caution, and remember our epistemological situation. Nothing in Plato's arguments leads us inescapably to the conclusion that mind is an altogether different sort of stuff than the human body with which it is most certainly intimately associated. The stronger version of Plato's argument against Simmias's "harmony thesis" is, in the end, no different from the weaker. Its first premise is narrower in scope, dealing only with the capacity to reason and deliberate, but embodies the same "risky business."

While he is impressed with the fact that persons consciously reason things out, and he cannot fathom how that sort of control could arise from elements that do not think, a parallel sort of argument was

made by early natural scientists with regard to water. On the basis of the sort of opinion embodied in Plato's primary assumption we can imagine such a person asking rhetorical questions like, "How can something be liquid at room temperature when its parts are not?" and drawing the appropriate 'third substance' conclusions.

Likewise, one could argue that the life of cells is not metaphysically dependent upon the elements that make them up, but some sort of immaterial thing inhabits cells. "After all," such a one might ask, "how can something grow, metabolize, and repair itself, if its parts cannot? Surely, something else inhabits these collections of matter, some completely different sort of stuff." We can see that this line of argument embodies the more general form of Plato's control thesis.

This argument does not tempt, while Plato's rational-control argument does. Why? I think it stems from the first person view we have on our own mentality. We can introspectively examine episodes of Homeric self-control, externally examine brain behavior associated with it, and be mystified that one could simply be the other, or somehow cause the other. They seem so utterly different. Granting the identity thesis (our first person experience simply being brain activity) there is no apparent way to reconcile and reduce first and third person reports of mental activity. There is a concomitance, at least, and a mystery, very stubborn mystery.

Yet, that irreconcilability, that mystery, is not incontrovertible evidence that we are dealing with two distinct substances. A full-blown substance dualism may be the case. A watered down dualism may be the case. The human mind and the human body might be distinct in the Aristotelian sense, but not metaphysically. In light of empirical evidence from the history of science, we should be cautious of declaring victory for the strongest form of dualism.

We do, as Hume says, rely on the fact that much that we learn about our world and ourselves is dependent on the observance of brute concomitance. Observation may, in the end, report coincidences that are unfathomable. However, in the case of rationality and brain function, this concomitance certainly does not force us to conclude that the coinciding events are metaphysically distinct things. Far from it. It does not force us to conclude that we are not our brains. It suggests we may be. In light of the constant association of brain activity with thought, the evidence leans heavily against this substance dualist position. Rational beings do 'use' their brains to do things, and can control their brains and bodies, but those rational beings might, for all of that, still be dependent upon those very things they control.

If, on the other hand, we show that rationality functions despite large-scale disruption or destruction of brain function, that would be evidence that rationality is not dependent upon the physical. Conversely, if we set out to cause episodes of various mental events by brain stimulation, and find that we have success when it comes to sensory states, emotions, and the like, but cannot stimulate the brain into having a rational thought, or an abstract thought, that too, might be evidence in favor of substance dualism.