

Extrait du Rhuthmos

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# Platonic Eurhythmmy (4th century BC) - part 3

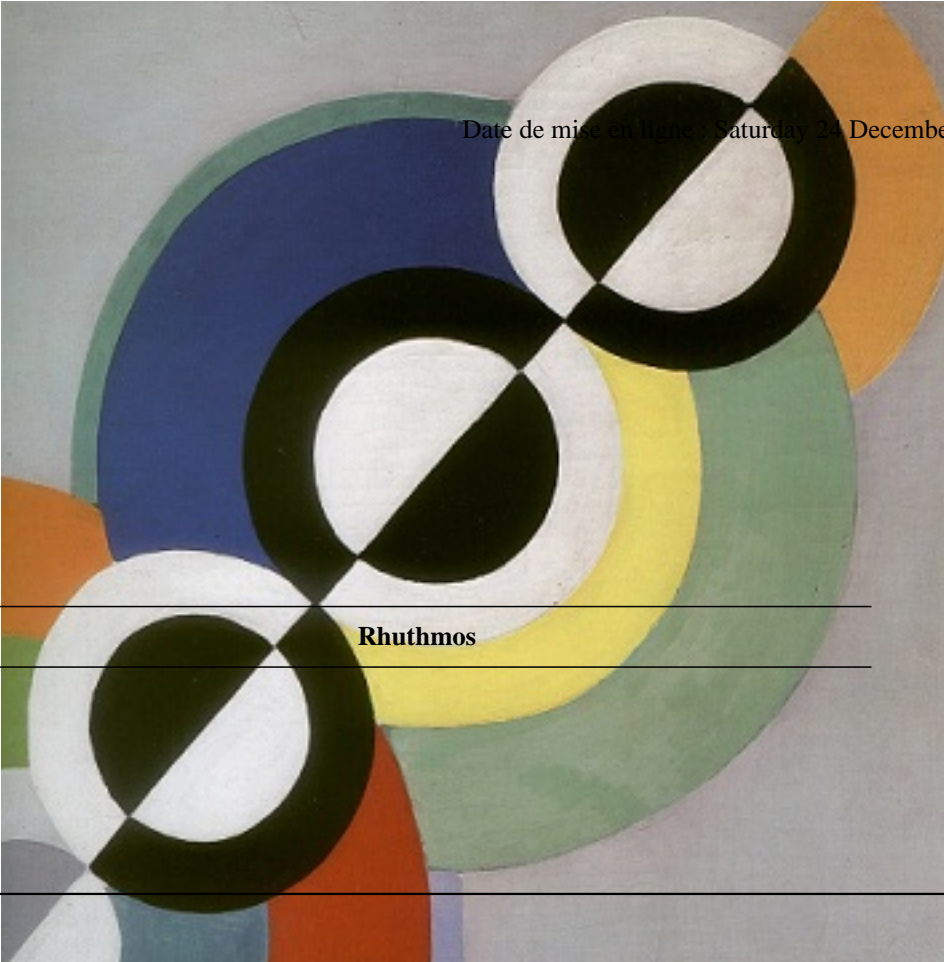
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Rhuthmos

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## Eurhythmmy as Mathematical Order - Philebus and Timaeus (bet. 361-347 BC)

To conclude this chapter, I would like to come back to a question we left open in the second section. We saw that the dialogues of the early and middle periods do not provide us with many clues on the role of mathematics in Plato's rhythm theory and therefore in his larger aesthetic, ethical and political conception of eurhythmmy.

Concerning the reference in *The Republic* to simple mathematical ratios imitated from the Pythagorean theory of harmony, we have noticed that specialists emphasize that ancient Greek music was neither composed nor played according to regular measure. Therefore empirical evidence seem to go against any Platonic use of number to define rhythm, at least in *The Republic*.

But this argument is maybe weaker than it seems. Actually new theories never reflect given common historical practices. On the contrary, as Bachelard convincingly showed already a long time ago, such theories are usually based on propositions that conflict with largely shared opinions. If ancient music and dance were not based on numbers, which is probably true, it does not imply that Plato could not imagine that they should be.

Fortunately, dialogues of Plato's late period are more specific on this subject. As we already saw in the previous chapter, in *The Philebus*, as in *The Republic*, Plato first defines rhythm in respect to harmony. Sound intervals ( $\frac{1}{2}$  - *diastêmata*) are endowed with arithmetical properties that explain the harmonious qualities of their combinations. "Correspondingly," the movements of a dancer's body are "measured by numbers" and therefore, when they develop harmoniously, their combinations or more precisely their concatenation can "be called rhythms and measures."

**Socrates** But, my friend, when you have grasped the number and quality of the intervals of the voice [ $\frac{1}{2}$  - *diastêmata*] in respect to high and low pitch, and the limits of the intervals, and all the combinations derived from them, which the men of former times discovered and handed down to us, their successors, with the traditional name of harmonies [ $\frac{1}{4}$  - *harmonías*], and also the corresponding effects in the movements of the body [ $\frac{1}{2}$  - *én te taís kinêsesin aú toû sômatos*], which they say are measured by numbers and must be called rhythms and measures [ $\frac{1}{4}$  - *rhuthmòus kaí métra eponomázzein*] and they say that we must also understand that everyone and many should be considered in this way when you have thus grasped the facts, you have become a musician, and when by considering it in this way you have obtained a grasp of any other unity of all those which exist, you have become wise in respect to that unity. (*Philebus*, 17c-e, transl. Harold N. Fowler)

But, further down in the dialogue, Plato specifies the nature of the harmonious concatenation that can be called "rhythm." Rhythm is a phenomenon that belongs to a class formed "by combining" the "infinite" and the "finite."

**Socrates** We said that God revealed in the universe two elements, the infinite [ $\tilde{A}x \frac{1}{4}r\frac{1}{2} \tilde{A}\mu^1\tilde{A}\tilde{c}\frac{1}{2}$  - *tò mèn ápeiron*] and the finite [ $\tilde{A}x \tilde{r} \tilde{A}-\tilde{A}\pm\tilde{A}$  - *tò dè péras*], did we not?

**Protarchus** Certainly.

**Socrates** Let us, then, assume these as two of our classes, and a third, made by combining these two. (*Philebus*, 23c, transl. Harold N. Fowler)

Numbers make this "mixture" possible. The third class to which rhythm belongs is that of "the equal and double and everything which puts an end to the differences between opposites and makes them commensurable and harmonious by the introduction of number." i.e. the arithmetical proportions.

**Socrates** The class of the finite, which we ought just now to have reduced to unity, as we did that of the infinite. We have not done that, but perhaps we shall even now accomplish the same end, if these two are both unified and then the third class is revealed.

**Protarchus** What third class, and what do you mean?

**Socrates** The class of the equal and double and everything which puts an end to the differences between opposites and makes them commensurable and harmonious by the introduction of number. (*Philebus*, 25d-e, transl. Harold N. Fowler)

"The acute and the grave" (pitch) and "the quick and the slow" (rhythm) which are by nature "infinite" or "unlimited" are transformed by the introduction of the "finite" or the "limited" into them into harmony and eurhythmmy. Hence in art but also more generally, all beauties and perfections depend on the "mixture" of these two basic ontological elements.

**Protarchus** I understand. I think you mean that by mixture of these elements certain results are produced in each instance.

**Socrates** Yes, you are right.

**Protarchus** Go on.

**Socrates** In cases of illness, does not the proper combination of these elements produce health?

**Protarchus** Certainly.

**Socrates** And in the acute and the grave, the quick and the slow, which are unlimited [ἄμεινον], the addition of these same elements creates a limit and establishes the whole art of music in all its perfection, does it not?

**Protarchus** Excellent. (*Philebus*, 25e-26b, transl. Harold N. Fowler)

As we will see very soon in *The Timaeus*, numbers are intermediate entities in a larger cosmogony. Through them, rhythm is finally explained by the doctrine of the *ápeiron*, viz. the formless, vague, indefinite, unlimited, infinite of more or less, into which the *métrion*, viz. order, harmony, measure, symmetry, law are introduced by the limiting *péras*, the *definite* principle. As a matter of fact both doctrines of number and unlimited/limited are borrowed from the



The material world which was still "in a state devoid of reason or measure" (*alīgos kai amétrōs*) was then fashioned and shaped by Demiurge "by means of forms and numbers" (*éidesí te kai arithmoís*).

Before that time, in truth, all these things were in a state devoid of reason or measure [ $\dot{\Lambda}^{-1/2}\ddot{\Lambda}_{\pm}\ddot{\Lambda}_{\pm}\ddot{\Lambda}^{1/2}$   $\mu\delta\zeta\mu^{1/2}$  »  $\dot{\iota}^3\dot{\epsilon}\dot{\alpha}^{\circ\pm\nu}$   $1/4-\ddot{\Lambda}\dot{\epsilon}\dot{\alpha}$ ] but when the work of setting in order this Universe was being undertaken, fire and water and earth and air, although possessing some traces of their own nature, were yet so disposed as everything is likely to be in the absence of God; and inasmuch as this was then their natural condition, God began by first marking them out into shapes by means of forms and numbers [ $\dot{\iota}^1\mu\dot{\alpha}\zeta\cdot 1/4\pm\ddot{\Lambda}^{-}\ddot{\Lambda}_{\pm}\ddot{\Lambda}_{\pm}\zeta$   $\mu 4\dot{\iota}\mu\dot{\alpha}^{-}\ddot{\Lambda}\mu^{\circ\pm\nu}$   $\dot{\alpha}^1, 1/4\zeta\ddot{\alpha}$ ]. (*Timaeus*, 53a-b, trans. W.R.M. Lamb)

What does "shaped by means of forms and numbers" exactly mean? According to Aristotle, Plato thinks of numbers as intermediary entities between the Forms, which are "the causes of everything else," and the sensible things, which "participate in them." Although he disagrees with the Pythagoreans, on the one hand, on the nature of the original Unlimited which he posits as a duality the "Great and Small" and not as a singularity, and on the other hand, on that of the sensible things, which he holds as distinct from numbers, he agrees with them "in stating that the numbers are the causes of Being in everything else."

Plato states that besides sensible things and the Forms there exists an intermediate class, the objects of mathematics, [arithmetical numbers and geometrical figures] which differ from sensible things in being eternal and immutable, and from the Forms in that there are many similar objects of mathematics, whereas each Form is itself unique.

Now since the Forms are the causes of everything else, he supposed that their elements are the elements of all things. Accordingly the material principle is the "Great and Small," and the essence is the One, since the numbers are derived from the "Great and Small" by participation in the One. In treating the One as a substance instead of a predicate of some other entity, his teaching resembles that of the Pythagoreans, and also agrees with it in stating that the numbers are the causes of Being in everything else; but it is peculiar to him to posit a duality instead of the single Unlimited, and to make the Unlimited consist of the "Great and Small." He is also peculiar in regarding the numbers as distinct from sensible things, whereas they hold that things themselves are numbers, nor do they posit an intermediate class of mathematical objects. (*Metaphysics*, 1.987b, trans. Hugh Tredennick)

It seems that Plato is regarding the Earth as stationary and set at the center of the Cosmos whose movements are compared *metaphorically* to "choric dances," that is endowed with harmony and rhythm.

And Earth, our nurse, which is globed around the pole that stretches through all, He framed to be the wardress and fashioner of night and day, she being the first and eldest of all the gods which have come into existence within the Heaven. But the choric dances of these same stars and their crossings one of another, and the relative reversals and progressions of their orbits, and which of the gods meet in their conjunctions, and how many are in opposition, and behind which and at what times they severally pass before one another and are hidden from our view, and again re-appearing send upon men unable to calculate alarming portents of the things which shall come to pass hereafter, to describe all this without an inspection of models of these movements would be labor in vain. (*Timaeus*, 40b-d, trans. W.R.M. Lamb)





"ametrical condition," should try to imitate cyclical repetitions (*períodos*) and the perfection of the series of rational numbers. For the first time in the West, the rule according to which *eurhythmia* is to become *eumeter*, i.e. due measure, and body and soul to be *metrified*, i.e. ordered according to number, is legitimized by a complete cosmological conception.

Concerning sound also and hearing, once more we make the same declaration, that they were bestowed by the Gods with the same object and for the same reasons; for it was for these same purposes that speech was ordained, and it makes the greatest contribution thereto; music too, in so far as it uses audible sound, was bestowed for the sake of harmony. And harmony, which has motions akin to the revolutions of the Soul [ἄρμονία ἐν ψυχῇ - *tês psukhês periódosis*] within us, was given by the Muses to him who makes intelligent use of the Muses, not as an aid to irrational pleasure [ἡδονῆς ἀνοήτου] as is now supposed, but as an auxiliary to the inner revolution of the Soul, when it has lost its harmony, [ἡμῶν ἀρμονίας ἀνοήτου] - *anármoston psukhês periódosis*] to assist in restoring it to order and concord with itself. And because of the [ametrical/irregular/erratic] [ἄμετρον] condition, deficient in grace, which exists in most of us, Rhythm [ῥυθμὸς] also was bestowed upon us to be our helper by the same deities and for the same ends. (*Timaeus*, 47c-e, trans. W.R.M. Lamb, my mod.)

As in *The Laws*, harmony and rhythm are gifts of the gods which aim at infusing measure and grace into men in order to help them to "imitate the divine harmony."

Thus from shrill and deep they [the slower and the quicker sounds] blend one single sensation, furnishing pleasure thereby to the unintelligent, and to the intelligent that intellectual delight [ἡδονὴν νοητικὴν] which is caused by the imitation of the divine harmony [ἡμῶν ἀρμονίας] manifested in mortal motions [ἡμῶν κινήσεων]. (*Timaeus*, 80b, trans. W.R.M. Lamb)

If we now look at ancient Greek philosophy from a more distant viewpoint, we can glimpse a tremendous shift. Rhythm is not only an aesthetic problem concerning "the importance of music in education." Rather rhythm is probably one of the most important issues on which Plato bases his critique of Heraclitus' and Democritus' doctrines. Rhythm henceforth bestowed upon humans by the gods and the State, organized as meters, regular measures, rational proportions, imitating on earth the periods of the heavenly bodies presented as their Forms, is the Platonic polemical response to the previous ontology and epistemology of the flow.

As a matter of fact, it is no chance that Plato spends so much time and proves so careful on discussing the concept of *rhuthmós*, which was probably a quite common and significant feature of the various doctrines before him. Due to its morphology it was particularly akin to Heraclitus' famous *pánta rheî*, everything flows, which is quoted in *Cratylus* and in *Theaetetus* either with a little bit of sarcasm: *pánta ôsper kerámia rheî*, "all things are flowing like leaky pots," (*Crat.* 440c-e); or through dance and theater metaphors (*iénai* - go; *khôreî* - make room for another, move on; *kinêtai* - set in motion): *tà ónta iénai te pánta kai ménein oudén*, "all entities move and nothing remains still" (*Crat.* 401d); *pánta khôreî kai oudén ménein*, "everything changes place and nothing remains still" (*Crat.* 402a); *pánta kineítai*, "all things are in motion" (*Theaet.* 183a). Naturally it was also akin to Democritus' theories of the fall of atoms in the void and world formation through vortices, even if Plato apparently and puzzlingly never said a word about it.

Hence, as emblem of most philosophers giving primacy to Becoming upon Being, once re-formulated as *kinêseos táxis*, order of motion/ movement, *rhuthmós* was a major piece of loot enabling to set again the Becoming under the rule of the eternal and unchangeable Being through a "a movable image [of It], moving according to number." And the danger of Heraclitus' and Democritus' doctrines for the moral and political good of the State could be efficiently repelled.

\* For the first time in the West, Plato set up a complete cosmic and metric paradigm, which encompasses a perfect and immutable model the upper-part of the cosmos organized according to rational numbers and periodic movements and a replica its lower-part and the humans living in it which is mostly chaotic and irrational. Since the universe is split into these two opposite parts, the aim of the Ideal City is to make the humans follow the rational and measured patterns of the upper Cosmos. Therefore the State has to strictly control and shape the bodies and minds of the citizens.

The authoritarian if not totalitarian potential of this aesthetic, educational, ethical and political program developed in Plato's dialogues has attracted regular criticism since the 1930s and particularly after the collapse of the regimes which had been more or less directly influenced by it (e.g. K. Popper, *The Open Society and Its Enemies*, 1945; E. Cassirer, *The Myth of the State*, 1949).

But, although there is plenty of evidence of the attention paid by Plato to the role of rhythm in the education of the citizens as well as in the making of society, the crucial role played by the concept of *eurhythmia* in this program has rarely been given its due weight. Since it was connected with poetry and music, social scientists and political philosophers have usually left this aspect of Plato's thought, considered as of minor importance, to aesthetic, music or literature specialists. Conversely, these specialists have studied rhythm as a sheer aesthetic or educational concept.

Yet, as we will see in the next volume, before becoming part of the common cultural policy of totalitarian regimes in the 20th century, this peculiar blend of aesthetic, poetic, ethical, and political considerations which supported the notion of *eurhythmia* became at the end of 19th and the beginning of the 20th centuries, the most important issue for numerous poets, dancers, educationists and social thinkers, in Germany and other countries as well. It is also clearly reminiscent of more recent threats coming from fundamentalist ideologies according to which music, dance, poetry, theater, and from that the whole education and daily life of the citizens, are also to be strictly rhythmized on religious ground.

*Eurhythmia* in its aesthetic, ethical and political mixed dimensions, is thus the second *question* that will be addressed in this book. In addition to the deconstruction of the Platonic history of rhythm and the recognition of the resurgences and new developments of the pre-Platonic idea of *rhuthmos*, I will try to figure out how a non- if not anti-Platonic concept of *eurhythmia* could be elaborated.

For the time being let us recapitulate the few pieces of information we have been able to gather on this matter. Before the 4th century BC, there is no evidence of a theory of *eurhythmia*. We can only guess what it could have been from scarce fragments. But such lack of factual evidence must not prohibit to try a reconstruction because it entails artistic, ethical and political stakes which are still relevant today.

1. Democritus would have rejected the unbelievable intervention of gods in human rhythmic affairs and most of the arbitrary rhythmic taboos and divides with which Plato is saturating the social field.

2. But, as for Plato and more modern anthropologists as Mauss or Evans-Pritchard only a "rhythmized" human being

would be plainly human. Anthropologically and sociologically, rhythm would be crucial for the individuation of singular and collective individuals.

3. However, unlike for Plato, rhythm would be a way for each individual to find his and we can now add her singular way to live. Changing *rhuthmoi* would subtly give a variety of shapes to the lives of the citizens and would not be mere means of control of the individuals by the State.

4. *Eurhythmmy* would support the making of an open and democratic society and would oppose considering rhythm as a Form and therefore any rhythmic order of the society as sacred.

In a certain sense, we can have hints on what eurhythmmy could mean for pre-Platonic thinkers like Leucippus and Democritus, who were well-known supporters of democracy, by looking to what Plato is rejecting the most violently:

5. the possibility given to children to choose freely the rhythms of their games, exercise their creativity, and "grow up into men different from their fathers";

6. the possibility given to any citizen to invent new rhythms and harmonies, ranging from new poems or tunes, new ways of speaking and moving, new manners in daily life, to *new ways of making society*;

7. the ethical and political role of the artists and especially the poets, as artists of language, who show every day by the smallest poem or the tiniest work of art, that it is always possible to invent new rhythms and songs, i.e. to give new shapes to speech and motion and therefore to individual minds and social interactions.

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