

Thinking the environment aurally

An enactive approach to auditory-architectural research and design

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This lecture has been developed at the intersection between two research frameworks: the Auditory Architecture Research Unit¹ and Architecture of Embodiment², both at the Berlin University of the Arts. The Auditory Architecture Research Unit is a platform devoted to developing a new conceptual approach and new practices of architectural research and design based on auditory experience. The Architecture of Embodiment is a research environment dedicated to establishing an enactivist perspective of the build environment.

I have structured this paper in two sections. First I will briefly introduce the most relevant concepts of the enactive approach to cognition implemented in the auditory research and design of the environment. Second, I will present the outline of a research and design practice—the *auditory mapping*—developed in this conceptual framework.

The enactive approach to cognition was formulated 1991 in the context of *theories of embodied and situated cognition*.³ This cognitive approach provides a new description of the relationships between living beings and their environments that implies and, at the same time, produces a new understanding of these two items. In this formulation, living beings and environments are conceived as entities that are not pre-determined independently from each other. Instead their

¹ http://www.udk-berlin.de/sites/auditive-architektur/content/index_ger.html

² <http://www.architecture-embodiment.org/>

³ Varela, F, Thompson, E and Rosch, E: *The Embodied Mind.. Cognitive Science and Human Experience*, Cambridge, MA 1991. For an exhaustive account: Thompson, E: *Mind in Life. Phenomenology, and the sciences of mind*. Cambridge, MA 2007

interactions are thought to be *constitutive* of each other. Living beings and environments are in a fundamental relation of *reciprocal specification*. The enactive approach concretizes this general view through the concept of *co-emergence*. Living beings and environments co-emerge. They constitute one system, one closed network of relations, in virtue of, and just in virtue of which, both are continuously specified. Environments and living beings emerge out of the *enabling conditions* they establish through their interactions, creating through their respective emergences *constraints* for their mutual specification. The enactive approach is, therefore, radically *relational, processual* and *transformational*. It is radically relational, because the emergence of living beings and environments depends exclusively on the very particular connections both establish to one another. It is radically processual, because these relations change constantly in time, and furthermore, because living beings and environments are not the result of processes: they *are* themselves processes. And it is radically transformational, because these processes are nothing other than a ceaseless modulation of their own course.

The process of the co-emergence of living beings and environments is also denominated the process of *sense-making*. This results from the idea that this process implies the appearance of two senseful entities: a *self* and a *correlative otherness*. The process of sense-making can be outlined as the transformation of a living being and its surroundings into a *self* and its *environment*, respectively. In this formulation, the transition from a *biological* perspective to a *phenomenological* one, or, formulated in enactivist terms, the fundamental circularity between life and mind, finds a clear expression: due to the very specific form of systemic topological, chronological, material and energetic relations between two items their *phenomenal presences* arises.

There are basic distinctions that can be made in the emerging phenomenal sphere. There are, as Alva Noë posit, different *varieties of presence*.⁴ These distinctions are fundamental in order to define precisely what an environment is and how we can cognitively access it. The most relevant distinction is the one between objective and non-objective presences.

The self and the things around it appear as objects, that is, as clearly contoured presences, which allow a non-ambiguous differentiation between them and the rest. I can clearly differentiate

⁴ Noë, Alva: Varieties of Presence. Cambridge, MA 2012

between myself and others and between an object and another one standing, for example, above it. These objects are constituted primarily through perception. They appear to us, first and foremost, spontaneously, in virtue of our capacity to perceive. Among all emerging objects, the self appears as a very special and unique one. Although this distinction is fundamental, I am not going to address it in this paper. Instead I am going to face another fundamental differentiation: the one between objects and wholes.

This distinction can be outlined in two steps. The first refers to the *container* in which objects appear. I and all objects around me appear somewhere, in a common space. Although the contours of this container are eventually less precisely defined than the ones of the objects it contains, we still can set its borders. The container, therefore, appears as well as an object.

It is in a second distinctive moment, attending to other qualities and forms of relations, that the difference between objects and whole can be established. All the objects I perceive share not only a containing topo-chronology but also and more fundamentally the *manner* in that they *all* appear *at once*. They share not only a where and a when but most fundamentally a *how*. They all appear in a very specific qualitative *kind* of simultaneity. They not only appear at the same time, but rather as *coalescent presences*: as presences sharing *coalescent dynamics*. Simultaneously to their single, objective presences they all appear as a whole determined not only by their synchronic presence in a common space but primarily by the very spontaneous *dynamic coherence* in which all they appear. They do not appear as a simple group of objects. They all spontaneously conform one single *coherent processual presence*, a subtle but pregnant presence that *makes sense*.

This dynamic, relational and transformational wholeness, which emerges out of the coalescence of all phenomenal objects but, as an emergent entity, can be reduced neither to any of them nor to them as a group, is what I call *environment—Umwelt*, the *world around*. The environment is not an object, it is even not a phenomenon, and therefore it is not perceivable. We do not perceive the environment but, nevertheless, the environment is present for us. Places are invisible. Not because we can address them by listening but basically because they, although present, are *as such* non-perceivable.

On this conceptual ground, I would like to present a research and design practice conceived in order to achieve cognitive access to the environment through the performance of different varieties of listening. We call this practice *auditory mapping*. The strategy underpinning this practice is defined as a pragmatic response to two of the basic ideas I already outlined. First: environment and listener *co-emerge*. They continuously and simultaneously emerge constituting conditions for their mutual specification. And second: the environment is present for the listener but not perceptually. The listener can perceive conditions for the emergence of the environment but not the environment itself. The strategy underlying the practice of auditory mapping correlates to the most primary strategy that underpins the phenomenological method: to gain access to what is not perceptually accessible through what is perceptual accessible—the phenomenon itself, *die Sache selbst*. The practice of auditory mapping intends to achieve access to the sound environment, that is, to an environment co-constituted by the performance of different varieties of listening, through auditory objects, that is, perceptual objects, whose emergence is conditioned as well through the performance of various forms of listening.

As a base for this practice we have compiled a list of auditory objects possible to be constituted by listening in different manners. We have identified four varieties of listening: analytical, emotional, associative and imaginative listening. After characterizing in detail each of this varieties as concrete forms of action, we have identified those auditory objects that can emerge by practicing each variety of listening. Thus, it is possible, for example, that we hear the time structure of a specific sound if and just if we listen analytically. It is possible to hear the level of differentiability between single objects, the grade of diversity of auditory phenomena or their topological configuration if we listen as well analytically. It is equally possible that phenomenal objects like “oppressive”, “delicate”, “sweet”, “boring” or “chaotic” emerge if we listen emotionally. And similarly objects like “my childhood in South England” or “a space for fruitful social interchange” arise if we listen respectively in an associative and imaginative manner.

The performance of the practice itself consists in the linguistic notation of all these emerging auditory objects, bringing them in relation to each other through their respective position on a surface, and recognizing their respective relevance in the emerging context marking it by changing their size in the emerging map.

According to this practice, to map an environment aurally means to engage *adaptively* with its process of emergence. What it is intended is to access the form the environment takes by listening, *reflecting* it through a minimal mediation: the process of realization of the map and the map itself. The arising map *mirrors* the emergence of the environment for the listener. It *reflects*, it *bends* the ongoing interaction between environment and listener *back* to the listener in order to make this interaction accessible for her as a *geography of linguistic signs*. Listening in this context is not understood as the apprehension of an outer reality and its representation in an inner mind but, in a noetic sense, as the performance of different perceptual actions all them focused on what emerges as listened — as something I hear — and, in a noematic sense, as a field of perceptual emergence, in which the environment can be accessible through the interaction with discrete entities. In this field of emergences, the environment not only appears in its actuality but also in its potentiality. The practice of auditory mapping, therefore, constitutes the first step in a possible transformation of the environment through design.

In this paper, I showed succinctly how the concepts of sound environment and listening can be reinterpreted according to the enactive approach to cognition. Then, I described a research and design practice—the auditory mapping—conceived within this framework.

In this context, research is not understood as the generation of explicative artifacts about the object of research. Accordingly, design is not understood as the addition of objects onto a terrain, conceived independently of its transformative phenomeno-*logic*, that is, the manner in which the terrain emerges as environment. Research and design can be conceived and practiced as two varieties of a single process of *understanding the environment*, as two slightly different but intimate interlocked forms of reflective engagement with its emergence.

