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ELECTRONIC MUSIC

BY

HERBERT EIMERT

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D. A. SINCLAIR

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ELECTRONIC MUSIC

Summary

Electronic music opens the door to acoustical phenomena of a kind which is still unknown in contemporary music. It demands new principles of artistic production which cannot be derived from playing on electronic musical instruments, but only from the sound itself, which is its raw material. This present issue is the first attempt to summarize the technical, acoustical and musical requirements underlying electronic music. The Cologne electronic-music group, which is so far the only one of its kind, in cooperation with acoustics experts, technicians and musicians, has developed a priori methods for the production of "electronic music".

Although electronic music can look back to a technical development of several decades, it has only recently become a subject of serious musical consideration. Its origins, of course, differ in many respects from what is usually thought of as the beginning of a trend. It is not a cautious departure from certain traditional paths, but rather, in the radical character of its techniques, gives access to sound phenomena hitherto unknown in the field of music. This bursting open of our familiar world of sound by electronic means leads to new musical possibilities of a wholly unpredictable nature.

On the other side of the picture, contiguity with the traditional realm of sound is assured, not merely in the determination of musical elements according to pitch, duration and volume, but also in the matter of formal mastery, which preserves its relationship to the earliest of musical developments. Electronic music is essentially a part of our musical culture. It cannot be described as purely technical, or merely physiological, or even as something faddish and surrealist. However, in the unmistakable way in which it

departs from traditional music, it is clear that it can neither take over the latter's functions nor simulate them. Rather, it depends on a recognition of the new possibilities of producing musical sounds as such. This recognition cannot be achieved by merely translating the existing range of sounds into the electro-acoustic medium. Indeed, it is the basis of one of the most prevalent misconceptions in this connection that music, in the traditional sense, can be "made" by electronic means. This can be done, of course, but wherever it is undertaken by means of electrical instruments the result is never more than a "substitute". The reason why scarcely any artistically serious compositions are written for such instruments is that their use as solo or concert instruments, or their incorporation in symphony orchestras, offers no essential advantage over conventional means. On the other hand, the production of new musical sounds demands new creative, artistic conceptions which can arise only out of the sounds themselves, the "raw material" so to speak.

The following pages* will explain the essential technical, acoustical and musical bases for this. This is a first attempt at a comprehensive survey of the field, and deals not only with terminological, acoustic and technical problems generally, but also includes a description of the apparatus and musical work of the Northwest German Broadcasting Station (der Nordwestdeutsche Rundfunk) at Cologne. Working in collaboration with the Institute of Phonetics and Communications Research at Bonn University (W. Meyer-Eppler), the Cologne Studio (H. Emert, Director; F. Enkel, Technical Direction) has been the first of its kind to produce the new musical material and to study the problems of its production and processing systematically. In addition to this, methods of independent

*Translator's Note: i.e., papers 2 to 12, issued as N.R.C. TT-602 to 612.

musical production in the restricted sense of "electronic music" have been developed.

The fact that this studio is the only one of its kind is, indeed, a serious drawback. There is a lack of similar apparatuses for comparison, a lack of opportunities for musicians to familiarize themselves with the new world of musical sounds and a lack of a broad basis of experience from which fruitful ideas may be derived. Nevertheless, some general validity can be claimed for the results reported here, and it is not the least of our purposes to provide a stimulus for further serious application to the problems of electronic music.

The non-professional reader, especially the musician, will here find the musical aspects dealt with in a highly technical form. However, this is merely a matter of means and methods of presentation; moreover, it could be contended that the highly rationalized system of traditional music has similar features of a technical character to which we no longer pay heed because they are so familiar. The early centuries of occidental music still enjoyed the unity of an objective musical conception, the unity of theory and practice. Today, on the threshold of "electronic music", modern, specialized methods have brought together acoustics engineers, electronics engineers and musicians for a common purpose, which is not to "technify" music but rather to provide new means of furthering it.