STRUCUTRES

Pierre BOULEZ

I a

Très Modéré \( (d = 120) \)

PIANO I

\( \text{fff} \)

legato sempre

PIANO II

quasi \( p \) sempre


Universal Edition Nr. 12267
Modéré, presque vif ($d = 144$)

U.E. 12267
PIERRE BOULEZ
GYÖRGY LIGETI

DECISION AND AUTOMATISM IN STRUCTURE Ia

If one is to demonstrate the way constructional principles were used in the early stages of serial music, Structure Ia is a particularly suitable example. Since this composition is very perspicuously worked out, its anatomy is revealed of its own accord, so it can be analysed as a ‘textbook example’. Alongside the very ramified complexity of the Marteau, it stands in crystal-clear sobriety.

At this level of serial technique the compositional process can be reduced to three working stages: Decision I – Automatism – Decision II.

Decision I

A. Selection of elements.
B. Choice of an arrangement for these elements.
C. Choice of the further operations to be carried out with these arrangements (‘arrangements of arrangements’) and mutual relationships of the individual arrangements to each other.

Automatism

Elements and operations, once selected, are, as it were, fed into a machine, to be woven into structures automatically, on the basis of the relationships chosen.

Decision II

The automatically derived structure is to some extent crude, and one must work on it further, taking decisions in dimensions that are not employed mechanically. If, for example, the parameter ‘dynamics’ or ‘register’ has not been passed into the machine, then one can work over the crude structure by directing these left-over parameters. This can be done aleatorically, or with definite formal aims, such as to form or avoid particular connections within the given crude structure.

But the above-mentioned division into three results only if, in analysing, one is inclined to simplify. It could easily tempt one to regard the serial mode of working as a dialectic between freedom and mechanical compulsion. That would be wrong, for in this case decision is not to be confused with freedom, nor automatism with compulsion. You stand before a row of automata, and are free to choose which one to throw into; but at the same time you are compelled to choose one of them; you build your own prison as you please, and once safely inside you are again free to do as you please. Not wholly free, then, but also not totally compelled. Thus automatism does not function as the countercpoe to decision; choice and mechanism are united in the p of choosing one’s mechanism.

Let us investigate how the process of composition, as outlined, is realised in this piece by Boulez.

Selection and arrangement of note-qualities

Tied down by the given, fixed temperament of the instruments chosen, and also by the traditional twelve-tone method, Boulez employs all twelve available note-qualities. In homage to his teacher he arranges these notes to form the same series as Division I of the note-succession from Messiaen’s *Mode de valeurs et d’intensités*.

The marked homogeneity of this series is striking - the frequent occurrence of the interval 1 (five times), and the lack of 8 and all intervals below 6. The intervals present, apart from 11, are fairly evenly represented: 10 and 7 twice each, and 9 and 6 once each. Very characteristically, 6 is used as the final interval of the series (this will later be intensively exploited in the piece); and the symmetrical position of the two 7s (second and penultimate intervals) is also characteristic.

This apparent poverty of the series becomes an advantage, however, since the inversion of the series consists only of intervals below 7, and thus, apart from 6, has no intervals in common with the basic form; this makes it easier to draw a clear distinction between the individual series, which function like threads in a web. Through this arrangement, the tritone 6 (common to the two series) becomes the axis of the basic series and inversions, while the regions of the remaining intervals function separately, in the one case as intervals above 6 (basic series and inverted canonic), in the other below 6 (inversion and canonic of the basic series). This separation is made all the more clearly manifest because the two triple successions of the same interval (11 and 1 respectively) act as characteristic vectors and thus produce a very marked contrast between the prevailing movement of the two different serial regions. 11 and 1 also produce a pronounced chromatic connection within the series; however, in the network of variously-combined serial threads these connections and prevailing movements are to a greater or lesser degree destroyed, because between the intervals of one series there are inserted notes from other series, which distract our attention from the connections mentioned, making us concentrate on other relationships. Thus as the overall structure

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3 Musical examples can for the most part be dispensed with here, since a printed edition of the Structures is available. Figures in the text refer to bar-numbers in the US edition, 12267.

8 For further discussion of this question the reader is referred to Herbert Eimer’s article ‘The Composer’s Freedom of Choice’, *Die Reihe III*, Universal Edition (London) and Theodore Presser Company, 1959.

9 In our case it is more exact to talk of twelve note-qualities per octave, rather than pitches (which, after all, signify wholly exact frequencies), since the individual notes of the series can be transposed to different octave registers.
Table XVI-A

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(The absence of an attack at the fifth order number indicates "normal.")


Table XVI-B

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