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Hörspiel as Music — Music as *Hörspiel*: The Creative Dialogue between Experimental Radio Drama and Avant-Garde Music

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In the fall of 1970, the contemporary composer Mauricio Kagel conducted a seminar in the *Kölner Kurse für neue Musik* entitled "Musik als Hörspiel." This event, at which composers and authors explored possibilities for mutual enrichment of their respective genres, represented the culmination of a gradual blurring of boundaries between two of the more demonstrably modern art forms of the twentieth century: avant-garde music and the German experimental radio play (*das Neue Hörspiel*).¹ In a single decade a thoroughly literary form heretofore committed to a poetics of the spoken word had been drawn so entirely into the sphere of contemporary music that composers became its authors, and the works were published as scores rather than as texts.² By sketching the respective development of avant-garde music and of the German radio play, and then by comparing closely related examples of each, we hope to bring the striking similarities and critical differences between these genres into sharper focus.

The evolution of avant-garde music was a gradual process of

1. See Mauricio Kagel, "Komponisten als Hörspielmacher," *Hörspiele im Westdeutschen Rundfunk* (2. Halbjahr, 1970), p. 73. Kagel sees the experimental radio plays which he writes and those which were written at his seminar as neither literary nor musical art forms, but as acoustical art without specific content.

2. See, for instance, such "scores" for experimental radio plays as Kriwet's *One Two Two* and Ludwig Harig's *das fußballspiel*. The complete score of Kriwet's work is contained in the anthology *Neues Hörspiel: Texte, Partituren*, ed. Klaus Schöning (Frankfurt: Suhrkamp, 1960), pp. 365-89. Harig's work is taken from a limited edition produced by edition hansjörg mayer (Stuttgart: 1967).

breaking away from concepts associated with traditional art music, such as those found in the following standard definition:

Music: the science or art of incorporating pleasing, expressive or intelligible combinations of vocal or instrumental tones into a composition having definite structure and continuity.³

The expansion of the sound inventory in music by the addition of environmental and electronically produced sounds to the working materials for the composer, as well as the introduction of elements of chance (indeterminacy) into the composition and performance of a work were perhaps the most significant challenges offered by avant-garde music to the traditional content-form nexus in this genre.

The Italian movement known as Futurism, founded in 1909 by the poet Filippo Tommaso Marinetti, was the first to encourage the use of environmental sound as an integral part of a musical composition rather than as an insignificant programmatic ingredient. Although few of the Futurists were musically trained or produced compositions of merit, their concepts influenced a number of later avant-garde composers. The Futurists sought to free the parameters of a musical composition (melody, harmony, rhythm, mode) from their traditional constraints. Melody would embrace the Futurist noises, harmony and counterpoint would merge, and traditional modes and rhythmic patterns would become obsolete. Consonance and dissonance would no longer be restrictive factors in an aesthetics of sound. The painter Luigi Russolo (1885-1947) described the liberating function of environmental sound in his manifesto *Art of Noises* (1913):

Everyone will recognize that every musical sound carries with it an incrustation of familiar and stale sense associations, which predispose the hearer to boredom, despite all the efforts of innovating musicians. We futurists have all deeply loved the music of the great composers. Beethoven and Wagner for many years wrung our hearts. But now we are satiated with them and derive much greater pleasure from ideally combining the noises of streetcars, internal-combustion engines, automobiles, and busy crowds than from re-hearing for example, the "Eroica" or the "Pastorale."⁴

3. Webster's *Third New International Dictionary* (Springfield, Mass.: G. and C. Merriam Co., 1971).

4. The translation of the *Art of Noises* from the Italian appears in Nicholas

Russolo divided such technological noises into six groups:

I	II	III	IV	V	VI
Booms	Whistles	Whispers	Screams	Noises	Voices of
Thunder-	Hisses	Murmurs	Screeches	obtained	animals
claps	Snorts	Mutter-	Rustlings	by per-	and men:
Explo-		ings	Buzzes	cussion	Shouts
sions		Bustling	Crack-	on	Shrieks
Crashes		noises	lings	metals,	Groans
Splashes		Gurgles	Sounds ob-	wood,	Howls
			tained by	stone,	Laughs
Roars			friction	terra-	Wheezes
				cotta, etc.	Sobs

The sounds Russolo listed in these groups were to be created by instruments he called *intonarumori*.

In June, 1913, Russolo gave the first demonstration of a single *intonarumore*, which was called a *scoppiatore* or “crackler” and imitated the sounds of an internal-combustion engine. By May of that same year he had written that his research on obtaining the noises of the first four families was complete, and by 1916, twenty-one *intonarumori* had been built.⁵ Russolo’s experiments ceased to evoke interest as Futurism began its decline after 1916, and by 1930 the movement had passed into obscurity.

Nevertheless, the fascination with technology continued in the 1920s, with a number of composers writing “machine music.” George Antheil’s *Ballet Mécanique*, composed to an abstract film of Ferdinand Léger, elicited violent reactions from the audience at its first performance on 10 April 1927, in Carnegie Hall. In this work, the traditional symphony orchestra was augmented by player pianos, car horns, airplane propellers, saws, and anvils. Other examples of “machine music” were *Pacific 231* (1923) by Arthur Honegger, *Horsepower* (1927) by Charles Chavez, and *Iron Foundry* (1927) by Alexander Mossolov.⁶ Although all of these works created new kinds of machine-like sound, they nevertheless were composed primarily for traditional instruments.

Others, like Russolo, wanted to create new sounds and noises

Slonimsky, *Music Since 1900* (New York, Washington: Praeger Publishers 1970), pp. 1298-1302 (hereafter cited as Slonimsky).

5. See Russolo, “Gi’intonarumori futuristi,” *Lacerba*, I/13 (1 July 1913), pp. 140-41, 151.

6. A more comprehensive list of “machine music” may be found in Fred K. Prieberg, *Musica ex Machina* (Berlin, Frankfurt, Vienna: Ullstein, 1960), pp. 21-47 (hereafter cited as Prieberg).

with new machines, and invented a number of electrically powered instruments. One of the earliest instruments of this kind was the Dynamophone, the brainchild of the inventor Dr. Thaddeus Cahill. Completed in 1900, it could produce any combination of notes and overtones at any dynamic level, and would then send these sounds over telephone wires to receivers. The instrument was so large that even a small model filled a large room, and for this reason it never went beyond experimental use.⁷

In the 1920s, a number of inventors produced smaller and more practical instruments. On 5 August 1920, Leon Theremin, a twenty-three-year-old Russian electrical engineer, presented an experimental demonstration of his "Aetherophone" (later renamed "Thereminvox" and known in America simply as the Theremin) for the Physico-Technical Institute in Petrograd. The Theremin produced musical tones by electronic impulses affected by the interaction of two ultrasonic circuits passing through a set of oscillating radio tubes, one circuit operating at a constant frequency, the other being altered by the movement of a player's hand through the air in front of an antenna, with the resulting differential tones falling in the audible range.⁸ Parallel curiosity in Germany produced the Trautonium (1924) by Friedrich Trautwein, the Sphärophon (1926) by Jörg Mager, and in France the Ondes Martinot (1928) by Maurice Martinot.⁹ These instruments, which can be considered precursors of today's electronic studio equipment, were often used in the orchestra, and occasionally as solo instruments.

Germany's major contribution to this development was the introduction of the tape recorder in 1935 by AEG. Since it was no longer necessary to produce "live" noise at performances, experiments with new sounds received new impetus, sounds could be taped, and these tapes could then be manipulated further. Time could be reversed and manipulated. Previously, this had been done by changing the speed of phonograph recordings, an operation with

7. The Dynamophone is described by Ray Stannard Baker in "New Music for an Old World," *McClure's Magazine* 27 (1906), 291-301. "No musical instrument ever departed further from the ordinary conception of what a musical instrument should be. Filling a large basement with steel machinery — shafts, dynamos, electric alternators, transformers, and switchboards, it gives the impression of nothing so much as a busy machine-shop, or the center of a considerable manufacturing industry."

8. Slonimsky, pp. 330-31.

9. Prieberg, pp. 217-21, lists chronologically concerts at which electrical musical instruments were used and pieces which were written for them. Lowell Cross, in "Electronic Music, 1948-1953," *Perspectives of New Music* 7, No. 1 (1968), hereafter cited as Cross, lists "Inventors and Precursors of Electronic Music" on pp. 33-39.

which the composer Darius Milhaud experimented between 1922 and 1927. John Cage's *Imaginary Landscapes No. 1* (1939), for two variable-speed Gramophone turntables, frequency recordings, muted piano, and cymbal, carried this experimentation further yet, and can be considered the first real example of "tape" electronic music.

Futurism and the invention of the tape recorder were the predecessors of *musique concrète*, introduced in 1948 by Pierre Schaeffer, a Frenchman trained in radio broadcasting, rather than in music.¹⁰ As an employee of the *Radio-diffusion Télévision Française* (RTF), he had access to the archives where taped sounds to be used as sound effects in radio dramas were stored. These tapes of sound effects were the starting point for his experiments, experiments which began the dialogue between radio drama and avant-garde music destined to culminate in Germany two decades later. The basis of Schaeffer's *musique concrète* was taped natural, i.e., environmentally created, sound. The tape recorder was the compositional tool: the sounds would be recorded, and then manipulated further by changes in tape speed and by splicing and combining to achieve the desired effect, which was often a collage or montage of sound. On 5 October 1948, the RTF broadcast the first concert of *musique concrète* by Schaeffer, including his *Étude aux chemins de fer*, a three-minute study of sounds associated with trains.

Probably the most famous example of *musique concrète* was Schaeffer's *Symphonie pour un homme seul*, written in collaboration with Pierre Henry. This work was premiered on 8 March 1950, and subsequently underwent several revisions. The definitive version was not published until 1966. It consists of ten short movements (some having traditional forms — Partita, Valse, etc.), containing sounds that a man walking alone at night might hear around him. The sounds used are taken from the man's inner, as well as from his external, acoustical environment — on the one hand the sounds of breathing, heartbeats, humming, and whistling, and on the other hand footsteps, knocking on doors, instrumental sounds, and prepared piano.¹¹ These sounds are both pitched and nonpitched,

10. Schaeffer acknowledged the Futurist influence casually in his diary of *musique concrète* (specifically he mentions Luigi Russolo — see Prieberg, p. 24). However, Prieberg presumes that Schaeffer had probably not read Russolo's manifesto, *Art of Noises*, even though it would have been readily accessible in the Bibliothèque Nationale in Paris (*Ibid.*, p. 82). Schaeffer's diaries are discussed in Cross, p. 40.

11. The prepared piano, introduced and used by Cage in his compositions, consists of a piano which has been "prepared" by the placement of various objects,

manipulated, and nonmanipulated. With this sound material, *Symphonie pour un homme seul* seeks a synthesis between natural, almost musical sounds and musical sounds which are almost noise.

The jump from *musique concrète* to "pure" electronic music, or music based on electronically created sound, was not a large one, in fact it had already been anticipated by Schaeffer.¹² The first studio to be concerned primarily with electronic sound sources was established in Cologne, in 1951, by Werner Meyer-Eppler, Robert Beyer, and Herbert Eimert only a few years after Schaeffer had established his studio in Paris. Composers at this studio first created short pieces using sine-wave tones as their basic sound material, and subsequently expanded this work according to compositional procedures and principles derived from the works of Schönberg and Webern. The Cologne studio, fully operational by 1953,¹³ became the classic prototype for other electronic studios.

Musique concrète and electronic music¹⁴ should be considered two different sound sources. Electronic sound materials, as opposed to *musique concrète*, are realized directly by the composer through electronic circuitry, amplifiers, and loudspeakers.¹⁵ In the fifties, composers worked primarily with either one or the other source, but by the sixties both were considered to have equal potential and

such as pieces of rubber or screws between selected strings, altering the sound when the keys of the piano are struck.

12. See Prieberg, p. 92, for the following translation of this noteworthy passage in Schaeffer's diary: "Alles, was das Ohr aufnimmt, ist die mehr oder weniger zufällige — mehr oder weniger willensbetonte — Komposition einer guten Anzahl musikalischer Atome, die einem mehr oder weniger verwickelten inneren Mechanismus gehorchen. Der Zusammenhang dieses Standpunktes bringt uns nicht zu den rohen Phonogenen. Er bringt uns zu den elektronischen Instrumenten, nicht nur den wirklichen Wellengeräten — etwa von Trautwein oder Martenon —, sondern zu den Maschinen der Kybernetik. Wirklich nur Maschinen dieser Art. . . , denen Schwingkreise ein gewisses Gedächtnis verleihen, werden das unendliche Spiel verwickelter Zahlenkombinationen erlauben, das der Schlüssel aller musikalischen Erscheinungen ist. . . diese Maschinen werden eine aufgezeichnete Komposition in Töne übersetzen können."

13. A description of the installation was published in 1954 by Fritz Enkel (1908-1959), the first technical director of the studio, in a special collection of twelve articles concerned with electronic music: Fritz Enkel, "Die technischen Einrichtungen des 'Studios für elektronische Musik'," *Technische Hausmitteilungen des Nordwest-deutschen Rundfunks* VI, 1-2 (1954), 8-15.

14. Stockhausen, in an interview with Ekbert Faas, recalls that the term "elektronische Musik" gradually came to be used in conversation between Meyer-Eppler, Beyer, Eimert, and Stockhausen himself. It may have been Meyer-Eppler who was the first to use it. See Ekbert Faas, "Interview with Karlheinz Stockhausen held August 11, 1976," *Interface* 6, No. 3-4 (1977), 194.

15. See Cross, p. 32.

were used interchangeably. Thus, the term *musique concrète* has lost some of its usefulness as a term distinguishing between two entirely different “musics,” and is now probably best considered to be a subset of electronic music.

Electronic sound-producing equipment can be divided into two classes: wave generators and sound-processing equipment. This equipment produces acoustical phenomena not attainable by traditional musical instruments, such as sine waves, which have no overtones, and other electronic wave forms. Theoretically, the entire range of sound is possible through control of the overtone structure of pitches. A wave-generating and processing instrument of great flexibility which has become crucial to the process of composing electronic music is the synthesizer. The earliest, the RCA Olson-Belar Sound Synthesizer, was constructed in 1955, and in the 1960s smaller and more practical synthesizers were developed by Moog and Buchla, among others. This equipment provides a wide range of sound material by means of oscillators, generators, white sound generators, and manipulation instruments (ring modulators, filter banks, mixers, envelope control, etc.) combined with “real-time” keyboard synchronization possibilities.¹⁶

Electronic music uses identical techniques for the manipulation of both natural and electronic sounds: combination of sounds (with a mixer or ring modulator), elimination of certain sounds (with the use of filters and both band-pass and band-elimination), or distortion of sounds (by reverberation, modulation frequency, amplitude, and ring modulation — speed change, etc.). Finally, synchronization, or the placing of all events into a composed order (by means of such devices as splicing, rerecording, different speeds) results in a finished tape.¹⁷ These manipulations can affect the character of a single sound, or of whole structures of sound, and give the composer a wider variety of sound material with which he may work.

The composer also relies heavily on storage devices, such as disc or tape recordings, film soundtracks, and more recently electronic computers and related memory and logic machinery for the collecting, composing, and performing of electronic music. The computer, in addition to being a storage device, has value to the composer as a machine capable of producing unique results during the process of

16. See David Cope, *New Directions in Music* (Dubuque: W. C. Brown Co., 1972), pp. 38-40 (hereafter cited as Cope). For a layman's introduction to the operation of these instruments, see Allen Strange, *Electronic Music: Systems, Techniques and Controls* (Dubuque: W. C. Brown Co., 1972).

17. Cope, p. 37.

composition. A properly programmed computer may in fact compose music.¹⁸

By 1960, the results of these international developments were the compositions recognized then and today as constituting the core of contemporary avant-garde music, works such as *Imaginary Landscapes No. 1* by Cage, *Symphonie pour un homme seul* by Schaeffer, *Gesang der Jünglinge* by Stockhausen, and others to be discussed later. Their composers could now organize musical events either with complete control or indeterminately. If desired, the role of the performer and interpreter could be eliminated, giving the composer absolute control over the final realization of his work. In a very real sense electronic music had allowed the composer to come into direct physical contact with the components of sound.¹⁹

Before discussing the addition of indeterminacy into the compositional process, it is well to review the extent to which the German radio play made use of the new sounds developed by avant-garde music. Expansion of the inventory of possible musical sounds brought about by the challenge of *musique concrète* and electronic music had its equivalent in the German radio play in the discovery of new functions for verbal and nonverbal sounds. Traditional *Hörspiele* began as rather conventional radio plays, adapted dramaturgically to compensate for the absence of the visual dimension. This tradition grew out of the recognition (gained, ironically enough, through experience on the Western Front during World War I) of the potential for entertainment in the new medium of radio.²⁰ Experiments with literary readings were followed by attempts to "stage" plays before the microphone — predictably in full costume! But remarkably soon a sense of the special potential in radio for exciting the imagination produced original works with a dramaturgy specifically tailored to an acoustical medium. Richard Hughes's *A Comedy of Danger*, first broadcast in 1924 by Radio London, is widely accepted as the first original radio play in any language, followed within a year by pioneering pieces such as Hans

18. See H. H. Stuckenschmidt, *Twentieth Century Music* (New York and Toronto: McGraw-Hill, 1969), pp. 190-92, for a brief summary of early experimentation with computers by composers.

19. For further information about the development of electronic music see Cross. He has also published a *Bibliography of Electronic Music* (Toronto: University of Toronto Press, 1967).

20. The best review of the history of the *Hörspiel* to date is Stefan Bodo Würffel's *Das deutsche Hörspiel* (Stuttgart: Metzler, 1978). We follow his argument over earlier studies by Schwitzke, Fischer, and Frank.

Flesch's *Zauberei auf dem Sender* and Rolf Gunold's *Spuk* in Germany. Both Hughes and Gunold located their dramatic action in a situation where the absence of a visual stimulus would be perceived as natural (Hughes's play takes place during a mine cave-in, Gunold's at night). An early American series called *The Shadow* featured in its mature form an amateur criminologist who possessed the power "to cloud men's minds" and thus used invisibility to foil criminals. In these and other similar productions the ostensible shortcomings of radio (over the stage) had been neatly turned into a plus for the imagination, and the creation of works which actually thrived on the absence of a visual stimulus became a hallmark of the genre.

As a consequence of several forces at work after World War II,²¹ West Germany became preeminent among countries producing creative, original radio, and the *Hörspiel* acquired a solid following with audience and critics alike. The decade of the fifties became the "classic" period of the *Hörspiel*, and it attracted dramatists and novelists to its unique possibilities, as well as authors who built a reputation on the strength of their work in radio. Names like Günter Eich, Wolfgang Hildesheimer, and Ingeborg Bachmann, and a supportive policy on the part of West German broadcasters lent credibility to what remained a peripheral phenomenon in other countries, and helped insulate the *Hörspiel* from the kinds of erosion suffered in Great Britain and especially in the United States.

At the same time, because those who were involved in creating *Hörspiele* were in fact writers, the German radio play even at its most influential period remained primarily a literary form. The pieces consist mostly of dialogue, whether between "real" or imagined partners, and nonverbal sounds (sound effects) are employed either to clarify the meaning of this dialogue or to serve as incidental ornamentation. A door slammed has semantic meaning when it signifies that a character has left the room, for instance, or a changed acoustical dimension (echo, resonance) can signify that a conversation not heard by others is taking place in a character's mind. In sum, both verbal and nonverbal materials are devoted to conveying literary, i.e. semantic meaning.

21. Würffel points correctly to the widespread destruction of traditional outlets for dramatic writers (theaters and movie houses) immediately after the war, and to the fact that Goebbels's propaganda ministry had relied heavily upon wide distribution of *Volksempfänger* (Würffel, p. 74f). To this came the important impetus for quality productions provided in 1951 by the establishment of the *Hörspielpreis der Kriegsblinden*.

Attempts to define more elaborately what it is about the *Hörspiel* which sets it apart from other genres have by no means been unanimous in accepting the dominant literary quality of the phenomenon. In fact, in an effort to stress the uniqueness of these works, champions of the *Hörspiel* have as often denied an affinity to literature as embraced it (see the review of theoretical positions in Würffel, p. 18-27). Some define the *Hörspiel* in terms of its reliance on a technical medium, others in terms of its proximity to film and television, while still others remind us that a variety of definitions may be necessary for the variety of works actually produced. Running through this theoretical debate is a pronounced tendency to define the uniqueness of the *Hörspiel* in terms of music. Gunold's earliest (and never broadcast) play *Bellinzona* is cited as an example of a "Geräuschsinfonie" (Würffel, p. 22). Early critics talked about "musikalische Zäsuren," expressive pauses "wie in der Musik," and Heinz Schwitzke reports that the earliest experiments labeled the voices as triads: "Terz, Quint, Oktave" or as instruments: "Geige, Cello usw."²²

By the mid-sixties this critical rhetoric had become highly predictable and pat. Ironically, it was at this juncture that the character of the *Hörspiel* changed significantly, even radically. Unable to describe the change adequately with a terminology saturated by years of excessive claims for its uniqueness, the critics of these genuinely new phenomena were led perforce to simplicity, and we saw the emergence of "das Neue Hörspiel." It is not our purpose in this review to compare the new and old in all their particulars, since such comparisons already exist in several monographs.²³ Rather we want to illustrate the changed role of verbal and nonverbal materials in these works, specifically the extent to which this change seems related to and explainable by the parallel changes in avant-garde music.

The experimental radio plays of Peter Handke provide relatively well-known examples of the new uses to which language, now understood as verbal material, was put in the *Neues Hörspiel*. In works such as his *Hörspiel* (1968) and *Hörspiel Nr. 2* (1969), language ceases to tell a story or act out a dramatic situation. Freed of these traditional literary functions, it can be organized more

22. Heinz Schwitzke, "Bericht über eine junge Kunstform," in *Sprich, damit ich dich sehe*, ed. Heinz Schwitzke (Munich: Paul List, 1960), p. 9.

23. In addition to Würffel, see Mark E. Cory, *The Emergence of an Acoustical Art Form: An Analysis of the German Experimental Hörspiel of the 1960s* (Lincoln: University of Nebraska Studies: New Series No. 45, 1974); and Hermann Keckeis, *Das deutsche Hörspiel 1923-1973* (Frankfurt: Athenäum, 1973).

according to abstract, even musical principles. The opening of *Hörspiel Nr. 2* illustrates the kind of independence from plot or illusion which characterizes these experiments:²⁴

Die Stimme einer Frau:
 What are they fondling? . . .
 Till they go. . .
 There's love for you. . .

Isn't it Joe?
 Wasn't it, Joe? . . .
 Eh Joe?
 Wouldn't you say? . . .
 Compared to us. . .
 Compared to him. . .
 Eh Joe?

*Ungefähr in der Mitte
 zwischen der zweiten und
 dritten Anrufung des Namens
 "Joe" setzt, in der gleichen
 Lautstärke wie die Musik,
 ein gemischter Chor von
 betenden Stimmen ein:*
 "Ave Maria, gratia plena, domi-
 nus tecum, benedicta tu es in
 mulieribus, et benedictus
 fructus ventris tui,
 Iesus. . .

*Ungefähr hier
 setzt der instru-
 mentale Anfang von Jimi Hend-
 rix "Hey Joe" ein, und zwar
 derart, daß, einen Atemzug,
 nachdem die Frau zum letzten
 Mal "Eh Joe?" gefragt hat, die
 Stimme des Sängers einsetzt:*
 "Hey Joe. . ." Jimi Hendrix
 singt "Hey Joe" bis etwa zur
 dritten Nennung des Namens

24. In the renotation published in Peter Handke, *Prosa Gedichte Theaterstücke Hörspiel Aufsätze* (Frankfurt: Suhrkamp, 1969), pp. 215-60.

“Joe” in dem Blues, worauf die Musik ziemlich schroff ausgeblendet wird.

More important to Handke than the semantic message of each sentence or fragment is the way the words are articulated, the tone of voices used, and how the various voices fit together. Voices alternate antiphonally, overlap, or echo as in a stretto passage in a fugue, are played off against each other in counterpoint, and vary in volume and timbre (male, female, rough, sweet).

Another example would be the “Partitur” to Frans Mon’s *das gras wies wächst*,²⁵ from which we again cite the opening:

P1	P2	P3	P4
1 W. <i>allmählich anschwellend</i>			
abändern abarbeiten abarten			
abbalgen abbauen abbeißen			
abbestellen abberufen abbezahlen			
abbiegen abbilden abbitten			
abblasen abblättern abblenden			
abblitzen abblühen abbrechen			
abbrennen abbringen abbröckeln			
abbrühen abbürsten abdachen			
abdämmen abdampfen abdanken			
abdecken abdichten abdingen			
abdrehen abdrosseln abdrücken			
abfahren abfallen abfangen			
abfärben abfassen abfeilen			
abfeilschen abferkeln abfertigen			
abfeuern abfiltern abfinden			
abflachen abflauen abfließen			
abfragen abführen abfüllen	3 W.		
abfüttern abgaunern abgeben	außerdem außerdem außerdem		
abgießen abgittern abgleiten	außerdem außerdem außerdem		
		4 W. <i>flüsternd</i>	
		wo wo wo wo wo	

Here the designations P1, 2, 3, and 4 refer to positions across the left-right stereophonic axis in front of the listener, the W and M to “weiblich/männlich” timbre. The remarkable quality of these and other similar experiments is that they explore potential for expression in language heretofore largely neglected in literature, just as

25. Published in *Neues Hörspiel Texte Partituren*, ed. Klaus Schöning (Frankfurt: Suhrkamp, 1969), pp. 195-244.

musique concrète explored potential for expression in our acoustical environment neglected by traditional music.²⁶

Handke's *Hörspiel* and *Hörspiel Nr. 2* are as inventive in their abstraction of nonverbal sounds from literary worlds of plot and illusion as they are in the way they use verbal sounds. A note to the Partitur of *Hörspiel* warns as follows:

Die Sprechweisen sind niemals realistisch, sondern immer spielerisch, ebenso werden die Geräusche nie realistisch eingesetzt, sondern immer musikalisch, weniger verdeutlichend als überraschend.²⁷

An example from the same work illustrates the independent, "non-semantic" (extra-literary) way sound effects are used in this unconventional radio play:

Ausfrager A	Warum klebt hier ein Haar an der Wand?
Ausgefragter	Gibt es geruchloses Fliegenpapier?
Ausfrager A	Warum ist Ihre Schrift hier verzittert?
Ausgefragter	Haben Sie Streichhölzer für Kaminfeuer?
Ausfrager A	Warum haben Sie vom nackten Ohr der Katze gesprochen?
Ausgefragter	Verkaufen Sie Pfirsichkonfitüre?
Ausfrager A	Warum klatschen Sie in einem leeren Zimmer in die Hände?
Ausgefragter	Was meinen Sie damit?
	(Der Tiger faucht / Eine Quelle plätschert / Wasser gluckert / Pfiff) ²⁸

As this sample shows, Handke has dipped into the same source as did Pierre Schaeffer — the reservoir of sound effects normally used in radio plays to support illusion. Illusion is of course no more important to Handke than it was to Schaeffer. Jürgen Becker's comment on the musical principles underlying the use of sound effects in Handke is accurate:

26. The most extreme examples of emancipation of verbal sounds from semantic meaning would probably be the acoustical texts of concrete poets like Ernst Jandl, Franz Mon, and Gerhart Rühm. These short works may consist of a single word, broken down into its phonological components, which are then articulated according to the same basically musical principles discussed above. Although relevant to the comparison attempted here, these acoustical poems merit a separate analysis which would exceed the scope of this study.

27. *Neues Hörspiel Texte Partituren*, p. 18.

28. *Ibid.*, p. 34f.

Was an Geräuschen zu hören ist, steht im *kompositorischen* Zusammenhang mit dem Gesagten, nicht im *inhaltlichen*. Die Geräusche sind real wie die Sprache, aber in dem Maße, wie die Sprache aus realen Situationen gelöst ist und allenfalls die Erinnerung an Reales weckt, sind auch die Geräusche von ihren realen Funktionen abstrahiert, verweisen sie die Phantasie auf das, was in der Welt der Geräusche an Hörbarem möglich ist. Eine von sprachlichen Vorgängen vollends abgelöste Geräusch-Komposition wäre eine Konsequenz, die hier bereits angedeutet wird.²⁹

Other experiments in the sixties took this essential independence of nonverbal from verbal sounds even further, resulting in works which come close to fulfilling Becker's vision and which can perhaps only be understood with reference to electronic music. The clearest example is probably Paul Pörtner's *Schallspielstudie I*, first broadcast in 1965. This is a work which begins with a fairly traditional dramatic scene, then reworks the same scene through three variations. In the basic scene a woman listens to various sounds in her room and reacts verbally to them. Only a few nonverbal sounds are heard: footsteps, dripping water, the shattering of glass by a kicked ball, and laughter. Although at the outset these sounds appear to be dominated by the woman's spoken reactions, the verbal context is kept deliberately ambiguous, so that the nonverbal sounds are never absorbed entirely by the semantic level of the plot. The footsteps, for instance, raise certain semantic expectations, i.e., someone is coming, and the woman voices her curiosity by naming names. But in this case no one actually comes, and our expectations are defeated, leaving the footsteps as unintegrated, autonomous nonverbal sound. Similarly, the ball crashing through the glass of a window raises certain expectations about cause and consequences. These are never met. The net effect of this base scene in terms of any traditional literary plot or semantic message is an intentionally vague situation involving anxiety (to which the dripping water contributes) and pointing towards hysteria (signified in part by the laughter). A textual renotation of this base scene looks like the following:³⁰

Wassertropfen

Weibliche Stimme: Zehn elf zwölf dreizehn vierzehn
Bei Hundert schlafe ich ein

29. Ibid., p. 444.

30. From the renotation published in Cory, *The Emergence of an Acoustical Art Form*, pp. 29-32.

Fünfzehn sechzehn siebzehn
 Vielleicht auch erst bei Tausend
 Bei Hunderttausend oder bei Hunder-
 tausendmillionen
 Achtzehn neunzehn zwanzig

Schritte
 Weibliche Stimme: Ich bekomme Besuch
 Nein keinen Besuch
 Doch ich bekomme Besuch
 Vielleicht Eugen oder Clara
 Ilse Klaus Andreas
 Ich bin nicht zu sprechen
 Bitte nicht stören
 Ich will niemanden sehen

Atem
 Weibliche Stimme: Ich-was wollte ich sagen—Ich
 Hörst du mich? Ich spreche
 Mir? Mir gehts gut
 Sehr gut ausgezeichnet
 Blendend prächtig fabelhaft
 Auf Wiedersehn Viele Grüsse Ciao

Scherben
 Weibliche Stimme: Ist da wer? Was war das?
 Es kam von draussen
 Es flog durchs Fenster herein
 Ein Stein Nein kein Stein
 Ein Vogel Nein kein Vogel
 Ein Ball
 Draussen spielen Kinder
 Nein draussen spielen keine Kinder
 Draussen regnet es
 Es regnet ins Zimmer
 Der Boden ist ganz nass
 Das Wasser steigt
 Das Wasser steigt

Lachen

Verbal and nonverbal elements contribute almost equally to the development of this base situation. In the succeeding variations the identical inventory of sounds is broken down, recombined, and electronically manipulated³¹ to gradually reduce the semantic

31. Manipulated, for instance, by an instrument such as the Vocoder, which "codes" speech into digital information for communication over cables or by radio, where it is then subsequently decoded upon reception. The Vocoder was introduced in Germany by Werner Meyer-Eppler in 1949, who presented it to the Nordwest-deutsche Musikakademie in Detmold.

dimension of the words. The renotation of this first variation illustrates the dramatic shift from the traditional word-sound relationship, although the new sounds themselves can only be vaguely imagined from the text:

Geräusch	Stimme	
TROPFEN	Zehn	Dreizehn vierzehn
1. über Frequenz- umsetzer	Bei Hundert	schlafe ich ein
2. über Vocoder	Fünfzehn	sechszehn siebzehn
3. Vocoderimpulsé angesteuert	Tausend	
4. Filterkombinationen	Millionen	Neunzehn
SCHRITTE		Besuch
1. über Frequenz- umsetzer	keinen Besuch	
2. über Vocoder	Doch	Besuch
3. Vocoderimpuls über Filter	Eugen	Clara Ilse
4. Shattereffekt	Klaus	Andreas
5. Vocoder mit weissem Rauschen moduliert	nicht zu sprechen	

The second variation carries this shift one step further, in that the integrity of the word is violated, reducing many of the verbal elements to little more than scraps of sound. Although no new material is added, entirely new acoustical forms are created. For instance, out of the footsteps a melody is created with a distinct movement up and down the musical scale. Each of the nonverbal elements begins to explore its freedom from semantic domination in this way, and each has its characteristic melody and rhythm. By the final variation, the boundaries between the various sound effects have become so ambiguous that the footsteps drip, drops burst like glass, and glass splinters giggle and laugh. The identity of the words themselves is suspended — they have become an additional nonverbal element, now combined with the others in a rhythmically ordered kaleidoscope of acoustical forms.

Clearly *Schallspielstudie I* is to be understood as an experiment, as an attempt to gradually shift the emphasis in a given body of acoustical material from the semantic, or literary dimension, to the musical. The last variation is indistinguishable from electronic music, whose equipment and organizing principles it shares for its creation. Other experiments, notably those by Mauricio Kagel and Max Bense, also relied upon the electronic manipulation of sounds,

but Pörtner's piece tests better than any other example from the experimental radio play Karlheinz Stockhausen's premise "Sprache kann sich Musik, Musik kann sich Sprache nähern bis zur Aufhebung der Grenzen zwischen Klang und Bedeutung."³²

Stockhausen in fact used this premise as the basis of his composition *Gesang der Jünglinge*, a combination of *musique concrète* and electronic music realized in the electronic music studio at the West German Radio in Cologne in 1956. Stockhausen attempted in this work to make electronically produced sounds coincide with the sounds of the human voice singing. He works with the "Apocrypha" to the Book of Daniel as a basic text, taking from these sounds elements to form both a timbre and a speech continuum. The timbre continuum consists of vowels and consonants, each arranged in a scale-like manner, and the speech continuum consists of sounds ranging in degree of comprehensibility from intelligible fragments to single phonetic entities, which are often altered by the insertion of foreign sonorous elements. This is then the basic sound material used in the composition. Stockhausen wishes to use the vocal sounds electronically, and the electronic sounds vocally, correlating them. To do the latter he has sine tones represent vowels, noise bands represent consonances, and impulses represent plosives (phonemes that possess a sudden attack and reach an amplitude peak). These classes of sounds also intermingle to produce more complex relationships. In addition, Stockhausen experiments with the syntactical order of the words from the text, occasionally joining words of diverse meanings. He also modifies the duration and order of syllables within words.³³ As Pörtner did in *Schallspielstudie I*, Stockhausen has taken a literary text and given it musical significance.

At this point, we want to interrupt our discussion of the *Hörspiel* and resume our discussion of the development of avant-garde music at the point the principle of indeterminacy was introduced. Once electronic music had gained a stronghold, the idea of a musical composition as a sequence of permanently fixed and fully realized events was challenged both in Europe and in the United States by the introduction of the unpredictable, either into the process of composition, the realization of a work, or both. Chance music was a reaction against a movement known as "total serial-

32. Quoted by Ferdinand Kriwet in "Sehtexte — Hörtexte" *Neues Hörspiel Essays, Analysen, Gespräche*, ed. Klaus Schöning (Frankfurt: Suhrkamp, 1970), p. 43.

33. See David Ernst, *The Evolution of Electronic Music* (New York: Schirmer Books, 1977), pp. 98f.

ism," which sought total control and organization of all the parameters of a musical composition, including dynamics, timbre, and the like.

Chance music took different directions in the United States and in Europe, as David Cope correctly points out.³⁴ In Europe it was known as "aleatoric music," a term coined by composer Pierre Boulez. Aleatoric music employed chance techniques within a controlled framework and was therefore related more to improvisation than to true indeterminacy. Boulez felt that composing by chance was impossible, therefore emphasis was placed on the incorporation of chance in the performance of a work, rather than in its composition. In the United States, a movement led by the composer John Cage and called "indeterminacy," encouraged the use of chance techniques in composition as well as in performance. Cage sought to suppress the composer's intentions as much as possible by reducing the influence of the composer on the compositional process through reliance upon chance techniques such as the *I Ching*.³⁵ As Cope explains, these chance techniques are impossible for an audience to distinguish without prior knowledge of the composer or work, unless the sounds presented are obviously from a source (intentional or nonintentional) where unpredictability reigns, as in nature.³⁶ A composition of either fixed or of indeterminate content is thus perceived in the same way — as a sequence of events. For Cage, however, this does not represent a weakness, for he emphasizes the significance of art as a process, rather than as a finished product. The act of composing, as well as its outcome, has significance.

In several of Cage's works, the progression of events is determined by someone or something other than the composer. An example of such a composition is *Rozart Mix*, "composed" by John Cage in 1965, for thirteen tape machines and six live performers. It used eighty-eight tape loops varying from the shortest possible length to a loop of forty-five feet. John Cage describes the first performance as follows:

I had been told that the Museum (Rose Art Museum at Bran-

34. See Cope, p. 90.

35. The *I Ching* was the first written book of wisdom, philosophy, and oracle (attributed to Fu Hsi, 2953-2838 B.C.). It expresses directions of action as a result of six tosses of three coins (originally, the tossing of yarrow sticks). See Cope, p. 83. The *I Ching* was used first by Cage when he began his experiments with indeterminacy in the 1950s.

36. Cope, p. 81.

deis University in New York) had a pool of water and a stairway, that it had an interesting architecture. So we would put machines (tape machines) all over the building. Then the loops would get tangled up with themselves, and then would be part of the performance. Now if the loop broke at any point, it would be first priority to fix it; and once it was fixed, it was to be put back in the reservoir of loops, and another one would be put on that machine. The piece was also to begin without the audience knowing it had begun, and it was to conclude when the last member of the audience had left. When only twelve people were left, we arranged to serve refreshments; all those people had a party.³⁷

In this work the content is determined by the interaction of the tape loops with each other, and the ending is determined by the audience.

It also becomes apparent in this composition and in other chance compositions by Cage, that indeterminacy eliminates the antecedent-consequent relationship of elements within a composition — there is no predictability about the outcome of an action with respect to the composition, performance, or both. Instead, the composition consists of individual events. Silence becomes an integral part of a composition, equal to other sounds, and helps identify these events in time. Frank W. Hoogerwerf writes:

Aleatory aesthetics has no use for a system of sound progression (syntax), since it has no need of demonstrating composer control: any sound may now succeed any other. . . since auditory materials have no direct intended relationships, aleatory music is not distinct from, but rather an affirmation of everyday life — both are ultimately uncontrollable and indeterminate.³⁸

A piece by Cage which reflects this aesthetic, and in which a large number of chance elements enter into the performance, is *Variations IV* (1963) for any number of players, any sounds or combinations of sound produced by any means, with or without other activities. A recording of excerpts from a live performance of this work was made at the Feigen Palmer Gallery in Los Angeles.

37. See Richard Kostelanetz, ed., *John Cage* (New York and Washington: Praeger Publishers, 1970), p. 18 (hereafter cited as Kostelanetz).

38. Frank W. Hoogerwerf, "Cage Contra Stravinsky, or Delineating the Aleatory Aesthetics," *International Review of the Aesthetics and Sociology of Music*, 7, No. 2 (1976), 237-38. Hoogerwerf uses the term "aleatory" to encompass both aleatoric and indeterminate music.

John Cage and David Tudor supervised the production which involved the placing of microphones and various electronic equipment in several rooms with a person monitoring the equipment in each room. Some of the microphones were placed at a bar: one hears the clicking of glasses and conversation. Other sounds created at this event were those of singing, bagpipes, church bells, a creaky door, static, classical music, a man telling a story, and music for folk dancing.³⁹ The recorded version of this work lacks any feeling of resolution — it has no real beginning or end and no points of expectation or fulfillment. What distinguishes this piece from *Rozart Mix* is that here the sounds generated by the audience become an integral part of the composition.

This same idea is found in Cage's *4'33"*, a work which has become the classic example of indeterminate music. The score indicates that the piece is to last four minutes and thirty-three seconds, and is divided into three movements each of which is marked TACET, an indication to the performer that he is not to play. The content of the work is thus indeterminate — the sounds which occur in the listener's environment during the four minutes and thirty-three seconds are the "music" of the piece. Even this unusual work is still a composition in the traditional sense, however, in that it imposes a durational frame.

To return now to the *Hörspiel*, we again find works organized along remarkably similar aleatoric or indeterminant lines. An experimental radio play with the same organizing principle behind it as Cage's *4'33"* is Gerald Kienast's *Zur Theorie des Hörens*. Like *4'33"*, this *Hörspiel* compels its audience to listen to whatever sounds might at the moment of performance surround them. The entire work appears as follows:

Ansage: Es war soeben. . . Uhr. Hier ist der. . . mit seinem. . . Programm.

Meine Damen und Herren, Sie hören das Feature von Gerald Kienast: "Zur Theorie des Hörens."

O-Ton: Hört, hört!

Absage: Meine Damen und Herren. Das war im. . . Programm des. . . Rundfunks ein Feature von Gerald Kienast: "Zur Theorie des Hörens."

Ton und Technik: . . .

Regie: . . .

39. Everest 3132: *Variations IV*, by John Cage.

Nach einer kurzen Pause melden wir uns wieder mit Nachrichten.⁴⁰

More elaborate use of indeterminacy in an experimental radio play is found in Mauricio Kagel's (*Hörspiel*) *Ein Aufnahmezustand* (1969). By profession a composer, Kagel was intrigued by the extent to which both radio plays and musical compositions are influenced during performance by the suggestions, gestures, and commands of the director. He saw that in both cases phenomena arise during the realization of a piece which are as creative as the score/text to which they react. His (*Hörspiel*) *Ein Aufnahmezustand* records the spontaneous reactions of a group of seven musicians invited to a (fictional) recording session, to the commands and instructions of the director:

Jeder der sieben Mitwirkenden, der zu einer Studioaufnahme eingeladen ist, wird erst a posteriori erfahren, daß nebensächliche Fragen und Antworten, spontane Äußerungen, ungezwungene Bemerkungen und Nebengeräusche Hauptinteresse dieser Produktion sind.⁴¹

Later versions (*Aufnahmezustand 2. Dosis*, *3. Dosis*) extend this artifice by inviting successive groups of people to listen to the last recorded version and by then taping these listeners' reactions. The final version in each case includes the original recording plus these free and unpredictable reactions.

Other experimental radio plays which display a certain reliance upon indeterminate compositional techniques include Ferdinand Kriwet's *One Two Two* (1969) and *Voice of America* (1970), and Paul Pörtner's *Alea* (1969). Kriwet works primarily through montage of extant recorded material (popular songs, political speeches, advertisements, etc.), whose dehumanized, "canned" quality he then exposes through ironic juxtaposition. His montages are precisely controlled, but the initial collection of recorded material is sometimes a function of indeterminacy. In *Voice of America*, for instance, the initial collection of materials involved taping an entire day's TV and radio programming in New York City. The ultimate "Voice" was thus determined in part by the unpredictable content of that particular day's news, musical selections, sports, etc. Paul Pörtner signals his fascination with aleatoric principles in the

40. Reproduced in Schöning, *Neues Hörspiel Essays, Analysen, Gespräche*, p. 221.

41. Reproduced in Schöning, *Neues Hörspiel Texte Partituren*, pp. 389-438.

title of his *Alea*, which he bases on Mallarmé's *Un coup de des jamais n'abolira le hasard*, itself concerned with the triumph of elementary chance over human reason. By taking Mallarmé's basic text through a series of variations running from mere translation to electro-acoustical transformation, Pörtner seeks to duplicate in a formal way that same triumph. Together with Kienast's *Zur Theorie des Hörens* and Kagel's (*Hörspiel*) *Ein Aufnahmezustand*, these texts provide considerable evidence that in this sense, too, the *Hörspiel* has participated in the same acoustical and formal experimentation that has characterized avant-garde music in our century.

What then can be concluded about these two genres? Our initial observation was that the West German radio play underwent a phase of experimentation in the 1960s which brought it remarkably close to certain kinds of avant-garde music. Most of this study has been devoted to sketching the parallels produced by an expanded inventory of sounds in both genres and by the common acceptance of indeterminacy as a structuring principle. It is understandable that some critics and composers, particularly those like Kagel who work in both genres, have enthusiastically tried to equate this kind of acoustical literature with music. But despite the many similarities, significant differences remain which are tied to the aesthetic conventions of each genre. Because the *Hörspiel*, since its inception, has been a literary genre, the dominant convention remains one of conveying a semantic message of some sort. In music the dominant convention is the discovery of meaning in sound. Even though the pieces from each genre which we have discussed challenge these conventions, they remain closer to their respective traditions than to the conventions of any other genre. Thus Kienast's *Zur Theorie des Hörens* makes sense only within the context of a radio play, whereas Cage's "4'33'" is meaningful only within the framework of a traditional musical performance. What happened in the course of experimentation in West Germany during the 1960s was that the *Hörspiel* became increasingly abstract. The usual semantic message was transferred to nonverbal sounds or was undermined by the new attention paid to purely acoustical forms. But as a reference point the semantic dimension is still there. In music such a degree of abstraction is the starting point even in the most traditional piece.

Nor does it seem that the *Hörspiel* will grow much closer to music in the future than in the period described here. After the extensive experimentation with aleatoric principles and electronic manipulation of sound during the 1960s and early 1970s, a reaction

occurred in Germany which turned the radio play back towards more conventional reliance upon the spoken word.⁴² As of this writing, the radio play seems to be experiencing a phase of consolidation, with only minimum attention being paid to even potentially exciting technological breakthroughs such as the *Kunstkopf* microphone.⁴³ What remains is the intrinsically interesting historical phenomenon of one art form taking on the characteristics of another, and — equally interesting — the heightened awareness in both art forms for possibilities of meaningful aesthetic exchange. As John Cage has said, “The arts are not isolated from one another, but engaged in dialogue.”⁴⁴

42. The experiments described here were followed by a wave of documentary radio plays, called O-Ton (Original-Ton). These were followed in turn by renewed interest in plot-oriented works reminiscent of traditional plays.

43. A new (since 1973) recording technique resulting in a very close approximation of 360-degree sound reproduction. Acceptance of this technique for musical broadcasts has also been curiously slow, given the fact that the effect is far superior to either stereo or quadraphonic systems and the expense to the listener far less.

44. Cited in Kostelanetz, p. 149.