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TIMAEUS 48 E-51 B: PLATO'S THEORY OF SPACE

At *Timaeus* 48 e-51 b, Plato takes up the problem of bridging the gap between phenomena and the Forms. This passage occurs in the context of a consideration of the *necessary* factors in the constitution of the universe, following a consideration of the *rational* factors (including the Demiurge, Soul, and Forms). The two are distinguished at 46 d-e, where the latter are said to constitute «the causation that belongs to the intelligent nature», consisting of «causes that work with intelligence to produce what is good and desirable»¹. The former are said to constitute the causation «which belongs to things that are moved by others and of necessity set yet others in motion» and consist of causes «which, being destitute of reason, produce their sundry effects at random and without order». The rational factors seem to do their best to produce the best, but their efforts at least sometimes fall short when confronted with the intractability of the necessary factors.

Plato's description of necessity indicates that his is certainly not the usual modern notion. He even assigns it the role of «Errant Cause» (48 a). As Cornford points out, we have no difficulty accepting the necessity of material limitations which restrain the design expectations and efforts of the craftsman. But when Plato speaks of the necessity which produces «sundry effects at random and without order», it sounds peculiar to us; in fact, it seems opposite to our ordinary use of the term. We would ordinarily consider necessity to be opposed to chance, but for Plato, in the *Laws*, the two terms are equivalent, meaning «not owing to intelligence or design or some divinity»². The reasonableness of Plato's conception of necessity is made clearer by Cornford's discussion of atomism:

«From another point of view the result may be called necessary, in the sense that every motion takes place 'under constraint'... of

1. All quotes are from the Cornford translation of the *Timaeus* (Cornford, F.M., *Plato's Cosmology: The Timaeus of Plato*). All other references are to Cornford's commentary in the same volume.

2. Cornford, p. 167.

some previous motion: an atom receives a shock and blindly passes it on. But the ancients had not discovered the laws of motion: to say that a movement happens 'by constraint' is not to say that it conforms to any law. Necessity, in fact, did not carry with it the associations of law and order... necessity was compatible with spontaneity»³.

And so in the *Timaeus* the inexorableness of necessity is not tied to a constant pattern of causation, describable in a law.

At 47 e-48 e, Timaeus says that his discussion of necessary things requires commencing anew the description of the universe, and so he starts with the earlier distinction between two «things», or fundamental components: there is, first, the «model, intelligible and always unchangingly real; second, a copy of this model, which becomes and is visible» (48 e). Now it appears, he says, that a third thing is required by the argument, but he promptly warns us that our investigation of this third thing may be difficult, for it requires us «to attempt to bring to light and describe a form difficult and obscure» (49 a). Undaunted, Timeaus immediately asks the first question in the investigation, and answers it:

«What nature must we, then, conceive it to possess and what part does it play? This, more than anything else: that it is the Receptacle —as it were, the nurse— of all Becoming» (49 a).

We must not be confused by thinking that «Receptacle» is itself the proper *name* for the third thing. Rather, we are told simply that this is the nature and function of the third thing. Further, the possibility is left open that the nature and function of the third thing is not exhausted by the notion of the Receptacle, for the third thing is the Receptacle only «more than anything else».

According to Cornford⁴, the third thing «fills a gap» that existed between phenomena and Forms in the *Republic*. There, it was said that phenomena are somehow between the truly real (Forms) and the wholly unreal. For phenomena to be images of Forms, says Cornford, «there must be something... to receive these images», and, after the *Sophist*, the unreal is out of consideration. That Plato felt there was a gap must be obvious from the present passage, although it is not obvious why he *should* think so. However, a more important issue is whether Plato is just shifting the separation problem from

3. Cornford, pp. 169-170.

4. Cornford, pp. 177-178.

the relation between Forms and phenomena to the relation between phenomena and the third thing. And a further issue, closely related, is whether the third thing actually has any explanatory value at all. We shall look for answers to these questions as we proceed to examine Timaeus' discourse.

Timaeus says that, although his last statement about the Receptacle is true, «it needs to be put in clearer language», which will be hard

«...in particular because to that end it is necessary to raise a previous difficulty about fire and the things that rank with fire [air, water, and earth]. It is hard to say, with respect to any one of these, which we ought to call really water rather than fire, or indeed which we should call by any given name rather than by all the names together or by even severally, so as to use language in a sound and trustworthy way» (49 b).

The connection between the two problems in the progress of the dialogue is not immediately obvious. The new problem arises out of a Heraclitean view of physical phenomena. At first only the four basic elements are mentioned. They are said to continually become each other (passing from water to air to fire to air to water to earth to water, etc.) — thus the difficulty in naming any of them, for it may be the case that as soon as the name has been applied, the element has already become another. Thus Plato says,

«Since, then, in this way no one of these things ever makes its appearance as the *same* thing, which of them can we steadfastly affirm to be *this* —whatever it may be— and not something else, without blushing for ourselves?» (49 c-d).

His linguistic solution is not to use «this» at all, but rather to use «what is of such and such a quality» (49 d), whenever we speak of a thing that is undergoing continual change. And this category includes more than just the four basic «elements» it includes «all the things we [presently] indicate by the expressions 'this' or 'that', imagining we are pointing to some definite thing» (49 d-e): presumably all phenomena are thereby included. Hence, we can no longer use any expression that seems to attribute permanence to any phenomenal thing. Instead we must say «that which is a certain quality», and we can give a name to anything that is becoming, e.g. fire, only if it «is at all times of such and such a quality» (49 e). Thus, the four basic elements of pre-Socratic thought are no longer to be considered things, but rather qualities.

As Timaeus proceeds, we learn that the words «this» and «that» are not to be dropped from our vocabulary altogether, for we may use them in speaking of «that *in* which all of them are always coming to be, making their appear-

ance and again vanishing out of it» (49 e), i.e., the third thing. Thus, this brief excursion into the linguistic problems of a Heraclitean view of the physical world (which, in the form here presented, Plato apparently holds) leads us to the understanding that *one* component of that world, namely, the third thing, is permanent and unchanging. To help us toward a clearer understanding of this third thing, Timaeus offers an analogy with the gold that is used by an artisan to mold various shapes. She takes each piece and remolds it successively into each of the other shapes. Now if queried about one of the pieces, we should hesitate to name it in terms of a particular shape (our artisan is presumably an amazingly fast worker), but rather should name it with «the safest answer in respect of truth» *viz.*, «gold». Likewise, we must always use but one name for the third thing, no matter how its appearance may change:

«Now the same thing must be said of that nature which receives all bodies. It must be called always the same; for it never departs at all from its own character; since it is always receiving all things, and never in any way whatsoever takes on any character that is like any of the things that enter it: by nature it is there as a matrix for everything, changed and diversified by the things that enter it, and on their account it *appears* to have different qualities at different times...» (50 b-c).

This passage presents several interesting points. First, we may infer that it would be incorrect to conclude, on the basis of the gold analogy, that the third thing is matter⁵. The point of that analogy was only to indicate that the third thing, like gold, has a stable nature in virtue of which we name it consistently, whereas phenomena, like the gold figures, do not. The third thing «receives things», but, unlike gold, it is not subject to alteration involving non-essential characteristics. The third thing, as Cornford says, «is not that 'out of which'... things are made; it is that 'in which'... qualities appear, as fleeting images are seen *in* a mirror»⁶. Cornford continues: «It is the qualities, not the [third thing], that constitute 'the bodily'»⁷. He may be right (especially considering his supporting quote from 31b), and certainly it is true that the qualities constitute a condition *sine qua non* of the bodily, but Plato's reference to the third thing's «own character» is puzzling. This would seem to threaten the transparency which is essential to the third thing's nature. I can only suppose that

5. Cf. Cornford, pp. 181-182.

6. Cornford, p. 181.

7. Cornford, p. 181.

it is just this transparency, or lack of characteristics, that constitutes, paradoxically, the character of the third thing. Indeed, this is the understanding we are compelled to by the succeeding section of the dialogue (50 d-51 b), where it is argued that if the third thing is to allow «all diversities of aspect» and avoid faulty reproduction of the Forms, it must be «free from all characters»: «invisible and characterless, partaking in some very puzzling way of the intelligible and very hard to apprehend» (51 a-b).

As Cornford notes⁸, «partaking of the intelligible» is ambiguous. It may refer to the participation in Forms, which, although restricted to phenomena, nevertheless results in the *appearance* of qualification on the part of the third thing, thereby allowing Timaeus to say that it is «changed and diversified by the things that enter it» (50 c).

Plato's characterization of the intelligibility of the third thing as a puzzle leads me to suspect that he was not completely confident that the third thing could solve the problems associated with participation in the Forms that he had considered in earlier dialogues. I am further convinced that this is the case by his statement at 50 c that participation of phenomena in Forms takes place «in a strange manner that is hard to express». Thus, Plato's progress toward an adequate description of the relation between phenomena and Forms, at this point in the *Timaeus*, could be characterized as being at a stage of mature and well-considered puzzlement.

Plato must have thought that the third thing would make the Theory of Forms more plausible, but it actually seems to raise more questions than it answers. What is the relation of phenomena to the third thing, and what is the relation of the Forms to the third thing?

Although we eventually learn at 52 a-b that the third thing is space, it seems not to be space geometrically conceived. As Cornford says, «Plato's Space is not a void which remains completely distinct from particles moving in it; it is a Recipient which affords a basis for images reflected in it»⁹. Perhaps there is a parallel with a similarly puzzling concept in modern theoretical physics, the vacuum state. The vacuum state is the ground state, or state of least excitation, of the universe. Like the third thing, it could be said to be the basis of everything that is, of all possibilities, i.e., of all excited states. Yet, it is itself completely unqualified and stable, only appearing (in a sense) at all when it takes on the qualities exhibited in more excited states¹⁰.

8. Cornford, p. 187.

9. Cornford, p. 200.

10. There is also an interesting parallel, not relevant to the immediate topic, between

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But I do not mean to suggest that Plato anticipated modern physical theory. His theory of space was developed in the context of a metaphysical theory, the Theory of Forms, and, even though the problem of explaining the relationship between Forms and phenomena may bear some resemblance to the problem of explaining patterns of physical behavior, the perspective of Plato is obviously quite different from that of a contemporary physicist.

TIMAIOS 48 E-51 B: Η ΠΛΑΤΩΝΙΚΗ ΘΕΩΡΙΑ ΤΟΥ ΧΩΡΟΥ

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Τὸ ἄρθρο ἀποτελεῖ βασικά μιὰν ἐξήγηση τοῦ χωρίου 48e-51b τοῦ *Τιμαίου*, ὅπου ὁ Πλάτωνας καταπιάνεται μὲ τὴ γεφύρωση τοῦ χάσματος μεταξὺ φαινομένων καὶ Ἰδεῶν. Ἡ ἔρευνα αὐτοῦ τοῦ «τρίτου πράγματος» δὲν εἶναι εὐκόλη γιατί ἀπαιτεῖ «νὰ ἐπιδιώξουμε νὰ φέρουμε στὸ φῶς καὶ νὰ περιγράψουμε ἓνα εἶδος χαλεπὸν καὶ ἀμυδρόν». Τὸ τρίτο πράγμα διερευνᾶται σὲ συνάρτηση μὲ τὸ ρόλο του ὡς ὑποδοχῆς. Ὁ Πλάτωνας υἱοθετεῖ μιὰν ἡρακλείτεια ἄποψη γιὰ τὸν κόσμον τῶν φαινομένων, ὅτι δηλ. τίποτα δὲν εἶναι ἀπολύτως καθορισμένο, ἀλλὰ παρ' ὅλ' αὐτὰ ὁ κόσμος τῶν φαινομένων δὲν στερεῖται τελείως τὴ δυνατότητα καθορισμοῦ. Ἡ λύση αὐτοῦ τοῦ παραδόξου βρίσκεται στὸ «τρίτο πράγμα», τὸ ὁποῖο, ὅπως οἱ Ἰδέες, εἶναι σταθερὸ καὶ ἀναλλοίωτο. Τὸ τρίτο πράγμα εἶναι κάτι ἀνάλογο, ἀπὸ μιὰν ἄποψη, μὲ τὸ χρυσάφι ποὺ χρησιμοποιεῖ ὁ χρυσοχόος, ἀλλὰ ἔχει καὶ διαφορὰς ἀπ' αὐτό, οἱ ὁποῖες ὁδηγοῦν τὸν Πλάτωνα νὰ ἀποκλείσει τὴ δυνατότητα, τὸ τρίτο πράγμα νὰ εἶναι κάτι ὑλικό. Ὁ χαρακτήρας τοῦ τρίτου πράγματος φαίνεται νὰ βρίσκεται, κατὰ παράδοξο τρόπο, στὴν ἔλλειψη χαρακτηριστικῶν. Ἔτσι, τὸ τρίτο πράγμα, ποὺ ἀποδεικνύεται νὰ εἶναι χῶρος (ἀλλὰ ὄχι μὲ τὴ γεωμετρικὴ σύλληψη), ὄχι μόνο εἶναι ἀνεπαρκὲς νὰ ἐκπληρώσει τὸν ἐξηγητικὸ τοῦ ρόλου, ἀλλὰ καὶ δημιουργεῖ στὴν πραγματικότητα περισσότερα προβλήματα ἀπ' ὅσα λύνει. Τὸ ἄρθρο τελειώνει μὲ μιὰ σύντομη σύγκριση τῆς πλατωνικῆς ἔννοιας τοῦ χώρου μὲ τὴν ἔννοια τοῦ κενοῦ στὴ σύγχρονη φυσικὴ.

Μετάφραση: Γ. Ἀλατζόγλου-Θέμελη

the creation operators of quantum mechanics and Plato's «godlings».