

COMPOSING IN AN ECOSYSTEMIC PERSPECTIVE

live-electronics solo works (room-dependent)

instruments+live-electronics (room-dependent, gesture- or sound-dependent)

live sound installations

tape works (+room-dependent, dynamical sound diffusion)

sound as form (material, energy, and as information)
timbre, noise, gesture vs texture, depth, volume

rhythm - microtime structure, meso- und macro-

granular synthesis/processing, non-standard synthesis
with math models of chaotic dynamical systems

variable density textures, dusts of sound (Klangstaub),
sonic powders, silence (energy and information)
& other artifacts or epiphenomena (pitch?)

space (material, real not virtual, and informational,
generative, integral to the phenomenon of sound)

technology (responsibility, design, economy)

repository

scores

patches (Kyma and Pure Data)

papers

assignments? technical and/or compositional



sound is relational



**environment
body
technologies**

“the sound arriving at the ear is the analogue of the current state of the environment, because as it travels, it is charged by each interaction with the environment”

(Truax, Acoustic Communication)

“the presence of bodies lend dynamic to any acoustical play, contributing to the modulation of sound, its reflections and reverberation, its volume and intensity, and ultimately to what it may communicate”

(LaBelle, Background Noise)

**technologies not as “means of reproduction”,
but “means of production” (all *poiesis* involves *techne*)**



**art works are designed and materialized by inventing the techniques
necessary for their design and materialization to be pursued**

art is only made by inventing the techniques of its making

ecosystem

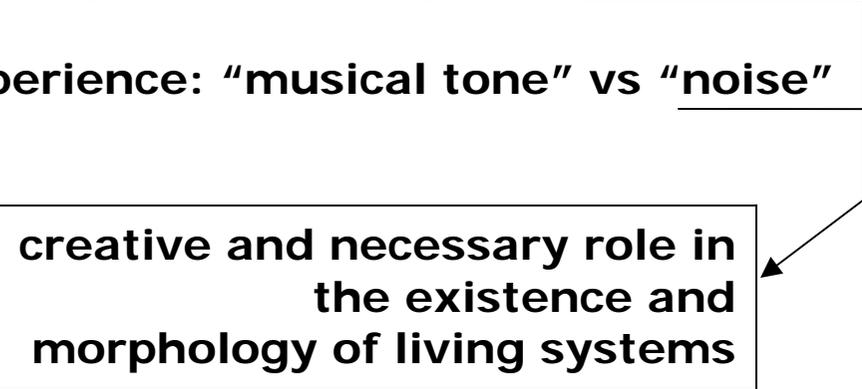
acoustic ecology?

value system

(harmful and thus wrong vs useful or beautiful and thus right)

paradigms: "harmony" vs "chaos"

experience: "musical tone" vs "noise"



**creative and necessary role in
the existence and
morphology of living systems**

studies in bioacoustics

(how sound and acoustical information is used by living systems in order to maintain their existence and to communicate)

ecosystem

soundscape?

mixed feelings:

...we have a tendency to confuse the map for the territory. These kinds of recordings are often put forth as some sort of preservation action, when there's actually nothing being preserved... when you're making a sound recording, you're not preserving anything except an illusion. It's a technological projection, a construction that is no more real than if I was to make a drawing of (the particular) location. It's a flattening out of the complexity of an acoustic environment. It's just sounds that... have been put onto a storage medium, so that we can later make a loudspeaker cone move in space. And I find it actually offensive when so much of this soundscape work makes these claims for environmental activism... In fact it often does the opposite... actually misdirects people away from the reality and imposes this contrivance as if it were real. That's the mixed feelings. (David Dunn, Music Language and Environment)

ecosystem

naturalism? metaphor?



constructivism! operation!

ecosystem → **sound art practices as practices embodying a “systemic”
notion of sound and of its human experience**



system theory (von Bertalanffy)

cybernetics (Wiener)

2nd-order cybernetics (von Foerster, Maturana)

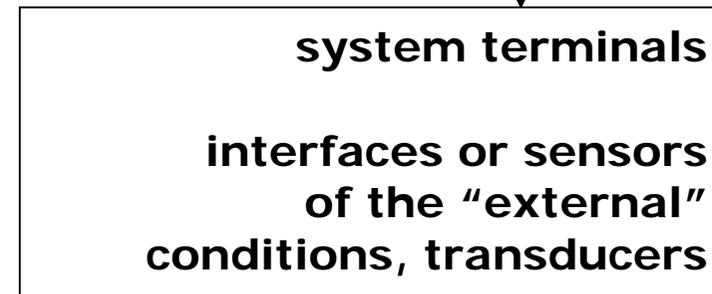
non-linear dynamic systems

current epistemologies of human sciences living, cognitive, social systems
(Varela, Morin)

ecosystem

a system and its oikos

a metasystem including the object and its structural coupling (= tight and loose connections) to the ambience (niche, or larger environment)



ecosystem design

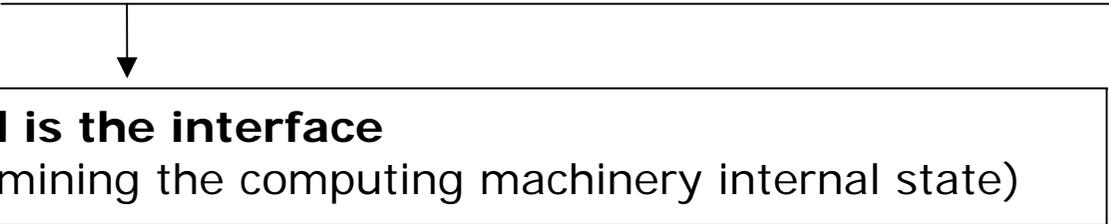
“darf im Zusammenhang mit Ökosystemen von ‘Entwerfen’ gesprochen werden?”

(Prominski, Ökosysteme entwerfen)

audible ecosystem design

all system components (as part of the environment, of the body, of the technological set-up) are connected to, affect, and are affected by all other components

in their being generators, processors, or channellers of sound



sound is the interface
(determining the computing machinery internal state)

space is the medium (ambience) of existence (omeostasis) and change (morphogenesis, omeoresis)

**of sound
of music**



**“space”
“timbre”**

form

composing

**putting things together
creating a sys-thema
acting by syn-these**

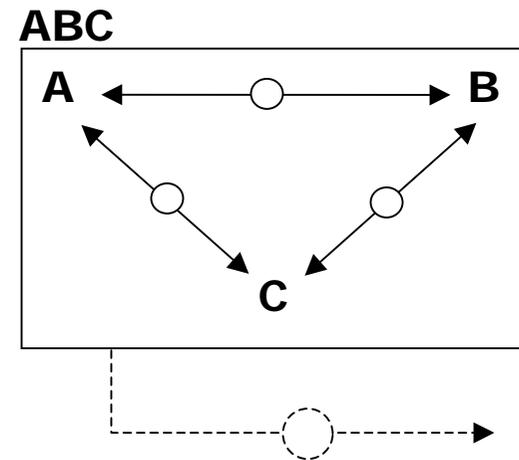
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designing, fostering, taking care of,...

**the web of multiple interactions among all factors contributing
to make sound come about and change in time**

=

**composing the interactions
(more than interactive composing...)**



ecosystem

a system and its oikos

composing

**putting things together
creating a sys-thema
acting by syn-these**

=

**composing the interactions
(more than interactive composing...)**

**sound not only as material, or energy, but as information
circulating among the system components and depending on
the "external conditions"**



**human action (interactive music)
sound sources (instruments, voices, or else)
space (room acoustics, surface materials, etc)
technologies (transducers, mixer, etc)
+ other concurrent sonic processes**

**internal to the
overall system
dynamics**

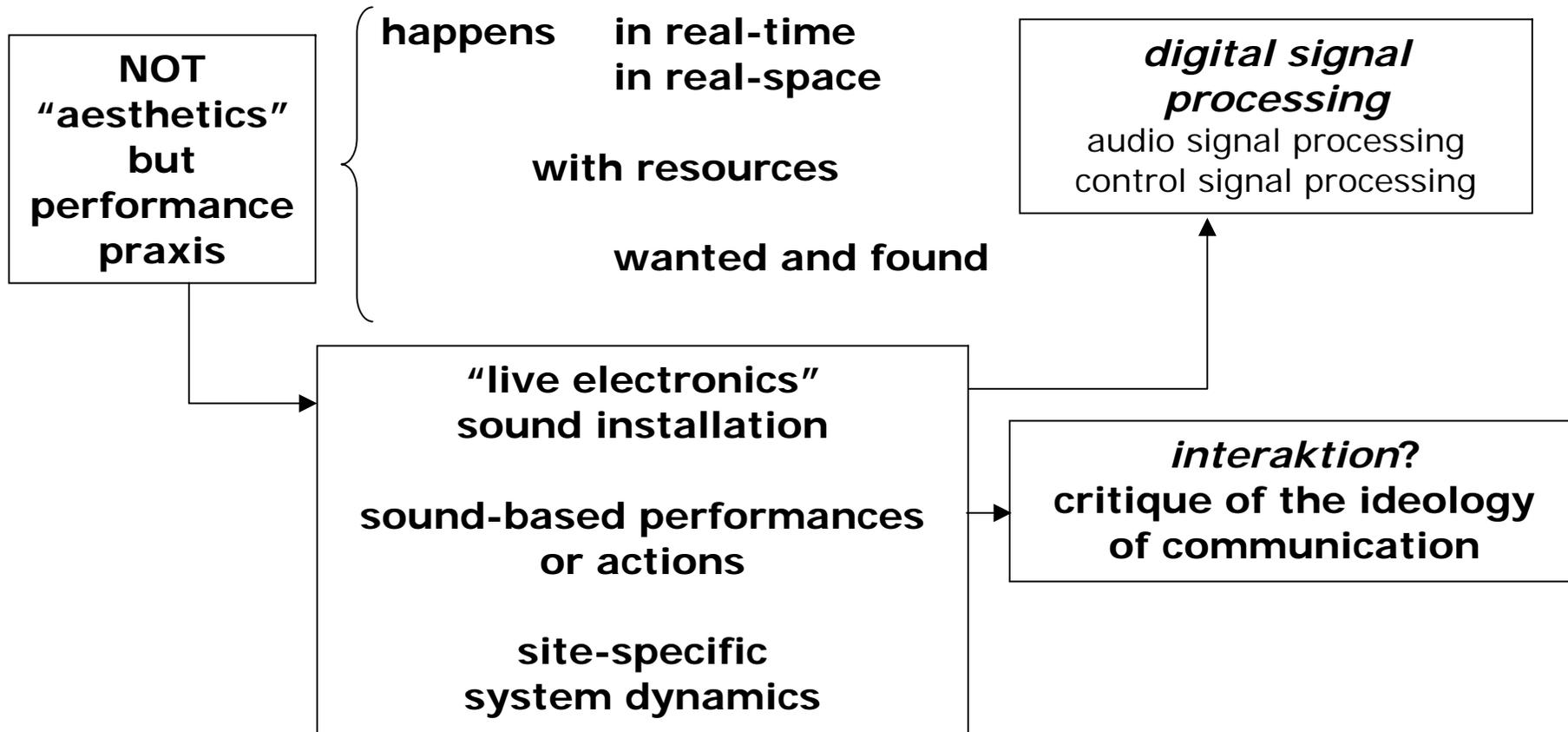


ecosystem

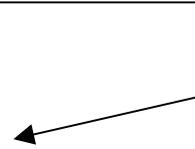
a system and its oikos

composing

a network of (sonic) interactions



**in real-time
in real-space**



"site-specific practices"

**incorporating the material space into the art work – architecture,
decoration, social purpose, history – reaching to the informational**

**from the design and materialization of objects
to the design and materialization of processes,
to the design and materialization of interacting processes
heard as audible ecosystems**

critical dynamics of

**subject and object
self and world (other)
identity**

**contribution of "space" in
renewing the concept of "form"**

composing – determining system invariants

name for the structural and perceived qualities of a web of composed, though maybe dynamical connections, among all factors contributing to the shaping of sound?

music !

music does not exist before composing, one never composes the music: music is "traces left by composition" (Hebert Brün)

"musical" = "emergent properties" of lower-level system processes, including their structural coupling with the ambience



emergence paradigm
(intersection of current efforts in several disciplines)

- propositional, artistically normative**
- interpretative, musicological**



“termite cathedral”

(from Wikipedia, entry “emergence”)

“musical” = “emergent properties” of lower-level system processes, including their structural coupling with the ambience



***emergence* paradigm**

(intersection of current efforts in several disciplines)

feedback

self-organization

(autopoiesis?)

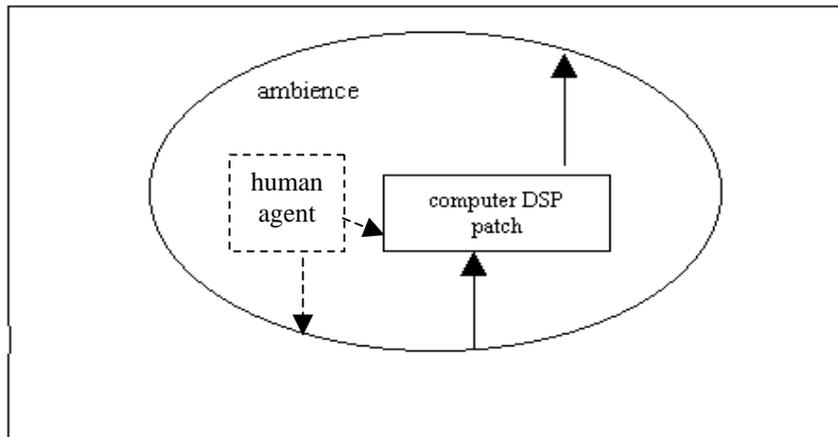
“audible ecosystemics”

is it modelling?

is it sonification?

is it a new formalism (formalized music)?

implementation! operationalization!



COMPOSING IN AN ECOSYSTEMIC PERSPECTIVE

**Live Sound Interactions
(sound as material and informational)**

**Interaction
(structural coupling)**

**Sound is the Interface
(audio- and control-signal processing)**

**Emergence
(of Sound, of Timbre, of Form)**

**Noise
(a necessary resource)**

Space – Form

Human Action (and responsibility) – instruments, performers

Technology (control and lack of it)