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IS THE TWELVE-TONE TECHNIQUE ON THE DECLINE?

By ERNST KRENEK

N EARLY thirty years have gone by since the first reports on a new technique of composition were published.¹ This technique has become known under names like "twelve-tone scale," "twelve-tone system," "twelve-tone technique," and "dodecaphony." The term suggested by its originator, Arnold Schoenberg, is in fact a definition in which Schoenberg, in a nutshell, reveals his view of the theoretical background of his discovery. He wanted it to be known as the "method of composing with twelve tones which are related only with one another."²

It is not the purpose of this paper to trace in detail the history of the twelve-tone technique and of the response that it found among

¹ Erwin Stein, *Neue Formprinzipien*, in *Anbruch*, August 1924. We are aware that the Viennese composer, Josef Mathias Hauer, applied twelve-tone patterns in his compositions and expressed himself theoretically on these procedures several years earlier. Not wishing to revive the tiresome quarrel about priority which has divided Hauerites and Schoenbergians ever since, we should like to confine ourselves here to a discussion of the technical methods inaugurated by Schoenberg, because only these have gained worldwide significance. This does not imply any negative opinion on Mr. Hauer's compositions and theories, with which we are not sufficiently acquainted to present any kind of opinion about them.

² Arnold Schoenberg, *Style and Idea*, New York, 1950, p.107.

musicians and audiences. Any observer of the musical life of the past thirty years will know that until World War II the twelve-tone technique was mainly considered a private hobby of a few composers personally associated with its inventor. While this was not entirely true, such was the general impression. The greater was the surprise of the musical world when after the hiatus in international relations caused by the war it was discovered that an astounding number of composers in many countries³ had used the period of ghastly hibernation under bombs, starvation, and terrorism to turn quietly and surreptitiously to that much maligned method of composition.

In spite of this widespread acceptance of the twelve-tone technique one may have recently heard some talk about its decline, indeed it almost seems as though such talk were caused by acceptance of the technique in wider circles. The "decline" is being discussed by the faithful as well as among those who have never been favorably inclined towards this compositional procedure, although their motivations are diametrically opposed to each other. Those who belong to the not always clearly defined circle of the originally initiated — one might say, the "charter members" of the order — complain that the precious metal forged by the master and his immediate disciples is being turned into small change becoming increasingly worthless in the hands of musicians who appropriate the easily graspable mechanics of the technique for purposes that could as well be pursued without its aid, if they are at all worthy of being pursued. The adversaries who view the alleged decline hopefully rather than with regret base their interpretation of the situation on the observation that twelve-tone music even after a test period of thirty years is still being rejected by audiences and "educated" musicians, which should soon enough cure the composers who have joined the movement in the last decade or so of their addiction, due as it seems to misguided curiosity, misplaced reverence for an imposing ancestor, and snobbish fear of appearing not to be up-to-date.

The notion that the twelve-tone technique has declined by being "watered down" at the hands of too many insufficiently instructed, careless, or lighthearted practitioners presupposes the existence of something that could be called the one and only, genuine, "orthodox" twelve-tone technique. The question arises whether such a thing actually exists, and if so, of what it consists. In order to answer this quest-

³ Only in the realm of Soviet domination is the twelve-tone technique officially outlawed, as "bourgeois formalism." Cf. Nicolas Slonimsky, *Music since 1900*, 3rd ed., New York, 1949, pp.655ff., 684ff.

ion properly, we have to bear in mind that the twelve-tone technique, when it made its first appearance, was not published in the shape of a coherent set of systematic, normative statements to be followed by any composer who wished to be recognized as an accomplished, as it were "licensed" dodecaphonist.⁴ In fact, it could not be so published, and we doubt that any compositional method could be, or ever was, presented in such a form.

At the distance at which we find ourselves from the Renaissance, and knowing what happened in music history since, we might be inclined to think that the hallowed rules of modal 16th-century counterpoint were laid down by Palestrina as the law of music and were accepted as such partly because everybody bowed down before the irresistible power of genius, partly because the master was somehow mysteriously attuned to the true nature of music, which he was able to reveal in those rules. Actually that period saw a great many remarkable composers who did not apply his "rules" at all, or only to some extent, or who modified them as they saw fit, so that his technique, as formulated by contemporary or later theorists, was only one of several competing principles of musical organization.

The dodecaphonic theory is in the same position, since it does not claim to be a "system" but a technique. Schoenberg objects to the former term, saying: "Mine is no system but only a method, which means a *modus* of applying regularly a preconceived formula. *A method can, but need not, be one of the consequences of a system.*"⁵ In the absence of a clear definition of the terms "system" and "method" the remark lacks precision. The following suggestion may be helpful: in the realm of musical theory one might understand by "system" a set of statements arrived at through examination of the nature of the musical material and claiming absolute validity on the strength of its quasi-scientific background. A "method," or "technique," presents statements of an advisory character, suggesting how it would be most practical to handle the musical material in order to further certain artistic purposes.⁶ If, then, under the jurisdiction of a technique, "right"

⁴ Erwin Stein's paper (*loc. cit.*), which must be considered the earliest explanation of the twelve-tone technique, offers an incomplete, ambiguous, and occasionally misleading description, as was pointed out by Herbert Eimert, *Lehrbuch der Zwölftontechnik*, Wiesbaden, 1950, p.50.

⁵ *Op. cit.*, p.107, note. The italics are Schoenberg's.

⁶ To illustrate the point we submit that the theory expounded by Hindemith in several of his books has the character of a "system" in the sense explained above. How strongly he must feel that music not corresponding to that theory is "wrong," is evinced by the fact that he has re-written several major works of his earlier

or "wrong" is to be judged with a view to the specific purpose to which the technique is applied, orthodoxy can at best only mean adherence to well tested practice and commanding example, not unquestioning allegiance to revealed truth. Practice and example have been widely discussed in the ever increasing literature on twelve-tone music.

Theoretical statements concerning methods of composition may either be descriptive analyses based on observation of existing compositional practice, or recommendations of certain procedures designed to advise students how they may, through their own practical work, attain elementary proficiency in the compositional practice under consideration. Obviously such recommendations are also based on observation, but whoever makes them will hardly try to incorporate in his suggestions all features and implications of the practice he has in mind; he will select those that seem to him to be of highest practical value from a pedagogical viewpoint.⁷

The literature on the twelve-tone technique contains a few specimens of each type. As representative of the analytical approach we shall here especially mention René Leibowitz's *Introduction à la musique de douze sons*⁸ and Josef Rufer's *Die Komposition mit zwölf Tönen*.⁹ Pedagogical presentation of the subject matter was so far submitted by Herbert Eimert¹⁰ and this writer.¹¹

These pedagogical works cannot, and do not, claim to be ultimate pronouncements on right and wrong in matters of twelve-tone composition. Insofar as the authors offer concrete directions in terms of "do" and "don't," they are not implying that any deviation from such

period in order to make them "correct" in the light of his later insight. But no one in his right senses — not even a convinced dodecaphonist — would call a composition "wrong" that does not observe the suggestions of the twelve-tone method. It is true that "totalitarian" tendencies of this kind were occasionally voiced in the twelve-tone camp, usually based on pseudo-philosophical mysticism, numerology, and chiliastic fantasies. These have remained phenomena of the near-lunatic fringe.

⁷ For the Palestrina style, for instance, Knud Jeppesen has tried to achieve both purposes in two separate works: *The Palestrina Style and the Dissonance* (Oxford, 1927), which is a thorough analysis of the compositional practice, and *Counterpoint* (New York, 1939), which is a selection of the salient features of that practice for pedagogical purposes.

⁸ Paris, 1949.

⁹ Berlin and Wunsiedel, 1952.

¹⁰ *Op. cit.*

¹¹ Ernst Krenek, *Studies in Counterpoint*, New York, 1940. Since it is subtitled "trattato pratico," a study under the name of *Tecnica dodecafonica* by Carlo Jachino, of the Santa Cecilia Academy in Rome, may also come under this heading. The book was announced by the Edizioni Curci in Milan, but we were not able to examine it.

rules must be rejected as unorthodox. The main purpose of the rules is to establish some common ground between teacher and student, a set of temporarily agreed upon standards by which both teacher and student can judge whether the latter is making progress in the desired direction. The authority that any textbook dealing with contemporary procedure may assume rests entirely upon the confidence its author invokes through his creative accomplishments and pedagogical experience. It cannot derive its authority from objectively verifiable correctness, which is possible only in relation to practice completed in the past, as in the case of Palestrina. I do not see how I can make my own position clearer than by quoting from the preface of my *Studies*:

This book does not pretend to sum up or to codify the practice of the twelve-tone technique as it appears in the works of Schoenberg, his disciples Alban Berg and Anton Webern, and several other composers. This technique being still in the making and subject to change in every new work, the student would easily become confused should he begin by examining its manifold applications in the works of these composers. The author wishes to set forth the elementary principles of the twelve-tone technique as he has applied it in a number of his own works, and in a way that has proved useful in teaching.¹²

It is equally impossible to derive from the analytical treatises a coherent set of manipulations as the one and only "correct" manner of handling the tone rows, related to which any different procedure could be classified as deviation from the norm. The practice of the twelve-tone technique has been rather flexible from the outset, inasmuch as its inaugurators immediately accepted the invitation to variety held out by the principle they had discovered. If the concept of "orthodoxy" should be associated with the person of Arnold Schoenberg as the true originator of the idea,¹³ Rufer's book adheres more closely to it than does Leibowitz's work, since Rufer's analyses are concerned with Schoenberg's music alone. He not only supports most of his conclusions with direct utterances of Schoenberg, but on the whole bases his discourse on the only comprehensive paper that Schoenberg himself published on the subject.¹⁴

¹² *Op. cit.*, p.vii.

¹³ While Schoenberg is usually credited with the invention, there exists an oral tradition to the effect that it was worked out in a constant give-and-take collaboration of himself, Berg, and Webern. Unless some of the still living witnesses of that period will express themselves on the subject, the extent to which any of the three masters contributed to the evolution of the technique will remain unknown. Schoenberg speaks of "many unsuccessful attempts during a period of approximately twelve years" (*op. cit.*, p.107).

¹⁴ *Composition with Twelve Tones*, in Schoenberg, *op. cit.*

This paper, then, would be the real source of truly authentic information on the technique. But not only is the paper — of necessity, since it is the reprint of a lecture — rather brief so that it covers only a limited selection of examples, it also does not establish any exclusivity for the procedures discussed therein. “The possibilities,” says Schoenberg, “of evolving the formal elements of music . . . out of a basic set¹⁵ are *unlimited*.”¹⁶ He goes on to say: “It will be observed that the succession of the tones according to their order in the set has always been strictly observed. One could perhaps tolerate a slight digression from this order . . . in the later part of a work.”¹⁷ If this sounds like a fairly definite rule, Schoenberg’s own practice shows that it is far from iron-clad.

The procedure of dividing the row into smaller groups of six, four, or three tones each¹⁸ leads soon to arrangements in which these groups are so combined with each other that the over-all sequence of the twelve tones is no longer the same as in the “basic set.” Although “no change of succession occurs within any one of these groups, . . . they are treated like independent small sets.”¹⁹

Another feature that tends to take on the character of a rule because Schoenberg employed it with great persistence in many works consists in constructing the twelve-tone series (the “basic set”) in such a manner that the inversion of the second half of the series, when transposed by a perfect fifth down, will contain the same tones as the first half of the original series. “The advantage of this,” he says, “is that one may accompany melodic elements [derived] from the first six tones with harmonies from the second six without obtaining doublings [of tones].”²⁰ Of course, doublings will not occur anyway if the two halves of the series are played simultaneously, since they, by definition, contain different tones, and the effect described by Schoenberg could just as well be obtained if the accompaniment would use the retrograde form of the original series. But Schoenberg himself did not always stick to the transposition by a fifth down. In his Variations Opus 31 he set up his series so that its inversion beginning a minor third below the original pitch produced the desired relationship of the two halves.²¹ Be that as it may, he does not make his description of the

¹⁵ I. e. a twelve-tone row (E. K.).

¹⁶ *Op. cit.*, p.116f. Italics mine.

¹⁷ *Ibid.*, p.117.

¹⁸ *Ibid.*

¹⁹ *Op. cit.*, p.129.

²⁰ Rufer, *op. cit.*, p.89. English version by this writer.

²¹ Schoenberg, *op. cit.*, p.131.

procedure binding, since he introduces it with the words: "I *personally* attempt to arrange the series so that its inversion" etc.,²² thus implying that it is perfectly permissible for other composers to make different arrangements.

These few quotations may suffice to show that the originator of the technique considered it highly flexible. This is corroborated by Rufer, whose painstaking analyses cover much more ground than Schoenberg's paper and list a multitude of cases in which the tone row is treated "freely," if by "strict" treatment one understands rigid observance of the original succession of tones.²³ Thus the concept of orthodoxy in the twelve-tone technique collapses, and the notion of its "decline" can hardly be based on finding that later practitioners have gone "too far" in deviating from hallowed routine. What, then, have these children and grandchildren of the "founding fathers" actually done? Considering that their number has been constantly growing during the last ten years, while only a few of their compositions are available for inspection, we shall not presume to give a comprehensive survey of today's twelve-tone music. But some general trends may be ascertained on the strength of observable evidence.

One of the valuable features of Rufer's book is the first appendix, in which he gives the floor to thirteen composers of younger generations (only three of them are pupils of Schoenberg) to let them "express themselves on their compositional experience with the invention or method of Schoenberg and, if possible, to demonstrate with concrete examples their individual manipulation and possible modification of this 'classical' method."²⁴ While not all of these composers have fulfilled Rufer's assignment explicitly, it transpires that in their own work they were concerned mainly with three aspects of twelve-tone composition: the various possibilities of manipulating what Schoenberg called "small

²² Rufer, *loc. cit.* (italics mine).

²³ Richard S. Hill, in his remarkable essay *Schoenberg's Tone Rows and the Tonal System of the Future*, in *The Musical Quarterly*, Jan. 1936, expressed a degree of concern at the way in which Schoenberg would twist his tone rows in some instances. I touched upon this problem in my article *New Developments of the Twelve-Tone Technique*, in *The Music Review*, May 1943.

²⁴ *Op. cit.*, p.161. It is interesting to notice that Rufer's discourse too is to some extent flavored by the concept of orthodoxy in that he calls Schoenberg's procedures "classical." I am not sure whether I was the first to introduce the term "classical" in the discussion of the twelve-tone technique, but I certainly did use it in my essay mentioned above (note 23), where I defined as "classical" a treatment of the tone row in which "the twelve-tone series still retains its integrity as a characteristic succession of tones, no matter how twisted and concealed in the practical manipulation" (*loc. cit.*, p.87).

sets," i.e. segments of the original row comprising six or fewer tones; of changing the order of succession of the tones within those segments (terms like "permutation" or "rotation" repeatedly used in the description of the relevant procedures suggest immediately what is meant); of setting up and using the basic series in such a way that the musical substance derived therefrom would somehow — albeit rather vaguely and by analogy — be related to harmonic phenomena of tonal music. It is true that all of these tendencies were hinted at in Schoenberg's compositions. Even the last mentioned — approximation of tonality — is quite evident in his *Ode to Napoleon*.

Division of the row into smaller groups and treatment of these groups as more or less independent units were used by the inaugurators of the technique consciously and purposefully from the beginning. Of the composers interrogated by Rufer, especially Wolfgang Fortner (Germany), Humphrey Searle (England), and this writer²⁵ have made statements which show that they have developed this aspect of the twelve-tone technique beyond Schoenberg's practice, mainly through putting emphasis on certain definite mutual relationships of the subdivisions of the tone row in order to make this organization of the tone material more serviceable to their artistic purposes.

"Rotation" seems to occur in Schoenberg's later works sporadically, as Rufer points out,²⁶ and locally, when for instance the desire for strengthening analogy or identity of some motivic details suggests slight alterations of the original succession of tones. The device is not used consistently to impart to the design of larger spans characteristics that could not be obtained otherwise. In this field the twelve-tone technique has gone farthest in elaborating on what Schoenberg seems to have seen only as an incidental possibility, dictated by expediency rather than by conscious planning. In Rufer's survey it is again Fortner and this writer²⁷ who have contributed substantially to the question. Roberto Gerhard (Spain/England) makes some relevant, though less definite, remarks. It is interesting that both Fortner and this writer hit upon the concept

²⁵ Rufer, *op. cit.*, pp.165ff., 170ff., 174ff. My own ideas on the subject are stated more completely in the essay cited in note 23.

²⁶ *Op. cit.*, pp.115f., 166, and *passim*.

²⁷ *Ibid.* It may be remembered that my meditations on the problem have induced my pupil, George Perle, to make the idea of "rotation" the point of departure of an elaborate study, *Evolution of the Tone-Row: The Twelve-Tone Modal System*, in *The Music Review*, Nov. 1941. While his attempt to establish a manageable standard organization of the atonal idiom, which might answer Richard S. Hill's wishes of 1936 (*op. cit.*), was undoubtedly premature, his investigations were nonetheless stimulating.

of a "boundary" beyond which the processes they discuss — different from each other and motivated by entirely different artistic intentions — cannot be pushed without destroying the basic idea of the twelve-tone technique. It is equally interesting that some of the procedures suggested by these composers seem to correspond in some way to the treatment of motivic elements in Schoenberg's *Opera 23* (Five Piano Pieces) and *24* (Serenade), which historically must be regarded as the last steps leading to the establishment of the "classical" technique.²⁸

A cause of the continued interest in the possibilities of "permutation" and "rotation" may be found — at least as our own experience goes — in the desire to integrate the actual design of the music with the shapes of the pre-arranged patterns more closely than seems readily feasible if complete twelve-tone rows are constantly employed. In other words, the function of the twelve-tone row as a basic musical *motif* is rather difficult to maintain as long as the row is treated as an unbreakable unit, which was, rightly or wrongly, assumed to be an essential tenet of the "classical" twelve-tone technique. Because the complete tone row did not adapt itself easily to the requirements of fast-changing, sensitive design, it had frequently to be twisted beyond recognition, so that the over-all outline of the music so constructed had little perceptible reference to the "basic set." Composers who did not wish to apply, on sufferance, the "slight alterations" that Schoenberg admitted, and, when using them, were increasingly haunted by the question "Why then use twelve-tone rows at all?", came to the conclusion that the essential virtue of the twelve-tone technique was not embodied in the mechanical omnipresence of the entire row, but rather in the unification of the design through tightly related motivic patterns. If a set of such patterns is derived from a complete row by subdivision and rotation, it seems to offer sufficient possibilities for maintaining that kind of balance which is expressed in the concept of twelve tones "related only with one another." The notion that this balance somehow automatically results from manipulating the complete row at all times seems to have been a rationalization which the early twelve-tone composers accepted uncritically because it looked extremely plausible. But even in the "classical" technique more than juggling twelve-tone rows was necessary to keep the music in balance. Seen in this light, the recent tendencies can hardly be classified as a decline of the twelve-tone technique, but rather as a re-interpretation of its basic principles in relation to new demands.

Superficially looked at, a "decline" in the shape of reactionary re-

²⁸ Rufer, *op. cit.*, pp.60-73.

gression seems to be indicated by the third of the tendencies mentioned above, that which aims at restitution of tonal phenomena, thus nullifying what was believed to be the true *raison d'être* of the twelve-tone technique, namely organizing the atonal idiom.²⁹ If Schoenberg seems to have toyed with the idea in the *Ode*, a more comprehensive, farther reaching, and much earlier example of this tendency is Alban Berg's Violin Concerto, which clearly shows that the composer wanted to integrate twelve-tone technique and tonality.

In fact attempts of this kind do not nullify the twelve-tone technique, but only Schoenberg's definition of it, inasmuch as in the music so conceived the twelve tones are not "related only with one another," but to a tonal center. At the same time they are so placed in the over-all design that their succession still corresponds to that established in the basic series — allowing, of course, for the various little licences that are customary in any twelve-tone technique, "classical" or otherwise, as we have seen earlier, and admitting that under the motivation to create tonal effects such licences will be consciously used to enhance the desired result.

This train of thought, however, requires further discussion. Schoenberg's definition of the twelve-tone technique is really a definition of atonality. When it speaks of tones "related *only* with one another," it implies that under different musical conditions the tones are related also in other ways than just with one another. Contrasting conditions that immediately spring to mind are those of tonality, in which, as it is frequently formulated, the tones are related to one central tone. It would be more accurate, though, to say that the relationships that essentially constitute the context of tonality are those expressed in the hierarchy of chords to which the tones belong. In any musical context, even in an atonal one, certain tones assume temporarily the character of points of reference through repetition, length, or other means of emphasis. Even chords may function in this way. What makes these contexts atonal is the fact that their elements are not organized in the chordal patterns of tonal harmony. If a composer revives in a twelve-tone work certain aspects of tonality, he does not prove that the twelve-tone technique is declining, but only that it is a more inclusive principle than those who invented it mainly for ordering atonal processes may have assumed.

Rufer's survey does not contain any utterances from the younger French composers who in recent years have contributed significantly to

²⁹ The composers who in Rufers book speak in such terms are Hanns Jelinek (Austria), Rolf Liebermann (Switzerland), and Winfried Zillig (Germany) (*op. cit.*, pp.169f., 172f., 179f.).

the twelve-tone literature.³⁰ For the time being only a few specimens of this music have become known in this country. We shall content ourselves here with a reference to Pierre Boulez, since we were able to have closer acquaintance with his Piano Sonata No. 2³¹ and a chamber symphony called *Polyphonie X*. Partial analysis of this unusually complex music shows that the design is based on combinations of small groups of tones, or rather characteristic configurations of intervals. To what extent these elements may be derived from one or more complete twelve-tone rows is difficult to ascertain for the whole length of these extensive compositions. In smaller spans the dodecaphonic reference is fairly evident.

In the opening phrases of the first and third movements of the Piano Sonata twelve-tone patterns appear in a manner closely corresponding to the usage of the "classical" technique:

Ex. 1: First movement, mm. 1-2. The notation shows a piano introduction with a forte (f) dynamic. It features a twelve-tone row in the right hand, with a triplet of eighth notes in the first measure and a triplet of sixteenth notes in the second measure. The key signature has one sharp (F#).

Ex. 2: Third movement, mm. 1-2. The notation shows a piano introduction with a mezzo-forte (mf) dynamic. It features a modified twelve-tone row in the right hand, with a mezzo-forte (mf) dynamic in the first measure and a fortissimo (sf) dynamic in the second measure. The key signature has one sharp (F#).

The modifications to which the row of Ex. 1 is subjected in Ex. 2 belong to a more "advanced" phase of the technique. The row is divided into three groups of four tones each. The first group is identical in both examples (D, A, D#, G#). The second group is split so that its last tone (B) stands isolated after the first group of Ex. 2, while its remaining three tones (C#, F, G) come at the conclusion of the entire row of Ex. 2. A "rotated" form of the third group of Ex. 1 (Bb, C, F#, E) becomes the second group of Ex. 2. (It will be noticed that the second

³⁰ A private communication from Rufer revealed that his attempts at obtaining such utterances were unsuccessful.

³¹ The examples, copyright 1950 by Heugel & Cie., Paris, are reprinted here by permission of Mercury Music Corporation, New York.

and third groups of Ex. 1 show identical intervallic properties: two whole-steps separated by a major third).

Measures 3 through 6 of the first movement :

Ex. 3

seem to indicate that chiefly groups of three tones, derived from the original statement and somewhat modified, are utilized to spin forth the design. The motif a) in the right hand is related to tones Nos. 1, 2, and 4 (D, A, G \sharp) of the opening phrase (Ex. 1), transposed by a half-step down, the tones Nos. 2 and 4 (A, G \sharp) having changed their position (by "rotation"), which results in the sequence G, G \sharp . The corresponding figure b) in the left hand shows the same intervallic combinations as in tones 1, 2, and 4 of the opening phrase. A retrograde version of the group D — A — G \sharp appears in measure 4 (A \flat — A — D), immediately followed in the discant by a transposition by a half-step down (G — G \sharp — C \sharp). The last tones in this measure (F — E — D \sharp) recall the analogous configuration c) in the second measure (Ex. 1, C — B — B \flat sounded together). The first triplet in measure 6 (F \sharp — E — F) has the same properties. The figure following in the right hand (d) is a reduction to three tones of the second four-tone group of the row (G — C \sharp — B, with the F left out).³² The last triplet in the left hand (E \flat — A \flat — D) is an inversion of the first three tones of the row.³³

³² It could of course be said that this is still the original four-tone group including the F, and that it has this F in common with the preceding three-tone group, F \sharp — E — F.

³³ This analysis does not imply that the composer actually started working from the twelve-tone row that we discovered in our excerpts. We can well imagine that his primary material was the groups of intervals which we pointed out and that he let them occasionally coalesce into complete twelve-tone units. It seems that in the course of the work he has "fissioned" his groups in various other ways and put the nuclei together to form new and different musical "atoms." Our analysis is meant to show that even such far-reaching "deviations" from "classical" procedure may well be explained in terms of the twelve-tone technique and to demonstrate the utmost flexibility of this principle.

From scattered comments on the music of Boulez and other French composers of his orientation it transpires that these men have worked on extending the principles of the twelve-tone technique to cover the rhythmic organization of their music, following some suggestions that came from Olivier Messiaen. Without authentic information on the procedures actually applied it is not easy to visualize how the "rhythmic" rows that they have allegedly used actually operate. Inspection of Boulez's music did not reveal any evidence of tangible effects of such a principle, whatever it may be, but its application is perhaps so subtle that it escapes the unguided observer. Whether it has anything to do with the isorhythmic concept which played so important a part in the French *Ars Nova*, we are unable to tell.³⁴

While Boulez's dodecaphonic procedures do not seem to reveal any approach essentially different from what other composers have done (especially those interested in "subdivision" and "rotation"), he has struck a new, exciting note by combining the fragmentary, hocket-like texture of Webern with the aggressiveness of the early, expressionistic period of atonality and introducing a degree of rhythmic complexity that almost defies description as well as accurate execution. This of course is not a consequence of his compositional technique, but an expression of his personality, and the technique he has chosen is an adequate means to create the style required.

Twelve-tone music written by numerous American composers of the younger generation is difficult to study for the familiar reason that very little of it is published. From occasional encounters with this music we gather that these composers partake in varying proportions of the trends outlined above, to the smallest extent probably of the rhythmic experiments of the French group, which are not well enough known to serve as a point of departure for independent developments.

This brief survey of recent happenings in the realm of dodecaphony tends to show that through the increasing number of composers who have tried their hands at the twelve-tone technique and who were not associated with the "founding fathers" a wide variety of technical procedures and stylistic results was revealed as lying within the possibil-

³⁴ The German composer, Boris Blacher, seems to entertain similar ideas, when he constructs phrases on the basis of permanently repeated sequences of rhythmic units consisting of numbers of beats that follow some arithmetic regularity, as for instance: 2, 3, 4, 5 beats etc., or 2, 3, 5, 8, 13 (*cf. Rufer, op. cit.*, p.162). Blacher admits that he has not yet penetrated the connection of this idea with the twelve-tone technique. We should not be surprised if he would eventually discover that there is none. In the few specimens of Blacher's music that we could peruse the application of his "rhythmic rows" is on a fairly elementary level.

ities of this technique. This may have surprised and perhaps shocked those who saw in this compositional method a kind of private property of Arnold Schoenberg, invented by him for the perfection of his own personal style and available only to the duly initiated. Schoenberg himself, perhaps unwittingly, encouraged such views by being on the whole rather reticent on the subject of his technique. Actually he was quite aware of the general significance of his invention, as may be seen in a sentence like this: "The time will come when the ability to draw thematic material from a basic set of twelve tones will be an unconditional prerequisite for admission into the composition class of a conservatory."³⁵ That younger composers have understood the true character of the twelve-tone technique may be gathered from an utterance by Richard Hoffmann, one of the youngest dodecaphonists (born 1925), who was personally close to Schoenberg. It belongs to the best of what we have read on the subject in a long time:

It is my fervent hope that intelligent musicians will not rely too much upon the automatic unity that results from . . . a row . . . Composing with twelve tones is not a creed, but an art. The composer should not be an apostle, who clings strictly to prefabricated formulas. He must be an artist who molds his own ideas in independence and takes chances when he plunges into unknown territory.³⁶

A thorough discussion of the ways in which the more extended use of the twelve-tone technique by many composers has influenced its "public relations" would lead far beyond the scope of what we meant to outline in this paper. It is easy to see that works in which the application of the technique produces more or less familiar stylistic features are more readily assimilated by audiences than works that reach out for novel modes of expression. The latter type will always be received with a measure of reluctance and resistance, regardless of whether or not they are written in the twelve-tone technique, or in which particular way the technique is employed therein. The public is unable in any event to tell the difference, which is perfectly in order, since any immediate, non-analytical reaction to an art object can be derived only from the total result of the artistic effort, not from the technique employed. Experience shows that the public (if such a generalization lumping together a multitude of individuals may be allowed as a working hypothesis) usually acclaims works that evince some, or any, kind of vitality, without inquiring into how they were put together. Those who hope-

³⁵ Schoenberg, *op. cit.*, p.116.

³⁶ Rufer, *op. cit.*, p.169. English version by this writer.

fully proclaim that the twelve-tone technique is declining, because they are still bewildered by the majority of works so written, only rationalize the fact that they have not yet overcome their prejudices against unfamiliar stylistic features. The process in which they acquired their prejudices causes them frequently to call themselves "educated" musicians. It is a pity that they were only half educated.