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Die Reihe in Perspective

IN 1955 A PERIODICAL, *Die Reihe*, was launched under the editorship of Herbert Eimert and Karlheinz Stockhausen. Both editors were associated with the Cologne Electronic Music Studio, and the first number was devoted to electronic music. Seven more issues followed: 2. *Anton Webern*, 3. *Musikalisches Handwerk* ('Musical Craftsmanship'), 4. *Junge Komponisten* ('Young Composers'), 5. *Berichte, Analysen* ('Reports, Analyses'), 6. *Sprach und Musik* ('Speech and Music'), 7. *Form-Raum* ('Form-Space'), 8. *Rückblicke* ('Retrospective').

The finality suggested by the title of No. 8 was appropriate, since with that number (1962) publication ceased. *Die Reihe* was, however, no ordinary periodical. It aimed at definitive statements and at studies that were both extensive and deep (see for example No. 2, devoted to Anton Webern). It was translated, and published in English (No. 1, 1957, to No. 8, 1968): Universal Edition, who in 1968 took over the copyright to the second, revised edition still have it in print. Such a history of a short-lived periodical demands consideration of its contents as they were seen in the context of the early 1960s, as they are to be seen now and of the changes in the surrounding circumstances between then and now.

Die Reihe started several years earlier than its American counterpart *Perspectives of New Music*, which has lived longer; both are highly technical in subject-matter, vocabulary and spirit. Indeed, both were the subject of a furious raspberry blown by Alan Walker in the *British Composer* magazine in 1964-65. John Backus had written a criticism of *Die Reihe* in the first issue of *Perspectives of New Music*. Walker's article led to defences of these two journals by Hugh Davies, Peter Maxwell Davies and Robin Maconie, followed by a counter-attack by Walker (who once more took on *Perspectives* as well as *Die Reihe*).¹

It was a brisk but minor outburst of firing on the long front line between new ideas and widespread comprehension. Also it happened at a confused part of the front, where a motley assortment of combatants misunderstood one another, lost the way and at times fired back on their own side. Should the record be left to gather dust beside so many other histories of warlike side-shows, or is there something that still has to be settled? We think there is, and what has to be settled is the matter of communication.

Not only was there little coherence in the use of scientific language in *Die Reihe*, but there was also a lack of integration of musical terms among the composers of that period (i.e. 1955-65). Alan Walker in his first blast wrote 'Modern music means less and less to more and more. Not only do we have a gulf between composers and listeners, we also have a gulf between one composer and another.' Today this communication gap seems to be closing. In the 1950s, in their social and economic condition, most European countries had left behind them the immediate post-war period of gloom and were expanding rapidly as new centres of wealth and power emerged. Man became, yet again in his evolution, proud and confident, turning his back on his social environment and tramping steadily along paths of self-imposed isolation. This isolationist standpoint was apparent in articles in *Die Reihe* and continued to be influential through the 1960s. This offshoot of the 'New Movement' produced an outburst of divergent approaches to the problems of the language and analysis of music and a vigorous search in fields outside those of music proper for methodologies that could be applied to music. The trouble was that the training of most musicians and musicologists was totally inadequate for them to make good use of the new methods. Thus personal isolation and the multiplicity of new techniques produced chaos instead of what should have been clarity.

In the 1970s man has relearnt suddenly and directly that he is not infallible, that nature rebels in the end, and he is once again re-examining his position from the communal point of view. History would appear to be moving towards a period of co-operation. This can be seen in the most recent works of many composers and in their 'neo-traditional' approaches. In recent years also, it has become evident that it is far more common for artists in general to be armed with at least a basic knowledge of science and mathematics, and that some display a knowledge well beyond the basic. One most interesting renewal, in the traditional sense, has been the re-emergence of the association between mathematics and music and particularly of Pythagorean ideas. Xenakis, the Greek-born composer, is of course a notable influence in this combination of scientific application and philosophical theory, which he has analysed in Chapter 8 of his book *Formalized Music*.² In *Die Reihe* No. 1, Boulez, in his article 'At the Ends of Fruitful Land', was particularly concerned with the communication problem, showing that there was already some awareness of it in the mid-1950s. He discussed the manner in which electronic sound in musical composition could relate to the listener or audience. This led him to the physical aspect of performance and the new listening techniques demanded by the medium. He asked 'Is a concert hall really necessary when the performing

artist has been eliminated? Is it not insolubly bound to the idea of the instrument?' He seemed to suggest that the electronic medium was to lead to a new approach, with the single sound and its intensities as the leading element, which in turn was to produce a radical and badly needed change in the audience/performer relationship. Unfortunately this does not appear to have led to a solution: for example, the impersonal relationship of audience and loudspeakers remains a major problem. Deeper than this, and recognised by Boulez, is the feeling concerning the re-emergence of music as a cerebral art, rather than one with emotional connotations. By 'cerebral', we mean an art that is built up by pure logic and created in a scientific, objective context. Electronic and computer music are clear examples, and the feeling that Boulez pointed out continues to affect their acceptance, though systemic art (painting and sculpture as well as music) has had 20 more years to become familiar and attitudes are changing.

The attacks by Alan Walker and John Backus on *Die Reihe* were on a different level, being concerned much more with detail. Backus in fact wrote at the beginning of his article that he would not concern himself with the musical content, yet towards the end he grew more excited (to judge by the style of comment), laying about himself more and more vigorously and calling into question the validity of the whole body of compositional techniques treated in *Die Reihe*: 'nothing more than a mystical belief in numerology as the fundamental basis for music'. Walker referred to incomprehensible writing; the defenders of *Die Reihe* made the point in various ways that difficult (rather than impossible) comprehension was inevitable when the ideas to be discussed were new and *difficult*. The main point again was communication, and Backus's valid contribution was a thorough demonstration of the casualness of the writers in *Die Reihe* in adopting technical terms from disciplines other than music and using them with new meanings, when the meaning standard in the discipline from which they were borrowed was also relevant. We cannot better Backus's own statement:

The baffling technical language we encounter contains a considerable amount of what appears to be scientific terminology — definitions, acoustical and physical terms, etc. Such terms borrowed from the field of science must be used with their precise scientific meanings. If any other meanings are intended, these new meanings must certainly be as exactly defined as possible. In general they should bear some relationship to the existing ones, and it is better to avoid saddling certain already overburdened words with additional definitions.

We shall not repeat the exercise of following through articles and displaying one instance after another of the violation of the above principles: Backus has done it thoroughly. One can hope that with the technical expertise that has grown up by 1977, in electronic music studios and other places where technology meets music, at least those musicians who are active in such work have learned the associated vocabulary, and we know of encouraging instances. A more intractable difficulty remains, though it is still one of detail. This is that some fields outside music have a well-defined use for a word that is also used, with a different well-defined meaning, within musical writing. An example is in the mathematical theory of permutations, which is inevitably applied in the study of serial composition. In that theory there is a relation between permutations that is known as transposition, but it is quite different from the musical transposition employed upon a pitch series. In writing where both must be used together, one at least must be in some way qualified. However, with good will between users of the ideas and an application of Backus's principle ('... new meanings must certainly be as exactly defined as possible'), there is no problem in overcoming this. The communication gap between technology and the arts (or rather between their practitioners) remains one of the widest such gaps in existence today and we consider the bridging of it highly important. We should add that after the exchange involving Backus (which roughly coincided with No. 4 of *Die Reihe*), Adriaan Fokker, in No. 8, returned to this problem of technological terms.

We have mentioned that Backus widens his attack to include other matters. So of course do the other contestants. Walker remarks that 'If you wish to understand modern music, you don't read about it, you listen to it'. Hugh Davies replies that 'one wonders what he would do when faced with Pound's *Cantos* or Eliot's *Four Quartets* if he knew nothing about the literature and aesthetic of China ... and the host of other sources which are woven into this poetry ...'. A good point, though we should add that Walker subsequently qualified his remark. Good points were made on both sides — one must cheer for Walker when he calls for comprehensible writing, even about difficult ideas. But there we will leave the contestants, and consider in detail some specific points in *Die Reihe*.

Underlying several of the articles in No. 1 is the relationship between electronic music and the adoption of a systemic approach in music. Krenek suggests that the most significant contributions to electronic composition have been strictly systemic: '... one comes to the conclusion that the extraordinary directness of appeal of so many twelve-note compositions is due to the conflict of ... desire for spontaneous utterance and restriction imposed by technical procedure'. Klebe remarks: 'Of particular interest to me were experiments with rhythm ... To my great surprise, I discovered that the limits beyond which the ear could not differentiate in any detail, roughly corresponded to the limits of the traditional instruments.' Stuckenschmidt remarks on the mental associations (or the lack of them) in electronic music, and points to a different sort of systemics from the serialist one when he says that 'all the elements of the music are statistically calculated'. Meyer-Eppler (a writer who is scrupulously correct in his technical terminology) also refers to 'aleatoric' music and provides a definition. In all this one has to realise that there was evidently another communication gap. In 1955 experiments in electronic music were going on in

Europe (notably in Cologne) and in the USA, and it becomes apparent that there was very little cross-fertilisation, for example in the translator's preface.

One of the most difficult authors to read is Stockhausen, and he contributes to No. 1 with an article 'Actualia'. Despite the difficulty this seems important, in that he describes a structured work which does incorporate chance. He approaches this, interestingly enough, from a serialist's permutational acrobatics and apparently unintentionally arrives at the conclusion of a deterministic system which incorporates some stochastic processes. We should consider that this was written during the heyday of serialism in Europe, and that the works of composers who were approaching this problem from the 'other side' — that of chance — were received with sarcasm and vociferous opposition. One of the composers in question was John Cage, well enough known to have an established name in Europe, but an American. Stockhausen was to become one of the influential forces in the joining together of the two camps, in the ensuing ten years, into a state of mutual respect if not of consolidation. These themes continue in later articles in *Die Reihe* such as '... how time passes ...' by Stockhausen in No. 3, where the inter-relation of two kinds of frequency (low frequency associated with rhythm, higher frequency with pitch) is also developed. Incidentally we should remark here that the articles on theory such as this are probably still relevant at least in part, but there are some on techniques such as the use of tapes in composition that are probably technologically obsolescent as regards the details of processes that they describe. In view of the interplay of technique and theory in *Die Reihe* all the articles must be read with this in mind, and it is our aim to draw attention to certain perhaps arbitrarily chosen points from various numbers that we think are still of interest. Since this reflects our personal fields of interest and research, we acknowledge a possible bias and suggest that the reader should look at the originals.

Eimert also writes in No. 1 on what we would regard as the place of systemics in art and composition. He points to Webern as the only one of the twelve-note composers who thought out the series non-subjectively, so that to a certain extent it functioned externally. This no doubt has something to do with the dedication of No. 2 to a study of Webern. For Eimert, electronic music naturally continues and develops the techniques of serialism. In No. 3 (in an article entitled 'The Composer's Freedom of Choice') he speculates on the relationship between serial techniques (in particular those of Webern) and other so-called 'ordered' systems. He states that they all consist of choices, which are controlled by the structural formulae involved in the composed work. He remarks that serialism is not total control, and in fact that within its system, control permits many new possibilities for choice. He speculates that perhaps information theory is the appropriate branch of science for investigating the structure of music. It is interesting to note that this

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article was published in 1957, when information theory was beginning to be applied to linguistics (a close ally of music). Today this development seems to have 'got stuck'.

Chance gets a position of primacy in the contributions of John Cage, which bring out the fact that aleatoric composition is really just one form of systemic operation, so that serialism, systemics (in painting as well as music), aleatorics and the mobile (as for example in sculpture) are not neat categories, but intertwined properties. Cage sees the stochastic element as coming into art, far from arbitrarily, but because it is there all the time in the world and our comprehension of it, particularly in our moments of heightened perception. For example 'Minute 2.00 to 3.00' of his 'Indeterminacy' reads:

Once when several of us were driving up to Boston, we stopped at a roadside restaurant for lunch. There was a table near a corner window where we could all look out and see a pond. People were swimming and diving. There were special arrangements for sliding into the water. Inside the restaurant was a jukebox. Somebody put a dime in. I noticed that the music that came out accompanied the swimmers, though they didn't hear it.

Numerous articles throughout the eight numbers of *Die Reihe* consist of detailed analysis. These are interesting for their identification of the 'permutational invariants' that characterise the pitch series, their transpositions, inversions and retrogrades. Such analysis still requires much further development. Just one difficulty in its mathematical treatment will be enough to mention here. Occurrence (or recurrence) of a pattern is something that should be evaluated statistically (roughly, *one* of the questions is 'this could have happened by accident, but how likely is it to have done so here?'). Such investigations are notoriously messy when the property to be investigated has been found by looking over the material first — notorious, that is, in other fields such as biology and sociology where unhappy experience shows that you can always find some sort of pattern if you look hard enough, but if you do that you cannot use the same probabilities as would have been appropriate if you had said *before looking* 'what are the chances of finding such-and-such a pattern?'

Among the more unusual articles we can only point out a very small selection. Kagel (in No. 7) describes a method of composition by writing notes on a page, then performing geometric transformations on the written material to produce new, derived phrases of music. Three other articles in No. 7 concern architectural projects. Cage describes in No. 3 how he randomises, using successively the random imperfections on an ordinary sheet of paper, some tosses of a coin and the *I-Ching*. But perhaps you should dip into *Die Reihe* yourself.

NOTES:

¹ Alan Walker's two articles which set this whole thing off were entitled 'Words and Music' and appeared in *Composer* No. 13 (Spring 1964), pp. 23-25 and *Composer* No. 14 (Autumn 1964), pp. 11-12. John Backus's 'Die Reihe: a scientific evaluation', *Perspectives of New Music*, Vol. 1, No. 1 (Fall 1962), pp. 160-171 was reprinted as the first of a sequence of articles, again using the title 'Words and Music', in *Composer* No. 15 (Spring 1965), pp. 16-25: the other contributors were Hugh Davies, Peter Maxwell Davies, Robin Maconie and (replying to all these) Alan Walker. Hugh Davies's contribution, 'Die Reihe reconsidered' was continued in *Composer* No. 16 (July 1965), pp. 17-21.

² Iannis Xenakis, trans. Christopher Butchers, *Formalized Music: thought and mathematics in composition* (Bloomington; London: Indiana University Press, 1971).

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