

STATIONS

1. Introduction

Stations insinuate the situation of travelling and moving. As it would be impossible to cover here all the points of this theme, I will try to give a line of thoughts that could serve and be developed for further interdisciplinary researches.

Among the most exciting phenomena in the development of art in the 20th century are the tendencies toward the convergence of music and visual art. I will start from the point of view of a musician, ignoring mostly the ways drowned by other arts.

The beginning of our investigation can be settled at the end of the époque of program music, which begun by imitation, mostly of nature. This imitation changed soon to the expression of inner worlds. In the case of Liszt we can clearly see how impressions (e.g. from his Italian travels – *Années de Pèlerinage: Sposalizio* was inspired by a painting of Raffaello, the Dante Sonata from Dante's *divina commedia*) turned to abstract psychological expressions, like *Nuages gris* – which is from the theoretical point of view the first atonal piece.

Through the opera, especially with Wagner's theory of the *Gesamtkunstwerk*, the concept of musical expression has also been changed. And here we arrive to the concept of *Synaesthesia*. Wagner insinuates it in several occasions, let us just remember Tristan's "how do I hear the light" and Gurnemanz's "the time becomes here to be a room".

2. Synaesthesia

Synaesthesia was mostly explored by the Russian avant-garde, like Scriabin who composed by musical means the lights to his symphony *Prometheus* or in his planned *Mysterium*, a seven day long performance with Dance, Music, Light, Poetry and Perfumes.

Ivan Wyschnegradsky designed for his *luminous mosaic of the temple cupola* a scale of lights noted with quartertone musical notation, referring clearly to a correspondence between the two arts.

The profound basis for synaesthetic explorations where concepts about "correspondences" (e.g. Baudelaire, Balzac, Strindberg). It was not a purpose of searching for new values but of antihierarchical tendencies, that opened the way to new artistic languages. As Adorno shows in his *Art and Arts*, it has to do with ontological problems. The Architect August Endell - the builder of the *Überbrettl Theatre*, where later Schönberg worked - wrote 1898 about an art that uses "forms, who don't mean something, don't represent or remind something, who move our soul so deep like only music with its sounds can do".

Paul Klee evoked musical experiences as a title for his paintings (like "Old Sound" and "Fuge in Red") searching for formal principles in the music of Mozart, and Lyonel Feininger, both painter and composer, showed clearly the nearness of his musical and pictorial forms. Piet Mondrian inspired by Jazz searched for rhythms of a painting, Robert Delaunay for movement using ideas of Polyphony and contrasts.

3. The concept of space

Coming back to Strindberg, Balzac and Schönberg, we have to mention, that the problem of space was not only a physical problem. The artistic space quest revealed new aspects with severe consequences concerning structure and musical language.

One of the greatest masters, Gustav Mahler, performing the 9th Symphony of Beethoven placed for the fourth part an orchestra behind the scene. This orchestra played the tenor aria ("Froh, froh"), the normal orchestra started to play again from the fugue. Many examples about specialisation in his music can be found in his symphonies, especially in the 8th.

Continuing the tradition of this last work composed Schönberg his Oratorio "Die Jakobsleiter" exploring several aspects through distant orchestras or orchestral groups placed in different places. Interesting is also, that in some parts he implicated colour differentiations through speaking tubes and suggested to use electronics to transmit the distant orchestras.

From the structural point of view let us start with Schönberg: according to the views of Strindberg and Balzac the space is a unity, it means it is possible, we have the equally the right to see a figure in her original, inversion, retrograde and retrograde inversion. Continuing with Bernd Alois Zimmermann, this space is not bi-dimensional but three-dimensional. We can treat a connection between any point of the sphere also in the time aspect. Figurations belonging to the structural future can appear in the present, the time dimensions are equal. Zimmermann expanded this idea also on the musical styles and languages. Jazz and monophonic elements are so treated into the general context. Stockhausen finally expanded this concept to the "universal music" – all the musical cultures and their music can appear into the same context.

4. From ametric composition...

It is clear that such concepts opened the room for new ways of musical notation. The scores were not any long bound to the classical, in bar sliced notation. The feeling of time changed. The development of serial music from Points (each sound has a complete a unique definition of attack, colour, dynamic and length) to Groups and finally to Fields, always operating with mathematical procedures that gave more and more freedom of composition, required new means of notation.

Beside of an example of ametrical composition, here from Penderecki's "Dimensions of time and silence", we see an example from Wassily Kandinski. Trying to describe a correspondence between musical and optical dimension he demonstrates a graphic interpretation of the beginning of Beethoven's 5th Symphony. [live explanation of the graphic]

5. ... to graphical composition

Continuing these ideas we see an example from Leon Schidlowsky's "Modern Passion" on texts of Heine, Trakl, Lasker-Schüller, Kaléko, Fried, Novalis and the prophets.

The composer explains: "There is no musical stuffs, no defined pitches, not fixed length and dynamics. Instead of a mathematical music notation we have here a geometrical. The geometrical position shows the relative proportions of the parameters. The musicians have the freedom to interpret using the own imagination and creativity. Every colour is a dimension of reality of expression, every text a phoneme, every sign an individuality, there is a relation in the space. It is a consequence of the 'principle of contingency', a scientific cosmological interpretation. In his freedom is the interpreter bound by the geometry, the musical colour is in dialogue with the painted colour, the melodic and harmonic colour".

The musical text is here influenced and interacts synaesthetically with the painted colours.

[short explanation of the signs]

The other part is the Cello piece, a piece of Rolf Julius. The artist is one of the most interesting, important and creative sound artists. Interested and investigating the plasticity of sounds, he creates here a sound work without sound. The ink prints on Japanese woodcut paper exhibit simple black circular forms in varying sizes. Upon closer examination, these forms reveal a great richness of structures and nuances - especially in their edges. To Rolf Julius it was natural to conceive them as energy forms that allow themselves to be employed musically. We can see "raw", "brittle", "soft", "smooth" sounds, sounds that expand in space or appear only briefly like dots, sounds that move, stationary sounds, sounds that change forms, etc. Collaborating with the cellist Michael Moser on a musical interpretation of these abstract pictures, assembled 60 ink prints in a tension-filled, intrinsically structured picture set.

Using series of ink drawings photographs with pigments, giving rise to a re-interpretation on computer, then to a print run on an ink printer, an old office Epson through which the sheets of Korean paper pass, here again in a strange tension between modern and traditional elements. The work of 36 prints of these pigment stains photographed and then reinstated as if identically by printer. What emerges from this ensemble is a sense of motion; but it can also be regarded either as a score based on which everyone can develop their music, or as the visual equivalent of the different acoustic sensations and vibrations that are perceived in the whole exhibition space.

6. Janis Christou

One of the relatively unknown but most interesting personalities is the Greek composer Janis Christou. Born in 1926 Alexandria, Egypt he died in a car accident with 44 years. He was a pupil of Ludwig Wittgenstein and Bertrand Russel, studied music with Ferdinand Redlich (a pupil of Alban Berg) and was a profound knower of the theories of Carl Jung. From his early years he was interested in mysticism, an interest that accompanied him till the end of his short life and shows itself in his compositions.

One of the earliest structural principles of his composition was the **Phoenix-Principle**: birth - evolution - drama - end - new beginning, as shown in his "Phoenix music". This principle evaluated later to the concept of the **Lunar Cycle**. This according to Jungs teaching archetypal concept is from the composer described:

"For countless generations the renewal of vital processes has been experienced according to a common basic pattern of: generation - growth - destruction - cessation, repeated on and on. It is the pattern of renewal. In the depths of man's prehistory it was the moon's monthly performance that originally drew attention to this pattern. It is not hard to picture the response to the moon's most spectacular performances of all: its eclipse. For early man, with nothing even remotely resembling a sense of primitive astronomy, this was an IRREGULARITY and it could have caused much terror, even panic. There seems to be a good case for selecting the lunar eclipse as the archetypal image of some calamity which one fears, and fears the more because there is no telling when it may break out. A root image for the feeling of impending doom on a giant scale.

One could say that soul formation and myth formation are aspects of the same thing, the same process, both emerging out of man's₃ deepest experiences acquired through his

confrontation with the facts living and the facts of dying throughout countless thousands of years.”

Continuing his activities as a composer, he arrived to additional principles. Beginning with

Anaparastasis: The “Re-enactment” of a ceremony, ritual or primitive rite, including any attendant mysteries. The aim of re-enactment is to transfigure an archetypal “drama” (even the mundane situations of life) so as to view them from a new perspective. A composition according to these ideas is his Oratorio “Mysterion” for narrator, soloists, three choirs, tape and orchestra based on ancient Egyptian texts.

Developing his investigations on myth and ritual he arrived to two antithetic principles: Praxis (action) and Metapraxis (Meta-action). The composer referring to his work “Praxis for 12”:

“Any living art keeps generating an overall logic fed by a collectivity of characteristic actions. Whenever an action is purposefully performed to conform with the current overall logic characteristic of the art, that action is a "praxis", or a purposeful and characteristic of action. But whenever an action is purposefully performed so as to go beyond the current overall logic characteristic of the art, that action is a "Metapraxis", or a purposeful non-characteristic action: a "meta-action".

Thus, in the performing arts, any action which requires its performer to go beyond the current logic of the medium to which he belongs, requires him to go beyond the logic of his world of action, as it were. That action is a "meta-praxis", and it is purposefully "non-characteristic". Conversely, an action which does not conform purposefully with the current logic of that medium is a "praxis" as long as it is purposefully "characteristic".

A conductor conducting during a concert is a praxis, but if he is also required to walk about, speak, scream, gesticulate, or perform any other action not strictly connected to conducting, that could be a Metapraxis... On the other hand, if an actor, say or a dancer, is called upon to perform during a "mixed-media" piece, and he is required to scream, laugh, move about, dance, gesticulate, or whatever, he could merely performing a praxis, and not a Metapraxis.”

7.

Christou had to develop a new sign language, an action score. Here we see an example from his “Enantiodromia” [short explanation and sound]

8. Poème Electronique [starts with music]

[Projected Texts:

Le Corbusier:

„The outer appearance consists only of scaffoldings and his raison d’être is the inner room, which is going to be obscure. For eight minutes the visitor experiences a creation of modern times, an electrical spell.“

Xenakis:

„I will design for you not a Pavilion but an electronic poem and a vessel which contains the poem; Light, color, rhythm and sound are united in an organic synthesis.“]

Edgard Varese composed *Poème Electronique* for the Phillips Pavilion at the World Fair in Brussels in 1958. At this exhibition, the music was played on 425 speakers, placed all around the pavilion. *Poème Electronique*, Varese's last completed work, originated in collaboration with the architect Le Corbusier, designer of the Philips Pavillion at the Brussels World's Fair 1958 which was its architectural setting and was created at the Philips Laboratories, Eindhoven, The Netherlands.

The original consisted of three synchronized tracks, to be played on twenty multiple amplifiers and 425 loudspeakers over diverse “sound routes”. The 480 seconds of music were played alongside projected images (photographs, paintings and montage) as well as text by Corbusier. It was perhaps the first piece of “surround sound” and certainly of multimedia as we understand the term today.

The sound elements comprise bells, pipe organ notes, human voice (male and female), whistles and sirens, electronic tape sounds , silence, mechanical sounds including an elevator rising, percussion instruments including drums, and a jet engine. The human voices are eerie, haunting. Not only do the sounds contradict and oppose each other but they collide and interpenetrate.

The whole piece, and each section of it, are dominated by two opposing, alternating sonority types. In Part I it is complex spectral noise bands, percussion and machine-like sounds, that prevail...Even the bell and siren sounds share the dense, complex spectra of the percussion and noises. Part II, on the other hand, is dominated by simpler, quasi-harmonic spectra, generated equally by electronic oscillators and by the vowels of human languages and voices.

According to Varèse, the oppositions occur at “calculated, but not regular, time lapses.” In his *Modulator Books* LeCorbusier redirected architects' attention to earlier proportional theories of Golden Section ratios. The *Poème* shows Varèse's solidarity with LeCorbusier, for it is at the Golden Sections of each part, and of the whole, that especially vivid collisions and interpenetrations occur. Three points of intersection, approximately one-third and two-thirds through each part (and the whole), are the “calculated, but not regular” Golden Section time spans.

As Varèse wrote: “When new instruments allow me to write music as I conceive it, the movement of sound masses, of shifting planes, will be clearly perceived in my work. When these sound masses collide, the phenomena of penetration or revulsion will seem to occur. Certain transmutations taking place on certain planes will seem to be projected onto other planes, moving at different speeds and at different angles.” Varèse spoke of needing “an entirely new medium of expression: a sound producing machine - not a sound reproducing one”. To this end he experimented with “tape speeds, editing, splicing, sine wave and white noise”. His specific aim being to compose “organised sound”.

Varèse's declared intention as stated in “the Liberation of Sound” was “Liberation from the arbitrary, paralysing tempered system; the possibility of obtaining any number of cycles, or, if still desired, subdivisions of the octave, and consequently the formation of any desired scale; unsuspected range in low and high registers; new harmonic splendours obtainable from the use of subharmonic combinations now impossible; the possibility of obtaining any differential of timbre, sound-combinations and new dynamics far beyond the present human powered orchestra; a sense of sound projection in space by the emission of sound in any part or in many parts of the hall as may be required by the score; cross rhythms unrelated

to each other, treated simultaneously, or to use the old word, ‘contrapuntally’, since the machine would be able to beat any number of desired notes, any subdivision of them, omission or fraction of them- all these in a given unit of measure of time which is humanly impossible to attain”.

9.

Jannis Xenakis designed the Pavilion for Le Corbusier using mathematical statistic processes that he also used in his first orchestral composition “Metastasis” (1954). A compositional sketch shows clearly the resemblance.

10.

PIERRE SCHAEFFER

Over the course of the 20th Century, the development of sound recording and reproduction not only changed the ways we communicate, how we listen to music and even the sounds of our everyday environment but also set the stage for a radical change in the way composers – and later visual artists – began to apply sound in their creative work. Until the end of the 1940’s, although the technology of recording was allowing sounds to be isolated from their origin time and space, sounds were not been separated from their original contexts nor from their purely representational or metaphoric roles. In French national radio founded Pierre Schaeffer in the early 1940’s the “Studio d’ Essai de la Radiodiffusion Nationale”, later renamed “Club d’essai”. Composing a series of studies “without preconceived subject, without literary concern, with the sole aim of giving opportunities for demonstrating radiophonic mechanisms” – as Schaeffer describes, he started to collect sounds of physical objects and experiment with them. His first studies, *Cinq études de bruit* (five noise studies) are the first compositions of *musique concrète* and the beginning of electroacoustic music in general as a vehicle of artistic expression. The physical sounds isolated from their original context become to be independent sound objects, set in new contexts and relationships and concise through musical gestures new musical forms.

The practice of Schaeffer was very different from the practice of electronic music in Germany: here, continuing the ideas of serialism, the interest was concentrated on electronic sound synthesis and not like Schaeffer on the concrete, physical sound. Thus started Schaeffer to represent a new way of thinking: While in traditional composing moves from the abstract idea to the concrete, starting with a musical idea, written down and then interpreted, Schaeffer was moving from the concrete - the physical sound – through manipulation towards the abstract. His invention had nothing to do with electronic instruments invented for music making, like Theramin, Ondes Martenot and Trautonium. With Schaeffer emerged a new constellation: no more from the composer to the written score, then to the instrumentalist and finally the interpretation for the public, but rather a composer in dialogue with his machines interacting like a sculptor with his material, working and reworking on it intuitively until he obtains the desired result. This result is then fixed on the recording medium, there is no more musical interpreter and interpretation. The sound becomes thus to be a sound object, designed and manipulated as one. Although sound happens in time, the word object implies a static state. Against the concept of the musical theme, Schaeffer’s theme is now an object, independent of the constrains of time. And later through the loudspeakers he started to create abstract sound spaces. [short musical example]

11. BERNHARD LEITNER

Been an architect, Bernhard Leitner is less interested on the geometric aspects of an abstract, non-sensed room and concentrated on the sensed room, the sense of body in space, the sense of space itself.

Coming from Vienna, it was easier for him to follow the experiments with space in modern music, like Kagel who distributed his musicians and instruments in the auditorium or Stockhausen's Groups for three orchestras. But also dance, the composition of spaces between various bodies by means of choreography. But also the technical possibilities of sound production and reproduction, the possibility to shape and model a sound so exactly that can be used as material. Sound as building material. He emphasizes, that not so much sound but space is the central issue of his work. He started working with very simple sounds. Beaten, electronic sound, without rhythm or melodic material, bowed or blown sounds without any modulation, in specific frequency ranges, just to be able to listen to lines of sound in space. These short blocks of sounds enabled him to listen to lines of sound in space. He realized that the brain is immediately distracted if musical parameters are present. The brain seems that recognizing a melody, a rhythm, a repetitive structure, it is less curious about space. Taking sound from the temporal art of music and the concepts of space from the static and sculptural art of architecture he had to develop a new vocabulary. He was orientated more on the ideas of Varèse and his "spatial sound". He was interested on the way the body involves in the experience of sound and its movements. Through sound can space extend in the human body, we hear with the body.

By use of thermovision photography he could determine precisely where the sound enters the body: there is an increase of temperature in this area. It was fascinating to see the degree to which acoustics, sound waves, can induce changes in our body. And this has nothing to do with the emotional dimension of sound. Spatial perception does not simply consist of discerning four or eight corners in space. Rather, it results from a complicated process of integration in which visual, acoustic, and haptic-kinaesthetic impressions all play a role.

In our time, where the discussion about architecture is based on photography and the visual, where for the last 200 years not even one architectural treatise was produced about hearing and acoustics in space, Leitner teaches us again how to reflect on hearing and its potential. As he says, "the body gauges space acoustically, and not through the eye. Acoustics means 360 degrees, in all directions".

[Follow 4 examples: **12-15**]

[Projected Texts:

12. Loudspeakers project the sound into the wedge-shaped space. The sound is reflected into the sitting area by way of the metal surfaces. The acoustically compressed, tightly enveloping interior space then spreads through two outward-facing loudspeakers from the body into the wide space. The wide open space contracts back to the centre, into the body's self. The boundaries between interior and exterior shift, dissolve. Simultaneity of different boundaries.

13. Six loudspeakers have been mounted along a circularly curved flat iron suspended freely from the ceiling. A chair below it is designed so that back, shoulder and arm position promote concentration on symmetric listening. Lines of sound running linearly between the sound points form the arch above the person. The FIRMAMENT seeks to explore the zenith acoustically. Curvatures ascending symmetrically in counter motion penetrate each other in the zenith. For a very brief moment, the zenith of a firmament materializes overhead.

14. Fifteen cubes freely drifting in space constitute the constellation of Sound Stars. The sixteenth sound source is placed below the upper body of the person. Sounds are transmitted from within the person to the stars in various directions and from the stars to the person. They are pulled, drawn, hurled. High-pitched, gleaming sound stars form a vault over the lying person. Sounds move on elliptic, circular or free orbits, passing through the person, weaving him into the sound stars.

15. Delineating space by making sound 7move around, through, under and above the

body. New definitions of space, of perception, of hearing were examined. 1976 the SOUND CHAIR was developed: lying in the axis of a sound movement. The body itself turns into a swinging form . The sound space swings within the listening, acoustically perceived body. A new awareness of the body. SOUND CHAIR is an intense manifestation of the relationship between sound, space and body - which circumscribes the essence of any acoustic space.]

16. Christina Kubisch

Christina Kubisch is a musician and a profound knower of contemporary music, from Cage to Stockhausen and Evangelisti. She started creating performances in 1973 playing flute with thimbles or boxing gloves or – inspired by Cage – preparing the flute keys in a way that sounded like a set of drums. She started to working intensively with the video artist Fabrizio Plessi, in a time where she was moving from classical composition to more experimental forms, creating performances with music and video. Using induction cubes she discovered a technique with which she could transport sounds and leave the audience the freedom to put the musical sequences together themselves, moving free in the room. The visitor creates the dynamics itself with the aid of electromagnetic headphones. The closer you come to a field of cables, the louder the sound is. Depending on how you move, you have endless ways of overlapping the sounds – the visitor becomes an individual mixer. And this is the main idea of her sound installations, that a person has his own time, an individuality of listening and of movement. Since 1980 she worked on sound spaces and sound sculptures, especially interested in timbres and in the boundary between visual and acoustic perception.

Kubisch explored the creation of structures with silence, with acoustically and spatially empty spaces.

17.

[projected texts Kubisch with music:

„Sometimes I need empty spaces, large spaces, long distances – an unobstructed view. I want to stand alone in a landscape that has managed to maintain at least a trace of originality and inapproachability. Experiences which are as difficult to realize in real life as they are in art. I don't want to produce an artificial counter-world or offer romantic shaped utopias, no matter how strong the desire to do sometimes is.

This material of my sound installations is not concealed. Cables, lamps, loudspeakers, pigments are components of soundscapes consisting of recognizable utilitarian materials and nevertheless transcending those materials. It's the same with the sounds.

I usually use them in a pure state, hardly processed, not electronically alienated. Often they are produced not by instruments but by found material: drinking glasses, mine bells, tuning forks. But by means of layering and superimposition, I obtain sound structures which defy simple recognition.

The sounds are distributed throughout the space so that they can come from a distance as well as from the immediate vicinity.

The works with loudspeaker fields glowing in the semidarkness, their sound interrupting the silence with irregular regularity, are an attempt to create spaces which allow openness and new associative possibilities and nevertheless retail a certain emptiness”]

18. The Tree

With grounding wire, electromagnetic headphones and twelve-channel composition.

[live explanation]

19. Five fields

Here adheres Kubisch to the existing architecture of the room by doubling the five window niches by reflecting the surfaces they form into the room's interior. Loudspeakers of varying sizes are placed upon these fields, predetermining a wide sound spectrum. Fifteen different sounds are generated by tuning forks with a spectrum from 64 to 4096 Hertz. The forks are of the kind used by the medicine for test hearing. They form the basis for the 16-channel composition which is to be heard in the installation. The loudspeakers have been painted with a special varnish that glows in the ultraviolet light. The light radiated by the luminous paint oscillates between illumination and luminosity. Surfaces and lines appear to float in the space of the room.

20. ROBIN MINARD

The Canadian musician and composer Robin Minard left the protected concert hall to deal as a sound artist with the actual acoustic space of the urban world. Considering that the human space of listening is the original space of nature, he is interested in the disturbances of the acoustic-ecological balance produced by the omnipresent noises of civilisation. He has tried to redefine the concept of a functional music in the context of an environment increasingly polluted with noise. Minard's idea of sound installation has meant something specific: the integration of sound in public environments and therewith the merging of works not only with existing architecture but also with everyday situations and real functioning surroundings. Visual elements of the work have been linked to acoustic considerations and the broadcasting of sounds in specific ways. Thus the boundaries existing between conventional forms of art making (music, visual arts, architecture) are eliminated. The fusion of art in life is an essential aspect of the installations. The essence of the art work is expressed not solely through the work itself but also through the relationship between the work and the space for which it is created.

21. Music for Quiet Spaces

Music for Quiet Spaces is an instrumental work scored for vibraphone and tape delay. This was one of the first works Minard composed for informal presentation in public environments, representing so the transition between composing for the concert hall and his later sound installations.

The work is conceived to condition space through the creation of an absolutely homogeneous, slowly-changing field of sound colour. Within the performance of the work, original sounds picked up from the vibraphone are continuously recorded and reproduced over and over again at 12 second intervals. The delayed sounds are adjusted to slowly fade away over a period of approximately 3 minutes. This treatment creates the static clouds of sound colour and enhances the music's slow changes in register and dynamics. The work is conceived for informal environments in which the public is free to move about during the work's performance.

22. Silent music

An installation consisting of between 100 and 500 piezo loudspeakers. Together with their attached wires, they form plant-like structures, placed within the space to suggest their seeking for light. The work is conceived for installation in either quiet public areas or exhibition spaces. The sounds of the installation are designed to colour the silence of the existing space.

The work broadcasts high, relatively quiet sounds made up of a mixture of natural and synthetic sources (like hearing the ocean from a great distance, a light wind blowing

through leaves, of water flowing nearby...). These sounds and noises are sometimes static in space, they sometimes move in slow waves across the installation area.

The work is composed only for loudspeakers, but they are placed in a manner which suggests life, growth and movement toward light. The work inhabits the space in much the same way as would a living organism. At the same time it projects the observer back and forth between perceptions of the familiar and the unfamiliar: between that which we perceive as being natural and alive and that which we perceive as being technical and artificial.

23. Conclusion

The visual arts' conquest of acoustic space can be described as a rejection of the Cartesian worldview, which had long found its obvious expression in the art of perspective: The paradigm of an observer autonomously availing himself of the world from a fixed standpoint dissolved in favour of a multi-perspective view. Man no longer stands facing the world, but is embedded in environments. The autonomously distanced and distancing eye was supplemented by the ear, which stands for a more complex form of perception. The listener has a different relationship to his environs. He is surrounded by sounds and becomes a resonating body himself. This model of perception, which puts in the foreground the characteristics of the self as a resonant body, corresponds to the anthropological discovery that, in the womb and shortly after birth, we experience the world as an acoustic space, which the structured visual field joins only gradually.

The moulding of perception by Cartesian thought and by the perspective worldview can be recognized in our European musical culture, as well. In Western culture's traditional understanding of music, sounds are part of an autonomous musical structure perceived independently of contexts. The ideal listening space is therefore the concert hall, sealed off from all environmental influences, in which the listener takes a fixed seat and the source of music, the orchestra, is "observed" from a distance. An understanding of music has thus solidified, that organizes listening to music analogously to the deciphering of signs in the visual field. Music became a linear text expressing feelings or thoughts. This understanding was reinforced by the predetermination of the basic structure of this "text" in the form of visual signs - the score. Thus, sound consisted of tones defined primarily by length and height. Musical timbre - the characteristic mixtures of overtones - was determined to a great degree by the spectra of the instruments themselves and in this sense only changeable within narrow limits.

The history of the music of the 20th century can be read as a history of the liberation of sounds from this scheme that moulded the Western musical tradition. The new ways of seeing and hearing in the visual arts and music are the expression of a radical change in perception. The point is no longer an objective description of an idea or an aesthetic form removed from so-called reality, but the way in which perception takes place, i.e., in which phenomena become perceptible to the viewer or listener. The anthropological constants of perception, its ties to the body, are thus made interesting again. The difference between the work of art and reality, as well as the boundary between art and life, now prove to be a construction of perception. This means that the former distinction between artistic and inartistic material - in music, the distinction between sounds and noises; and in the visual arts, between material "worthy of art" and materials of everyday life - can no longer be maintained. The work of art becomes an experiment in perception, in which the listener/ viewer traces experiences the artist himself had through his work.