"Musique Concrète" as one of the Preliminary Steps to Acoustic Ecology

By Frank Dufour

What are the theoretical and practical outcomes of "Musique Concrète" and their echoes in today's practice of Acoustic Ecology? How does the discipline of Acoustic Ecology provide new elements for a better understanding of the foundations of "Musique Concrète"?

Pierre Schaeffer and the Invention of Musique Concrète:

> I came to the Studio (d'Essai) "to get the noises to talk", to pull out the best from a "dramatic auditory decor"….and I discovered Music. (Schaeffer 1966: 44)

In his *Studio d'Essai*, in the 1940s, while experimenting with the genre of the Radio Play, *Théâtre Radiophonique*, and questioning the modifications brought to the act of listening by new audio technologies, Pierre Schaeffer discovered a new attitude (*Acousmatic*) and a new concept (the *Sound Object*), both of which were to form the basis for "Musique Concrète".

"Musique Concrète" is not a renewal or a modernization of music through a renewal of its auditory material. The purpose is not to introduce new types of sounds and make them available for musical compositions. "Musique Concrète" is also not a renewal of music through new methods and techniques of composing. "Musique Concrète" is a renewal of music in the sense of what Schaeffer names as the primordial activity involved in music: *Listening*. Exactly in the same way R. Murray Schafer names listening-to-the-environment as the foundation of Acoustic Ecology.

The Acousmatic Situation

Pierre Schaeffer was examining sound and the perception of sound from the perspective of the listener placed into an acousmatic situation. One of the first consequences of this "blind" listening tends to be a liberation from the hierarchy dictated by the reference to the visible. What remains from this first reduction, is the act of listening to the sounds themselves. But the acousmatic situation should not be understood as the emergence of a pure subjectivity for the listener now freed from the visual reference towards the sound.

> In the acousmatic situation, the question is not about knowing how subjective listening interprets or transforms "reality", nor about studying reactions to acoustic stimuli; this is the act of listening itself that becomes the origin of the phenomenon to be explored… The questions aim towards the subject: what do I hear? . What do you exactly hear? …The subject is asked to describe his own perception itself, instead of the external references to the perceived sound. (Schaeffer 1966: 92)

When R. Murray Schafer suggests that we should listen to the acoustic environment as we listen to a musical composition, he points to this acousmatic attitude and to the implied musical activity in which the emergence of the acoustic-environment-becoming-music, is revealed. Even without this strong awareness of the musical dimensions of the acoustic environment, Acoustic Ecology would certainly have developed as a measure for certain qualities or characteristics of sounds, mainly intensity and spectrum, combined with the appreciation of musical, sociological, or cultural conditions of the sonic environments. The goal in both situations, acousmatic and ecological, is the emergence of a way of listening in which sounds are not interpreted through preexisting sets of criteria and referred to as external causes, but are considered as components of an interactive ensemble.

> We deliberately forget all of the references to instrumental causes as well as preexisting musical meanings, we attempt to focus entirely and exclusively upon the act of hearing, and to discover the instinctive pathways leading from the purely sonic material to the purely musical. This is what acousmatic suggests: denying the instrument and the cultural conditioning, and place ourselves in front of the sonic material and its possible musical becoming. (Schaeffer 1966: 98)

According to Schaeffer the acousmatic experience creates, what he calls "reduced listening"; in the sense of the phenomenological reduction: listeners must question the content of their perception or the intersection between their perception and the acoustic phenomenon itself. In the act of reduced listening, a sound is not only a sign or an index that represents something else; but a sound is also present in its own right, as an object, on which the listening perception is focused. The phenomenological dimension of the theoretical investigation of "Musique Concrète", introduced by Pierre Schaeffer, is of great importance and ensures also that the acousmatic experience does not only consist of a *tabula rasa* of all the scientific, artistic and historical experiences and knowledge, but also of a fertile use and criticism of these. In fact, Pierre Schaeffer is in search of a bridge between the realism of the scientific description of sounds provided by acoustics, and the "psychologism" of its musical or cultural appreciation. This search is deeply inspired by Husserl's search for the foundations of Logic as a criticism of both realism and psychologism who:

> … stand in need of "criticism", and indeed of a criticism which they are not able on principle to supply themselves, and that, on the other hand, the science which has the unique function of criticizing all the others and itself at the same time is none other than phenomenology. To put it more precisely: It is the distinctive peculiarity of phenomenology to include all sciences and all forms of knowledge in the scope of its eidetic

universality… (Husserl 1928/1962: 165–6)

Pierre Schaffer defines music similarly as

> …an *interdiscipline*, properly speaking, an activity that, encompassing various specific disciplines, verifies through synthesis their respective partial outcomes should they relate to facts or to ideas, and presents itself as an activity of discovery and invention, that tends as much to set the grounds for knowledge than to create works of art. (Schaeffer 1966: 31)

Acoustic Ecology is thus to be defined as a similar *interdiscipline* whose practice necessitates "…training in acoustics, psychology, sociology, music, and a great deal more besides, as the occasion demands." (Schafer 1977: 206). Two of the most fundamental outcomes for "Musique Concrète" and possible inspirations for Acoustic Ecology are certainly the definition of music as an *interdiscipline,* centered on the questioning of the act of listening – a perspective from which Acoustic Ecology is defined primarily as a musical activity, and it reaffirms that the phenomenological approach is central to Acoustic Ecology.

The Practical Outcomes of "Musique Concrète"– The Activities of Listening

What do I hear? How can I describe and witness the content of my perception? These two questions are instrumental to the practice of acoustic ecology. *Phonography*, regardless of its fidelity is not reliable when the scope is the transmission of a human experience. Pierre Schaeffer proposes an analysis of the function of listening that reveals four modes of listening, each of them referring to different dimensions and characteristics of sound: *Écouter* (*Hearing*), *Ouïr* (Perceiving or *Listening 1*), *Entendre* (*Listening 2*), *Comprendre* (*Understanding*).

Level 4 Understanding Inside: Signs Outside: Values Emergence of a content of the sound, and *reference* and *comparison* to extra-sonorous notions	Level 1 Hearing Inside: Indexes Outside: External events *Emission* of the sound	1 and 4: Objective
Level 3 Listening 2 Inside: Qualified perceptions Outside: Qualified sound object *Selection* of some aspects of the sounds	Level 2 Perceiving or Listening 1 Inside: raw perceptions Outside: raw sound object *Reception* of the sound	2 and 3: Subjective
3 and 4: Abstract	1 and 2: Concrete	

(Schaffer 1966: 116)

- *Hearing* captures the sound as an index and points to its external cause.

- *Listening 1* refers to the sound itself and captures it as a phenomenon remaining identical throughout the various meanings one can assign to it, and the various impressions one can have of it.

- *Listening 2* refers to the qualities of the sound and the selection of some of its aspects: duration, intensity, pitch, timbre, grain…

- *Understanding* refers to the sound as a sign within a preexisting system of significations: musical, linguistic, social…

These four modes of listening are neither exclusive of each other, nor are they always performed in the same order. They all are performed within "listening cycles", practices, or habits, depending on the general context of perception, including the environment, the source, the listener, and the scope of perception. The criteria for a good soundscape, i.e. "meaningfulness and promoting active listening and sonic delight" (Truax 1998), can be thus formulated as a set of characteristics of the environment, allowing the performance of a balanced cycle of the four activities of listening.

Meaningfulness relates to sections1 and 4 of the table, *Hearing* and *Understanding*. *Hearing*: the sounds in such a soundscape can be linked to plausible or acceptable causes and inform the listener about the various presences within this environment. *Understanding*: the sounds considered as signs, are linked to one or more semiotic systems and can be decoded as components of articulated sequences, and/or assembled into sequences allowing both memorization and anticipation.

Active listening and sonic delight relate to sections 2 and 3 of the table, *Listening 1* and *Listening 2*. *Listening 1*: the reception is such that each sound perceived in this environment has an identity; can be detached from a global background and seized as an element of a complex organization. The reception provides pertinent information on the spatial layout of the sound sources ("Hi-Fi"). *Listening 2*: because of the clarity of the reception, qualities of the sound can be perceived, analyzed, and compared. Sound acquires an identity through modulations and variations and can be understood as the result of interactions occurring in the environment.

It is possible to derive from this description of the activity of listening, the various dysfunctions of listening in degraded soundscapes by identifying the mode(s) affected by the situation. *Schizophonia* for example affects primarily the first mode by depriving the perception of a sound's source.

As part of the necessary educational strategy towards "ear cleaning" the use of such a description of the activities of listening is also crucial for exploring and understanding the conditionings of various types of listeners, and for developing fruitful exchanges on the perception of sounds and their effects – beyond the traditional boundary set between objectivity and subjectivity and separating irremediably "What I hear" from "What you hear". Part of the educational strategy implied by "ear-mindedness" is the full and clear recognition of subjectivity in the activity of listening and the qualification of listening in various contexts. This awareness of personal strategies to listening is the necessary condition for developing an ecological approach to the sonic environment.

Elements for Morphology and Typology of Sound Objects

Within the framework of the search for a music that would be as "general as possible" (Schaeffer 1966) emerges the necessity for establishing a typo-morphology, i.e. identification, classification and description of the possible musical materials, the sound objects. R. Murray Schafer, while acknowledging the important contribution of the typo-morphology elaborated by Pierre Schaeffer, points to two of its mains defects: the first one is the difficulty to use such a complex system in field studies; the second one is the restriction of such a system to only discrete sound objects. Eventually, only two criteria borrowed from Schaeffer's typo-morphology are incorporated by R. Murray Schafer for use in acoustic ecology: *mass* (occupation of the field of frequencies) and *grain* (presence of continuous micro-variations of intensity or frequency that affect the surface of

the sound). These two criteria are very pertinent to the description of soundscape because they instantly relate to already established concepts, such as "broadband noise" and the material signature of sounds used by Schafer to establish his morphology of sounds. But they have to be complemented by a third one: *Gait*. Gait and Grain are presented together by Pierre Schaeffer in the chapter entitled *Solfège de l'entretien* (Schaeffer 1966: 547–60). There they appear to be more pertinent to the scopes of Acoustic Ecology because of their immediate and intimate connection to the inner dynamic of sounds and their links to their *facture or origin*:

> …We preferred dedicating a whole particular chapter for the study of the gait and the grain, considering that the criteria of mass and dynamic profile refer to the *abstract* side of the sound object, i.e. its effects; however, the criteria of gait and grain represent perceptions that reveal the *concrete* side of the objects by linking tightly to the energetic history that in turn narrates the genesis of each instant of the sound. (Schaeffer 1966: 548)

The *gait* of a sound, defined by Schaeffer as the way the sound evolves through time in pitch, intensity, or spectrum, carries the signature of the sound's origin, and of the mode of being, of the agent conveying the sound's energy: natural (irregular variations), living (oblique variations), or mechanical (regular variations). The *grain*, associated with the perception of the sound's surface, can be divided into three main types relating to the three different types of the sound's energy articulation: sustained, impulse, iterated.

Because of the very concrete dimension of these two criteria, references to actual or plausible causalities spontaneously arise, opening the description of the sound object to images, gestures, and words, and therefore projecting this static description in a dynamic field of evolution and chains of interactions. It is the structural side of the object that is revealed and described by these two criteria and therefore its possible interactions and connections with other sounds and its possible compositions with the environment.

Phonography and *Schizophonia*

In the two disciplines of Acoustic Ecology and "Musique Concrète" *Phonography* plays different roles and points to strong divergences, especially when it comes to assess the musical dimensions of recordings.

In Acoustic Ecology, *phonography* is primarily a way to extract acoustic elements out of their original spatio-temporal context for purposes of documenting, witnessing, or analyzing. The recording is maintained in close connection with the original context by a set of extra-sonic descriptions, such as date, time, and location of the recording, pictures, maps, and a list of the sonic agents present during the recording. This *meta-phonography* allows a reconstruction of the original context, able to support a listening as close as possible to the original one and as far away as possible from a *schizophonic* situation.

The use of *phonography* in "Musique Concrète" is primarily *acousmatic*. *Schizophonia* is assumed to be the very condition allowing the emergence of the Sound Object as a musical component. Thus *Phonography* which is considered to be a *schizophonic* activity, is the necessary foundation for Musique Concrète.

In fact music in general (and any other artistic expression) should be considered as a schismatic and technological activity: any musical instrument should be considered as phonographic and *schizophonic* because of its capacity to record, to fix together, and to make available, in any spatio-temporal environment, a gesture and the acoustical result of this gesture. Musical composition itself relies on a writing of the sounds based on a process of selection, extraction and abstraction of their qualities that constitutes the original schizophonia of Music.

Only the actualization of the composition, or its return to the environment by means of its performance, can constitute a possible remediation to the original *schizophonia* under certain circumstances, implying the necessity to redefine the roles of the audience, the composer, and of the performance.

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