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Author(s): Karlheinz Stockhausen

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The Origins of Electronic Music

Karlheinz Stockhausen

This article was written by Stockhausen on 13 September 1970 in response to a letter from Douglas M. Davis of 'Newsweek' asking about the origins of electronic music. It was not printed in that journal; and Stockhausen wishes his statement on the subject to be brought before the musical public.

Electronic music began in Cologne in 1952-3. The first composition to use synthetic sounds derived from sine tones was my *Electronic Study I*. Scarcely anybody in America is now aware of this; they act as though it had dropped out of the American sky at some time or other. Your questions touch upon a most deplorable habit which is regrettably bringing 'the Americans' into increasing disrepute in the rest of the world: intellectual property is being stolen, its source concealed and ultimately forgotten in order to suppress any historical sense, whereupon they claim the ideas as their own national product. More civilized people with greater awareness would call this plagiarism.

Electronic music in the USA is a prime instance of this. If one reads dictionaries, articles in specialist journals (let alone the popular press), books about music and even new music they say nothing about the origins or prototypes of electronic music as a whole, or they simply lie. Any psychologist could explain the American need to do this sort of thing so as to achieve at least a modicum of self-assertion, even in artistic matters.

The facts are as follows: when I was 23, I spent March 1952 to March 1953 with Pierre Schaeffer at the ORTF in Paris, getting familiar with and experimentally codifying everything which was then known as *musique concrète*. In 1952 I made hundreds of analyses of instrumentally produced sounds, European and exotic, in the *musique concrète* studio, and made tape recordings of exotic sounds in the Musée de l'homme in Paris. There was a large sine-wave generator in a basement studio of the PTT, which I used to produce the first synthetic sound-spectra by superimposing sine tones. The work was infinitely arduous; as there was no tape-recorder in the studio, I had to copy each sine tone on to disc and then re-copy it from one disc to another. This first 'composition' by electronic means was witnessed by the French scientist Abraham Moles, who thought me quite mad at the time. The fact of the matter is that I had formed a friendship with the Belgian composer Karel Goeyvaerts from the time of the 1951 Darmstadt summer school. Goeyvaerts had been a pupil of Messiaen at the same time as Boulez, Barraqué, Fano, Philippot, Loriod and Grimaud, and then had the most advanced knowledge of musical composition. We even knew Cage's most advanced work to date, *Music of Changes*, not to mention all his previous works using prepared pianos. Cage had been to Paris, Boulez to New York, and they were engaged in a lively interchange of ideas, but it must be said that all the advanced composers I have

named—to which we should add Nono, Maderna, Berio (from c 1956) and Henri Pousseur (from 1953)—regarded Cage's work as combinatorially interesting but musically banal or merely dilettante.

These earliest sound-compositions using sine tones resulted from intensive correspondence between Goeyvaerts, who was living in Antwerp, and myself in Paris (it was only a question of individual sounds, not yet of 'music' in any sense). We wanted absolutely pure, controllable sounds without the subjective emotional influence of 'interpreters'. We were intimately acquainted with the 'tape music' of Ussachevsky and Luening, at Columbia University, and with the first sound experiments at Bonn University in 1951 of Dr Meyer-Eppler, the phoneticist and expert in communications. He had made contact with Dr Herbert Eimert (who was then in charge of the late evening New Music programme of the Cologne Radio and had written a book on 12-tone music back in 1923) and his friend Robert Beyer (reader of new music at WDR Cologne). Stimulated by *musique concrète* and critically opposed to instrumental 'tape music', these three men made some acoustic experiments with sounds produced electrically by the melochord (invented by Bode) and the trautionium (Professor Trautwein, whose acquaintance I also made at that time), and they knew Jörg Mager's electronic instruments. In 1952 Dr Eimert persuaded Hanns Hartmann, then head of WDR, to make a normal music studio available for two hours, twice weekly, together with a technician (first Bierhals, then Heinz Schütz), so that Eimert and Beyer could conduct acoustic experiments. This studio was equipped only with tape-recorders, and both men got the sounds from the phonetic institute of Bonn University through Meyer-Eppler. I was corresponding regularly with Eimert from Paris, reporting minutely on my work there. Once when he was travelling through Paris I played him the *Concrète Study I* I had composed there, also Boulez's two *Etudes*, and we were both up to date with the available *musique concrète* by Schaeffer and Pierre Henri.

In May 1953 came the famous Cologne International Festival of Contemporary Music, at which there was a conference which included a 'concert' of *musique concrète*, tape music, the first compositions (sound montages) of 'Electronic Music' by Eimert and Beyer, and my work *Kontra-Punkte* was heard for the first time. I was engaged as the first regular assistant at the newly-founded 'electronic music studio' of WDR, Beyer withdrew, and Eimert became director of the studio. The sound sources in this studio consisted of a melochord (with a chromatic keyboard—a kind of electronic organ) and a trautionium; the sound-processing comprised two ring modulators, an excellent octave filter and two so-called 'W49' radio filters (built by the WDR), two full-track studio tape recorders and one four-track tape recorder. Eimert was still using the melo-

chord for several pieces, but I rejected the sound sources which had been available previously and composed my *Electronic Study I* (1953) using sine tones and my *Electronic Study II* using reverberated sine tones.

Meyer-Eppler had used the term 'electronic music' on several occasions, but when we wanted to use it officially he was against using it because it was imprecise (as we all knew); we often discussed possible terms at length, I insisted time and again on this term, simply because of its strong impact on me personally, and it won through. I should also mention that great credit in the evolution of electronic music is due to Herr Enkel, a technical director of WDR in Cologne. Although he was over 40 at the time, he was a doctoral student under Meyer-Eppler in Bonn at the time, and he succeeded in making available the money for setting up the world's first electronic studio out of WDR's technical budget. (The sum was enormous at the time—I heard a figure of 120,000DM mentioned.)

While I was working on my two *Studies* I had one technician, Heinz Schütz, who had already handled the sounds of Eimert and Beyer in 1952. He was an unusually resourceful manipulator of sound, and is now in charge of an experimental WDR sound archive for television and radio. He would be the man to ask about the origins of Eimert's and Beyer's first experiments and about the earliest compositions of electronic music. During this period I was studying the literature of acoustics and phonetics, and became a 'student' once more by going to Bonn University two or three times a week (1954-6) to attend Meyer-Eppler's lectures and seminars in phonetics and communications research (statistics, chance operations, information theory(!) etc). He was the best teacher I have ever encountered; he died suddenly of cancer, still very young, at roughly the same time as our technical director Fritz Enkel, in the late 1950s.

On my recommendation, my friends Karel Goeyvaerts and Henri Pousseur were then invited to realize pieces of electronic music in the Cologne studio. They both wrote precisely-notated scores using sine tones, after my example, and it was I who carried out the technical realizations of their pieces. Then others who were interested came to the studio of their own accord: Max Bill's pupil Paul Gredinger from Switzerland assisted me in my work, and I helped him in turn with the realization of a composition for sine tones. I next recommended Gottfried Michael Koenig in 1954; he collaborated with me, then realized some of his own pieces, helped me with the *Gesang der Jünglinge* and *Kontakte*, and realized numerous works by other composers. In 1954 I recommended Bengt Hambraeus (Stockholm) who worked with us in the studio for a few months, next Ernst Křenek was invited, and our technician Heinz Schütz realized his composition. (Heinz Schütz should really be asked sometime how 'Spiritus Intelligentiae' came into being . . .!)

Another decisive step at the end of 1953 was the publication of a special edition of the technical house journal of the North-West German Radio. This issue, devoted to electronic music, covered all the electronic compositions realized during 1953, the constitution of the Cologne studio (all the equip-

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ment etc), my earliest attempts at notation, and gave a complete analysis and description of my sine tone composition *Study I* (with diagrams of the time series, dynamic series, frequency series etc). It was sold out as soon as it appeared, and was translated into English soon afterwards: the information was circulated from Toronto University throughout the USA and to all English-speaking countries.

In 1955 Herbert Eimert and I edited the first volume of *Die Reihe* (Universal), entitled *Elektronische Musik*, and my articles on electronic music were again assembled in *Texte I* and *II* (DuMont-Schauberg, Cologne). The first Deutsche Grammophon recordings of my three electronic compositions, together with pieces by Koenig, Eimert and Křenek, were the only 'sources' from 1956 to 1967, when the great explosion of electronic music started in America.

I should finally add that I went on a six-week lecture tour in 1958, giving 33 lectures at American universities (three different titles), and that I took electronic music as my subject, presented my *Studies I* and *II* and the *Gesang der Jünglinge*, a bit of *Kontra-Punkte*, a bit of *Gruppen für drei Orchester*, a bit of *Zeitmasse*, a piece by Eimert, one by Berio, one by Boulez, one by Pousseur and—last but not least—Cage's Concert for piano and 10 instruments, and deliberately mentioned John Cage six or seven times in my lecture, as well as the names of Earle Brown, Feldman and Christian Wolff. Cage was scarcely known in America at the time, and where he was known he was derided. I was sharply challenged everywhere, and was often heckled by members of the audience during or after the lecture as being anti-semitic or communist, simply because I created this music and spoke on behalf of the composers I have mentioned. Since then, America has grown more alert, more self-aware and, as I said at the outset, has now gone to the embarrassing opposite extreme: of leaving out the Europeans (now we know everything . . .!), feverishly creating, demanding, appropriating an 'American music', 'American culture', disguising or simply denying the historical facts at a particular point in history. The point where, for instance, I as a German have nothing to hide or suppress or conceal, because I recognize myself to be a researcher in sound and a composer of the whole world, whether I were in Japan, America or India. America is becoming provincial.

The subject of electronic music in the USA is so fraught with distortion that I believe even a single book or article reporting with scholarly objectivity would simply go under. American students are always complaining about the official politics of their culture, but they no longer notice that they themselves are thinking imprecisely, and are totally egocentric, isolationist and uninformed. Only with greater historical perspective will it be possible to unravel the beginnings of the electronic era in the field of music (which is ahead of all the visual arts in this respect) and the intellectual roots of this new epoch.

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An Index of New Musical Notation, in which the devices used in contemporary music will be catalogued, is to be established at the New York Public Library.