

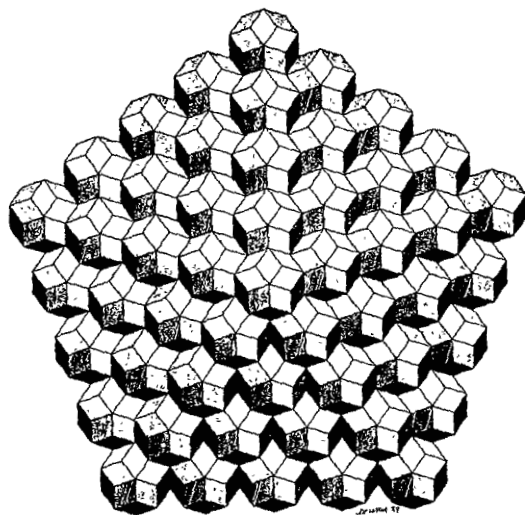
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HARMONY IN ITS UNITY WITH SYMMETRY AND RHYTHM.

The purpose of this paper is to discuss the correlation existing between the concepts of harmony, symmetry, rhythm. The topicality of the problem under study follows from the fact that despite the frequent use of the terms "harmony", "symmetry" and "rhythm" in current publications, one cannot find there any more or less detailed treatment of the meaning attached to the above-mentioned terms. Secondly, even some outstanding contemporary scholars find the implications of such an age-old term as "harmony" either "mysterious" /Einstein, 1, 123/, or "not lending themselves to any systematic analysis" /Bohr, II, III/. Considering that the work undertaken to give a philosophical interpretation of the problem of harmony marks but the beginning of an extensive and, hopefully, collective research /III, IV/, it seems appropriate to remind the reader that it was Aristotle who, following the Pythagoreans and Heraclites, treated harmony as unity in diversity. According to A.F.Losev, in ancient Greek philosophy "harmony" implied the organized character of the Universe and Cosmos as apposed to chaos. This is in conformity with the reasoning of Aristotle: "all that is harmoniously arranged arises from the unarranged and (vice versa) the unarranged results from the harmoniously arranged /Y, 14/. True, some contemporary authors (I.Prigogin, I.Stengers) contrast chaos not with harmony but with "order" - a concept which, to all practical intents and purposes, is hard to distinguish from chaos /YI/.

In this connection it would seem more expedient to consider the correlation between symmetry and rhythm. Such an approach has its prehistory presented in the works by Leibnitz, Bayle and Shaftesbury. "Harmony", Bayle wrote "connects the future with the past as well as the present with the non-present. The former type of connection unites times while the latter unites places /YII, 50/, or, as Shaftesbury put it "all that is beautiful is harmonious and symmetrical, and all that is harmonious and symmetrical is true..." /YIII, 183/.

No more enviable is the position occupied in philosophy by the concepts "symmetry" and "rhythm" which are contiguous to that of harmony. Thus, in some cases symmetry is taken to be synonymous to harmony /IX, 15/, in others the concept of symmetry is referred to as a "vague" one /X, 4/. The situation with the concept of rhythm is quite similar. According to some estimations, at present there are up to 50 different general definitions of rhythm /XI, 6/. Evidently, this does not only testify to the difficulties inherent in the study of symmetry and rhythm but it also displays the activity of the researchers who are making efforts to overcome these difficulties.

Still, despite the serious divergencies in the comprehension of harmony, symmetry and rhythm, the majority of researchers agree that these concepts have as their basis a certain objective content presented by the relationships which are being formed in nature, in society and in consciousness. Starting from the eleatic idea of the contradictory character of motion according to which change and conservation are mutually

complementary notions, one can assume that symmetry is connected with momentum conservation while rhythm - with that of change i.e. with the transition from a more or less settled state to one which is still in the making.

To proceed further with our discussion of the problem concerning the relationships existing between harmony, symmetry and rhythm, let us make use of the most general and widespread treatments of symmetry and rhythm. "Symmetry is a concept which reflects the order, proportionality and commensuration prevailing between the component parts of a whole, a certain balanced state, a relative stability existing in the objective reality /X, 30/. One of the interpretations of the meaning attached to the concept of rhythm regards the latter as an "alternation in time of certain units, arrangement and succession of spatial forms, recognition of space-time continuum" /XI, 4/.

Since in this case the elucidation of the implications of concepts "symmetry" and "rhythm" has mainly propaedeutic purposes, for we believe that they may enable one to approach a really new state of matters which, in our opinion, can be attained only under conditions of a harmonious development, elaboration of a more comprehensive concept of harmony would contribute to a better knowledge of the structure.

Being a specific form of motion and development, harmony, if considered as a particular state of material and spiritual structures, cannot be attained momentarily but only as a result of a certain process whose indispensable aspects are symmetry and rhythm.

Taking note of all the above-said, it would be appropriate to introduce one more specification. One may wonder why,

for instance, some authors maintain that harmony is the same thing as symmetry. The fact is that in these cases one is wont to consider structure as something invariable. A structuralistic approach based on such like arguments is characteristically completely disengaged from the bearer (material or spiritual) of the structure. To a certain extent this may be considered admissible in scholarly studies, yet even in these circumstances it should not be overlooked that one is actually concerned with some real systemspossessing their own relevant structures. Yet, since the structure itself figures in such treatments as a sign of stability, as the expression of the conservative aspect of motion, it is symmetry that is playing the role of the dominant sign of the state, which gives rise to its identification with harmony.

A similar situation is to be seen in the interpretation of rhythm. In monotonic music, a phenomenon devoid, as it were, of any spatial localization, rhythm as a "temporary and accentuated aspect of... harmony" /XI, 230/ becomes an analogue of harmony, serving as its representative.

As for harmony proper, it is the integrity and the unity of numerous components, therefore it inevitably gives birth to something new as an indispensable link in the harmonious global development. For example, the Universe expanding after the "Big Bang" is at each moment renewing the relations between its structural components creating thus prerequisites for the emergence of new structures. So it becomes clear that the structural symmetry of our solar system is by no means an absolute one but only relative. It is in the substitution of new structures for the old ones that the rhythm complementing

this particular system manifests itself, splitting the process of cosmological transformations into a chain of temporal sequences. This is confirmed by the fact that the space of time during which the material substrate is being accumulated in the form of a "black hole" serves as a precondition for a new "Big Bang", thus representing the objective expression of the rhythm of the Universe. The regularity of the rhythm displayed by our world in virtue of the open character of the Universe is also relative. Yet even in music the breach in the regular succession of a symmetries i.e. a "rhythmical asymmetry" and an irregular "rhythmical pattern" as movement from the major to the minor and vice versa /XII, 4/-48/ are prerequisite to the creation of qualitatively new aesthetic ima images.

Consequently, harmony is a state of some complex system in which contradictions are being solved not by a succession of victories and failures, but by a rhythmical regularity with which the potentialities pertaining to the whole are growing in the interests of preserving the subsystems connected by symmetry. With reference to the existence of relatively closed system, one can say that the way from its birth to its disappearance (transition to a new quality) represents a harmonious form of development.

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