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"Electroacoustic music in cultural context   two points towards sound materials and structure"

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Ⅰ Introduction

As a basic research for aesthetics of today's electroacoustic music, this presentation proposes two points about the structure of electroacoustic music. One is the cultural background for hearing sounds. The other is communication strategy of interaction on the stage. The first point will be abstracted from the situation of the Japanese composers in 1960's. For the second point discussion is to concentrate on the "performance" of Japanese artist in 1990's,

Situation of the early Electronic Music in Japan

Acceptance of musique concrète in Japan was one phase of imports of compositional technique of Euro-American avant-gard music. In 1950's the Japanese composers studied and researched the technique, but they did not so much accept the conceptual background from other countries. This is one of the reason why Japanese composers have taken different aesthetics for electroaoustic music from that of France. And moreover the Japanese music critics did not admit the aesthetical value of musique concrète. Tsukaya, music critic, said in 1950's as following.

> In musique concrète all kind of noise can be given rhythm and and hight, and can be changed into melody. --That was enabled by recording technology. -Although the method is quite renovative, all were ephimeral experiment and did not function as human history, because there were no expressive intention.

Akihiro Tsukaya, *Ongaku-Geijyutsu 1954-3*.

Without any precedent aesthetic criteria the Japanese avant-gard composers groped for their own psychoacoustic identity. How they heard the concrete sounds?

The first Japanese musique concrète, *x,y,z for musique concrète* composed by Toshiro Mayuzumi（1929−1997), was produced in Nipponn Bunka Hoso (present name is NHK). The technical model for Mayuzumi was that of GRMC. But the hearing process was unique to Japanese cultural history.

The first movement X featured metallic sounds like striking steel frame, noise in ironworks, airplane explosion, sounds of machine guns and modern war, siren,

people's voices on busy streets and chamber music. The movement Y is composed of nature sounds, like bird whistle and water. And the third movement Z is an analogy of Fuga form composed of cantus firmus and the counter-melody played by various instruments.

In X, hearing of the recorded sounds leads Mayuzumi to his memory concerning each sound. He re-designed the sound into the context in which he had experienced the sound itself , whether the sound is tuned or not.

In other words, composing out as time design by way of recorded sounds means to him combining the context in which he experienced the original sounds itself. That was not combining the sounds itself as physical or psychoacoustic materials. Mayuzumi wrote in the program note that X was to represent objectively mental stress and agony because of the artificial mechanism, and that Y portrayed the transition of humane instinctive sense of impatience, agitation, joy and despondency as music process.

Ⅲ. Formation OF the Sound/ Formation FROM the Sound

Schaeffer's hearing process is not to combine the contexts in which each sound was produced but to re-design the sounding process by separating each sound from the context. For Schaeffer the term "musique concrète" represents the construction, which means to classify the sound materials and to make a formation from monophony to structure by way of transmutation / Transformation / Modulation and Execution / Montage / Mixage. Schaeffer's procedure can be called "formation OF sound", structuring material from inside out. The starting point is hearing. The compositional process of electroacoustic music was described from monophony to structure.

As for Mayuzumi, he also started from hearing but more important than formation of sound for him was the problem of mixing and balancing of untuned, noise-like sound in ordinary world and prescribed, tuned musical sound. The former has the original context which he experienced the sound but the latter could be separated from the context. So Mayuzumi's creation is formation of the various contexts which were reduced from the sounds itself.

Mayuzumi's design can be called "formation FROM the sound", composition of the contexts of the recorded sound. Thanks to this formation style the audience can recognize what the sound originally was. Therefore the audience can share the hearing experience of the original sounds with the composer. Consequently the aesthetic problem concerning electroacoustic music here is about what people had experienced before with the relevant sounds. It is the cultural background or collective memory of

the relevant sounds that support the aesthetic framework common to the creators and to the audience.

Actually in 1960's the framework to Japanese electronic music was common to the avant-gard music in general. There was a heated argument, "what is Japanese originality?". Here we should think what the Japanese originality of hearing is.

Ⅳ．Hearing as Mental Trace of Japanese Culture and Social History – listening to the inaudible sound and the experience of war

In Japanese literature, we know lots of vocabularies which mean people can hear inaudible sounds.

Minao Shibata (1916-96) indicated that proto-type of modern Japanese sound hearing could be retroactive to Basyo Matsuo, who had created nearly a thousand of HAIKU. One of his famous Haiku is; *In this hush profound, / Into the very rocks it seeps-- / The cicada sound.* (*Oku no Hosomichi*, trans. by Dorothy Britton)

This verse includes a dichotonomy of sound space. It depicts the place where he hears very loud cicada's sound but the silence there is strong enough for the rocks to absorb all the sound. Although the external space is noisy with cicada, the internal space is very quiet. Shibata was strongly conscious of this Japanese sound hearing. And his piece of musique concrète reflects Japanese MA (intermittence).

Concerning the theme of MA in hearing, we can make reference to Takemitsu. Takemitsu (1930-96) began to compose, as well known, when he had been in the subway train ; thinking that composing today is to "signifier" our environment using both tuned sounds and noise. During his whole life, his primary problem is how to hear the silence and how we can make sounds which "signifier" the life. He heard not only sounding materials but also inaudible environments.

And his profound theme of creation was, in his words, the defeat in the World War Ⅱ and the miserable experience just after the war.

The Japanese hearing culture used to symbolize the sound and interpreted the recorded sounds in the experience of each person. The common profound experience for most composers who knew the WW2, was the dreadful experience after the war.

Ⅴ Communication Strategy as Performativity and Interactivity

At Expo70 in Osaka, people heard several new musical pieces with the special diffusion systems like in Tekkhokan. In Tekkhokan, pieces by Takemitsu, Xenakis and the other composers were diffused through 1008 loudspeakers controlled by six mixing

console. The space diffusion included a very unique system applied the control technique of movie film pursued by Jyoji Esaki.

Expo70 was an effective and impressive art festival as well as technological presentation event. But for the composers, that was also an exhaustive experience. Though the composers got valuable experiences and the younger generation was strongly effected by Expo70, like Akira Nishimura (1953-), sound technology has no longer attracted avant-gard composers in 1970's. And at the beginning of 1980's, the first digital synthesizer DX7 appeared and swept the popular music. It was only in the mid of 1990's that composers started their personal creation with personal computer.

Through the 1990's visual elements for music became more and more important. Seemingly indifferent to electroacoustic music, but it is indispensable to discuss the sounds in the audio-visual technological situation of Japan 1990's. And the material objects for today's composers are technological environments as well as sounds because sound treatment or sound creating algorithm indispensably correlates with the problems why the sounds should appear to the world and vibrate the air. People know the fact that both sounds and visual images can come out from the computer, but do not know why they come. If the creators can indicate why, or, how sounds and visual images come out, though their answers are not objective, the creators succeed to make a good communication with the audience.

Therefore the communication strategy concerning sound technology is important as in the form of performativity or interactivity, which are equal to rethink about today's context of sound.

Discussion about the performativity of today's electroacoustic music of Japan should extend from sound arts like Akio Suzuki, Mineko Grimmer, Yukio Fujimoto to noise music like Merzbow, Ryoji Ikeda and so on. Here, as final proposal, I make only a short introduction of Japanese sound art and algorithmic composition; Akio Suzuki and Masahiro Miwa.

Akio Suzuki (born in 1941) is famous of his soundless sound performance like OTODATE and Hinatabokko no Kukan (Space in the Sun). Suzuki's first performance was held in Nagoya in1963. In the performance of Nagoya station, he threw a bucket full of junk down a staircase. Suzuki said that the performance was "question and answer". If he hurl the junk down the public stair, what kind of rhythm comes? Let's hear. Throwing the question and pursuing the result. This was a communicative hearing experiment. His soundless sound performance is also a hearing experiment, and the sound is a result.

Algorithmic composition also generates sounds as result of some logic. In Japan, some algorithm are created by composers not only to generate or synthesize sounds but also to think about communication as a social assertion. It is the essential theme of the piece to define what about the sound is to be calculated and how to make into the algorithm. In the algorithm, noise of the irregular wave form as well as tuned sound can be the material for creation.

One representative example is *Reverse Simulation Music* by Masahiro Miwa (1958-). This sound performance got Golden Nica 2007 in Ars Electronica, Linz. This is based on composition structures developed by computer and then played by musicians, performers or mechanical devices. Depending on the concrete movements and actions of the performers, some prescribed rules and calculations are acoustically reproduced in a particular or a random (improvised) order. Here the audience can be the performer and the computer-developed "artificial" rules and structures are transformed into performative rules. In Miwa's pieces, sounds are not the materials but the results of the algorithm. And the interactive communication is the main theme of creation.