Tendencies in Recent Music

(1957)

When one considers what has happened to the language of music, it is obvious that we are at present in a period of stocktaking and reorganization, which has been preceded by a period of destructive experiment in which tonality and regular metre have been abolished. There has also come about a curious phenomenon of dissociation in the evolution of music.

On the one hand, Stravinsky developed rhythm on entirely new structural principles, based on the dissymmetry, independence, and development of rhythmic cells, but remaining trapped, linguistically, in what one could call an impasse (since we know it ended up as one) but which I prefer to call a survival, and even a reinforced survival where the processes of aggregation round very elementary poles give the vocabulary unaccustomed force.

On the other hand, in Vienna at the same time a new language was being formulated, patiently and by stages; first, the dissolution of tonal attraction—the opposite step to the one taken by Stravinsky—then functional ultra-thematicization, which was to lead to the discovery of serialism, a method used in quite different ways by Schoenberg, Berg, and Webern. The only one, in truth, who was conscious of a new dimension in sound, of the abolition of the horizontal–vertical opposition in favour of a view of the series as simply a way of giving structure, or *texture*, to musical space, was Webern, who arrived at this position, when all is said and done, by specious means which in some transitional works I find disturbing; by trying, on the basis of regular canonic forms, to use the series as a contrapuntal device with harmonic controls. Later on, he adopted a functional distribution of intervals which, in my opinion, marks a crucial moment in the history of the language. On the other hand, the rhythmic element has no connection at all with the serial technique.

It should perhaps be pointed out that this phenomenon of dissociation applied to both aspects of the language. For his rhythmic discoveries, Stravinsky needed a simpler and more malleable material with which to experiment. In the same way, Webern could only concentrate on a proper morphology by, to a considerable extent, ignoring rhythmic structure.

Admittedly this is a little too schematic to be completely accurate. Which is why, to test it, I should like to follow a less well-worn path and start by playing truant with the music of Varèse, that lone ranger whose conception of music has happily never fitted into any orthodoxy. This music, it has to be recognized,

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is essentially concerned with the physical phenomenon of sound itself; I imagine Varèse preoccupied constantly with the effect of chords as objects; chord function no longer has anything to do with traditional harmony, but becomes a property of the whole body of sound, calculated as a function of natural harmonics, inferior resonances, and the various tensions necessary to the vitality of such a body. Hence the remarkable dynamic qualities so often observed in the music of Varèse. One may notice the flat rejection of anything that could be called expressive nuance, in the pejorative sense (a constraint inherited from certain aspects of *fin-de-siècle* romanticism); dynamics here play the role of tensor, an essential factor for the optimum rendering of a note-aggregate, and a far more highly evolved role than usual, since, instead of remaining at the purely affective level, they participate in the actual harmonic structure, from which they cannot be detached without completely destroying the equilibrium of the music thus composed. These two points—the abolition of the traditional function of chords in favour of their intrinsic quality as sound, and the incorporation of dynamics as an element of structure—can be combined into a single overriding preoccupation of Varèse: acoustics.

Taking acoustics as the basis of all sound relationships, Varèse set himself to discover in what way they could control a musical construction. This led him—as an isolated experiment—to write for percussion alone *(Ionisation)*.

We should finally note of Varèse—for the moment only in passing—his profound rejection of equal temperament, which he called 'the octave's cheese-wire'.[1] It is well known that equal temperament is the most artificial thing possible, and that it was adopted in the eighteenth century merely as a convenience. If it was temperament that enabled the full flowering of western music—which it is hardly possible to forget—it must be admitted that it remains a purely western phenomenon, and that in other musical civilizations there has never been any question of temperament, just as there has never been any question of disallowing any unit interval other than the semitone. For Varèse, with his acoustical attitude to musical structure, temperament was obviously pure nonsense. Recently he has even spoken of non-octave-based scales, which reproduce on a *spiral* principle or, to put it more clearly, a principle by which the transposition of pitch scales no longer works in octaves, but according to different intervallic functions.

In the next generation an American musician, John Cage, came to believe that, if it was such an effort to avoid the clichés of tonal music, this was largely the fault of our instruments, which were specifically designed to meet the needs of tonality. He thus turned, like Varèse, to percussion, with its world of unpitched sounds, in which rhythm is the only architectonic element of sufficient power to allow a valid non-improvised structure—apart, obviously, from the timbre and acoustical relations which exist between the different categories of such instruments (skin, wood, or metal).

1. Orig. "le fil à couper l'octave." [Tr.]

At the opposite pole to this music which deliberately does not concern itself with pitch or registral relations, stands the work of Webern, whose main preoccupation was, on the contrary, to find a new way of structuring pitch. Certainly the most important figure of our time, and the threshold to contemporary music, in the sense that he rethought the whole notion of polyphonic music in serial terms (terms which he himself established through his own music by assigning an increasingly primary role to interval as such, and even to the sound in isolation): such is Webern. Throughout his work one senses an urge to reduce the articulation of the discourse as far as possible to pure serial functions. In his view, the purity and rigour of the experiment had to be preserved at all costs. Increasingly he enlarged his field of musical possibilities, without thereby losing any of his fanatical intransigence. And from this moment there irrupt into the acquired sensibility the first rudiments of a musical mentality that cannot be reduced to the basic schemas of previous sound-worlds. Here it really seems a question of an upheaval comparable to what the passage from monody to polyphony may have been, that is a radically new conception of the available sound-space. But, while melody remained the fundamental element at the heart of polyphony, one can say that in the serial method as conceived by Webern it is polyphony itself which becomes the basic element: and that is how his way of thinking comes to transcend the notions of vertical and horizontal. So the significance of Webern's work, its historical *raison d'être*—quite apart from its indisputable intrinsic value—is to have introduced a new mode of musical *being*.

This mode lacks, however, the rigour necessary to its complete fulfilment. While Webern concentrated on pitch structure—eminently a western problem—matters of rhythm interested him much less, as did dynamics, even though dynamics do play a certain structural role in his music.

Recently, Olivier Messiaen has crystallized these scattered preoccupations of valid contemporary music in his *Mode de valeurs et d'intensités*, in which the idea of global—in this case modal—organization is applied not only to register, but equally to duration (that is to say, the rhythmic organization of music time), dynamics (that is, the amplitude of the sound) and attack (or the initial profile of the sound). With Varèse, remember, dynamics played a structural role by virtue of his preoccupation with acoustics; here, in Messiaen, dynamics, like duration and pitch, are organized as an actual compo itional function, which is to say that, over and above acoustics as such, there is a concern to integrate all sound elements into a study of form.

The one area still needing to be explored is the world of non-tempered sound. Why indeed should one regard as inviolate a decision which has rendered immense service but has no further *raison d'être*, since the tonal organization which required such standardization is now practically destroyed? Admittedly the question of instruments is a by no means negligible obstacle to the development of a musical thought based on non-tempered intervals and concerned with such things as complex tones and sound-complexes. All the

acoustical approximations which have gradually accumulated in the course of western musical evolution ought to disappear, since they are no longer needed; but how, for the moment, do we get round the problem of sound-production?

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The prepared piano of John Cage provides an artisan solution, embryonic, but none the less plausible. At least the prepared piano has the great virtue of making already tangible a sound universe which we would have for the time being to renounce, given its difficulty of realization. The piano thus becomes an instrument capable, by means of an artisan tablature, of yielding complex frequency patterns: artisan tablature since, to prepare the piano, objects of various materials such as metal, wood, or rubber are inserted between the strings at certain critical points along their length, materials which modify the four characteristics of the sound produced by a vibrating string: duration, amplitude, frequency, and timbre. If we bear in mind that, for much of the piano, any given key has three corresponding strings, and if we then imagine these various modifying materials at critical points on these three strings, we can get an idea of the variety and complexity of the sounds produced by such means. The route is marked out from here towards a future evolution of music in which, with the help of increasingly perfected tablatures, instruments will be able to assist in the creation of a new sound-world which needs and demands them.

If now, after this excursion into a region where Webern never ventured, we return to his work, we will find in it an extraordinary preoccupation with timbre and with new ways of using it. The musical evidence, of which I spoke earlier, is by no means neglected at this level. Orchestration no longer has a purely decorative value, but participates in the actual structure, providing a particularly effective way of relating and synthesizing pitch, duration and dynamics. To such an extent that, with Webern, we are no longer talking about the historical orchestra, but must seek out new and essential orchestral functions.

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We can now see how urgent it is to gather up our various investigations, generalize our discoveries, and expand the resources of this now known technique, which, having hitherto been largely an instrument of destruction—and hence bound up with what it wanted to destroy—has now to be given its autonomy, by linking rhythmic to serial structures through a common organization which embraces not only duration, but also timbre and dynamics. It is easy to imagine the bewildering range of discoveries waiting to be made through constructive research. The development of musical thought is called upon to fling itself powerfully in Webern's wake, since it is possible to justify an entire musical organization in terms of the serial principle, from the tiniest component up to the complete structure.

Such serial thinking can at last escape the number twelve, in which it has

been imprisoned for so long and with such good reason, since it was precisely the twelve notes, that is the chromatic scale, which allowed the transition from the increasingly feeble structure of tonality to that of serialism. But in the end it is not the twelve notes that are paramount, so much as the serial idea itself, the idea, that is, of a sound universe, specific to each work, derived from a phenomenon that is undifferentiated until the moment the series is chosen, at which point it becomes unique and essential. The permutations thereby defined on the basis of the original permutation can be generalized into whatever sound-space is given as material, which is why we should speak of series of non-tempered intervals, even of frequency characteristics, and with no predetermined number, leading eventually to defining intervals other than the octave. (And this brings us back to Varèse.) There is then no longer anything incompatible between micro-intervals, non-tempered intervals, and the familiar twelve semitones.

Similarly with rhythm, one can envisage not only rational divisions of the unit, but also irrational fractions which would mainly be used within the basic unit. If we want to break the unit down into fractions—a necessity we face, for example, when superimposing series of units and series of durations, which makes performance virtually impossible and notation unrealizable except by recourse to a scale of the unit and its fractions—if, then, we want to introduce a concept of total rhythmic freedom, what can we do except turn to the machine?

We are here on the brink of an undreamt-of sound-world, rich in possibilities and still practically unexplored, whose implications we are only now beginning to perceive. We may notice one happy coincidence in the present state of musical thinking (but perhaps it is not mere chance: certainly we should not be surprised that the musicians in different countries who take most interest in these developments are the ones who unite a certain body of opinion): this coincidence lies in the need for certain means of realization having arisen at the very moment when electro-acoustic techniques are in a position to supply them. In effect, there are two ways of producing a sound: either with a natural sounding body or through artificial production by electronics. Or, in between the two, the electro-acoustical transformation of a sound produced by a natural sounding body. In the two extreme cases, the procedure envisaged is radically different; the sounding body produces sounds whose essential definition is timbre, duration, register, and the limits of its dynamic range; if we make use of a natural sounding body, we must first take account of the possibilities it offers, since the only possible modifications are in dynamics and variations in attack and decay: we therefore need an ensemble of sounding bodies each with a different set of characteristics. These characteristics exist in a virtual state in the sounding body, within precise and well-understood limits. But if we think of the domain of electronics, it is pretty obvious that we are dealing initially with a non-limitation of possibilities, whether of timbre, of register, of dynamics, or of duration; we thus create the characteristics of each sound, characteristics which depend on the overall structure; the sound is reciprocally linked to

the work as the work is linked to the sound. The far end of the serial perspective which was already proposing a universe peculiar to each work, but solely from the point of view of serialized frequencies, thus brings us into the domain of sound itself, and the actual interior of the sound.

Rarely, in the whole history of music, could we have assisted at a more radical development, or one which confronts the musician with a more unfamiliar requirement: the choice of sound material, not merely for decorative effect or for the musical evidence—a banal version of the problem of orchestration or instrumentation—but the real choice of material for its intrinsic structural properties. The composer becomes performer, in a field where performance and realization have an enhanced importance, and like a painter he acts directly on the quality of the realization.

Moreover, questions of tempered or non-tempered, vertical or horizontal, no longer have any meaning: we arrive instead at the "sound-figure," which is the most general object that presents itself to the composer's imagination: sound-figure, or even, with the new techniques, sound-object. If in fact we extend the notion of series to the way the basic temporal unfolding acts upon the organizational differences between these objects—if, that is, we expand it to include the modifications that can be made to such objects—we shall have established a category of works free at last from all constraint outside what is specific to themselves. Quite an abrupt transformation, when one considers that previously music was a collection of codified possibilities applicable to any work indifferently.

These observations are nevertheless still premature; we are merely on the road to such a music. The crucial research into the intrinsic qualities of sound has yet to be undertaken; the perfected and manageable equipment necessary to the composition of such works has yet to be built. All the same, the ideas are not so utopian that we can ignore them; it is even probable that the growing interest aroused by the epiphany of this unfamiliar and undreamt-of sound-world will only hasten their solution. We may modestly hope to be the first practitioners.