

# Platonic Causes Revisited

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## I. INTRODUCTION

THIS PAPER OFFERS A NEW INTERPRETATION of *Phaedo* 96a–103a. Plato has devoted the dialogue up to this point to a series of arguments for the claim that the soul is immortal. However, one of the characters, Cebes, insists that so far nothing more has been established than that the soul is durable, divine, and in existence before the incarnation of birth. What is needed is something more ambitious: a *proof* that the soul is not such as to pass out of existence. According to Socrates’s initial response to Cebes at 95e8–96a1, giving such a demonstration requires a thorough investigation into “the reason for coming to be and passing away in general” (ὅλως γὰρ δεῖ περὶ γενέσεως καὶ φθορᾶς τὴν αἰτίαν διαπραγματεύσασθαι 95e9–96a1). This leads Socrates to the passage with which this paper is concerned. He mentions several changes of different sorts and nominates some purported “causes” that he and other theorists used to accept, but which he now finds scarcely intelligible. He then expounds his own mature view that the Forms are causes.

The existing literature on this passage is vast and highly sophisticated, so much so that one might reasonably despair of saying something new at this stage. Nevertheless, I think some of Socrates’s remarks on philosophical methodology in our passage have not yet been appreciated as deeply as they should be. In particular, there has been little work showing how well-integrated they are with his positive proposals about causes. I also think that there are metaphysical models available to modern philosophers, not merely coherent with but actually suggested by Socrates’s methodology, which give a more satisfactory picture of those positive proposals than others available in the contemporary literature. That, at any rate, is what this paper aims to provide.

By way of introduction I here begin with just three examples (probably the most celebrated three) of the *Explananda* (E) Socrates considers; the *Unsatisfactory Answers* (UA) offered by his predecessors, contemporaries, and his own earlier self; and the *Causes or Explanations* (CE) he now endorses as the mature philosopher of the *Phaedo*.

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- (i) (E) Why is A larger than B (*Phaedo* 96d8–e1)?  
 (UA): A is larger than B *by a head* (96e1).  
 (CE) A is larger than B *by largeness*, or by *The Large itself* (101a1–5).
- (ii) (E) How can things come to be two in number (96e7–9, 97a5–7)?  
 (UA) By *dividing* one thing (97a7); or by *adding* something to it (97a1)  
 (CE) Because of *twoness* (101c207)
- (iii) (E) Why is Socrates remaining in prison to face death (98c2–4)?  
 (UA) Because his bones and sinews are disposed in such-and-such a way (98c4–d6)  
 (CE) Because, in the circumstances, he believes that it is best for him to do so (98e1–5)

In section 2 I give a brief account of what I take to be unsatisfactory about these UAs. In section 3 I sketch out the debate about Socrates's positive proposals, his CEs, with a view to defending my account of it in section 4. Sections 5 and 6 construct a new explanation of the way in which Socrates develops his position from its starting point, which reinforces the interpretation as a whole.

## 2. THE UA AND SOCRATES'S INDIFFERENCE ARGUMENT

The simplest explanation for why Socrates finds such UAs as I give above unacceptable is that he adopts some strong form of the Principle of Sufficient Reason (PSR).<sup>1</sup>

When he sees some phenomenon *Z*, *apparently* caused in some cases by *X* and in others by *Y* (where  $X \neq Y$ ), then he infers that neither *X* nor *Y* ever *in fact* causes *Z*.<sup>2</sup> Put another way, Socrates thinks that *Z* cannot be caused now by *X*, now *Y*, *indifferently*. Put yet another way, Socrates holds that causes must be not merely sufficient for their effects but also necessary.<sup>3</sup>

Some such strong assumption as that *X* is the *only* cause of *Z* if it is *ever* a cause of *Z* is required to make Socrates's reasoning generally valid. For otherwise he will be open to the objection that *Z* is brought about on some occasions by *X*, on other occasions by *Y*, and that there is no special reason why it should be the one rather than the other that brings about *Z*. Many readers, on encountering for the first time the UA given in (ii), reasonably respond: why should not the process of addition account for the fact that *some* pairs are two in number, while the process

<sup>1</sup>For a general account of such arguments, see Makin, *Indifference Arguments*. In the main text I shall refer to such arguments indifferently as indifference arguments or Principle of Sufficient Reason (PSR) arguments.

<sup>2</sup>I shall not attempt to formulate Socrates's PSR-reasoning any more precisely than this: I doubt the text of *Phaedo* 96–100 will sustain anything much more carefully formulated. In particular, although there is some valuable literature on it (see Sedley, "Platonic Causes," 114–27), I doubt that the text justifies any way of making the *type* of the variables I here introduce any more precise than I have left them. But the interpretation here advanced should be judged in light of that part of the *Phaedo* where I am able to formulate Plato's views with greater precision: see sections 4 and following.

<sup>3</sup>This interpretation of Socrates's position is not new: see e.g. Bostock, *Plato's "Phaedo,"* 138; Ruben, *Explaining Explanation*, 45–76. However, my argument that PSR-reasoning is typically Socratic, and can explain other features of our passage, is new; as is the way in which I connect Socrates's dismissal of pre-Socratic UAs with his positive proposals.

of division accounts for yet *others*? What is wrong with holding that addition and division cause pairhood indifferently?

Equally, some such strong assumption as that *X* causes *only Z* if it is *ever* a cause of *Z* is required to make Socrates's reasoning generally valid. For otherwise he will be open to the objection that *X* brings about (on some occasions) *Z* but (on other occasions) *Y* (where  $Z \neq Y$ ), and that there is no reason why *X* should not bring about such diverse results indifferently. Many readers, on encountering for the first time the UA given in (i), very reasonably respond: why should not the unit of magnitude here referred to as 'a head' be the cause *both* of *A*'s being taller than *B* *and* of *B*'s being smaller than *A*? What is wrong with holding that such units can cause relative bigness and smallness indifferently? That the answer to this last question should be "nothing at all" is strongly urged by the apparent fact that such relations as *A's being taller than B* and *B's being smaller than A* are at least necessarily coextensive, if not identical.

In the former case, Socrates's repugnance in the face of diverse "causes" *X* and *Y* of the same phenomenon *Z* will be particularly acute when *X* and *Y* are related as opposites, as addition and division are in (ii) above. But sometimes Socrates rejects "causes" that are *not* apparently related as opposites.<sup>4</sup> Is thinking caused by blood, or air, or fire, or even (he wonders) the brain (96b3–4)? Is knowledge brought about by memory and judgement when they have come to rest (96b6–8)? Are eating and drinking the causes of human growth (96c7–d5)? In each case here, too many things, too obscurely and arbitrarily related to the effect type in question, are being nominated as causes. Socrates seems to object to the candidates wholesale on the grounds that there is nothing to indicate which, if any, is the one and only true cause.

There is no doubt that some version of PSR-reasoning is playing an important role in our passage. For such reasoning surely lies behind the stretch of argument at 96e6–97a6.<sup>5</sup> Here Socrates is wondering about what changes when pairs come to be, and getting confused about it. When you add one thing to another, is it the first thing that changes into a pair, or the second thing you are adding to the first thing? Plainly there is no more reason to think either member of the pair is *the one that changes into* a pair. But it cannot be right to say that *both* of them do: for the two together are, as it were, *already* a pair, and hence not the sort of thing capable of *turning into* a pair. So it is a mystery what, if anything, comes to be two in number; for it is neither member of the pair individually nor the two collectively. And what else is there?

In general PSR-reasoning is a typical Socratic move. It is used very frequently in definitional dialogues to deliver the final unfavorable judgment against a failed

<sup>4</sup>See Sedley, "Platonic Causes," perhaps the best recent treatment of this passage. Sedley's understanding of Socrates's confusion about, and wholesale rejection of, Presocratic causes is in some ways anticipated by Charlotte Stough's excellent contribution to the topic, "Forms and Explanation." Sedley acknowledges the fact that some of Socrates's Es and UAs can be seen to involve opposites and opposition only with quite a bit of work: see the ingenious suggestions flagged by question marks in the table he formulates at 119–20.

<sup>5</sup>I understand this to be the interpretation of Anscombe, "The Early Theory of Forms."

answer to a “What is F?” question.<sup>6</sup> Moreover, this style of reasoning has already been deployed at a crucial point in the *Phaedo*;<sup>7</sup> and it will be deployed again shortly after our passage—this time, vitally, to give an answer to one of the questions left hanging in Socrates’s reflections on nature, namely one about the location of the earth within the heavens. At 108e4–109a8, Socrates reveals his opinions about the shape and position of the earth. He seems to reason that, since the earth appears stationary in the heavens, it is therefore round, and located at their centre. For only if the earth is of such a shape, and in such a location, will it have no more reason to move in one direction rather than another. Put another way, were the earth either not round, or located somewhere other than the centre of the cosmos, then Socrates thinks it *would* incline in one direction rather than another.<sup>8</sup>

### 3. SOCRATES’S POSITIVE PROPOSALS: THE STATE OF THE DEBATE

To claim as I just have that Socrates engages in a bit of indifference reasoning in rejecting the natural scientists’ UAs is not to say very much. That he thinks the relation of causation cannot have various different sorts of things at either end of it may be so; but we remain in the dark about the nature of that relation and the sorts of things it relates.

For answers to such questions we must turn to Socrates’s positive proposals about causation, his CEs. But before we advance to these it will be helpful briefly to pan back and look at the state of the scholarly debate on these issues. That will help not only to situate my own position; more importantly, it will show just how little we should expect to be able to advance, together with that and why this fact is not some defect in Plato’s argument.

One school of thought has noted that, if Socrates’s CEs, or the objects mentioned in them, are meant to have the status of anything we are prepared to call ‘causes,’ then whatever he says is bound to look extremely odd to post-Humean readers. (Call this the [A] reading.) For such readers are used to thinking of causation as a relation between *events*, paradigmatically events involving material objects moving and touching one another, and whose occurrence is sufficient but not usually necessary for what they cause.<sup>9</sup> But in rejecting the above UAs and replacing them with his CEs, it seems highly unlikely that Socrates is talking

<sup>6</sup>*Charmides* 160b–c: sound-mindedness is no more acting quietly than acting hastily; *Meno* 74d–e: round is no more shape than straight; *Meno* 78e: possessing instrumental goods such as wealth is no more virtue than is lacking them. See also *Theaetetus* 182e: if everything is changing in every way all the time, it is no more correct to call a “perception” seeing rather than not seeing.

<sup>7</sup>*Phaedo* 75c–d, where the argument offered thus far for the recollection theory is generalized: they have before them a case suggesting that any instance of perceptible equality will put one in mind of Equality itself, which unlike sensible equals never even seems to be unequal in any way; but this case can be generalized, because the argument no more concerns Equality than it concerns The Beautiful, The Good, The Just, and The Holy. If, as it does, it concerns one member on this list (equality), then it concerns all of them.

<sup>8</sup>Aristotle ascribes this argument to Anaximander at *De Caelo*, II.13, 295b11–15.

<sup>9</sup>For this contrast, see Lear, *Aristotle: the desire to understand*, 15, whose remarks on Aristotle, *Physics* II.1, apply equally well to our Platonic passage: “The Greek word which is translated as ‘cause’ does not mean cause in the modern sense: namely, an antecedent event sufficient to produce an effect.”

about a relation between events, much less events whose constituents relate to one another paradigmatically through contact. Meanwhile, as I have just argued, it seems highly likely that he rejects those UAs, and accepts instead his CEs, because he thinks that genuine causes must figure in conditions not merely sufficient for their effects, but also necessary.<sup>10</sup>

Hence, in order to make Socrates intelligible in our passage, the [A] reading has sought some familiar but *non*-Humean conception of causation in what Socrates says. In particular, they have sought ancestors of the causal concepts Aristotle describes in *Physics* II and elsewhere. So perhaps Socrates is hankering after an account of something like *formal* causation, comparable to the one Aristotle would give of a human being when he says that human beings are rational animals. That might account for (ii) above: pairs of things are two in number because that is just part of the definition of what it is to be a pair. Or perhaps Socrates is aspiring to an account of something like *final* causation, comparable to the one Aristotle would give of an acorn when it reaches its natural end of being a healthy oak tree producing further acorns. That might account for (iii) above: a thing's final cause is just that natural state that is best for it, and perhaps Socrates has come to believe that, under the circumstances, it is best to subject himself to the will of the Athenians, however unjust it is, by contrast with returning a wrong with a wrong by trying to escape. Or perhaps Socrates is pushing an account of something like *efficient* causation, comparable to the one Aristotle would give of one thing's being set in motion by another. That might, with a bit of imagination, account for (i) above: The Large causes other things to be large in something like the way in which hot things make other things with which they are in contact hot, or moving things make other things with which they are in contact move.<sup>11</sup>

Another school of thought, influenced by Gregory Vlastos's classic paper on the subject, also deploys Aristotle in its approach to Plato, but in a quite different

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<sup>10</sup>Affirming that causes are not merely sufficient but also necessary for their effects sounds strange to modern ears only because of the prevalence of analyses according to which causation relates event types, broadly construed. A window's breaking is *the sort of thing* for which a cricket ball striking it will be sufficient, but the latter is hardly necessary for the damage: golf balls will break windows just as well. But if you suppose instead, as some do, that the *relata* of causation must be typed more narrowly, then it will seem less odd to say that a cause is not merely sufficient but also necessary for its effect. For on that supposition you will be disposed to think that what needs explaining in terms of a cause is *the way in which* windows break: and there is a way of breaking sufficiently finely typed such that only a cricket ball (and not also something smaller and slightly differently shaped like a golf ball) could do the job. And if you suppose instead, as some do, that causation relates not event types but rather tokens, then it will seem even less odd to say that a cause is not merely sufficient but also necessary for its effect. For on that supposition you will be disposed to think that what needs explaining in terms of a cause is that *this* particular window broke in *this* particular way: and nothing could have broken this particular window in this particular way besides the cricket ball that did actually break it. For a brief but penetrating discussion, see Martin, "Conditionally Necessary Causes."

<sup>11</sup>The literature here is too vast to be covered in full, but briefly: for an argument that Socrates is theorizing about formal causation, see Sedley, "Platonic Causes;" that he is theorizing about final causation, see Wiggins, "Teleology;" that he is theorizing about efficient causation (or at least dreaming about it), see Aristotle, *Metaphysics*, I.9, and *De Generatione et Corruptione*, II.9 (and see also the helpful discussions of these passages in Fine, "Forms as Causes: Plato and Aristotle," and Sharma, "Socrates' New *Aitia*"; neither Fine nor Sharma endorse Aristotle's interpretation); that he is theorizing about all three kinds of causation in some sense at once, see Fine, "Forms as Causes."

way.<sup>12</sup> (Call this the [B] reading.) Consider the common observation that Aristotle's theory of cause is well introduced to modern readers as being not so much a theory of *cause*, but a theory of *explanation* instead. Too many books to be mentioned tell us that it is useful to think of Aristotle's four causes as "the four *because*s." That this observation is helpful is a sign of how deeply associated our word 'cause' is with Hume's concept in general, and the impact-model of causation in particular.

The [B] camp, influenced by Vlastos, embraces some such distinction between causes and explanations and imputes it to Plato. On this view, Socrates is to be understood as simply *giving up* on theorizing about *causes* as we understand them: whatever the wording of our passage may be, the theory Socrates offers is one about *explanation* as we understand it, not *causation*. In particular, Vlastos's interpretation has Socrates focused on what he calls 'metaphysical' or 'logico-metaphysical' explanation, into which nothing recognizable to us as a concept of *cause* enters.<sup>13</sup>

The interpretation preferred below suggests a *via media* between the [A] and [B] approaches. Instead of adjudicating between them, I emphasize Socrates's first positive proposal, and his avowed methodology. Once these are appreciated as deeply as they should be, we will be in a position to formulate parallels to the [A] and [B] approaches that bring out just how wrong-headed they are.

#### 4. A PLATONIC ADEQUACY CONDITION

Socrates' main positive purpose in our passage is to *give adequacy conditions for being F or coming to be F in the sensible realm*, for various values of F. His fundamental affirmation is that, whatever else may be the case in the matter of cause or explanation:

(ACP) A sensible thing is F, or becomes F, if and only if The F makes ( $\pi\omicron\iota\epsilon\acute{\iota}\nu$ ) it F.<sup>14</sup>

Nothing less than ACP will account for the *exclusivity* of the causes Socrates eventually hypothesises at 100c4–6: if, for example, something is beautiful, then it is beautiful *by nothing else besides* Beauty itself, the *one and only* cause of beautiful things. The unique status of the Forms as causes is reiterated at 101c1–4. Socrates urges Cebes to shout loudly that he does not know of *any other* cause for something being as it is besides "its participating in the peculiar being of each thing in which it participates."

That Socrates is doing no less, but importantly no more, than expressing something like ACP is suggested by the methodology he outlines at the same time. Start off by saying something safe, he advises, which no one would deny (100a3–5, 100d8–e3): this, I take it, is just ACP. Then, proceed in an orderly fashion toward your intended conclusion (101d6–e3); and, crucially, do not feel obliged to say

<sup>12</sup>Vlastos, "Reasons and Causes."

<sup>13</sup>For a brisk formulation of the [B] approach, see Annas, "Aristotle on Inefficient Causes." She says, "What is being *explained*, is why a thing has a quality F; the Form *explains* this with no reference to any particular process or events of things' coming or ceasing to be F. Plato, *in fact*, has changed the subject" (318; my emphasis). For a revival of it, see Sharma, "Socrates' New *Aitai*." For admirable skepticism about whether the text will support the distinctions between causation and explanation that some modern readers bring to it, see Stough, "Forms and Explanation in the *Phaedo*."

<sup>14</sup>I here follow Sedley in holding that ' $\pi\omicron\iota\epsilon\acute{\iota}\nu$ ' is Plato's canonical verb for the causing relation; see Sedley, "Platonic Causes," 115.

more about your initial hypothesis (here, ACP) than you need to, before you have pursued its consequences (101d3–6).<sup>15</sup>

If I am right, we do Socrates an injustice by trying to see him as sketching something Aristotle wrote about later in greater detail, regardless of whether that tallies with *our* concepts of *cause* or of *explanation*. But if instead we are determined to read him as ignoring anything recognizable to us as a concept of *cause* altogether, we will be at a loss to explain how he manages to say anything sufficiently informative about *change* to deliver the conclusion that the soul cannot change by passing out of existence. Recall Socrates's first response to Cebes's demand for a proof of the soul's immortality: providing such a proof will require an investigation into "the reason for coming to be and passing away in general" (*Phaedo* 95e9).

More precisely, in ACP Socrates is not committing himself in detail to the nature of "The F," or of the "making" relation, and hence there is little point in wondering whether his commitments stretch him all the way to Aristotle's more developed theories, or any other filled-out conception of cause.<sup>16</sup> No such thing is to be found in this brief, tantalizing passage. But to be sure he is setting a condition on *having or acquiring* a property, and therefore by no means giving up on the prospect of saying something informative about change, and hence causation as we understand it, in the sensible world.

That Socrates's methodological considerations have not been fully appreciated by those tempted by [A] and [B] suggests that something new and informative needs to be said about his methodology. More precisely, we need some more philosophical data to see what is involved in the giving of adequacy conditions, as I contend Socrates is doing in our passage. That is the task of the next section. As we shall see, it is all too easy to approach the other philosophers I have in mind with assumptions analogous to those made by [A] and [B]. And yet no philosophically trained modern reader would have anything other than resistance to such approaches; we should therefore be all the more sympathetic to treating Socrates with the same charity.

<sup>15</sup>What would be an example of the sort of premature question Socrates advises his would-be hypothesizer to dismiss? Consider one of Aristotle's objections to Plato's Theory of Forms articulated at *De Generatione et Corruptione*, II.9. If the Forms are causes, Aristotle wonders, why are they not bringing about their proprietary effects everywhere all the time? If the F makes F things F, why does it not make everything F all the time; or rather, why does it make only some things F, only some of the time? Why did Beauty Itself make Helen of Troy beautiful, but not me, and why will it stop making her beautiful at some point? Why did The Large make Jupiter large, but not field mice? Such Aristotelian questions are fair questions for a *developed* theory of Forms as causes. They are not fair questions of ACP and what little else we find added to it in the theory of cause developed as far as it is in the *Phaedo*. They ask of that theory just what Socrates says its proponent may legitimately postpone answering (101d3–6).

<sup>16</sup>In a sense there is an explanatory gap between the PSR-considerations of section 2, and ACP. The former gives some reason for thinking that there is one and only one cause of some sensible thing being beautiful; but it gives no reason for why, as ACP affirms, this unique cause is the Form of Beauty. (I am grateful to an anonymous referee for *JHP* for pointing this out to me.) Such a gap tells in favor of something like the [A] approach: for the gap might be filled if Plato had in mind something relevantly similar to Aristotelian formal causation. But it tells only so far. As Sharma rightly observes ("Socrates' New *Aitia*," 148), formal causation only makes sense, as it does in Aristotle's system, as part of a broader theory containing *other* kinds of explanation. But, for just the reasons I give in the main text, we are offered no such breadth in this passage from the *Phaedo*, nor should we expect it.

## 5. SOME HELPFUL COMPARISONS

ACP might be charged with both saying too much, and saying too little. The charge of saying too little is that at best ACP is vacuous: in going for something as “safe” as such CEs, Socrates will not in fact succeed in explaining anything at all.<sup>17</sup> Plato himself formulates one version of the charge that ACP says too much, at *Parmenides* 130b7–d5, where Parmenides exposes the young Socrates’s lack of conviction about the possible values for F in such formulae as ACP. It might be that sensible beauties are beautiful if and only if made so by Beauty itself; but here in the *Parmenides* young Socrates seems to say something tantamount to, for example, sensible dirty things are *not* made dirty by Dirt itself, there being no such Form. But what then is the relevant difference in the two cases? Why is “Beauty” a respectable value of F in such formulae as ACP while “Dirt” is not?<sup>18</sup>

Compare Bertrand Russell on change:

Change is the difference, in respect of truth or falsehood, between a proposition concerning an entity and a time T and a proposition concerning the same entity and another time T', provided that the two propositions differ only by the fact that T occurs in the one where T' occurs in the other.<sup>19</sup>

From which we may reasonably infer on Russell’s behalf:

(ACR) A thing changes if and only if there is some proposition about that thing which is true at some time and false at some other time.

ACR might be charged with both saying too much, and saying too little. It says too little because it says nothing about when, how, or why incompatible predicates start or cease to be true of a thing over time. And it says too much because some things will satisfy the right hand side of the biconditional without, intuitively, changing: *mere* Cambridge changes, as one might call them.

For all that, it would be quite wrong to infer in the fashion of the [A] approach that, because ACR says too much, it speaks of some theoretically loaded concept of change that can only be appreciated in the light of some later, more developed theory of change. On the contrary, Russell takes himself to be saying something *anyone* considering change should be willing to accept.

It would be equally wrong to infer in the fashion of the [B] approach that, because ACR also says too little, saying nothing about how, why, or when changes take place, Russell has therefore changed the subject within his own sentence: starting off by talking about change but then going on to talk about something merely logical or “logico-metaphysical,” in which explanations of some sort may be on offer, but nothing recognizable to us as a concept of *change*.

On the contrary, Russell *is* talking about change; he is saying something about it that one could scarcely deny (for all changes entail changes in the truth-values of propositions); he is saying all he needs to say about change for his present

<sup>17</sup>For a discussion of this charge, see Denyer, “Final Argument,” 89–90.

<sup>18</sup>In his response to Socrates here (130e1–3), Parmenides says that philosophy has not yet taken hold of the young man, but speculates that it will, at which time he will no longer despise such apparently trivial things as dirt and hair.

<sup>19</sup>Russell, *The Principles of Mathematics* Vol. 1, 469.

mathematical purposes; and he is doing so in a fashion quite consistent with the fact that there is much more to be said about what happens when actual changes, as opposed to *mere* Cambridge changes, take place. In short, Russell is helpfully and sensibly formulating an adequacy condition for the concept of change; and, as I said, that is all that is required for his purposes.

My second example is taken from Tarski's Theory of Truth, which begins with the adequacy condition known as Convention T (or the T-schema), according to which any adequate theory of truth for a language L must entail, for any sentence  $\phi$  of L, that

(ACT)  $\ulcorner \phi \urcorner$  is true if and only if  $\phi$ .

ACT might be charged with both saying too much, and saying too little. It says too little because to come to know that truth disquotes, which is all ACT tells you, is to come to know next to nothing about truth. One still wants to know whether or not truth is some kind of relation; and if it is, is it a relation between language and the world globally, or between sentences and facts discretely, or just among correct beliefs? But ACT also says too much. ACT threatens to provide the world with too many episodes that intuitively do not seem like changes. Meanwhile ACT threatens to give the relevant language L too many entailments that intuitively do not seem like truths. For it might be that some (syntactically appropriate) values of  $\phi$  within L are neither true nor false—because, for example, the value of  $\phi$  is vague, or mathematically undecidable, or expresses a proposition about a future contingency, or is simply truth-valueless for some other reason. But obviously any instance of ACT in which  $\phi$  lacks a truth-value will be either false or itself truth-valueless; hence it had better not be *entailed* by a theory of truth for the relevant language.

Again, it would be quite wrong to infer in the fashion of the [A] approach that, because ACT says too much, it speaks of some theoretically loaded concept of truth that can only be appreciated in the light of a later, more developed theory of truth. On the contrary, Tarski takes himself to be saying something *anyone* considering truth should be willing to accept.

It would be equally wrong to infer in the fashion of the [B] approach that, because ACT says too little, saying nothing about what *makes* truths true when and only when they are true, Tarski has therefore changed the subject within his own sentence, starting off by talking about truth but then going on to talk about something merely logical or “logico-metaphysical,” in which explanations of a sort may be on offer, but nothing recognizable to us a concept of *truth*.

Russell and Tarski are proceeding in the same way as Socrates. They start out by saying something safe and uncontroversial, which nevertheless fixes adequacy conditions for claims about the topics at hand, change and truth respectively. This is just what Socrates is doing with his positive proposal ACP. Russell is not committing himself in ACR to why changes happen when they do, or to what are to count as genuine changes and merely Cambridge changes; nor ought he to be. Likewise Tarski is not committing himself in ACT to what kind of relation truth is, or to what values of  $\phi$  will yield correct instances of the T-schema; nor ought he to be. And likewise Plato is not committing himself in ACP to why things come to

be F when they do, or to exactly what the values are for the variable F; nor ought he to be. For all three philosophers, answers to these questions belong to a much later stage of theoretical development, and pressing them at the start makes one no better than the sort of contradiction-mongers who like to jumble everything up at the same time, whom Socrates castigates at *Phaedo* 101e5.

#### 6. DEVELOPING THE NEW THEORY (I)

None of this is to say that Plato does not develop ACP within the *Phaedo*. Indeed he does. But as we shall now see he does so in directions rather different from those expected by the [A] and [B] approaches.

Further confirmation for the interpretation advanced above appears, surprisingly, at just that point where Socrates appears to say something inconsistent with ACP. For later on it appears that Socrates *is* willing to accept that more than one kind of thing can cause the same phenomenon, when he illustrates his “subtler” answer at 105c. The “safe” causes of things becoming hot or ill are, according to ACP, the Forms, Heat and Illness. But it now seems that other things—things explicitly distinguished from the likes of Heat and Illness at 103e4—can also bring about those phenomena. A thing is bound to be hot if there is *fire* present in it, since fire inevitably brings on heat. And a person is bound to be ill if they have a *fever*, since fever inevitably brings on illness. Fire and fever are not Forms; and yet apparently they are capable of doing the job ACP seemed to restrict to Forms alone. Worse, these new “subtle” things (as I shall call them henceforth) are described with exactly the same predicate (‘subtle’ [κομψείας]) Socrates used at 101c8 to refer to the candidate causes Cebes *should dismiss*, as too clever by half; that is, to refer to the UAs previously disposed of by Socrates’s indifference reasoning.

Has Socrates now fallen into the confusion for which he earlier castigated others? More precisely, is he now saying something inconsistent with *both* ACP and PSR? From what he appears to say in 105c, there is no such thing as *the* cause of heat or illness in things. Two quite different things can apparently cause both phenomena indifferently, Heat and fire in the one case, Illness and fever in the other. But since hot things are apparently made hot *no less* by fire than by Heat, and sick people made sick *no less* by fever than by Illness, why do we not here have a violation of both ACP and the PSR considerations that Socrates has deployed repeatedly in *Phaedo* 96–100?

There is no inconsistency in Socrates’s practice here. Admittedly what he gives us in 105c, with the introduction of such things as fire, snow, fever, threeness etc., is a new and subtler *answer*. But insufficient attention has been paid to the question to which it is an answer. For, unlike the “safe” answers of 100c4–6, which were just the Forms, this new response does not explicitly try to answer a question *about cause*; nor, in nominating the subtle things, does it name any causes.

Hitherto, the discussion has been about causes, for all that Socrates has, in accordance with the methodology ascribed to him above, refused to say much about their nature or that of the causing relation. Socrates announces a causal account (αἰτία) as the object of the inquiry at 95e9, reaffirms it as the object in view

at 99d1, and presents ACP as a solution to it at 100c6–7.<sup>20</sup> But there is next to no mention of causes or causal accounts in his proof of the soul's immortality.<sup>21</sup> Plato does not use the αἰτί- root anywhere between 101c4 and 110e2; nor does he use his favorite verb for causation (ποιεῖν); nor does he use his favorite prepositional construction for causation (διά + accusative).<sup>22</sup>

But are the subtle things causes? We should not think so simply as a matter of course. For they are introduced as answers to rather different questions from those initiated at 95e9–96a1. They are answers to questions such as “what is that *by whose presence* in a body that body will be hot?” or “what is that *by whose presence* in a number that number will be odd?” These questions are not the same as the questions about cause from earlier on in the investigation. They were of the form (a) “*by/because of what* is something hot, or even?” The new questions are of the form (b) “*by the presence of what in something* will that thing be hot, or even?” That the two sorts of question should be distinguished is strongly suggested by Socrates's way of introducing them at 105b5–6: “And do not answer in the exact terms of my question, but in *imitation* of my example.”<sup>23</sup>

No doubt the two questions are importantly *related*. No doubt the subtle items here introduced have *something* to do with cause and explanation. Perhaps this fact is even clearer in the Greek because of the datives involved in connecting the subtle things to the very *explananda* at hand.<sup>24</sup> But it would be too quick to assume that (a) type and (b) type questions simply mean the same, and that answers to the latter can therefore be answers to the former. If they do not mean the same, there will be no reason to suppose that they have the same answers. We can say no more with confidence than that (b) type questions are about what is *sufficient* for *bringing on* (ἐγγίγνεσθαι) a certain property. Figuring in a condition sufficient to bring on a certain property is not, without further argument, to be identified as being that property's *cause*; it is not even clear that *bringing on* a property is the same thing as *causing* it.

<sup>20</sup>I have thus far translated ‘αἰτία’ as ‘reason.’ I think ‘causal account’ gets to the philosophy slightly better, but using it in my translations would violate the principle of economy, and might misleadingly suggest that I have anything other than sympathy for those who think modern distinctions between causation and explanation have not been entirely helpful for our understanding of the *Phaedo* (Stough, “Forms and Explanation”; Fine, “Forms as Causes”).

<sup>21</sup>The exceptions are the causal datives in 102c2, 111: I deal with these in the final section of the main text.

<sup>22</sup>Once again I am following Sedley's suggestion that these locutions are canonical for cause at least in the *Phaedo*: see Sedley, “Platonic Causes,” 115.

<sup>23</sup>This is the translation of Gallop, *Plato's "Phaedo,"* 59; my emphasis. The best recent English language commentary to the *Phaedo* glosses Socrates's request thus: “[I].e. when I ask about the F-ness of anything (what in it makes it F . . .), don't reply ‘F-ness,’ but instead something on the following model (b8–c6)”; see Rowe, *Plato's "Phaedo,"* 259. In the main text, I argue that answers in accordance with the model Socrates is about to give do *not* in fact answer such causal questions as “what is it in an F thing that *makes* it F?”

<sup>24</sup>Equally, I suspect it is clearer in the Greek that the subtle things answer a different question from that answered by Forms. For often the very expressions that refer to Forms are put in the (causal) dative: τῷ καλῷ (100d7, e2), πλήθει (101b6), and ἡμίσει (101b7). By contrast the subtle things are connected to those things to which they inevitably bring various properties only by dative relative pronouns: ὃ ἂν πῦρ (105c2), ὃ ἂν πυρετός (105c4), ὃ ἂν μόνάς (105c6), and Ὡ ἂν ψυχή (105c11).

Once the subtle things are introduced as answers to (b) type questions, (a) type questions, and the answers to them—the Forms, as stipulated in ACP—seem to have dropped out of consideration. The best explanation I can think of for why they have done so is just that questions about *cause as such* (that is, [a]-type questions) have been answered once for all at 100c4–6.<sup>25</sup> And the best explanation I can think of for why the subtle things (fire, fever, three, and the like) are nowhere *said* to be causes, or answers to (a)-type questions, is that Socrates does not think that they *are* causes.<sup>26</sup> If this interpretation is correct, only Forms are causes, as ACP affirms.

It is easy to see why these “subtle” things, answers to (b)-type questions, have so long been taken to be causes themselves. For there is an ambiguity in the way Socrates expresses himself. He says, “[F]rom what is now being said I see a different kind of safety beyond the answer I gave initially, the old safe one” (105b6). This carries the implicature that the subtler answers we are about to get (fire, fever, three, and the like) are responses to the very same (a)-type question answered by “the old safe one,” which was indeed a question about what causes there are, and whose answer I take to be expressed entirely by ACP. But in fact matters are the other way around. Instead, the point of Socrates’s sentence here is that ACP *also* provides a safe answer to the new, (b)-type question, “by whose presence in such-and-such will that thing be so-and-so?” But just because fire, fever, and so on are good answers to (b)-type questions gives no grounds for supposing that they are answers *at all* to (a)-type questions, the ones about *bona fide* causes and explanations.

To be sure, the subtle things are *like* the Forms in having at least one essential property in common with them. Fire, no less than the Form of Heat, is always and inalienably hot. But for all that fire somehow brings on the thing that *causes* heat, that does not mean fire itself is ever *a cause* of heat in things, or ever by itself figures in genuine explanations of why something is hot.<sup>27</sup>

## 7. DEVELOPING THE NEW THEORY (2)

The conclusions of the last section might seem like hair-splitting. One may grant that Plato never actually calls fire, fever, and so forth “causes”; one may also grant the distinction between (a)- and (b)-type questions and agree that the subtle

<sup>25</sup>By ‘once for all,’ I do not mean that there is not more to be said about Forms or how they cause; see section 5 for detailed analogies. I mean the sense in which the question “What are numbers?” is answered once for all, correctly or incorrectly, by the reply “Sets”; or the question “In virtue of what are counterfactual claims true?” is answered once for all, correctly or incorrectly, by the reply “Non-actual possible worlds.” Each answer of course invites an enormous amount of further work at best, disagreement at worst. But each answer is informative and exclusive. According to these answers, no non-set is a number; no non-merely possible world makes true a counterfactual. Likewise, I claim for Plato, no non-Form is a cause, not even a subtle thing. There is much still to be said about the nature of causes and how they cause; and no doubt many items other than Forms will be required by the story. Still, for all that only Forms are causes.

<sup>26</sup>For a weaker version of this claim, see Denyer, “Final Argument,” 93.

<sup>27</sup>So I am here in disagreement with those who have spoken of the subtle things as either causes (αἰτιον) or constituents of proper explanations (αἰτια); see, among many others, Sedley, “Platonic Causes,” 121; Vlastos, “Reasons and Causes,” 102.

things strictly answer only the latter.<sup>28</sup> Still one may reasonably call out for more explanation: *why* did Plato *not* think the subtle things are causes, given that they share characteristic and inalienable properties with Forms, and that their presence in certain bodies is sufficient for those bodies to be various values of F? What do genuine causes have that the subtle things lack? Put another way, what do the subtle things have that disqualify them from being causes as such? In this final section I suggest some answers to these questions.

Socrates seems to think that a cause should be *commensurate* with its effect.<sup>29</sup> That is, a cause must occupy exactly the right position in logical space relative to its effect, by being sufficient for that effect without being so determinate as to be unnecessary for it. So, as it might be, the presence of fire is *enough* for something to become hot, but it is not *required* for that thing to be hot, since there are other ways to become hot than by oxidizing. It is just this, I think, that Plato is trying to express by affirming that fire *brings on* heat while never going so far as to say that fire is a *cause* of heat. In general, if a candidate cause is sufficient for its effect, but contains too much by way of extraneous, causally irrelevant material, as fire does in relation to heat, then Plato refuses to call it a cause. Hence his attitude to the subtle things described above. Put in the language of PSR-reasoning: if *X* contributes to a thing's being *F*, but there are too many other ways in which the thing might be *F* without the presence of *X*, then whatever contribution *X* otherwise makes, *X* does not *cause* the thing to be *F*.<sup>30</sup>

An example will help.<sup>31</sup> In a picnicking accident, upon taking my scarlet tablecloth out of the hamper, the bull hitherto lurking in the corner of the field gores me. But the bull did not go for me *because* the tablecloth was *scarlet*; he went for

<sup>28</sup>One might go further and add: it seems that individual numbers (three and so forth) are subtle things. But one such number is the number one, which will bring on oddity to anything to which it is present (105c6); and yet surely for Plato The One is both a Form and a cause?

<sup>29</sup>In what follows, I claim only to be attempting to follow those of Plato's intuitions about commensuratness that I can extract from the *Phaedo*. I do not intend my remarks to apply to, for example, another place in Plato's works in which we seem to be told that something more is required of a cause than that it figure in conditions necessary and sufficient for the effect in question. That is very likely to be one message we are meant to take away from *Euthyphro* 9c1–11b6: if something is to be an instance of piety, it is necessary and sufficient for it to be loved by all the gods, even though, as even Euthyphro thinks, such loving does not *make* the thing in question pious. Whatever the precise details of that message, they surely do not include the idea that being god-beloved *fails to be commensurate* with being pious.

<sup>30</sup>For an account and ingenious use of this sort of relation, see Yablo, "Mental Causation."

<sup>31</sup>My example makes use of the distinction between determinates and determinables. I do *not* intend to imply that such a distinction is essential to whatever concept of commensuratness is extractable from the *Phaedo*. For later in the main text I deploy a set-theoretic illustration, which for all I know fits Plato's thoughts in the *Phaedo* no better and no worse than the present illustration. And yet, as the author of the determinate/determinable distinction observed, that relation is not just distinct from but incompatible with that of set-membership. See Johnson, *Logic*. "The relation of a determinate to its determinable resembles that of an individual to a class, but differs in some important respects. For instance, taking any given determinate, there is *only one* determinable to which it can belong" (35; my emphasis). Johnson's claim seems false: this instance of *burgundy* is a determinate of both the determinable *red* and the determinable *colored*; and these are surely distinct determinables. But for all that Johnson is surely right to distinguish the determinate/determinable relation from the member/set relation: it cannot be that the chair on which I am sitting is a determinate of the determinable *the set of all and only the chairs*.

me because it was *red*. A sign of this is that he would *still* have gone for me had the tablecloth been *crimson*, or *burgundy*, or *cerise*, or any other shade of red you like, instead of scarlet. All of these—scarlet, crimson, burgundy, cerise, etc.—are, while sufficient to provoke the bull, too determinate to be necessary for such provocation. Meanwhile the presence of the determinable of which they are determinates, redness itself, is necessary for my goring: for the bull would surely have continued his innocuous lurking had my tablecloth not been red. So *the cause* of his going for me is redness and not anything more determinate: only that is commensurate with the unfortunate effect of my being attacked by a bull, unlike other more determinate properties enjoyed by the tablecloth, such as its scarlethood.

It is the intuition that genuine causes must be commensurate with their effects that explains *both* Socrates's rejection of Presocratic "causes," and *also* why he never calls the subtle things 'causes.' Presocratic "causes" violate Socrates's PSR-assumptions. For they generally do not figure in conditions necessary and sufficient for their proposed effects. At best they figure in conditions *merely necessary* for them, like Socrates's having bones and sinews (see 99b2–4). Meanwhile the subtle things at best figure in conditions *merely sufficient* for bringing on their effects. The presence of fire will indeed bring heat with it, as the presence of fever brings illness. But being fiery or feverish are not necessary for being hot or ill. Things can be hot without being fiery, and people can ail without being feverish. For all that fire and fever bring on, in some sense, the real causes (Heat and Illness), they themselves are too precise and determinate, and contain too much that is irrelevant to what they bring about, for them properly to be the causes of such effects. Only the Forms are causes, as (ACP) states; for only the Forms succeed in being commensurate with the effects they bring about.

To see this in more detail, consider the following distinction made in our *Phaedo* passage. In addition to Forms like Largeness, and subtle things like fire, the *Phaedo* appears to countenance a *third* kind of item, referred to by such locutions as 'the large *in us*' (τὸ ἐν ἡμῖν μέγεθος 102d7; see also the locutions at 102c2, 4, 7, 102e6, and 103b5). The status of these items is the subject of much dispute, which space prevents me from discussing in detail. But the methodological considerations stressed in this paper suggest that the following remarks should be helpful.<sup>32</sup>

Whatever such things as "the large *in us*" are—whether they are immanent characters, particularised properties, parts of Forms, or even a special kind of Form all by themselves—they *too* are *explicitly said to be causes*. For evidence of this, see the causal dative at 102c2, according to which "the largeness Simmias *happens to have*" is the cause of his being taller than Socrates; and also the ὅτι clause at

<sup>32</sup>See esp. Fine, "Immanence"; Devereux, "Separation and Immanence." Fine argues that these items are immanent characters, which, at least when they are in things, are Forms or parts of Forms. Devereux infers from their avowed perishability in the *Phaedo* that there is no sense in which they are Forms. My view is close to, but I think still distinct from, that of Fine: they are a special kind of Form, perfect and free from the compresence of opposites like Forms in nature, but plural and perishable like sensible particulars. They therefore occupy a metaphysical *demi-monde* somewhat similar to that occupied by the intermediates, or mathematical, according to those who attribute such a doctrine to Plato's philosophy of mathematics; see e.g. Burnyeat, "Platonism and Mathematics."

102c4, which gives the cause of why Socrates is smaller than Simmias: it is because of “the smallness he has” in relation to Simmias’s largeness.<sup>33</sup>

Now it is easy to see that fire is not commensurate with a thing’s being hot: for it is sufficient but not necessary for a thing’s being hot that fire be present in it. However, that there is such a thing as the heat in something if it is going to be hot appears to be *both* necessary and sufficient for it to be hot. Nevertheless, one might think that the F in us is something of an embarrassment for the interpretation offered in this paper. For again it appears as if there is *more than one thing that makes sensible things F*: there is both The F *itself*, and the F *in us*, assuming they are not the same. How is that consistent with the apparent exclusivity of causation by Forms urged in such passages as 100c4–6 and 101c1–4, which are so crucial to the interpretation advanced in this paper? How is it consistent with ACP and PSR?

You might think that this fresh observation is not in fact a problem for ACP. For whatever the differences between, and metaphysical statuses enjoyed by, The F *itself* on the one hand, and The F *in us* on the other, they are both at least referred to by standard Form-locutions. They are just different kinds of Form, the one unique and imperishable, the other plural and perishable, but both typified by the absolute intolerance of opposition that marks the distinction in the *Phaedo* and elsewhere between the sensible and the intelligible. So perhaps we can just harmlessly tweak (ACP) to

(ACP)’ A sensible thing is F, or becomes F, if and only if *some F Form* makes it F.

But now there is a new worry. If The F *itself* (or The F *in nature*, or whatever you want to call it) is ever explanatory of anything, just what further work is done by *the F in us*? Or if we are ever made F by the F *in us*, just what further work does *The F Itself* do? Apparently at least something in the story is explanatorily otiose.

The answer is simple, and already suggested by the explanatory models I have been using so far. If anything is to be red, and to have the causal consequences of being red, there must be such a thing as *the precise determinate of redness* that the thing enjoys: for nothing can be red without having some precise determinate of redness, and this is bound to be some shade of red, whether scarlet, crimson, burgundy, cerise, etc. But what will be explanatory about that determinate will be that it is some determinate *of redness*, not that it is one determinate of redness (scarlet) *rather than another* (crimson, burgundy, cerise, etc.) But this just means that whenever redness is the cause (αἴτιον) of anything, necessarily there will be two distinct things, sufficiently closely related to pose no problem for my account, that can be invoked in the relevant explanation (αἴτια). I may speak of the determinable *redness* as the cause of the bull’s attack; or I may speak of *the redness of the tablecloth*. Now ‘the redness of the tablecloth’ is one locution for designating the determinate of redness had by the tablecloth. But in this context it does not designate that

<sup>33</sup>Here I disagree with Caston, “Something and Nothing,” 185: “Plato never says that the large in us is a ‘cause,’ only the large itself.” Following Sedley, “Platonic Causes,” 115, the causal dative used at 102c2 is one of the passage’s canonical expressions for cause. Caston anticipates one of the main objections both to this view and to the idea that there are two different kinds of Forms, those in nature and those in us, namely: “For if the large in us suffices to make us large, what need is there for another *explanans*?” I engage with this issue in the main text.

determinate qua determinate. And because it does not, ‘the redness of the table cloth’ is fit to figure in the explanation (*aitia*) of why I ended up getting gored.

I conclude with an alternative model for Socrates’s development of ACP that does not invoke the distinction between determinates and determinables. Consider the following (highly informal) version of Frege’s account of the number 2.<sup>34</sup> For Frege, the number 2 is identical to the set of all and only the two-membered sets there are: all the pairs, and nothing else besides. Now consider my two hands, and the following *Phaedo*-style questions. “Because of what (*διά* + accusative) are my hands 2 in number? What makes (*ποιεῖν*) the number of my hands 2?” A helpful analogy to (ACP) here will be

(ACF) Things are *n* in number if and only if they are equinumerous with the members of each and every set belonging to the set all and only of whose members are *n*-membered sets.<sup>35</sup>

So my hands are 2 in number because they are equinumerous with the members of every set belonging to a further set, whose membership is very large (indeed infinite): namely, the set of all and only the sets with exactly 2 members. This latter set just *is* the number 2 according to Frege. But how and why, we might ask of ACF, do my humble hands bear any relationship with so very populous a set as the number 2? Note that they are not themselves members of that set: my hands make no such contribution to the objects of arithmetic. The answer, rather, is that my hands *form their own set*, namely the set all and only of whose members *are my two hands*. This set, being two-membered, belongs to the very much bigger set that, for Frege, is the true referent of the numeral ‘2.’

Now imagine the following complaint: “The explanation offered here of why the number of the author’s hands is 2 involves *two* sets! One of them contains just those hands (and so has just two members); the other contains all and only those sets with exactly two members (and so has infinitely many members). But it cannot be that *both* such vividly different-sized sets contribute to explaining why those hands are 2 in number. *Therefore at least one of them must be explanatorily otiose.*”

Of course such a complaint is absurd. On the contrary, my hands belong to the former (two-membered) set *if and only if* that set belongs to the second (infinitely-many-membered) set. And this remains true even though the latter set, the number 2 itself, is more explanatorily basic in the answer to the question “what is the number of the author’s hands?” The answer to that question is “2”—that is, the larger set, rather than the smaller one containing just my hands and nothing else besides; the set that will persist even when my hands, and the set of which they are the sole members, have ceased to exist altogether.<sup>36</sup>

<sup>34</sup>Whatever problems Frege’s set theory faces, and whether or not it is inferior to other set-theoretic analyses of the numbers such as von Neumann’s, are not relevant here.

<sup>35</sup>The vacuous ring enjoyed by this formula is quite deliberate. I leave it as an exercise to the reader to see how ACF might be charged with just those objections to ACP, ACR, and ACT formulated in section 4.

<sup>36</sup>I concede that the power of this explanatory model in accounting for what goes on in the *Phaedo* tells in favour of those versions of the [A] approach that see Socrates as sketching *formal* causation in the Aristotelian sense. But on this matter see n. 15 above.

Something similar is true in the case of Forms. When something is F, according to my understanding of our passage, there are really *two* Forms involved, The F in nature and the F in it. The former is the more suitable answer to the question of the cause (αἴτιον) of that thing's being F, for the reasons explained in this paper. But that does not mean that the latter is explanatorily idle, or that it is wrong to speak of it too as being a cause (αἴτιον) or figuring in the relevant explanation (αἴτια.) On the contrary: The F in nature makes F things F when and only when there is such a thing as the F in them. But in Socrates's methodology, the part of the theory containing reference to the F in us comes, as indeed it should, after the primary explanation ACP.<sup>37</sup>

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