
Notes On Music Ecology: As A New Research Paradigm

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I.

Today, many things indicate that we are going through a transitional period when it seems that something is on the way out and something else is painfully being born. It is as if something were crumbling, decaying and exhausting itself, while something else, still indistinct, were arising from the rubble. . . We are in a phase when one age is succeeding another, when everything is possible. (Havel: 1994)

These words from a 1994 speech by Vaclav Havel point to the collapse of existing value systems, the plurality of cultures, and the turmoil of social changes as signs of the end of modernity and the birth of a new era in human history. This time is commonly known as the epoch of post modernism, a time for questioning presumptions, revising axiologies, exploding borders, and transforming every truth into a "truth." The almost universal acceptance of the postmodern paradigm in humanistic studies, including musicology, reveals the deeply felt necessity for re-examining the fundamental issues of value, meaning and context.

Postmodern world is one in which a grand unified theory of existence cannot be proposed; often, it is characterized by fragmentation, non-linearity and heterogeneity (Lyotard: 1979, cf. also Docherty : 1993). Similarly, postmodern music is a world of musics, an incoherent universe of musical styles and cultures whose only link is their simultaneous existence on the same small planet. In the field of contemporary concert music, the postmodern is often associated with the use of quotation, ironic inverted comas, and a self-conscious juxtaposition of styles. However, postmodern musicology abandons this field of "modernist" music altogether, for the sake of cultural critique of traditional "canonic" art musics and contemporary pop, rock, and world musics. References to new literary theory, psychoanalysis, deconstruction and feminist theory abound. Kristeva, Lacan, Bakhtin and Adorno all have their devotees: contextualising music is the battle-cry for the New or Critical Musicology. Scholars rush to cross the boundaries of interdisciplinary and explore new methodologies. Among the disciplines invoked in such border-crossings, privileged positions are occupied by sociology, literary theory, and semiotics. Here, music is a part of the complex manifold of socially grounded sign systems and texts. These approaches have an enormous value in seeking to fill in the lacunae in the earlier paradigm of music as an autonomous art. The traditional belief that music dwells in a unique world of totally original, fully self standing, and complete-in-themselves musical artifacts continues to influence ways of dealing with this art. With its roots in the complex notion of *absolute music*, embracing the romantic idealization of music as the most immaterial of all arts, the thesis of musical autonomy has been both extremely appealing and problematic (Dahlhaus: 1978/1989).

What the postmodern, "critical" approaches often miss is the vital connection of music to its sound material; what they often ignore is the sonorous presence of music in the world that makes music a part of the human environment. The physicality of the musical sound, the spatiality of musical performances are bypassed on the way to signification. When postmodern scholars, such as Susan McClary, invoke music's bodily presence in performance, their attention shifts immediately to the body, its gender, its theatricality (see especially the

study of Laurie Anderson in McClary 1991). The sonorous is left behind.

The new ecological approach to music study that I propose under the rubric of *music ecology* or *eco-musicology* (appropriate even if awkward) attempts to contextualize music as sound and relate musical sound-material to other sonic realities, both natural -- of the non-human organic and in-organic worlds --and technologically created. This approach highlights the sensory aspects of music-making: tactile textures, spatial dimensions, and timbral riches that, due to their diversity and abundance, evade unifying tendencies of theory-making. It also brings in a renewed emphasis on the links between nature and culture, seen not as opposites, but as permeating one another in a mutual relationship. I will return to the definitions of the field and methods of eco-musicology after outlining a conceptual basis for this proposed undertaking.

II

Let me start with the issue of the cultural significance of the placement of human subjects within their natural/cultural environments. According to the new cultural movement of *deep ecology*, the total sphere of human life experience encompasses the awareness of, and solidarity with, the whole living universe. In the speech quoted at the beginning of this paper, Vaclav Havel described our times as the birth of an era of global awareness, of human unity with all Life. The writer pointed out the importance of the Gaia hypothesis (Lovelock:1979) which implies treating the whole Earth as one meta organism of symbiotic life-forms, an organism that may destroy what threatens it (i.e. it may dispense with humans). To counter this image of human insignificance, Havel invoked a second principle, the Anthropoc Cosmological Principle locating human beings at the centre of all Universe, as the goal of cosmic evolution, stating that "from the countless possible courses of its evolution, the universe took the only one that enabled life to emerge" (Havel:113). Both principles together remind us, concluded Havel, that "the only real hope of people today is . . . a renewal of our certainty that we are rooted in the earth and, at the same time, in the cosmos."

Since the Cartesian revolution, human identity was linked to inwardness and self reflection, separated from the world outside and rooted in the transcendent world of pure spirituality, the world of the divine (Taylor: 1989). The late 20th century has seen various alternatives to this vision. In Pierre Teilhard de Chardin's philosophy of Christian evolutionism, the isolation of the Cartesian Self has been subsumed by a grand vision of the *noosphere* superposed on the biosphere of our planet and consisting of all thinking beings and the sum total of their relationships (Teilhard de Chardin 1959). Teilhard's noosphere is still involved in the process of *noogenesis* and convergence, evolving towards the final point at the end of time: the Omega point of evolution. While treating individual human minds as mere sparks in the cosmic incandescence of the Divine Mind, Teilhard de Chardin pointed the way towards intuiting the totality of life, the close connectedness of all human beings - a junction made possible by their copresence on the same planet. For the French Jesuit, however, humans are separated from non-humans by their capacity for thought and only the human evolution has a telos, a final end-point of union with Divinity.

In contrast, ecophilosophers, such as the Norwegian Arne Naess, focus on the diversity, corporeality and transience of human life, treating humans as yet another life form, a species of animals, thinking apes, not the stewards of all creation (Naess:1973, 1989). Naess's ecophilosophy seeks to clarify the place of our species within nature. If *ecolo* means "the interdisciplinary scientific study of the living conditions of organisms in interaction with each other and with the surroundings, organic as well as inorganic" (Naess, 36), *ecophilosophy* is a field of study bringing ecology and philosophy together, while *ecasophy* is a personal application of this field and ideas used "to approach practical situations involving ourselves."

The perspective of *ecophilosophy* or *deep ecology* is opposed to the traditional "man-in-the-environment" image upheld by humanists and Christians alike. The new paradigm involves "the relational, total-field image" emphasizing the vitality of connections between people and the surrounding world. Naess sees all organisms, including, humans, as "knots in the field of intrinsic relations" (p. 28), relations which change the objects involved and are essential to them. The principles of deep ecology point out that the flourishing of human and non-human life on Earth has intrinsic value and that richness and diversity of life-forms are values in themselves. In political terms, ecophilosophy provides a conceptual basis for the deep ecology movement, the purpose for which is not a slight reform of the present society, but a "*substantial reorientation of our whole civilization*" (p. 45). The reorientation changes the direction away from seeking a high standard of living (associated with consumerism and waste) towards a global enrichment of the quality of human life found in Self-realization through the close contact with other humans and with the non-human ecosphere (the quality of life is non definable and non-quantifiable).

In a direct opposition to Rene Descartes's *cogito ergo sum*, Naess posits that the identity of the individual, "that I am something" is developed through interaction with a broad manifold, organic and inorganic. The Norwegian philosopher maintains that "to distance oneself from nature and the 'natural' is to distance oneself from a part of that which the 'I' is built up of" (p. 164). Thus, the polar opposition of nature and culture is entirely false. The ecophilosophical stance strongly objects to its source, that is the positivistic-scientific world view. Naess questions one of the basic premises of science, that of the existence of things in themselves which possess primary, measurable qualities (e.g. size, shape, movement). The scientific world view empties Nature of sensory content, delegating the secondary qualities of colour, warmth, etc. to the perceiving subject. As Naess writes, for the scientist, "real nature is something infinitely different from what humankind immediately experiences and appreciates" (p. 51). Through this viewpoint, "*human reality is served from nature proper.*" All prestige belongs to the core of reality which is real, measurable and scientific" (p. 53). Yet, simultaneously, nature is interpreted as "both slave and raw material" (p. 191).

Instead of this reification leading to abuse, Naess proposes an affirmation of Nature that humans are a part of his ecophilosophy claims that "organisms and milieux are not two things . . . organisms presuppose milieux" (p. 56). Similarly, a person is a part of nature to the extent that he or she too is a relational junction within the total field. All beings, not just humans, have a right to self-realization (i.e. its potential) and all are valuable in themselves. In the philosopher's words, "the conceptual bridge from Self-realization to a positive evaluation of diversity, complexity, and symbiosis, is furnished by a concept of Self-realization potentials, and the idea that the overall self - realisation in our world is increased by the realization of such potentials" (p. 200).

In order to overcome the traditional separation of the objective from the subjective, Naess draws from Protagorean "both/and" theory of perception, affirming the value of tertiary qualities, that is complex *gestalt* features of the world (p. 52). The world in itself has all the properties which are perceived by each individual in the relational field--"the totality of our interrelated experience" (p. 55). The secondary and tertiary qualities of which the relational field consists of are the only elements of existence. The primary, measurable qualities of matter are mathematical-physical, ideal, abstract relations (e.g. Length, curvature, wave, etc.); in Naess's words "the geometry of the world is not in the world" (p. 57). In the *both-and* theory there are no completely separable objects. Moreover, to further strengthen the junction of the inner with the outer, Naess posits the existence of apperceptive *gestalts* which "*bind the I and the not-I together in a whole*" (p. 60). Gestalt formation "crosses boundaries between what is conventionally classed as thinking as separated from emotion" (p. 63). The elevated role of phenomenological insights and gestalt psychology in ecophilosophy has a

bearing for its usefulness in the ecological study of music, as it will be shown later.

Thus, to sum up the main points, deep ecology implies (1) a holistic approach to the environment from which human beings cannot be isolated and separated. The awareness of the profound unity of all Life calls for a change in lifestyle, with the focus on (2) the quality of experience and Self-realization, not on increasing wealth and consumption as measures of personal and social well-being. The oneness of Life requires (3) the diversity, complexity and symbiosis of various life-forms, including humans. Symbiosis means "interdependence for the benefit of all" (p. 168); it "knits a bond between complexity and diversity" (p. 201). In ecophilosophy, "life is viewed as a kind of vast whole. . . the variety of forms of life, with their different capacities, realise, that is, bring into actuality, something which adds to that whole" (p. 200).

III.

How does ecophilosophy relate to music? What consequences for the study and practice of the sonic art can be derived from such a radical, all-encompassing world view? Naess's philosophical reflections contain many threads that may inspire musicological reflection. Since this borrowing should be acknowledged I propose to use two labels interchangeably--music *ecology*, and *eco-musicology*, the latter mirroring Naess's neologism. Both expressions contain three conceptual particles: *eco* from the Greek *oikos*, i.e. *household, community*, (as in ecology and economy), music and *logos*, (i.e. *word*). In accordance with its tripartite title, the ecological approach to music research takes into account the musical life of our home planet, in its diversity, complexity and symbiosis. If defined so broadly, eco-musicology would encompass all music in theory and practice, and lose its focus in the process. A more precise definition describes this domain as the study of music in its environments--including cultural environments, since nature is not opposed to culture-- with a particular emphasis on the aural experiences acquired in natural-and-cultural sonic habitats, rural and urban soundscapes.

In its most general sense, the triple ecological principle (diversity, complexity and symbiosis) may relate music to the totality of other human and non-human acoustic environments. While uncovering the relationship of music to various manifestations of Life, eco-musicology may draw from fields relevant to a particular topic, e.g. phenomenology and hermeneutics, studies of auditory perception (Bregman:1990), ornithology, anthropology, etc. A particular attention is given to music created explicitly with some "environmental" or "ecological" purpose or context, e.g. works by R. Murray Schafer, Pauline Oliveros, Hildegard Westerkamp, Francois-Bernard Mache and many others. However, discovering connections between individual compositions and distinct styles and their nature-cultural environments, might take place without any overt references to the existence of such relationships made by the composers and performers.

Since much ecomusicological attention is spent on "extramusical" factors; a question arises: "is it a mimetic theory of art in a new guise?" Yes and no. Yes, for in ecomusicological approach, the value of music is situated not in its portrayal of the nature's effect on the emotions of a detached subject (e.g. the Romantic experience of nature since Beethoven's *Pastoral Symphony*) but in the following of nature's mode of action--as defined by St. Thomas Aquinas in his famous *Ars imitatur naturam* (e.g. structural applications of the proportions of the golden section and of formal patterns borrowed from birdsong, or the use of chaos theory in computer music). Simultaneously, the answer to the charge of "mimetic character" of eco-musicology is "No," because in this approach the opposition between nature and culture is highly dubious. The human environment is taken broadly and includes all human activity, all the musical past, all human and non-human soundscapes preceding the creation of a given

performance, a given work of art.

Music ecology focuses on the music's connection to our planet's life, by recognizing mimetic imitations of elements of natural soundscapes in music, and by tracing inspirations with environmental processes and phenomena. Thus, it studies ecological or environmental music, but is not limited to the focus on the music's content or context and may be applied to various musical styles and works. This approach eschews the fixation on the abstract (primacy of pitch) and the obsession with structural coherence of musical artifacts (individual works). The performative and perceptual aspects of music-making are taken into consideration in an account that seeks to transcend the limitations of music notation. The focus on the perceptual primacy of what Naess calls *tertiary qualities* implies a change of perspective, from an almost exclusive concern with the primary element of pitch abstractions, to the complex, interrelated aspects of music in its sonorous manifestation. These three basic areas of music ecology discussed so far are summarized in Table 1.

TABLE 1: MAIN PRINCIPLES OF MUSIC ECOLOGY

1. Emphasis on holistic perception and the sonoristic approach to music study (music as sound; application of principles of Auditory Scene Analysis);
 2. Applications of the triple ecological principle of diversity, complexity, symbiosis;
 3. Focus on relationships between music and environment:
 - in performance
 - in compositional design
 - in representation
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Ecomusicological approach highlights differences between musical styles relating to their modes of performance and primary acoustic environments. For instance, the difference between an enormous dynamic range of the symphony orchestra, spanning the entire spectrum from ppppp to fffff, and the flat dynamic envelope of uniformly loud rock music reflects the contrast between the total silence of the ideal concert hall which excludes all elements of external soundscapes, and the noisiness of modern dwellings in bustling cities permeated with a constant layer of traffic noise which masks all sonic subtlety. Recall the frustration of listening to a symphony in a car--the moving sound dome of urban culture--where the music constantly falls below the threshold of audibility. Or, to use another example of the coupling of music with its acoustic environment, imagine a performance of a Palestrina's Mass in an outdoor theatre, amidst cries of ice cream vendors and gusts of winds, without reverberation. You will really have to stretch your sonic imagination to appreciate this music under such inappropriate conditions. Marching brass bands, on the other hand, work outdoors very well.

Music ecology, if practiced earnestly, might lead to a discovery of relationships between outdoor soundscapes, and musical genres and styles. In the words of R. Murray Schafer, "music moves into concert halls when it can no longer be effectively heard out of doors. There, behind padded walls, concentrated listening becomes possible. That is to say, the string quartet and urban pandemonium are historically contemporaneous." (Schafer 1977). The emphasis on the total acoustic image of a musical work implies a consideration of performance settings, types of sound sources, and compositional designs, that is patterns of spatial placements of musicians and audiences (cf. Harley: 1994a).

IV.

In one particular sense, the principles of diversity, complexity and symbiosis may govern the

relationships between various musical-cultures, and--within one culture--the coexistence of distinct genres and styles. Eco-musicology, then, may mean the study focused on music in the world, not in a sociological sense, as the music's involvement in societal ideologies, activities, organizations, but in a general "ecological" sense, centered on the music's immersion in the acoustic world around us. Instead of pursuing what Harold Bloom (Bloom 1994) calls "the triple question of the agon--more than, less than, equal to?" in reference to the individual musical works, ecomusicological approach may center on the symbiosis and competition between different transnational styles and cultures (i.e. classical music, jazz, rock, pop) proliferating through development of technological environments (recording, broadcast, computer networks). How would this approach differ from ethno-musicology?

Eco-musicology seeks to emphasize the dependence of musical creativity on the auditory environments existing in the sites of particular cultures. This relationship is easily noticeable in cultures of low level of technological development, where people spend much time outdoors, listening and singing under an open sky. One example of such a culture is that of the Kaluli people of the rainforest in Papua New Guinea--studied by Steven Feld (Feld: 1982, 1994). What raised the Kaluli to international stardom amongst the environmentalists, critical musicologists, and cognitive psychologists, to mention just three groups of their fans, was their close association with the endangered habitat of the rainforest and the relationship between the natural soundscapes and forms of their cultural expression, including song and the creation of such unique notions as "flow" and "lift-up-over-sounding" in their musical language.

The question arises, though, whether the Kaluli involvement in acoustic environment is unique; whether this culture is too primitive to have any significance for the study of music as art? The answer should be negative if there were other cases of such direct involvement of people with their environment, and if one could describe with certainty the metamorphosis of music under the conditions of changing environment. An interesting case is provided by the inhabitants of northern area of Lapland which spans northern Norway, Sweden and Finland around the Arctic Circle (Edstrom). The song of the nomadic Sami people, called the *Yoyk* or *joik* originated outdoors, in solitude with nature while tending herds of reindeer. As Edstrom writes, "the joiks are directed to different phenomena in nature: to mountains, fairies, animals, insects, and, not the least, to people themselves." In joiks, the singer expressed his/her understanding of the world, of different people, animal species, land geography, and so forth. The melody of "bird" joiks was derived directly from the birdsong. These songs were sung with tight larynx, in a timbre suitable to be heard against the wind. Edstrom cites early derogatory descriptions of this music which, according to one account "sounds like dogs howling" (Edstrom p. 13). Despite the southerners dislike of Sami's music, their description confirmed persistence of an unusual vocal technique used to sing the joiks with "restricted pitch, stretched vocal chords, closed throat and often with the mouth barely open" (p. 13). However, after profound social changes, and the abandonment of the nomadic life-style by the prevailing part of the population, the Sami's unique vocal technique has all but disappeared. In various examples of cross-over musics (mixing joiks with pop, rock, symphonic styles of accompaniment), only pitch contours of the folksong remained, rendering the music almost unrecognizable. The sonorous image of music created outdoors, in the acoustic coupling with the environment, was not preserved in later, eclectic recordings. The music evolved because of the transformation of the acoustic environment caused by social factors: change of work patterns, settling down in permanent communities where people's homes are filled with objects, including stereos and recordings of the Western (sometimes country-and-western) musics.

V.

The research of Feld and Edstrom, which might be considered as exemplification's of eco-musicology, belongs in the domain of cultural anthropology or ethnomusicology. Indeed, the two *e-musicologies* have several points in common. For instance, an ethnomusicological textbook begins with the following claims: "Like all of expressive culture, music is a peculiarly human adaptation to life on planet earth.... Each music culture is a particular adaptation to particular circumstances" (Slobin and Tilton 1992). Ethnomusicology studies music in culture or music as culture. Music ecology is narrower, in that it focuses on the acoustic phenomena of sound and its existence, production, interaction in culture; it also highlights the music's symbolic and cognitive connection to the environment. Eco-musicology maintains that in music, *globalization* should not mean *conquest* leading to the eradication of local traditions. Thus, two premises of eco-musicology are interconnected: (a) the end of the hegemony of Western art music in cultural discourse, (b) the tolerance and openness to various forms of musical life, including those traditionally studied by ethnomusicology, music theory, and historical musicology.

Here, we find ourselves on the postmodern ground: the relativisation and contextualisation of values, the fragmentation of the one art of music into various synchronous and asynchronous musics, the plurality and diversity of cultures. The difference is in the ecomusicological emphasis on the sonorous, in the attention to features of music as performed and heard, not written down and talked about. A similarity between eco- and ethno-approaches stems from the triple ecological principle of diversity, complexity, symbiosis. If these are main values informing the co-existence of the world's musical cultures, any attempt at cultural hegemony, such as the one undertaken by the Western music industry flooding the globe with sounds and images manufactured in one country (Michael Jackson, Madonna), should be greeted with profound suspicion. There is no room for diversity and symbiosis in a situation of such transnational cultural dominance. Eco-musicology values pluralism of cultural expressions, just as ecophilosophy upheld the right of all species to a full realization of their potential. Similarly, ethnomusicologists would want to be very sensitive to such issues of colonial hegemony and defend the right of indigenous and endangered small cultures to exist and flourish.

VI.

Westerners' delight in discovering the musical cultures of the gentle children of Nature living in a symbiotic relationship with their environment of a rainforest or a northern tundra, might be seen as a realization of the Romantic postulates of Jean-Jacques Rousseau to return to Nature and scorn the damaging influence of civilization. There is, indeed, more than a trace of such Nature worship in the mystique of the rainforest, portrayed as a present-day paradise which is threatened with destruction. Some environmentalist deplore all traces of human presence in or interaction with nature, and value only the "pure unspoiled beauty" of non-human life. The music of the tribes and nations living in close relationship with their environment is often considered valuable because of this relationship, not because of any particularly intrinsic "musical" features. For instance, R. Murray Schafer thus describes the experience of performing on a "natural" instrument, made of a reed, wood or animal skin (Schafer: 1993). If you think of a musical instrument as something which came from nature and is still part of nature and still feels itself part of nature, every time you perform on it, you are indulging in a very wistful, very romantic ideal of bringing nature back to life. I don't think the same thing exists with plastic instruments or electronic instruments. There's a very big difference between an Indian who beats a drum, and the drum is made from the skin of an animal that he has killed, and the animal is his totem. he plays that drum and its voice is the voice of the animal that speaks to him as he plays.

It is more difficult to establish the connection between the soundscape and the music of Western art tradition. Here, thousands of years of isolation of music from the external

soundscape resulted in creating a self-referential domain of music relating only and solely to other musics, a domain with sharp distinctions between what is musical and non-musical. Primarily, to put it simply, pitch is musical, while non-pitched, percussive timbres are admitted into the domain of music only tentatively, as ornaments not as essential elements of sound material. A clear-cut division between the musical and unmusical appears, for instance, in various theories of musical space, the space of tones projected in time, the virtual space distinguished from the auditory space of everyday noises surrounding the listeners in their physical environment (Harley: 1994a). In the Western tradition, music is thought of as much more than sounds; it is the abstract structure superimposed on and mediated through sonorous sequences that makes these sounds worthy of our attention. Music is--as it were--not heard, but imagined. Challenges to this conceptual tradition came from various directions: the futurists and the discovery of "the musical" in noise, the impressionists and the discovery of "the musical" beyond the sense allowed this word in a narrow European art music tradition.

Varese's use of percussion, Cowell's *New Music Resources*, Cage's play with the radios, *musiq'e concrete*, electronic instruments and experiments, the loudspeaker revolution --all these occurrences influenced a change in the understanding of the limits of "music." It is impossible even to list the main stages of this evolution in one brief paper. What needs to be pointed out, however, is the fact that the widening of the area of "musical" sounds happened simultaneously with the recovery of the mimetic principle by composers, or, rather, with the shift away from the romantic emotive response to nature towards the use of "natural" models and laws as structural frameworks for the music's construction. This idea preoccupies Francois-Bernard Mache's (Mache: 1983/1992).

The composer finds, for instance, many analogies between birdsong and human music. He describes various instances of the birds' musical creativity and seeks to prove that it is "somewhat ill-founded to continue to define the cultural domain in radical opposition to the natural" (p. 157). Animals are not machines, for they display invention; moreover, neither human nor animalian music can be defined as a system of communication. According to Mache, the polarity of mind and body and the polarity of nature and culture are equally useless (p. 166). All living beings are a part of nature, all are affected by climate and environment: "man and animal reveal the acoustic influence of the world in which they live" (p. 151). Music should be--here, the composer's voice changes from descriptive to prescriptive--based on auditory models borrowed from the environment, it should recover its sensory contact with the world. For Mache, music is a tool of knowledge "the tool of apprehension, of comprehension, even, of the world, at the same time as of pleasure"(p. 169).

VII.

Francois-Bernard Mache was neither the first, nor the only composer preoccupied with exploding the borders between music and the "external world" of Nature. Mache himself quotes the importance of Czech language for Leos Janacek, chaotic crowd sounds for Iannis Xenakis, birdsong for Olivier Messiaen, sounds of the night for Bela Bartok (Harley: 1994b, 1995). The latter composer's interest in Nature as a creative force is particularly interesting in this context: Bartok's music seems to have been modelled structurally on natural laws and phenomena, such as the Golden Section, approximated by the Fibonacci series. For Bartok, these natural phenomena include folk music of the peasants who live a life coordinated with and ruled by Nature. Among living composers, whose musical activities involve a return to the Earth, and to the small communities living in close proximity and interaction with their environments, Peter Maxwell Davies, now settled at one of the Orkney Islands, pursues an expressive ideal of environmental or eco-oriented music, bringing the sound world of the sea into the concert hall (Matthews: 1992). His undertaking, much like the music of Frederic

Delius, results in a new series of representations of natural sounds and soundscapes with symphonic means.

Music ecology transcends the domain of "ecological music" for it purports to study music beyond the notes, the music of the total perceptual experience. Here, the psychoacoustic bent is strongly felt because of the focus on sonority (the types of sounds, their similarity to other existing sounds, the types of procedures for sound transformation, organization, creation of meaning). A fully-articulated theory of music—in-its-sounding-form is yet to be developed. Here, the methodology of auditory scene analysis developed by Albert Bregman seems to offer a particularly fruitful direction for future research. The focus should remain on the audible, not visible, reality of music which lives in sound.

In the 19th century, the philosophy of nature presupposed a deep, unbreachable chasm between the thinking subject and the external natural world. According to Charles Taylor (Taylor: 1989), the romantic orientation to nature is concerned "with the sentiments which nature awakens in us" (p. 297); for the romantic "nature is like a great keyboard on which our highest sentiments are played out." As Taylor writes, "in our civilisation, moulded by expressivist conceptions, art has come to take a central place in our spiritual life, in some respect replacing religion" (p. 376). Art, located on "the border of the numinous" was awarded a crucial place of creating expression in human life, crucial, because "expressive individuation has become one of the cornerstones of modern culture" (p. 376). The 20th century saw all dreams shattered, all identities fragmented. In music, the conceptual reformulations reached the zero-level of total absence of created sound, total presence of environmental sound in works by John Cage. The postmodern plurality of styles became obligatory at a time when composers, to quote Francois-Bernard Mache, willingly rushed "towards the encyclopedias, exhaustive catalogues, retrospectives, exhumations" because they no longer believed in the music's future (Mache: 178). While avoiding that ecological or environmental music sought the utopia of a pure unspoiled nature in (1) the portrayals or quotations of environmental sounds, (2) the use of acoustic instruments in live performance, (3) the transference of music into outdoor environments (performance in total unity with the Earth).

This is a new dream, arising at a time of technological overkill, of overabundance of noise, artificiality of synthetic and amplified sounds. While ecological music pursues such dreams of primal wholeness, music ecology seeks to articulate the ties between nature and culture; it attempts to recover the correspondence between natural phenomena and human affairs. The modern and romantic separation of nature from culture is a dangerous illusion; if culture is for humans here and now and nature there and then, there is a need to recover this lost unity, a possibility of return to a closeness with the trees--through, say, travel to the rainforest. In contrast, ecophilosophy claims that nature is always mediated through culture and that envisioning cultures without their natural components impoverishes the breadth of human experience. Life on Earth is a series of networks of interrelationships; the existence of pure, unspoiled beauty of exclusively "natural" worlds and of completely autonomous and artificial human cultures are equally dubious.

With its emphasis on interrelationship between the sonorities of music and of the environment, eco-musicology eschews the separation between human and non-human environments. After all, music in performance is an element of soundscape, a vital sonic bubble surrounding various cultures with an unmistakable layer of sound. Schafer defines soundscape as "a field of interactions" (Schafer: 1977, 131). At the centre of this field is located a living, hearing human being who defines his or her auditory space and environment through decisions and acts of directed attention, of sound production or perception. The flourishing of this individual human self is mediated through connectedness, in a growing

awareness of the relational field of existence embracing all forms of life.

NOTE:

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REFERENCES

- Bloom, Harold. 1994. *The Western Canon*, Harcourt Brace and Co., New York.
- Bregman, Albert S. 1990. *Auditory scene analysis: The perceptual organization of sound*. Cambridge, Mass.: Bradford Books, MIT Press.
- Dahlhaus, Carl. 1978/1989. *The idea of absolute music*. Transl. from the German by Roger Lustig. Chicago and London: The University of Chicago Press, 1989. *Die Idee der absoluten Musik*. Kassel: Barenreiter Verlag, 1978}.
- Docherty, Thomas, ed. 1993. *Postmodernism: A Reader*. New York: Columbia University Press.
- Edstrom, Olle. 1995. "Yoyking Sami in the Wilderness and Dancing Magyars in the Cityscape-- Ethos and Ethnos in Swedish music." Public Lecture, McGill University, 22 March 1995.
- _____. n.d. "The Joik and the Sami," Notes for LP record *Joik--Vlolle--Llohti* Issued by Aitte--Saamish Museum Jokkmol Sweden, n.d.
- Feld, Steven. 1982. *Sound and sentiment. Birds, weeping, poetics and song in Kalli* expression. Philadelphia: University of Pennsylvania Press.
- _____. 1994. "From ethnomusicology to echo-muse-ecology: Reading R. Murray Schafer in the Papua New Guinea Rainforest" *The Soundscape Newsletter* no. 8, June 1994, 4-6.
- Harley, Maria Anna. 1994a. *Space and Spatialization in Contemporary Music: History and Analysis, Ideas and Implementations*, Ph. D. Dissertation, McGill University.
- _____. 1994b. "Birds in concert: North-American birdsong in Bartok's Piano Concerto No. 3" *Tempo* no. 189 (June 1994) 8-16.
- _____. 1995. "*Natura naturans, natura naturata and Bartok's nature music idiom*" forthcoming in *Studia Musicologica Academiae Scientiarum Hungaricae*.
- Havel Vaclav. 1994. "A time for transcendence. Speech of July 1994, Independence Hall, while receiving the Philadelphia Liberty Medal" in *Utne Reader* no. 67 (January February 1995): 53, 112-113 reprint, *New Age Journal*, September October 1994.
- Krause, Bernard L. 1993. "The Niche Hypothesis: a virtual symphony of animal sounds, the origins of musical expression and the health of habitats" *The Soundscape Newsletter* No. 6 (June 1993): 5-8.
- Lovelock, James. 1979. *Gaia: A new look on life on Earth*. Oxford University Press.
- Liotard, Jean-Francois. 1979. *La Condition postmoderne* (Paris: Minuit, 1979). Transl. by G.

Bennington and B. Massumi as *The postmodern condition: A report on knowledge* Manchester University Press, Manchester, 1984.

Mache, Francis-Bernard. 1992. *Music, myth and nature or the dolphins of Arion*. Transl. from the French by Susan Delaney. Switzerland: Harwood Academic Publishers. 1992. [orig. published in 1983.

Matthews, David. 1992. *Landscape into sound*. The Claridge Press, St. Albans. 1992.

McClary, Susan. 1991. *Feminine endings: Music, gender, and sexuality*. Minneapolis, University of Minnesota Press.

Naess, Arne. 1989.

Ecology, community and lifestyle. Outline of an ecosophy. Transl. and revised by David Rothenberg. Cambridge: Cambridge University Press orig. published in Norwegian in 1976.

Naess, Arne. 1973. "The shallow and the deep, long-range ecology movements." *Inquiry* vol. 16: 95- 100.

Schafer, R. Murray. 1977. *The Tuning of the World*. New York: Knopf.

1993. "Conversation with R. Murray Schafer" by Victor Flusser. Proceedings of the First International Conference on Acoustic Ecology, *The Tuning of the World*. The Banff Centre for the Arts, Banff, Alberta, 1993.

Slobin, Mark and Jeff Todd Titon. 1992. "Introduction" in J. T. Titon (ed). *Worlds of Music. An introduction to the music of the world's peoples*. New York: Schirmer Books, 2nd ed.

Taylor, Charles. 1989. *Sources of the self. the making of the modern identity*. Cambridge, Massachusetts: Harvard University Press.

Teilhard de Chardin, Pierre. *The phenomenon of man*. Transl. from the French by Bernard Wall, London: William Collins Sons & Co., 1959 11st. published as *Le phenomene humain*, Paris: Editions du Seuil}.

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Maria Anna Harley, born in Poland, studied musicology (M.A. 1986, University of Warsaw, Poland; Ph.D. 1994, McGill University, Montreal, Canada) and sound engineering (M.A. 1987, F. Chopin Academy of Music Warsaw, Poland). After earning her doctorate (with the dissertation on "Space and spatialization in contemporary music: History and analysis, ideas and implementations"), she received a SSHRC Post- doctoral Fellowship to study contemporary Polish music at McGill University, in association with the University of Warsaw (1994-1996). Since August 1996, she is the Director of the Polish Music Reference Center and an Assistant Professor of musicology at the School of Music University of Southern California, Los Angeles. As a musicologist specializing in 20th-century music, Dr. Harley is particularly interested in philosophical and perceptual aspects of music making, in the composers' concepts of nature and soundscape, the role of spatial sound in musical composition, as well as in the connection

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