

# **Sound Art in the Domestic Space**

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## **Declaration**

I hereby declare and confirm that this thesis is entirely the result of my own original work. Where other sources of information have been used, they have been indicated as such and properly acknowledged. I further declare that this or similar work has not been submitted for credit elsewhere.

Graz, February 2021

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## **Abstract**

This thesis presents and discusses an analysis of the interplay and the relationships between sound installations and space understood as a social and aesthetic product, and the role of space in the context of sound art considered as a co-agent within the artwork-space-user paradigm. After analyzing the evolution of the notions of space, with particular attention to the fields of installation art and sound art, an interpretation of sound installations as atmospheric artworks is proposed, drawing from the aesthetic theory of atmospheres developed by Gernot Böhme, and of sound art in its status of spatial rather than temporal artistic practice. A personal artistic approach to sound installations is proposed, with special attention given to intimate and domestic spaces as ideal aesthetic spaces for which to specifically design sound works. This approach is discussed both in its theoretical and philosophical aspects, drawing from Peter Sloterdijk's *Spherology*, and in its possibilities of practical realization through some concrete examples of sound works by Max Neuhaus and a recent work by the author.

## **Kurzfassung**

Diese Arbeit präsentiert und diskutiert eine Analyse des Zusammenspiels und der Beziehungen zwischen Klanginstallationen und Raum, verstanden als soziales und ästhetisches Produkt, und der Rolle des Raumes im Kontext der Klangkunst, die als Kofaktor im Kunstwerk-Raum-Nutzer-Paradigma betrachtet wird. Nach einer Analyse der Entwicklung der Raumbegriffe unter besonderer Berücksichtigung der Bereiche Installationskunst und Klangkunst wird eine Interpretation von Klanginstallationen als atmosphärische Kunstwerke vorgeschlagen, die sich auf die von Gernot Böhme entwickelte ästhetische Theorie der Atmosphären und der Klangkunst in ihrer Form eher räumlicher als zeitlicher künstlerischer Praxis stützt. Es wird ein persönlicher künstlerischer Ansatz für Klanginstallationen vorgeschlagen, wobei intimen und häuslichen Räumen als idealen ästhetischen Räumen besondere Aufmerksamkeit geschenkt wird, für die Klangwerke spezifisch gestaltet werden können. Dieser Ansatz wird sowohl in seinen theoretischen als auch in seinen philosophischen Aspekten diskutiert, wobei er sich auf Peter Sloterdijks Spherologie stützt, und in seinen Möglichkeiten der praktischen Umsetzung anhand einiger konkreter Beispiele von Klangwerken von Max Neuhaus und einer neueren Arbeit des Autors.

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## **Introduction**

Installation art has its roots in the 60s and 70s, a period characterized by important social changes that involved and modified several aspects of Western culture and social mores, changes that are due in part to historical contingencies and in part to the development of new awareness and sensitivity; at the same time, this period was characterized by a socio-political dimension in which the formation of groups, the association of different people united by a shared interest, being part of a more or less broad movement was the norm, that is the main way in which ideas were expressed, identities manifested, visions and projects offered, and by which people articulated their social life. A context, therefore, full of more or less organized groups but founded on a sense of belonging, sharing and representation.

This way of organizing and living sociality and politics in everyday life was represented and reflected by the art world through the development of new practices and methods of aesthetic representation: the most famous examples are happenings, movements such as Fluxus, public readings, the birth of artistic, spatial, sound installations, Land art, etc. The art installations stood as vast artworks, I would say augmented, at least when compared to the traditional techniques of artistic representation. The space designed to accommodate the work became in some way part of the work itself; the work was no longer an object, an artifact developed on a typical support, but it became a set of things, objects, a situation, an atmosphere, arranged in a space that thus acquired a different value, becoming a place in the world. Also in those years artistic movements such as Land art arose, which made space and the environment the object of their attention, giving voice and representation to new ecological instances that were forming. Somehow, I believe that all this was the natural and spontaneous reflection of a way of understanding and living the social dimension, sharing and public affairs.

It is in this context that the first sound installations also emerge, as well as the very definition of sound installation, attributed to the artist Max Neuhaus in relation to one of his works from 1967, *Drive-in Music*, in which we can identify a first example that is already perfectly emblematic of a new way of approaching sound, now understood more as a physical phenomenon, an object of study and artistic interest in its own right, distinct from music and the pure organization of sounds in the time domain. Neuhaus conducts his first experiments in this sense by creating a sound installation designed to be an outdoor work, which becomes part of a public street but that can be experienced only inside cars, thus playing immediately with the mixture between private dimension and public place, by means of radio waves.

In some way, therefore, sound was immediately related to space, almost wanting to free itself from the temporal element which is instead typically understood as the underlying basis for the organization of sounds and the sense of hearing.

In my artistic path the relationship between the sound element and the spatial environment has always played a preponderant role. I believe that the interest towards space that dialogues with sound is the main reason that diverted my initial interest, turned to music traditionally understood, towards a way of staging sound in the world even before over time.

In turn, the interest in the world-space as the environment that welcomes the sound work - thus becoming a necessary part for the dialectical constitution of the work itself -, in my research has gradually narrowed, ending up coinciding with the so-called domestic environment, with the idea of a house-world, or at least of the house as a bubble that acts as a refuge but at the same time as an interface with the outside. This meant a further deviation in the way of thinking and designing my sound works, with the consequence that the sound installations I develop - of which *Ecstasy*, analyzed in the third part of this text, is an example - are first of all designed to find space, exposure and being experienced in a dwelling and domestic context, even before than a gallery space, museum or in any case a place typically suited to the staging of creative works.

This interest in the private environment, as opposed to the very popular public one as we saw at the dawn of this artistic practice, takes on a precise meaning in my opinion if it is true that art is the tool through which to look at the changes of social

reality. In other words, I believe that my own personal interest in the development and design of aesthetic modalities and artistic atmospheres for first and foremost private and domestic use is, at least partly unconsciously, the reflection of a social condition and a current way of living characterized by the single individual as the main element of the system; a world - to borrow the lexicon from the German philosopher Peter Sloterdijk, whose thought assumes high relevance in this discussion - formed by single individual *bubbles* that together contribute to the formation of *foams*, evidently opposed to the great modern twentieth-century narratives at the base of which social classes were placed, together with the collective consciousness and a dialectic process between the macro-parts.

It is my personal opinion that the socio-political reversal - from community to individuals - is quite clearly visible also in the devices, the media, the tools we use in our everyday life. Even in art: for example, I am referring to a recent trend, albeit a minority one, to develop performances, concerts, installations not for an audience but "for one", for a spectator/listener; I am thinking of tools such as augmented reality headsets that offer exquisitely individual artistic experiences, so as to presuppose not only a single user, but even a whole world that is "other", alien and therefore unique, separate, where the individual gets in.

The reflections that give substance to this research, and from which my artistic practice in the world of sound began, touch not only many aspects related to the sound element, but are based on a spontaneously interdisciplinary activity and investigation, purely focused on sound but which necessarily has to deal with other concepts such as space, time, the atmosphere in which this sound exists; different themes, such as the sense of living, the environment and ecology; different disciplines such as design and philosophy.

The spectrum is very broad, and I find it even redundant to say that this text has no claim to completeness; nevertheless, it seems inevitable to touch different disciplines when the attempt and purpose of this text is to analyze and describe my personal artistic approach, outlining the underlying motivations and interests from which the practice

starts, and finally indicating in an example of sound installation the concretization of the theories previously exposed.

As regards the structure of this text, the discussion starts by considering the evolutions of the concepts of space and domesticity, specifically in relation to the phenomenon of sound and the elaboration of an artistic atmosphere, offering a compendium and a general account of the philosophical theories by Peter Sloterdijk and Gernot Böhme in order to help setting the scene and provide a frame of reference. My attention therefore turns to a critical examination of my hypothesis of sound as a creator of spaces, addressing the meaning that the sound data assumes in the private dimension such as a domestic environment. Here my interest lies especially in the ways in which a sound work, strong in its properties of overcoming three-dimensional space, can interact with the physical characteristics of the space, with the social value we confer to our everyday domestic bubble and with the possibility of unveiling a new way of experiencing sound, beauty and art when they become daily and intimate aesthetic interventions.

Finally, my recent sound installation entitled *Ecstasy* is presented and described, investigating it from the main underlying theme - that is the relationship between sound and phenomena of possession and trance - and providing an analysis of its practical realization, both on the software side and on that relating to hardware, especially by virtue of its domestic use by users who are not necessarily experts, thus showing what are the needs and challenges to be faced in the creation of a technological product that has autonomy and simplicity as prerequisites for use by the end user.

## Chapter 1

### 1. Notions of Space

The theme of space in the history of philosophical thought and subsequently of scientific thought has always played a key role in the investigation that thinks of the world as an object perceived by a subject. In the same way, space is a crucial theme also in artistic investigation, and the way of conceiving and treating it changes continuously, inexorably intertwining with the development of scientific knowledge, technological solutions, aesthetic perspectives and the different ways in which we experience it in our everyday reality.

Over the centuries, humanity has developed different concepts of space, from the Aristotelian *topos* to the medieval concept of localization that underlies a hierarchy of spaces; from the spatial extension introduced by infinity in Galileo's thought to the Cartesian *spatium* understood as a mathematical and measurable interval. In more recent times we have come to an emotional and atmospheric space according to Böhme's thought and to a contemporary idea of space as a social and political product, of the proximity relationships that exist between the elements, freed from Euclidean limitations and three-dimensionality.

Investigating sound in its spatial specificity means first of all investigating space as a founding element: sound is (also) a spatial phenomenon. Sound art, however we understand it, is an artistic representation that is articulated through three key elements: sound, time, space. Sound itself, conceived as a physical phenomenon, is already the combined product of the relationship between a source, a medium and a space. The acoustic waves that reach our ears are never just the mere result of the source that generated them. It is therefore immediately evident, from the fundamental physical datum, that space is part of the sound and, in return, that hearing is the element that

contributes to forging the experience of the spatial dimension. According to the French semiologist Roland Barthes, in fact, “listening (from an anthropological viewpoint) is the very sense of space and of time. [...] for the human being - and this is a phenomenon often underestimated - the appropriation of space is also a matter of sound” (Barthes, 1984, 246).

Going beyond this - only apparently - basic level, the interest placed here in the space as an element that contributes to the formation of the artistic practice of sound art is mainly aimed at the ways in which a sound work can present itself in a given space, be staged to interact with this pre-existing space, modifying it and even building a new dimension, becoming a sound space.

To better understand the role played by space in the idea of sound installation and in my personal artistic research, I think it is useful to recover some elements and reflections belonging to other disciplines, starting from the installation art of the second half of the twentieth century.

## **1.1 Space in Installation Art**

We can identify a fixed starting point by arguing that sound installations can be considered a subset of the broader field of installation art (Corgnati and Poli, 2008).

The genre of artistic installations starts forming during the second post-war period, a period that since the 1950s and 1960s saw the rise of artistic currents such as Fluxus or the Situationist International, movements such as Land Art and Public Art, and new artistic representations such as happenings and environments. At this stage it is sometimes difficult to distinguish the artistic aspect from the political gesture, and the idea that the work of art is accompanied by a thought and a will of a political, social or economic nature is particularly evident. The artwork in the aforementioned artistic expressions is often unhinged from the frame, descends from the pedestal and leaves the museum and concert halls, and the space and the spectator acquire a completely new value and role.

The concept of space, in those years, detaches itself from its physical and scientific dimension and begins to be conceived as a social construction. Lefebvre (1991) promotes an interpretation of space as a continuous social process, rejecting Kant's reading of static and completed space. This paradigm, and the whole so-called spatial turn, stages an interconnection of causes and links between elements that together form a network of relationships that we call space. From this perspective reversal, a renewed aesthetic approach emerged and installation art is one of the main testimonies.

The installations generally appear as layered artistic works designed to transform the perception, and not just the visual one, of the viewer, incorporating the space into the work - and the beholder with it - by changing its atmosphere and connotation. British critic Claire Bishop brilliantly outlines some peculiar traits of installation art, presenting two ideas that support the relationship to the viewer: "The first of these is the idea of 'activating' the viewing subject, and the second is that of 'decentring'" (Bishop, 2005, 11).

The former idea is mainly realized through sensory immediacy and physical participation, aspects that are considered essential as the active role of the viewer makes him part of the work itself. There are no installations without beholders since a part of the work or its completion occurs in the spectator and through the spectator: "the spectator is in some way regarded as integral to the completion of the work" (Reiss, 2001, xiii).

The latter idea is constituted as an overcoming of the Renaissance perspective that placed the viewer at the center of the depicted world, following the post-structuralist theory in the description of the human condition "as fragmented, multiple and decentred." In this perspective, therefore, "any one ideal place from which to survey the work" is no longer possible (Bishop, 2005, 13). As a consequence, if the dualism constituted by a mind-subject abstracted from and opposed to an object disappears, the sensory perception gains the status of a gnoseological tool based on immediacy. From here, in Böhme's words, space itself ceases to be a measurable datum and becomes atmospheric space.

I find it appropriate to exploit the concept of decentralization described above to extend its meaning to what happened in those same years at the relationship between the installation as an artistic artifact and the places traditionally used to host it. As the viewer is decentralized with respect to the work, in fact, in the case of the installations the work is initially conceived as being moved - literally, physically - from the center of the art system, representing in fact a challenge addressed to the museum practice and a temporary laceration - to be honest quickly sutured by the system.

As well outlined by Julie H. Reiss in *From Margin to Center*, installations often arise as a political reaction against the art system, its institutions, its places and the traditional ways of using art, and for this reason they took place in ordinary places, often public and outdoors, before being incorporated and absorbed by museums. Precisely the first major installation exhibitions hosted by the main American museums - I am thinking for example of *Spaces*, curated by Jennifer Licht at the MOMA in New York in 1969, or of *Anti-Illusion: Procedures/Materials*, curated by Marcia Tucker and James Monte at the Whitney Museum of American Art in the same year - were admittedly political concessions (Reiss, 2001, 87-88).

But on closer inspection every artistic turning point powerful enough to generate consequent new styles, formats and supports, is (also) a political turning point, which can precede and suggest or accompany changes and social visions. The representations that we consider and call 'classic' became such only in retrospect and because they survived the time, but they too were born as political issues or tools to woo or on the contrary challenge the status quo, or as tools used for other purposes and matured and understood only subsequently and secondarily as aesthetic experiences: think for example of how the notion of landscapes and pictorial representations of natural landscapes that arose in the seventeenth century extend from being political and administrative tools for surveying territories to becoming art (Olwig, 2002).

The split described between installation art and museums is useful for our discussion first of all because the musical and sound world is not exempt from it: on the contrary, this phenomenon belongs and is particularly evident in the musical world and in the field of sound art, whose history is rich of interesting episodes that see music al performances and sound works get off the stage and leave the concert halls to face the

outside world, society and the city: starting from the one we somehow consider the progenitor of the genre of sound installations, Max Neuhaus, whose choice of “move from the inside to the outside of the concert hall [...] drew sound studies and time-based art towards new performative and conceptual modes of creative expression linked to the public sphere” (Olmedo, 2012, 47).

Secondly, we will return to reconnect with the theme since my personal path and my artistic production, testified in the third chapter by the installation *Ecstasy*, share a practice characterized by the decentralization of the work and are part of the process of moving away of sound art from pre-established artistic places, in my case in favor of a sound art specifically aimed at exhibiting in (and including) private, everyday, domestic and dwelling places.

## **1.2 Space in Sound Art**

Defining sound art is not an obvious challenge. Paradoxically, the more time passes, the more familiar this practice becomes, and the more complex it seems to reach a definition that is exhaustive and complete: this is demonstrated by the various attempts and examples proposed by illustrious theorists and practitioners, including De La Motte-Haber (1999), Licht (2007), Kahn (2005), Albert (2010), just to name but a few.

Continuing on the path that we have set up and following the initial premise that sees sound more specifically defined as a spatial and environmental element with the development of installation art, of which sound installations constitute a subgroup, we can see how the expression sound installation art or sound art have in turn become a so-called umbrella terms that indicate a great variety of artistic representations based on sound, especially when treated in a non-conventional manner.

Given the vastness of the field, no general definition of ‘sound installation’ is attempted - moreover, sharing and reiterating what Rebentisch (2003) stated that each installation is a monad, an island in itself, an autonomous formal model. We will therefore take into consideration the relationship that has been established over time between sound art and space with a certain freedom, without distinguishing from time

to time whether it is sound art, sound installation, sound sculpture, environment, or other categories and labels.

What has been said so far when talking about installation art is equally valid and perhaps even more evident if applied to the branch of sound installations. Whereas installations usually take place as three-dimensional artworks conceived to transform the perception of a space and modifying its atmosphere, sound installations definitely share these characteristics but are mainly focused on the sound as the primary material to be molded, modeled, exhibited and experienced, sometimes together with a visual apparatus.

Sound by its very nature goes beyond the typical boundaries of sight, just as it goes beyond walls and penetrates through materials, thus embracing and bringing to our attention a conception of space that has been defined as transcendent Euclidean forms, as the evolutions of the notion of space in the contexts of the spatial turn, in the social sciences and geography testify.

Within the sound art practice we witness a conceptualization of space “as multiple and constellatory” (Born, 2013, 16). Brandon LaBelle identifies one of the fundamental roots of this drive in the experimental practices of John Cage, who “sets the stage for a heightened consideration of listening and the ‘place’ of sound by developing a form of critical practice” (LaBelle, 2006, xi. xiii). Some trends of experimentalism, such as the formalist approach of the seventies, are concentrated especially in the intramusical space and internal operations; other approaches materialize in a sort of multimedia arrangement of space on the border between art and architecture: I am thinking above all of Iannis Xenakis and a sort of “musicalization of space” (Sterken, 2001, 268) where, however, a vectorial, linear temporal organization still persists, in the mold of Western compositional tradition, together with an approach to the spatial data understood more as the spatialization of acousmatic sound sources, although Sterken himself also recognizes an articulation through “atmospheres and energetic waves that provoke dynamic and spatial experiences” (2001, 270).

Here, the modality that is specifically the object of our interest is that which expresses the spatial nature of sound when worked and exposed almost as if it were

plastic material, consisting of the approach to sound installations and to sound as an intrinsically and essentially spatial, volumetric, sculptural and immersive element:

Sound has physical size, actual dimensions in feet or meters, as well as density, vibrancy, rhythms and textures. Walking through it in its resonant state provides an experience similar to perusing a landscape but from the inside, with all of your body instead of from the outside with just your eyes. It shows us the "near field". Like a solid it has volumes, edges, planes, fullnesses, flatnesses, roundnesses, and hollows [...]. It comes "fully equipped" to elaborate our experience sculpturally.

(Brewster, 1998)

The words of artist Michael Brewster, in addition to constituting a declaration of love towards sound and its manifestation in the world, allow us to further explain the distinction made just above between what is defined "musicalization of space" and the approach to sound from a point of view which is more specifically focused on the spatial aspect as a sculptural one. With reference to Iannis Xenakis's *Polytopes*, albeit rather complex and innovative it is still possible to speak of a traditional compositional approach to the extent that the formal setting of the work is fundamentally linear in its dramaturgy, in the alternation of musical elements that follow an unfolding in a traditionally organized time, including a principle, a development, a conclusion, a finite, closed form, and an expected duration.

What Brewster's words suggest is the attention to the development of sound in space rather than in time, to form an enveloping experience and without any strict, a priori temporal structures, in what could be defined as an attempt of pure grasping and inhabiting the sound in itself. But this does not mean comparing a supposed purity or effectiveness of the aesthetic gesture - and the concept of sound in itself - with a type of composition traditionally understood. In many theoretical treatments concerning media theory, musical experimentalism and the use of technology in sound art, an apparent conceptual schism can be found which would see opposed, on the one hand, an interest in sound art and in Western musical products as the result of arbitrary norms and rules,

compositional practice, notation; and on the other hand an approach to the supposed 'pure' sound, the so-called sound-in-itself as a nucleus of physical energy, which we deal with due to its material, real dimension, which manifests itself in space and in the world, demanding the overcoming of an idealistic as well as limiting system of symbols. Kittler, introducing the role of technique in the musical world of the early twentieth century, illustrates the "historical transition from intervals to frequencies, from a logic to a physics of sound," when "chords had turned into pure acoustics" (Kittler, 1999, 24). According to Kittler:

Such was the logic upon which was founded everything that, in Old Europe, went by the name of music: first, there was a notation system that enabled the transcription of clear sounds separated from the world's noise; and second, a harmony of the spheres that established that the ratios between planetary orbits [...] equaled those between sounds. [...] The nineteenth century's concept of frequency breaks with all this. [...] The real takes the place of the symbolic.  
(Kittler, 1999, 24)

Kittler basically proposes a materialist approach supported by technology - he cites the phonograph, recordings, "a physical time removed from the meters and rhythms of music" (1999, 24) - that finally deals with the real supplanting an idealist, representative and symbolic system unable - according to him - to grasp the sound in itself. My position towards the artistic practice, on the other hand, does not find this opposition meaningful at all, first of all because it does not seem entirely correct to distinguish a musical approach based on composition and project, which is articulated through a mathematical-musical language and manifests itself through symbolic notation, from an approach of supposed purity in which the sound-in-itself is treated as a physical phenomenon revealed through the technology that frees it and faithfully makes its properties available, proudly claiming to divide what is symbolic fiction from what is the truth of reality.<sup>1</sup> Since continuing on this slope one risks a paradoxical

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<sup>1</sup> See also Kittler, F. A. (2013). *The Truth of the Technological World*, Stanford University Press.

situation in which what should be materialism, in its firmly non-representational conception, confers to matter an ontological status almost of animated, creative, immanent and unattainable truth, a metaphysics which idealizes matter as creative energy, verging on a form of weird animism, or at least a realistic empiricism rather than materialism or physicalism.

Secondly, because I firmly believe that design and composition are a way in which matter and reality have the opportunity to manifest themselves, and therefore to exist. It is not about idealism, but about another way of understanding materialism, and through composition of trying to grasp matter.

In my opinion, what we observe are two sides of the same coin, separated and distinguished by different degrees of approximation, which is applied in both cases, and which certainly does not make one approach less pure, less real or less fair than the other: they simply present different depths of approximation used for different modes of creation and expression. In one case, mathematical values, descriptions and approximations deriving from classical physics are used to treat the sound, hence we work on vibrations measured in Hertz, while in the other case it is necessary to approximate the sounds produced by traditional instruments by framing them in a grid of reference bounded by different values, then we speak of chords and intervals. To each expression its degree of approximation.

What's at stake here is the approach to sound art and sound as matter. The approach I intend to illustrate is a model that includes the consideration of the relational nature of phenomena, of reality, therefore centered around the concept of relationship; an approach that makes use of the tools offered by technology applied to sound and of sound as a physical phenomenon in space, but which revolves around the relationship between sound, space and person, excluding the possibility of considering single elements in themselves, independently of the others, in the development of an aesthetic. This is why I find it appropriate to talk about environments and atmospheres when I refer to the situations that arise between the environment and the sound work.

## Chapter 2

### 2. Atmospheres, Phonospheres

Composer Agostino Di Scipio proposes a notion of sound as event, rather than object:

As a phenomenon of human experience, sound is never really object and is always event. We can always attend to it as the audible manifestation of relations and interactions in the space-time unity of experience. [...] Sensed in its unfolding in time across the tridimensional space, sound spreads around and within the listening body, as well as across and within the body of the sound source. As it takes place (and that takes time), it also takes on the semantic connotations of the place, as an event *in* and *of* the environment.

(Di Scipio, 2014, 12)

Such a conception of sound obviously does not prevent, nor does it deny the possibility of thinking of sound in itself, as an autonomous entity, indeed it helps us defining its features; but it denounces the uselessness of materializing and reifying the sound datum as an object in itself detached from the network of relations that compose its context, allowing it to exist; this notion of sound underlines the inappropriateness of thinking of sound as an object that can be grasped independently from its relational nature. Moreover, this definition in its overcoming of the classic subject-object paradigm, becomes an effective tool for the development of an awareness of the forces and agents at play in the space and time of sound.

Thus, an ontological perspective of sound is outlined, which draws from certain continental philosophy as well as from a relational interpretation of physics proposed by

authors such as Carlo Rovelli (2020) or Karen Barad (2007), and founded on the dialectical relationship in which the roles of the work, the spectator and the space contribute and are reaffirmed, undermining the pre-existing hierarchies between the parts and decentralizing the roles of subject and object.

It is important at this point to address some definitions, again deriving from a multidisciplinary analysis that touches not only aesthetics and sound studies, but also the fields of media theory, geography and philosophy, and to analyze the differences that emerge from the relationship between public and private space, from the concepts of space and place, exploring the role of sound in everyday life in an attempt to form an aesthetic conception that includes the ability of sound art to compose atmospheres, rather than artistic artifacts, which are inserted into the world and therefore in acoustic contexts, whether they are public or private, external or internal but always already remarkably rich in terms of sound.

## **2.1 Atmo-spheres**

It is precisely the relational context in the aesthetic dimension that represents the main field of investigation of a new paradigm introduced by the new German phenomenology, promoted mainly by Hermann Schmitz and Gernot Böhme.

This new approach to aesthetics as a general theory of sensory perception aims to overcome the identification of aesthetics with the philosophy of art to move instead towards a reflection on the relationship between man and his environment and therefore, by extension, on the construction of spaces - in our case, acoustic spaces. The very definition of atmosphere considered as a concept is the product of a network of relationships with other concepts in the aesthetic realm (Böhme, 2017).

Böhme states that “just as mathematics is concerned with space as a medium of representation, phenomenology deals with space as the space of bodily presence” (Böhme, 2003, 4). The bodily space can still be described through the grammar of mathematics, but it fails - according to Böhme - in the attempt to grasp the true nature of that space; and it is to this need that the philosophy of atmospheres

provides an answer, the understanding of the existential character of a space of actions. In this sense I find particularly pertinent the assimilation of such a phenomenological approach to a certain way of understanding and producing sound art, in particular I recognize its relevance in my artistic production especially in reference to the reflection on the construction of spaces through sound and to the development of a 'temperature', an 'emotional tone' in space.

If the object of reflection of this aesthetics involves the atmospheres and the ways in which it is professionally possible to produce them, the attention shifts towards the *how* of being, of inhabiting a space - acoustic, sonic, aesthetic, artistic space - in any case anthropological and no longer geographical, characterized by an emotional and affective value given by the sensitive experience, therefore it deals with the transformation of a space into a place. In fact, according to Shaun Moores, an English theorist in the field of media studies, the notions of space and place are not equivalent precisely because the interval that separates them is the experience. The place meant as the result of experiencing is connoted by an anthropological value and characterized by exchange and social relations. This transformation from space to place is due, according to Moores (2012), to the habit, attendance and familiarity that people gradually establish with a place, and is facilitated by the use of media, not only artistic but also the most ordinary and daily such as listening to the radio in the car during the commute from home to work or reading a newspaper in what Marc Augé (1995) would define as 'non-places' - a definition that in Moores' argumentation evidently loses effectiveness, and that is explicitly rejected by another central author such as Joshua Meyrowitz (1986) when he argues that non-places are nothing more than spaces not yet sufficiently frequented.

In this perspective, I believe that sound artworks can play a predominant role, due to their intrinsic relational nature and their evocative power, in conferring emotional tones, atmospheres, a "spatial sense of ambience" (Böhme, 2012, 73) in the creation of places and also in the connections between the private and public dimensions, as well as, as a consequence, in the increase of environmental awareness, of the consciousness of inhabiting a relational context, natural and artificial, with which to interact.

The ontological reading of sound as an event underlines its social, relational and immersive nature and puts us in front of the evidence that we have always inhabited the sound, and by doing so we develop a “politics of presence, proximity and relationship” where “the performance of music can do its job: turning a space or site [...] into a place or home” (Di Scipio, 2014, 12).

From the point of view of their ontological status, atmospheres have always represented a sort of challenge, if only because of the unbalanced difference between the amount of adjectives with which we characterize them and the vagueness of the lexicon with which we manage to define their essence. Hermann Schmitz (1999, 141) defines them as ‘semi-things’ [Halb-Ding], pure phenomena existing only to the extent that they appear, without becoming appearances or representations of anything. They are found at the point where things and people meet, in their relationship: they constitute “the ‘In-Between’ between environmental qualities and human sensibilities” (Böhme, 2000, 14).

The particular aspect of the theory of atmospheres that is taken into consideration here is the relationship between sound, body and environment that is manifested in the experience of sound installations, when the sound modifies the space in which the body is immersed, from which new ways of understanding listening arise since the environment becomes intersubjective and gives itself through emanation and not through its objective qualities. It is Böhme himself who identifies in the spatial tendencies of New Music the main dimension “that has brought it into the realm of an Aesthetics of Atmospheres,” where “listening as such, not listening to something” (Böhme, 2000, 16) takes place, that is, where listening is not directed to signals, to meanings, but to signifiers, to listening to listening itself, where sounds are expressed by untying themselves from their sources and therefore from their spatiality to wander and fill the space by acquiring one of their own, where the listener is outside himself and becomes the space of the sound himself, being moved, pushed, formed, filled by it.

The theory of atmospheres represents a useful key to interpreting famous aesthetic experiences in the field of sound art, even very different from each other, from La Monte Young's *Dream House* to the soundwalks of Max Neuhaus and many others even

in recent times. These examples are united in the name of *atmosphericness* by its most properly political emanation, that relating to the role of sound as a modification of the space experienced by the body, and linked to the emergence of an “Ecological Aesthetics in the acoustic realm” as “the recognition, the maintenance and the structuring of acoustic space” (Böhme, 2000, 18), of an awareness of being in a changing environment, in which we are immersed, and through sound the opening up of the possibility that the aesthetic experience becomes an ethical and political awareness in a continuum parallel to that in which the subject and the environment intertwine with each other.

In this regard I refer again to the figure of Max Neuhaus, to his attention to sound and to his practice of creating acoustic spaces in everyday life: through his works, whether outdoor installations, *listening walks* or the rare attempts to create personal and home sound devices, he “hoped permanently to alter listeners’ relationships to their everyday environments, by introducing them to a focused mode of listening that they could integrate into their daily lives” (Born, 2013, 82). Fed up with the classic venues deputed to music and art, and tired of reaching only a tiny fraction of people, he operated with the aim of decentralizing the art of sound, freeing it from theaters and concert halls, increasing the audience by reaching as many people as possible, not only the musically trained ones, and thus eliminating the inescapable need for professional performers as the sole possessors of sound art. In this way the ‘extra-ordinary’ of art is inserted into the ordinary of the common spaces that form the scenario of everyday life. But while Neuhaus focused mainly on open and public spaces, my research here addresses closed and private ones, essentially aiming to transform domestic environments into potential stages where sound can be released for private use exactly as hi-fi systems have done with traditional music, representing a surrogate for the concert, with the difference that in the case of sound installations we are not dealing with analogy, surrogate, approximation or imitation, but rather there is space and way to form unique, elaborate and complex experiences exactly like those staged in official contexts, which however in my opinion acquire more meaning and significance if experienced in an intimate context, free from social and temporal constraints, and above all in an ordinary place, not categorized and specific such as a gallery or a concert hall,

precisely because I believe that the place of sound, practice and artistic experience is primarily the everyday world and the places in which this manifests itself.

## **2.2 Phono-spheres**

Sharing Leigh Landy's reflection on the access to contemporary art - and to sound experimentalism in particular, on its (lack of) integration into everyday life, and more generally on the perennial issue of New Music's disconnection from the general public, a central junction of my research is represented by the theme of “the dissociation of art from life” (Landy, 2007, 1), problematizing this disconnection as a missed possibility, a wasted opportunity to set up daily life by virtue of the possibility of creating aesthetic moments that fit fully as integral parts of the ordinary, and not relegated to cover only a potential function of remote, disconnected, extra-ordinary eventuality. Since I firmly believe in the fact that the human being's life is substantially manifested in a constant effort to create atmospheres and environments comfortable for the performance of our activities and the expression of our being, working to integrate atmospheric art into the daily routine appears almost as a due act, necessary and fundamental exactly as the other fields of human work and research, and not as an accessory habit or a pleonastic exercise.

In order to better illustrate the reasons for this research - and therefore the elements that outline human living as a continuous process of building environments - it is worth explaining the key elements of the spherological theory developed by the German philosopher Peter Sloterdijk, borrowing some key elements of his lexicon and anthropological reflection to apply them to the aesthetic, sound and atmospheric element.

Sloterdijk in his substantial trilogy dedicated to the spheres (Sloterdijk, 2011, 2014, 2016) fundamentally attempts a rewriting of human history: starting from the development of man in the intra-uterine stage, he then proceeds through the analysis of the formation of civilizations, globalizations and metaphysics, to finally reach the dissolution of today's community life, investigating contemporary forms of survival.

His investigation is configured as a topology of being and places man at the center of the analysis as a builder of vital spaces, precisely of the spheres, understood as “morpho-immunological constructs” (Sloterdijk, 2011, 45-46) that make human life possible from a biological, political, psychological, and metaphysical point of view. For Sloterdijk, therefore, the fundamental trait that defines, distinguishes and characterizes the essence of man is dwelling.

What assumes relevance in my research are some elements that arise from the anthropological arguments that according to the author define the human being as a builder of spaces: from the pre-natal dimension and from coexistence in the womb onwards, Sloterdijk describes every attempt of man as aimed at the reconstitution of a sphere, of a housing/immunological dimension that recreates the original condition “resembling a form of ‘living’ or of being-at-home-and-in-family” (Sloterdijk, 2002, 170. My translation).

The original stage of which humanity relentlessly attempts a technical, cultural and medial replication is the primary stage, that of the fetal pre-subject, which Thomas Macho (1993) defines as *nobjectual*, i.e. pre-existing the split subject-object, mother-fetus, a dimension of co-reality. This environment is important because, according to Macho, the construction of the individual takes place in an immersive aerial and sound medium, in which spaces are perceived through sound and resonances. And it is this acoustic environment that will serve as the model for all subsequent spatial and social experiences of being-in-the-world. Once born, in fact, the individual remains connected to his mother and to the rest through the sound of his own voice, “as a form of acoustic umbilical cord,” and this “coming together through listening [...] remains the nucleus of all communal formations,” thus becoming the archetype of all future communication with others (Sloterdijk, 2011, 297).

From the physiology of listening as a state of being set in sympathetic vibration, it is evident that acoustic experiences are media processes which cannot possibly be represented in languages of object relationships. This applies, incidentally, to the position of open air listening as much as to the

fetal position, which is why music is the continuum art *par excellence*.  
(Sloterdijk, 2011, 296)

Sloterdijk's reflection proceeds with the analysis of the acoustic dimension, which the author defines as 'phonotope,' with the formulation "of a phonotopic theory of medial immersion" (Cuciniello, 2016, 53. My translation) that sees the subject forming himself psycho-acoustically, first immersed in the liquid medium of amniotic fluid and then in the air once in-the-world. In the contemporary age, investigated in the third volume of the trilogy, the concept of sphere gives way to that of foam, that is, a set of bubbles, of co-isolated individual existences, "anthropogenic islands" connected together to constitute the anthroposphere, "a nine-dimensional space" of which the phonotope constitutes the "psycho-acoustic immune system" (Rashof, 2016, 90) and which represents the dimension of specific interest for our research. The phonotope is thus the framework that acoustically connotes the human place, the society, the agglomeration, from the primordial tribe to the city, up to the apartment of the individual subject, and according to Sloterdijk precisely the preparation of the apartment as an individual phonotope constitutes the most important contribution to the medial preparation of the island-home, ensuring it the function of mundanization (Sloterdijk, 2016), and allowing the distinction of an inside from an outside.

Considering the living space as a potential stage on which to insert immersive acoustic art through sound installations, we first of all come up against the pre-existing *sonosphere*, that is, all those sound elements that fill the domestic phonotope and constitute its soundtrack, making the space intimate, reassuring and familiar. These elements are the result of both devices purely functional to the ordinary architectural functioning and related to the provision of basic services in the daily management of aspects related to shelter and survival (we refer here to acoustic phenomena resulting from structural elements such as doors, locks, windows, floors, or appliances, water supply, air conditioning and heating system, lighting), and devices 'added' but which, in the same way as the first, have become just as necessary over time and part of a basic equipment of the contemporary home: here we mean personal media dedicated to communication and entertainment, such as telephones, electronic answering machines,

computers, radios, hi-fi systems, televisions, projectors, portable wireless speakers, home automation and domotics systems, voice assistants with integrated speakers. As can be seen from the outset, the elements - active or passive - that with different purposes produce sound in a house are many and varied. Thus the prospect of inserting in this space a further layer of sound specifically and primarily characterized by an aesthetic and artistic intention, therefore apparently unrelated to practical purposes or aims, seems at least intimidating, as well as complex.

By carefully observing the elements listed above, we distinguish the potential sounds in two groups: those inevitable and usually predictable and recurrent or continuous, coming from the structure itself and from the regular management of the island-home; and those avoidable and of arbitrary activation, generally very varied and heterogeneous. The first are the sounds that confer the island that acoustic substratum that over time becomes intimate as it is known, experienced through habit, over time, the result of continuous attendance. These are the noises that each of us is familiar with in our own homes, provided we have lived there long enough to have become acquainted with them. This acoustic level is generally not very stimulating from the point of view of attention and imagination, so much so that it is not normally noticed at all; in fact, its function is inverse: it imposes itself on the ear when it is not there, that is, when it is modified, interrupted, or when it is completely absent. Its importance in our daily reception lies mainly in constituting a periodic confirmation signal, to reaffirm that everything flows according to the rules of normality.

The second are sound events that, generalizing, we can attribute to the 'medial' apparatus of the apartment, that set of means used for the functions of mundanization and socialization: through these channels the world can filter into the private space in the form of news, interactive telecommunications with other individuals, passive entertainment through traditional media, transforming the home into a "world bubble" (Sloterdijk, 2016, 529), connected with the world and, precisely by offering the possibility of an 'elsewhere', they establish a gap, a difference between public and private.

From the stable, consolidated and often taken for granted presence of these media in homes, we can see how the habit of bringing and installing sound production systems

inside the home for the sole aesthetic and artistic purpose does not in itself constitute anything new or exceptional, nor is it complex or difficult to achieve. At a closer look, in fact, a radio that reproduces a theatrical *pièce* is nothing more than the imitation, the replica, the surrogate for an artistic practice (acting) conceived for a social context (the theater) and then declined as a domestic reduction through a medium (the radio). In the same way a music CD operates when it tries to bring into the private house the atmosphere of a performance in a concert hall. And the same could be said of the mechanism applied to cinema brought into homes through televisions, projectors and DVD players.

While media such as radios, CDs and TVs have been shown to be mainly surrogates when used for artistic and aesthetic purposes (reduced copies, incomplete imitations of experiences that normally have their nature live and elsewhere), sound installations can instead be conceived and specifically designed to be experienced within a private space, therefore without necessarily having to give up anything and without losing significance, on the contrary, acquiring meaning precisely by virtue of the intimate and particular dimension, offering in addition a less stressful experience from the point of view of the fruition of the work since the time to devote to the immersion is not limited by imposed schedules or by the presence of other visitors, and it is thus possible to establish a close and more meaningful relationship with the work not only for the intimacy of the situation but also thanks to the fact that the work will probably emphasize some latent properties of one's home, acoustic aspects, resonances, a materiality of which one was potentially unaware until then. Moreover, while media such as CDs and television presuppose a passive fruition, isolating through the erection of a wall against what is outside the medium, a sound installation can be conceived to bridge with the outside in many ways, for example using microphones, real-time data, internet, sensors, the light that filters through a window.

In the current artistic scene, the evidence of a new attention paid to the domestic dimension begins to constitute a reality that, although heterogeneous and perhaps not very organic so far, can no longer be minimized and relegated to the category of the exception, but instead deserves to be investigated as simple as concrete manifestation and consequence of the macro-model in which we find ourselves, based on the

individual as a single. Among the most significant examples in the field of music and sound art we find the emergence of house concerts;<sup>2</sup> attempts to systematize curatorial models for exhibitions hosted on the internet and to be visited via smartphone (Kannenbergh, 2017); and, again, new expressions and modes of domestic interaction for sound artworks<sup>3</sup> such as browser-based installations (Döbereiner, 2015); or, to stay with the metaphor of foams, the establishment of an apartment-museum,<sup>4</sup> which clearly exemplifies the metaphor of individual bubbles (apartments) joined to form foams (condominium).

Historically, in the specific field of sound art I identify two attempts, both by Max Neuhaus, that I find significant and which assume the value of illustrious precedents in this effort to break down some barriers and attempt to intervene with works of sound art even in domestic spaces.

The first example is the *Max-Feed*, “Neuhaus’s first art object” (Joseph, 2009, 69), designed and built by the author in 1966 and mass-produced in 1968 by Mass Art, Inc., a company dedicated to producing artist multiples and whose “primary interest was in eccentric plastic commodities, or *inflatables*, which were designed by artists and built by industrial manufacturers” (Eppley, 2017, 220). *Max-Feed* is a personal and portable home musical instrument, a small device designed to produce electroacoustic feedback and conceived by Neuhaus to be used by people by applying it to their hi-fi system in their living room. This device was born for the performance of *Fontana Mix-Feed*, a version by Neuhaus of the famous composition by John Cage performed through acoustic feedback between the speakers and contact microphones applied to the skins of Neuhaus's percussions. From this idea, still purely musical, the *Max-Feed* became for Neuhaus his first non-musical work, a way to give ordinary people, not musically trained, an artistic sound object to use freely in their daily lives and in the intimacy of home. It was based on an FM radio transmitter that sent feedback, produced by a small circuit with microphone and speaker, to the receiver. The user could manage the

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<sup>2</sup> See <https://concertsinyourhome.org>; see also <https://www.sofaconcerts.org/en/>

<sup>3</sup> See <https://klangraum-dumpf.com>

<sup>4</sup> See <https://viadellafucina16.kaninchenhaus.org/condominium-museum>

feedback and adjust it using the dial settings, a type of interface that anyone in the sixties was already familiar with due to the use of radios.

The circuit diagram of *Max-Feed* was included by John Cage in the book *Notations* (1969), which collects many examples of graphical scores by famous composers.

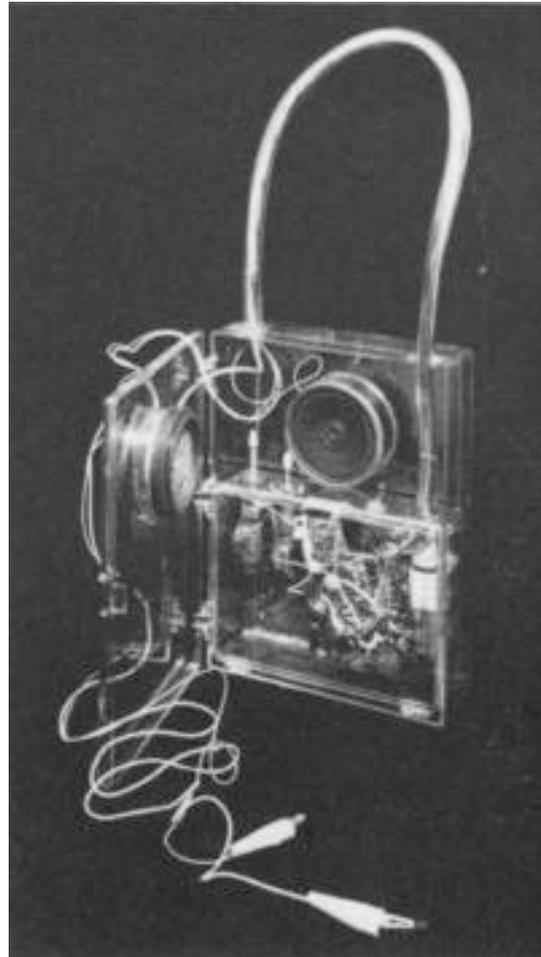


Fig. 2.1. Max Neuhaus, *Max-Feed* (1968). Photo: Peter Moore

The second example is a project that has never been produced if not as a prototype and was therefore never marketed: it is a silent alarm clock designed by Neuhaus in 1979 and based on the principle around which he would later develop the famous *Time Pieces* works that take place in different parts of the world. The alarm clock was designed to emit a drone that, growing in amplitude in a gradual manner, at the appointed time would wake up the sleeping listener by the sudden silence produced by its drastic extinction.



Fig. 2.2. Max Neuhaus, *Silent Alarm Clock* - Prototype (1979)

This prototype testifies, in my opinion, to a further evolution of Neuhaus's poetics with regard to the integration of sound zones and moments in space, at this point totally untied from the direction of experimentalism and musical forms that, however avant-garde, could still be identified in a product like the *Max-Feed*. Here the focus is on the attempt to integrate a new sensitivity towards sound directly into the more intimate daily routine of the person, and declined in the form of a design object with a clear functional purpose.

The next section is dedicated to the analysis of a work of mine, *Ecstasy*, to be understood in the continuation of this path as a sound installation for domestic space.

## Chapter 3

### 3. *Ecstasy* (2021)

*Ecstasy* is a sound installation conceived particularly for an intimate or domestic space, in which many of the considerations elaborated so far converge. From a visual point of view, at first glance *Ecstasy* assumes the simple appearance of a normal Ride drum set cymbal, supported by a rod, all accompanied by three compact electronic devices placed at the base of the work, to be connected to a power source. From a general and superficial listening, the installation generates a round and clear sound that fills the space and can be assimilated to the relaxing healing sounds produced by the friction of Tibetan bowls during meditation rituals.

From a conceptual point of view, the work is closed, autonomous, stand-alone and designed to be plug-and-play in order to provide an easy access to people not necessarily prepared to interact with new technologies. Moreover, the installation does not provide for any kind of interaction with the user nor with other direct data coming from the environment: it represents a world in itself, a closed, finite universe, constantly listening to itself and regulated by a few simple internal rules that ensure a behavior in constant movement. It is precisely this dynamism, based on an electro-magnetic-acoustic feedback system, that is revealed as necessary, for it is what allows the work to remain in constant equilibrium and to stem the potential drifts that occasionally emerge from its core.

We will go into more detail about its hardware components and its acoustic qualities in the next dedicated sections, but first it is useful to illustrate the genesis of this work and the idea that generated it, to better understand its aesthetic and symbolic aspects.

### 3.1 Genesis

The germ from which the original idea of *Ecstasy* arose and developed appeared to me in the form of a dream in early 2019. In the dream, on the walls of the most recessed corner of the house where I live were installed seven different cymbals supported by as many arms perpendicular to the wall, softly illuminated from above. These cymbals were in constant vibration, a state of minimal but perpetual motion, without any need to touch or strike them. It was as if they lived a life of their own, indifferent, their behavior did not provide for any role for external agents nor for me: after a few minutes listening to them it was possible to notice that the behavior of a cymbal after some time modulated the movement and therefore the sound of another, and so on to intersect their modes of vibration each other. In the meantime, rays of light hit their metal surface and reflected shakily into the room. I woke up and pinned the idea down, with particular interest in finding a way to play a cymbal without touching it and thus investigate its potential hidden acoustic resources.

It was almost obvious to me to relate that dream to a text that in those days I was studying as part of a broader research on sound and meditation. The text in question is *Music and Trance* by Gilbert Rouget (1985), dedicated to the relationships between music and the phenomena of possession. Rouget's text is a formidable research on the many ways in which different societies, peoples and tribes inhabiting different geographical areas and even different continents link music-based rituals to an interweave of religion, mysticism and dance, attempting to achieve states of rapture, trance and ecstasy by means of sound, movement - and sometimes chemistry. Without going too deeply into his research, we can here summarize his main teaching, namely that there are no universal laws that regulate these phenomena but that they are always the result of a cultural system; however, there is also a careful lexical and etymological analysis that occupies a large first part in Rouget's volume and that is dedicated to the problem of defining the terms 'trance' and 'ecstasy': this distinction is also useful to us here as it helps to explore the meanings that a work such as *Ecstasy* can take on and even to introduce how it works on a formal level.

Following the current lexicon, the word ‘ecstasy’ means a feeling of great happiness and pleasure according to the English dictionary;<sup>5</sup> in the German mind ecstasy becomes a rapture, an intoxicating state, similar to trance, in which man is removed from the control of his normal consciousness;<sup>6</sup> according to the Italian dictionary, the term designates a state of isolation and mental elevation of the individual or, more properly in mysticism, the rapture of the soul that at the height of his religious experience, once lost the consciousness of the physical world and every bodily link, rises to the contemplation of the divine.<sup>7</sup> From this simple comparison it is already possible to discern considerable differences in mental designs, in cultures and in the use of language and its meanings. Two data are useful to our discussion: the explicit adherence of the terms ‘ecstasy’ and ‘trance’ in the German definition, and the references to the divine in the Italian one.

Regarding the first datum, and taking up from Rouget the declared necessity to make specific the use of the two terms, we clarify that with the term ‘ecstasy’ here we mean a state of stillness, of quiet and calm fullness, almost of veneration, for which the etymology derived from ἐξίστημι (‘to put out’, ‘to go out of oneself’) indicates the process of going out of oneself for contemplation and mentally, freeing oneself from the physical burden. On the other hand, with the noun ‘trance’ we define a state of agitation, of induced chaos, of exaltation and excitement that fully involves the physical and bodily dimensions. Between these two poles, in balance, lives and manifests itself acoustically the installation *Ecstasy*, whose purpose is to preserve its own state of calm contemplation, of ecstasy precisely, curbing the potential emergence of a more convulsive and chaotic state that periodically arises spontaneously from the algorithm.

The aesthetic representation, through sound, of a meditative and contemplative effort - a dimension in which I am interested both through artistic research in sound and through a personal path of study of certain mystical traditions - is linked to the second point of interest highlighted above, or the proximity of the notion of ‘ecstasy’ in Italian with the religious aspect, witnessed by countless historical and hagiographic episodes.

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<sup>5</sup> <https://dictionary.cambridge.org/dictionary/english/ecstasy>

<sup>6</sup> <https://www.duden.de/rechtschreibung/Ekstase>

<sup>7</sup> <https://www.treccani.it/vocabolario/estasi>

Personally, I am not interested in the religious in itself, but rather in the spiritual datum in general, without necessarily reasoning in terms of divinity but instead focusing on mankind, traditions and ways of thinking and inventing metaphysics to live better and reach a different state and a different place.

### **3.2 Domesticity in *Ecstasy***

There are images, objects and visions rich in sound even when they are totally silent. *Ecstasy*, even if inserted in an ordinary context such as a house or, in any case in an environment that is not directly musical, and even when it is turned off and silent, necessarily already speaks of music, imposing a sense of musicality from its mere visual presence: being fundamentally constituted by a cymbal, a well-known musical instrument whose usual functioning as well as its sonorities are clear, the work presents itself as a strongly connoted image that is already rich in sound, even before the cymbal produces any. It brings with it an imaginary, a context, suggestions that undoubtedly refer to the world of Western music and its tradition, to rhythm and to the percussive universe, as well as advancing expectations regarding the acoustic universe that this cymbal-totem will reveal once it is in operation. But, borrowing the words from media theorist John Fiske, this installation - given its title, the idea from which it comes and the symbolic universe it wants to represent - also presents a vertical intertextuality (Fiske, 1987, 107) insofar for its symbolic and aesthetic aspects recall mystical rituals and a non-Western tradition in the use of cymbals and similar instruments such as gongs, tam-tams and Tibetan bowls in spiritual and contemplative practices. The first aesthetic level is therefore constituted by the material and sculptural aspect of the object itself, which stands out in the room as an artifact to be exhibited alongside other elements, be they functional and furnishing or design products and other artistic creations, contaminating the climate and atmosphere of the space with its presence.

But it is in the manifestation of the sonic nature of this installation, as a producer of sound by means of an electro-magnetic-acoustic scheme of action, that the work comes to life in space and from which the components that make the private sphere a

dimension of optimal fruition and listening are released. The behavior of the work is articulated through the physical rules to which the cymbal responds as a medium acoustically solicited and explored by means of the algorithm and its rules that shape a dynamic process. These rules are designed to bring out a behavior of constant dynamic and frequency balance through the self-listening of the cymbal, and potential challenges to that balance through a cyclical trend that through the feedback of the signal tries to diverge the trend and explore periodically new routes and new acoustic nodes around which to establish a possible renewed balance. This kind of evolution and sound gestures mean that listening to the work for a short period of time is not enough. On the contrary, it is precisely the research on contemplation from which the work itself springs that suggests a way of fruition and an attentional approach that are not slaves to the rapacious and greedy, fast and superficial way of consuming, to which perhaps we are all accustomed in general and in the art field in particular, and that the museum practice has, indirectly and unintentionally, supported by setting the attendance with the beauty in a bulimic and neurotic way. The way of fruition suggested by the very essence of this work, on the other hand, is perfectly allowed and corroborated by finding place in an intimate and habitual space, since the work is designed precisely to build a domestic, almost meditative atmosphere, interweaving with the known spaces and establishing probable resonant relationships with other elements and objects of the living bubble, which would not otherwise be possible to recreate if it were inserted in an unknown and never heard, alien and mundane context, in the presence of other listeners, and whose attendance for long periods of time would not be fundamentally possible.

The domesticity of *Ecstasy* resides, therefore, first of all in its provision for a relationship with the user to be established over time, a long time, the time of frequentation, of cohabitation. Ideally, its sonic unfolding should become a process, a familiar presence that insinuates itself into the folds of everyday life and its spaces. Then the work will be constituted as an experience, reflecting its ontological status that sees the object projecting itself to become an event, an atmosphere, a space. Once this level of intimacy has been reached, I like to think that the artwork transforms itself into a meta-acoustic occasion, a way of being with oneself *in* the sound, turning - to paraphrase Böhme - listening to listening itself.

Secondly, the domestic specificity of *Ecstasy* is also expressed through the interaction with the house, starting precisely from its inner structure: for example, arranging the work in a room with wooden floors, one can feel - and especially in some moments when the system emphasizes and explores different nodes of the cymbal - the vibrations that starting from the ground and flooding the listener's body from below become concrete, material and physically perceptible from the legs as well as acoustically. This passive involvement of the observer, who is englobed in the relational network work-space-user, feeling the sound on his body which itself becomes space of the work, is increased and made active involvement in different possible ways of exploration of the aesthetic environment that has just arisen, for example with the movements and rotations of the head, and therefore the integration of our organic filter, the one we always carry with us on our shoulders, and its modulation through the movements of the head; or again, by modifying the position or the inclination of the plate on its support, and realizing, perhaps even by chance, that by correcting the height of the plate so as to be equal to the position of the ears once seated on an armchair, one will perceive a very different and particular acoustic behavior that occurs only when the cymbal-ear axis is aligned, opening up to new models of experience and fruition (some standing, others moving in space, others still seated) and possibly also to new ways of creativity and attention, as the result of this simple relationship with the work but that, at least in its intentions, wants to be a harbinger of a renewed desire for exploration, curiosity and the ability to wonder and be amazed even and especially within the limits of everyday life and ordinary spaces.

Since this is an installation that presents a cyclic progression, without end or formal structure of a 'narrative' kind, used to fill an ordinary, everyday space with sound, perhaps a juxtaposition to ambient music arises spontaneously, a reference to the *musique d'ameublement* theorized by Satie, or a relationship to so-called *muzak*. Although there are interesting elements in the first two, especially when contextualized, I would like to clear the field of the hypothesis that a 'sonic mode' such as tapestry music actually shares anything significant, in its approach as in its effects, with the idea of domestic sound installation of which I have tried so far to outline the traits. Without making value judgments of any kind, but at the same time taking the legitimate freedom

of expressing a distaste for *muzak*, it is worth emphasizing the differences that irretrievably and constitutively separate the two approaches. “Muzak is nothing other than the instrumentalization of sound for the aims of increased production and profitability” states Branden Joseph (2009, 71) discussing John Cage and Max Neuhaus’s aversion to that kind of sound tapestry. Not only that, but the idea of filling at all costs every moment of everyday life and every space in the world with sound, especially if for the purpose of consumption and further production, is exactly the disturbing scenario that an attentional approach like the one proposed here wants to help fight and avoid. Inserting elements of beauty expressed through sound into private homes does not mean creating a perennial and omnipresent noisy tapestry in the background, not to be actively listened to but to be suffered. The intent is instead to develop a political and ecological consciousness and awareness, a sense of place, even the private one, as a social and collective space, in which the actions of the actors involved have consequences for all, and at the same time contribute to forming the habit of an active and participatory role in listening.

### **3.3 Hardware & Software**

The main element of the installation consists of a 20-inch regular Ride cymbal, chosen because it keeps the motion rather longer than a Crash model or smaller cymbals, and given the size, radius and average thickness of the precise model the components that are applied to it (magnets and microphone) do not significantly alter the timbre or choke the vibrations. As we will see, the cymbal represents in the system the medium to be excited and the sound source, but it also exerts a considerable filtering force: in this sense I selected the Zildjian cymbal after several tests on other cymbals of well-known companies, which in a normal set-up would be excellent cymbals but for the particular system in use in my case were too thick and heavy, while the Zildjian cymbal is very bright in sustaining the sound.

The rod supporting the Ride is a regular and solid stand to which are applied just below the cymbal two adjustable arms for the electromagnets that can be articulated in

different configurations: in this way, overcoming the first tests in which a microphone stand was used, freedom of movement, independence and precision in the positioning of the electromagnets is allowed. This is a crucial step not only in design, system exploration and prototyping, but it remains necessary for a proper functioning of the work since the balance that is created in the magnetic field between the magnets applied on the surface of the cymbal and the electromagnets below becomes a very subtle and labile balance, in which the displacement of the elements in the order of millimeters makes the difference between proper operation and the collapse of the entire cymbal towards one end or the other, resulting in malfunction of the system and the need for an intervention to restore the optimal conditions. This aspect represents a crucial challenge also during the set-up and installation phase at a possible private owner's, who will then have the task of checking and making sure that the balance, and therefore the distance, between the cymbal and the electromagnets is preserved over time.

The articulated arms, secured to the rod of the plate, have at the ends two terminations in spring clamp microphone clips which allow on the one hand a variable opening in order to secure electromagnets of different sizes and diameters, as in our case, and on the other hand allow to adjust individually and independently the positions and inclinations of the two electromagnets.

On the cymbal are applied by adhesive material two neodymium disc magnets, with a diameter of 8 mm, therefore very small but very strong, placed at both ends of the diameter. Halfway along the circumference is applied a piezoelectric microphone that captures the signal to transmit to the Raspberry Pi via a sound card.



Fig. 3.1. *Ecstasy*: articulated arms and electromagnets

The electromagnets used are two different models, a permanent magnet and an electromagnet: the first has a diameter of 20mm, 6W of power, capable of a holding force of 45N; the second has a diameter of 40mm, same power but capable of a holding force of 200N. These two elements receive the signal coming from a 75W two-channels amplifier, that is the signal of the cymbal picked up by the microphone and modified by the algorithm.

The choice of the sound card is for a small model, plug-and-play, USB powered, ideal to work directly with a Raspberry Pi without the need for drivers nor to configure it at every start up, an essential aspect to ensure a potential owner of the work a simple and accessible experience.

The synthesis engine finds place on a Raspberry Pi, a cheap and compact board. One of the main reasons, in fact, in the perspective of the broader project of development of installations to be allocated in private spaces instead of museums, is of economic nature: saving where possible, allowed by the results of technological developments in recent decades, allows not to compromise the quality of the hardware and the finished

work and is a great way to avoid reaching the end of the creation process with too high an overall cost to address the interest of individuals among non-collectors and insiders of the art world.

Secondly, Raspberry boards have been on the market for years now; they are reliable and above all they are well documented. Consequently, the certainty of working on a good product and having documentation available makes the working process more peaceful and less stressful. Furthermore, since this brand is now a reference in the *DIY* world and beyond, and being the Raspberry open source, a large global community has arisen around these products, and that has made this world accessible to anyone. This aspect should not be underestimated: especially when something does not work as expected, or when stuck in the development of a project due to technical difficulties, knowing to count on a large pool of users who are generally experienced and ready to help (even only indirectly, by finding solutions to problems that someone else had already faced) makes all the difference in choosing which hardware to rely on. That said, the essential heart of this project is therefore a Raspberry Pi, of such a small size that it can really be embedded anywhere, making the installation very convenient and compact.

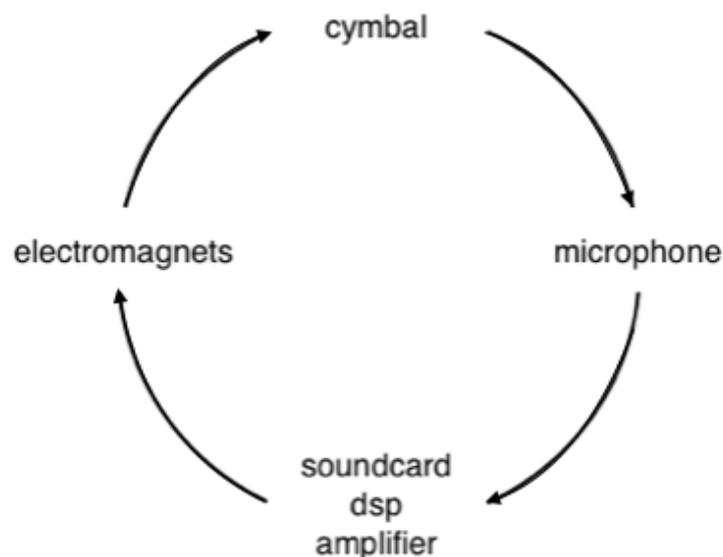


Fig. 3.2. *Ecstasy*: feedback structure

A simple script added to the Raspberry Pi tells the board to launch the algorithm - elaborated in Pure Data,<sup>8</sup> free and open source multimedia language - at start up, loading the libraries necessary for its proper functioning and avoiding to activate the graphical interface to save resources, allowing the user to enjoy the installation simply by turning on the power supply to which the Raspberry Pi and the amplifier are connected.

The algorithm is an agile patch that aims to offer a system of self-listening to the cymbal, establishing a system of self-controlled feedback between the cymbal picked up by the microphone and its audio signal appropriately modified emitted by the electromagnets that set the cymbal in vibration. The incoming signal from the microphone passes through a distortion module that increases the level and emphasizes the color according to a time-varying coefficient controlled by the spectrum of the output signal analyzed at the end of the algorithm.

The signal continues, on the one hand, towards a three-band equalizer, set according to the spectral characteristics of the cymbal, followed by a further filtering to then enter a variable delay line; on the other hand, the signal enters an analysis and feature-extraction module so as to exploit the input signal also for the generation of control signals. A process of envelope following on the input signal forms a control signal that follows the evolutions of amplitude in inverse relation.

The filter is a resonant bandpass filter that takes an audio signal to set its center frequency. This signal is constrained within a range that is sonically meaningful for the cymbal qualities and fed and varied in time by the control signal resulting from the process of envelope following of the microphone signal. The same signal controls an oscillator, which is added to the signal of the cymbal in the delay line, and which also generates in turn a control signal that will be used as a coefficient in waveshaping, the last step before going out on the permanent magnet.

The delay is varied in time by an oscillator whose frequency reflects in direct relation the trend of the *rms* value of the signal coming from the filter, and by a mobile gain that opens through time the possibility of long static phases or more excited and gestural phases based on probability ratios. From the delay line the signal exits towards three

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<sup>8</sup> <https://puredata.info>

destinations: it re-inserts back into the delay line, forming a feedback loop that is stabilized by an automated gain between determined values of medium intensity, so as not to accumulate too much energy but to provide constant variation. On the other hand, the signal produced by the delay line undergoes a further process of distortion similar to the non-linear analogue distortion, finally exiting on the first channel to the permanent magnet, which is very reactive to the dynamic and frequency evolutions and therefore becoming the main energy supply and self-listening device of the system. Finally, before exiting on the large electromagnet on the second channel, the delayed signal is further filtered but this time by a low-pass filter modulated by the control signal generated at the beginning, suitably rescaled. This second signal is therefore equally delayed as the first one, but after the second filtering process it works especially as an exciter in a low spectral range where the cymbal produces a lot of energy but less acoustically relevant sounds, thus giving body and rhythm to the acoustic pattern of the system and addressed to the electromagnet, which is less reactive and lively and more inertial but also more powerful than the permanent magnet.

This simple and computationally inexpensive patch is able to excite the cymbal compatibly with the expected method of excitation, that is electromagnetic and without direct impact or percussive interventions, thus stimulating a limited range of its potential harmonic spectrum. The differences with respect to a classic acoustic microphone-speaker feedback system are many and enormous, even in terms of reaction time of the medium and therefore the effectiveness of a feedback based on delay, in addition to the more obvious acoustic ones. Even the differences with respect to the usual musical use of a cymbal are significant in terms of sound universe and expressiveness. The system illustrated here presents many limits to the aesthetic possibilities; the cymbal itself, from a physical point of view, poses substantial resistance. But these limits guide and stimulate the search for elements that can emerge, even unexpectedly, from an instrument that as a percussionist I thought I knew thoroughly. If, on the one hand, these formal limits delineate and restrict the perimeter within which to delve, on the other hand they represent a driving force that acts as a stimulus to curiosity and inventiveness. After all, it is still at least in part about composing for an instrument, albeit played in a non-traditional way, about challenging

its physical limits and declining its potential through the seemingly infinite field of action offered by the digital.

## **Chapter 4**

### **4. Conclusions**

This thesis presented and discussed several aesthetic and artistic implications related to the role of space in the sound art. Different notions of space were analyzed from the point of view of the effects they produce in aesthetic and political terms; in particular, space in the field of sound installations was investigated as a fundamental co-agent within the artwork-space-user paradigm, and a personal artistic approach to sound art considered in its status of spatial rather than temporal sonic praxis was offered. Special attention was given to the intimate and domestic space as an ideal aesthetic space, an ordinary place for which to specifically design sound artworks. The approach to the domestic dimension from a sonic and aesthetic perspective was discussed both in its theoretical and philosophical aspects - drawing from Peter Sloterdijk's Spherology and from the aesthetic theory of atmospheres promoted by Gernot Böhme - and through concrete examples drawn from the sound works by Max Neuhaus and from a recent work by the author. From the importance of an attentive and conscious approach deriving from the artistic practice of sound and from the awareness of space as an aesthetic and social product emerged the value of sound as a political act and as an event resulting from the relationships that take place within a context in which we are all actors and agents.

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