

1195 (p. 18)
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1969

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— The bond of the cosmos. A significant metaphor. (Tim. 31c ff.): Hermes XCVII 1969 372-373. | La proportion, ἀναλογία, qui régit les quatre éléments, est employée par Platon dans le même sens que φίλια chez Empédocle, c'est-à-dire comme une force motrice et un lien, δεσμός, métaphysique du cosmos.

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THE BOND OF THE COSMOS: A SIGNIFICANT METAPHOR (TIM. 31c ff.)

There has been much recent discussion¹ of the mathematics of this passage and of the actual proportion (ἀναλογία) in which fire, air, water and earth are involved. Apart from such questions of mathematical detail, and the problematic question of the relation of this passage to 53d ff., there remains the problem of the role which Plato assigned to the proportion. In other words, what is the function of this proportion in the life of the Cosmos?

It is usually thought that this proportion is a simple statement of the relation between the four elements; that each of them stands in a certain proportion to the others, like ingredients in a pudding. Yet this interpretation, clear though it is, betrays a modern non-metaphysical view of mathematics, in which the Platonic proportion would stand as nothing but a description of the ratio of quantities of the elements to each other. In this case the proportion has no function, strictly speaking, in the scheme of things. Thus the whole question of the status of Plato's mathematics is raised: are we to take the mathematical theory of the Timaeus as an instrumentalist hypothesis—a key that may be useful in interpreting the code of the physical world, a kind of programme for exploration, or alternatively as a description of actual reality? What is the proportion?

The instrumentalist interpretation of the proportion is contradicted later in the passage where Plato makes some general observations about it (32b 8 ff.). It is said to guarantee φίλια to the κόσμος, and consequently the latter is indestructible (ἄλυστος): what does Plato mean by this? Just as he chose the four roots of Empedocles as his starting-point, and later went on to refine this point of view by the introduction of his atomic theory, so he uses and interprets Empedocles' φίλια in his own terms. For Empedocles φίλια is the integrating force in the physical world, uniting dissimilars. It is recognised as a motive force or power²; so much so that it has a name-Aphrodite. It is this force that Plato uses to characterise his proportion and it is a very uneasy

¹ E.g. Ch. MUGLER (REG 66, 1953, 56-87; and Physique de Platon, ch. 1); A. RIVAUD, Budé Edn., p. 72 ff.

² The terms are slightly obscure here: φίλια is said to originate ἐκ τούτων. τούτων may be a general term referring to the whole discussion on the ἀναλογία and the elements (see BURY's translation, Loeb Edn. p. 61) or else it may refer specifically to the four elements designated already as τούτων in the same sentence. In any case it amounts to the same thing since the unity, the φίλια of the cosmos results from the action of the ἀναλογία on the elements. It is of course the δημιουργός who unifies the elements by means of the proportion.

³ DIELS, Fr. VORS. 31 B 17, 27 ff.

metaphor if the proportion is regarded as merely descriptive. Yet this is not the case: the proportion is equally much a force as Empedocles' φίλια. There are three reasons: firstly the κόσμος is said to be ἄλυστος because of the proportion, which implies that the latter has some integrating force; secondly, as my title suggests, the proportion is referred to as a δεσμός or bond throughout the passage³. Thirdly Plato's concept of number was metaphysical: as a logical realist he would commit himself to the proposition that numbers are abstract realities⁴. The numbers that could be used in a proportion such as this would not represent relations between elements, but cosmic forces existing as Forms and affecting the sensible world in the same way as other Forms⁵. The proportion therefore does not belong simply to the theory of the observer, but is an actual reality present in the world itself, existing independently of the observer. (We may perhaps go even further if we accept secondary evidence and say that even Forms owe their existence to numbers⁶.) CROMBIE alleges⁷ a general ambiguity in the status of Platonic mathematics corresponding roughly to the alternatives I have been discussing: it seems to me that this is one point at least where there is no ambiguity.

In conclusion then: Plato deliberately echoes Empedocles by naming his proportion φίλια; secondly this metaphor is not carelessly employed—rather it reveals the true role of numbers in Plato's thought.

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ZU ANTH. PAL. 5, 162 (ASKLEPIADES)

Ἡ λαμυρή μ' ἔτρωσε Φιλαινίον, εἰ δὲ τὸ τραῦμα
μὴ σαφές, ἀλλ' ὁ πόνος δίδεται εἰς ὄνυχα.
οἶχον, Ἐρωτες, ὀλωλα, διοίχομαι, εἰς γὰρ ἔχιδναν
νυστάζων ἐπέβην ἥδ' ἐθίγον τ' αἶδα.

3 ἔχιδναν WALTZ: ἐταίραν C 4 ἥδ' ἐθίγον τ' αἶδα A. a. corr.:
ἥδ' ἐθίγον τ' αἶδα C

Gow bemerkt zum letzten Halbvers dieses Gedichts (845 G.-P.): »The end of the line seems clearly to mean 'and am nearly dead in consequence'«.

¹ 31c 1, c2: συνδέω; 32b 1, b7, 32c 4.

² The Timaeus involves both arithmetic and geometry and closely relates them. Plato's conception of number is parallel to his conception of geometrical shape. They are both sets of abstract realities-Forms (cf. Anders WEDBERG, Plato's Philosophy of Mathematics, p. 64 ff.).

³ See Phaedo 101b 4-c 7, where the existence of Ideal numbers is recognised, and where they are aligned with other Forms in respect of their relationship to the sensible world. Similarly in Tim. 53d 8, the principles still higher than the triangles are probably numbers; and we may relate this to the paradigmatisms affirmed in 28 ff.

⁴ E.g. Arist. Metaph. A 6, 987a 29 ff.

⁵ An Examination of Plato's Doctrines, Vol. II, p. 245.

⁶ The Greek Anthology, Hellenistic Epigrams, edited by A. S. F. Gow and D. L. PAGE, Cambridge 1965, Bd. II 122.