





*Roland Kayn, 1970*

**tektra**

KY-CD 2101-05

Produced by Ilse Kayn  
Lydia-und Roland Kayn Archive

Artwork: Bill Maerklin (1980); 29.7 x 21 cm, LRKA

Realisation: Instituut voor Sonologie  
Der Rijksuniversiteit, Utrecht

Mastering: Jim O'Rourke

Texts: Roland Kayn  
Text Translation: Peter Castine

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Ilse Grumm, Bussum (1972)

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ROLAND KAYN (1933-2011)

tektra

Electroacoustic project  
for four channels  
(Stereo version)

Realisation  
Instituut voor Sonologie  
Rijksuniversiteit, Utrecht  
1980-81

CD 1

1. Tanar (Parts 1 & 2)	42:27
2. Etoral	24:07
	66:34

CD 2

1. Khyra (Parts 1 & 2)	44:21
2. Khyra (Part 3)	24:50
	69:11

CD 3

1. Tarego I	14:27
2. Tarego II	12:45
3. Tarego III	23:02
	50:14

CD 4

1. Rhenit	29:40
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CD 5

1. Amarun I	20:10
2. Amarun II (Part 1)	28:01
3. Amarun II (Part 2)	26:44
	74:55

*This CD edition offers Tektra digitally for the first time in consistent channel order with Etoral and Rhenit in their original positions and uncut, revealing almost five additional minutes of music that was not available in digital format until now. The recording is mastered from a transfer of the original master tapes that are present in the Lydia and Roland Kayn Archive.*

Between listener and acoustically perceptible, shaped time, there is a shift towards the recipient of a reflection, a process of exchange that also appears when an aesthetic object is generated in the studio. In this context, particular attention must be paid to the separation and mixture of processes—which in the first instance may be either classifiable or not yet classifiable—for the apperception of the listener.

The chain of reflections regulates the relationship of the subject to the object, up to what appears to be an intersection of the two. Under appropriate conditions, however, it transpires that this apparent intersection is not a fixed point, and a phenomenon occurs in which, the closer the two approach each other, the further apart they become. In real terms, this process means nothing else than here, in relation to the mechanism of consciousness, an N-dimensional, indistinguishable space arises.

In the studio, the electronic forming of time starts with simple switching schemes

for linking equipment. The near-inexhaustible possibilities offered by pulsating electric circuits through vibrating resonant materials demand an act of initiative on the part of the composer. This requires demarcation, control, and regulation on his part to discover the elementary functions that are valid for him. The bundling of elementary functions leads, in turn, to “superfunctions” that can be exposed on multiple levels of mutual dependence or independence. The cybernetic composer does not resort to a preordained program. Instead, he must continuously rebuild his field of action out of a primordial chaos. The more willing he is to not commit himself, the more he can succeed in penetrating into the depths of the unknown and in bringing about innovation. My music always arose under the aspect of innovation, a kind of pure research: music as freedom of the individual. To the question of whether my music tended more towards so-called tonality or towards atonality, my answer was always “totality,” that is, the applicability of all acoustic and physical means to the maximal extent. Also of





*Roland and Lydia Kayn at Bussum, NL 1972*

decisive importance is the tendency to autonomy, that is, toward processes that are self-controlling once set in motion. The electroacoustic, cybernetic project Tektra generated itself largely independently, based on the dynamics of intermeshed control loops, from procedural nuances, transformations to the point of disassembly and assembly of layers of materials generated thus. The immense expansion of acoustical quality that so emerges was a priori inconceivable, let alone feasible. The nature of the output signals alone reached into the area of direct access. The autonomous process control delivered results that could only be interpreted phenomenologically.

Just as this music is kept free of all semantics, so also the title has neither explicit meaning nor an indication of the technology used in its creation. It, too, arose from the application of regulating process, in this case applied to certain letters of the alphabet. The initials of the individual sections were aggregated to the word TEKTRA, whose interpretation—like that of the music—is left to the listener.

— R. K.

## ROLAND KAYN

## “About himself”

*An extract from a conversation between Frans van Rossum and Roland Kayn, as broadcast by Süddeutscher Rundfunk, Stuttgart, on February 15, 1979.*

**KAYN:** You just said that a composer working in a studio can adjust things exactly the way he wants. Certainly, there may be composers who work that way. But I work differently. I don't start with a precise concept and then implement it. My approach can perhaps be better compared to that of a painter who doesn't know exactly what the picture will look like in advance. If he already knew what it would look like, he might lose his interest in painting it. So it is with working on electronic music in a studio: at first I have only a faint notion of what the music will be, then small bits appear as I work. From these bits new processes arise, like mutations.

**VAN ROSSUM:** So where do you start?

**KAYN:** I may begin with a most simple situation, for example with two sinusoids

that beat irregularly, and the beating is multiplied again and again. For an orchestra composition, on the other hand, I have to find an encoding to start a process like this, which leads to a kind of dispersal that feeds my curiosity.

**VAN ROSSUM:** Fine... but what I really mean to ask is, where do you begin when you have a compositional project? What guides you when you go to a studio or when you compose a piece for orchestra? Will you start with a structure, and what do you want to achieve?

**KAYN:** To have a starting point for a piece, I wouldn't speak about structures, but rather of a directed way of thinking that allows specific processes to arise. What I mean is, that the composer should be aware of what the “supersignals” are, what the micro- and macro-time involve. Only so is it possible to come to an objective assessment of what new music can be, music in which phenomena are released by means of a controlled creative process, using techniques from research into communication, techniques that are

also valid in areas beyond music.

**VAN ROSSUM:** Has your way of composing, the method with which you write music, developed logically? I mean where did you start? There is a composition catalog, but it only commences in 1956. Had you not started composing earlier than that?

**KAYN:** I wrote my first composition in 1951, *Five Little Piano Pieces*. They only use the black keys, so the music is pentatonic. I remember writing these pieces as a kind of protest at a time when the discussions were always about twelve-tone music. It seemed nonsensical to me to write a piece always using all twelve tones in some kind of series, and I wanted to prove to myself that a piece could be composed with just five tones. Around this time I was also listening to Varèse and Schoenberg. The music I composed under this influence simply horrified my teachers. There was a huge discrepancy between the pieces that would be tolerated in my lessons and those compositions that I dared not show in class. And so it came about that, over and above a Chamber Concerto and a work for orchestra with organ, I also wrote works such as *Lieder*, a piece for violin, a *Divertimento* for two pianos, all of which were supposed to meet expectations.

Up to 1956 I had, more or less, suppressed or put aside the projects I really wanted to tackle. But since then I haven't been bothered by the opinions of others and have composed as I saw fit.

**VAN ROSSUM:** Do you remember which pieces by Varèse and Schoenberg impressed you so much back then?

**KAYN:** Yes, these were *Octandre* by Edgard Varèse and the *Five Orchestral Pieces op. 16* by Arnold Schoenberg.

**VAN ROSSUM:** I suppose that you were thinking of one piece in particular from op. 16.

**KAYN:** All five are equally important, so not the third piece, "*Farben*," that you're referring to. I was particularly impressed by the signal-like character, the distinctive gestures, that can be found, above all, in the first and fourth pieces. And, as I see it, even back then I was composing outside the fashion of the time. I heard excerpts of electronic music in the nighttime program of the Cologne radio broadcaster for the first time in 1953. The fact that a composer or musician could record his work directly to tape fascinated me immensely. In Cologne, however, I discovered that the technology at the

studio [*translator's note: the Studio for Electronic Music at WDR*] might not be readily available for me to work with, because the old gentlemen in charge of the studio informed me that I first needed to "connect" with Webern, learn to think serially, and so on. In those early days, only composers using serial techniques, those who had turned to total predetermination of compositional materials, only they had access to the studio. So it came to pass that I was only able to access these sorts of resources much later. That was in 1959, in Warsaw, and only regularly since I came to the Netherlands, where I've been able to work at the Institute for Sonology at the Utrecht University since 1970.

**VAN ROSSUM:** If I've understood correctly, since 1956 you've been able to compose as you wanted. How did this phase begin?

**KAYN:** In this regard I owe much to my teacher Boris Blacher. He had a look at my early work, took the view that I should put it aside for a time, and that I should seek a new approach based on compositional tasks he set me. These were seemingly simple, like using rhythmic cells or pitch constellations to create certain sequences of tension or, for example, writing a ten-minute piece for a

single drum. We were both interested in mathematical procedures, so Blacher set a course that pointed me toward statistical composition. I had already found an affinity to analytical methods like these since my time with Max Bense in Stuttgart, so I made rapid progression. The first example of my efforts in this direction can be found in *Spectra for string quartet*, written in 1956.

**VAN ROSSUM:** What did Bense have to do with your music? It's not at all obvious that composers paid those theories any attention at that time.

**KAYN:** Information theory and communications research are, of course, scientific disciplines. But considering that literary texts can be statistically examined and evaluated with these techniques, it's not hard to follow that they can also be applied to musical endeavors. For example, asking what pitches are used in a piece, in what sequences of density do they occur, how do they relate to each other... Proceeding like this grants a kind of objective observation of time-based art. I would go so far as to claim that information-theoretical practice can have a vital function in the context of compositional processes.

**VAN ROSSUM:** Most composers would

hardly have been expected to be able to follow Bense's lectures, there would have been considerable scientific prerequisites.

**KAYN:** Be that as it may. In the circle around Bense there were painters, writers, and architects. So I wasn't an isolated case. Bense's theories have undergone further development in the past few years; new findings have been added since 1954, also from his students. But at the time, Bense's approach was an important starting point, his method of analysis and the ability to approach material creatively and objectively grew, no matter whether for an architect or a composer. For my part, I've handled these techniques freely. There is another aspect aside from creating objects, however, namely the aspect of absorbing the object... that is, perception and, ultimately, apperception. When listening to any music, the analytical capacity, the process of assimilating information, is controlled to a considerable degree by the faculty of cognition, so that those who have mastered these techniques can very quickly judge the quality of what is being presented. And this capacity for resolution seems to me to be absolutely essential in the esthetic evaluation of artistic artifacts, regardless of whether we're talking about images, text, or music, when we're looking at highly innovative work and the

traditional, conventional relationships no longer apply.

**VAN ROSSUM:** It seems to me that, as a result of this notion of creating and processing aesthetic procedures, something very personal and distinctive comes about, or something that can be perceived in a very specific way. And it seems worth noting that, when looking at the serial new music of the 1950s, there simply weren't many composers thinking about issues in communication.

**KAYN:** That's not so clear. At least, as a result of the work in Bonn of the researcher Werner Meyer-Eppler—who played a decisive role in founding the Cologne Studio for Electronic Music, and who was the actual scientist there—you can understand that there was at least a chance of getting in from this angle. I'm not sure this possibility was ever fully exploited in Cologne. The studio manager, Herbert Eimert, had a background influenced by Joseph Matthias Hauer's twelve-tone approach, and he fell back on Webern at a crucial moment in history, imposing his views on a whole phalanx of young composers. The perspective that Meyer-Eppler opened up—or could have opened up—was by and large ignored. In that era all that mattered was serial organization, regardless of whether it was

instrumental or electronic music.

**VAN ROSSUM:** Was that a reason why it was difficult at that time to get your music performed?

**KAYN:** Looking back, I actually don't think that was the case. In those days a composer could be happy if a piece was performed once or twice. The mechanics of "market share" of compositions, if I may use that term, didn't much bother me. At the time, composer X might write a piece, say, for flute (a fashionable choice back then) or for some particular ensemble; the result was that the piece would quickly circulate and find a market. Then the circles would expand and increase in radius... here the world-famous flutist Severino Gazzelloni, there the Kontarskys, and nowadays similarly with bass clarinet or tuba. But if you look at my composition catalogue, you won't find any pieces written with these aspects in mind. Obviously, with this "shortcoming," the prospects for dissemination of my music had limits. I've composed practically nothing other than either orchestral pieces for a variety of instrumental combinations or electroacoustic music addressing a specific problem. We can take it as read that there is a certain inhibiting barrier for this music.

*Roland Kayn - "About himself" and TEKTRA - Work, Form, Process is translated from the original German liner notes of the 1984 Tektra Colosseum LP release.*

