

**ABOUT THE BASIC PRINCIPLES OF
SERIAL ORGANIZATION OF GRUPPEN
BY KARLHEINZ STOCKHAUSEN**

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Summary

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The given article examines the technical and aesthetical principles involved in Karlheinz Stockhausen's composition *Gruppen* (*Groups*, 1955–1957) for three orchestras, particularly the methods of time structuring. These principles are rooted in the following basic ideas: the principle of group composition; mass phenomenon; new concept of musical time.

The chapter *The principle of group composition and mass phenomenon* characterizes two basic ideas and the impulses for their appearance. It is suggested that even though in connection with *Gruppen* the principle of group composition is stressed, most groups, from the point of view of perception, are a kind of sonic clouds – textural images, which rather belong to the category of mass, that is why it might be possible to say that in this composition we observe as if balancing on the edge between discreet and textual sound, that is, the categories of group and mass are constantly interacting.

Gruppen sums up the search of Stockhausen in the field of serial integration of the pitch and the duration of the sound using united organizational principle for both parameters at structural basic level. The chapter *A new concept of musical time* offers a theoretical exposition of Stockhausen's concept. The basis is the conclusion that the pitch and the duration of the sound are two localized aspects of vibration phenomenon; the comprehension of the connection encouraged the composer to use the regularity of 12 step chromatic scale and the principle of octave transposition – namely, the tempered system – in the temporal organization. Following the analogy of 12 step chromatic scale, he created metronomic or tempo scale, in its turn, the principle of octave transposition in the sphere of rhythm connected with different values of metric pulsation within the given tempo (the low register corresponds to longer values, but the high – to shorter). So each tempered tone is levelled with its equivalent in the sphere of duration. Stockhausen called the values of metrical pulsation fundamental pulses (*Grunddauer*), levelling with fundamental tones in pitch sphere, but specific rhythmic layers (*Formantbereiche*) that cover the fundamental pulses he levelled with harmonic partials.

The organization of fundamental pulses forms *the structural plan of time of Gruppen* (Stockhausen's term; see example 2) – the lowest level of the structural hierarchy of the composition. Chapter *The plan of time structure*

of *Gruppen* offers the description and analysis of this structural layer. At the basis of the time structure there are 12 aggregates: basic series and its 11 derived structures. The organization of tempi is determined by the pitch classes of the serial structures (12 aggregates), but the choice of octaves determines the values of metrical pulsations of the groups. In the process of composition Stockhausen first worked out the structure of 12 aggregates within one octave (this method is examined in subchapters *Basic series and its specific features* and *The structures derived from basic series*), but the transpositions of octaves were decided later choosing proportions of intervals following certain criteria (subchapter *Numeral proportions* consider the criteria with which Stockhausen expressed intervals of aggregates in the way of numeral proportions; also the principle is described how numeral proportions are used, both to determine the length of the groups and the distance between the starting points of groups).

The chapter *Basic features of groups and form* characterizes the category of *formant-spectrum*, sketches a few aspects of harmony and describes the levels of segmentation of overall form.

For characterizing a few features of formant-spectrums, aspects of time dimensions were chosen, namely – horizontal and vertical density of the rhythm (it is described as relations of density), envelope-curves and time-forms; interaction of these three parameters draws the level of the temporal surface of the composition (chapter *A few features of formant-spectrums: the time dimension*).

In the final part a conclusion is expressed, that though tempi and the values of metrical pulsations have a great structural importance in the composition, in the process of listening we do not perceive these structures as strands of musical information, independent layers of thought; they have served the composer rather as certain takeoff point – conceptual basis, the model of intellectual beauty. On the other hand, the numeral proportions of intervals included in the structural plan of time in the process of organization are applied also to certain structures (e.g. harmonious fields), that can be more or less clearly detectable in the listening process and can be connected with specific features of the sound of *Gruppen* both local and wide scale. A conclusion is made that at the basis of musical organization of *Gruppen* is multi-parametric system with structural supports – basic series and row of proportions. The principle of serial unity comprised in the composition creates a definite aura, the feeling of cosmic order.

Literatūra

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