



# FORUM ACUSTICUM EURONOISE 2025

## SOUNDSCAPING AS A MULTIDISCIPLINARY ACTIVITY

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### ABSTRACT

This paper aims to present soundscaping and sound studies as multi-, inter-, and/or transdisciplinary fields, encompassing a range of interrelated activities that mutually affect each other. I will outline four foundational pillars upon which this transdisciplinarity can be built:

- *Discourse*: Advancing and developing research that bridges diverse discourses from the humanities, the social sciences, the arts and artistic research, and the natural sciences. This pillar emphasizes collaboration between scholars and professionals within and beyond academia, fostering projects that contribute to the dissemination to these discourses.
- *Sound Advising*: Addressing contemporary challenges related to noise abatement, sound policies, and regulations. This includes analyzing lived experiences of sonic environments and proposing concrete improvements to enhance acoustic as well as non-acoustic conditions.
- *Education*: Raising awareness of sound's profound entanglement with everyday life through diverse educational initiatives. This involves promoting societal engagement with sound via workshops, courses, and exhibitions that cater to a broad audience.
- *Sound Art*: Supporting and promoting artistic practices that engage with sound in its full diversity. This entails facilitating the creation of public artworks, fostering sound productions that address health, social interaction, and ecological concerns, and advocating for artistic interventions as a means of enhancing general well-being.

**Keywords:** *discourse, sound art, education, consultancy*

### 1. INTRODUCTION

*Stage 1:* As is widely recognized—perhaps even one of the key reasons for events such as this EuroNoise conference—international, national, and local health and healthcare organizations consistently warn against the detrimental effects of prolonged exposure to excessive and loud sounds. Just a few months ago, the European Court of Auditors published a report concluding that while cities have cleaner air overall, they remain excessively noisy. Noise pollution continues to be an underappreciated issue and a major health concern within the European Union, particularly in urban areas. Over 90 million people are exposed to chronic noise daily, with well-documented consequences such as sleep deprivation, stress, and cardiovascular diseases. According to the Court's findings, the inadequate reduction in noise levels is largely attributable to ineffective policies, among other factors [1].

*Stage 2:* We are affected by and affect our sonic environment by all kinds of everyday sounds—many of which go unnoticed or are processed subconsciously. These sounds form, inform, and sometimes transform our behavior and mood. For instance, the siren of a firetruck signals drivers to yield; the sound of keys in the front door announces the return of a family member; the return of a singing blackbird in March heralds the arrival of spring; the hum of the washing machine indicates which program is running, and so on. Conversely, humans affect the everyday sonic ambience, whether by producing sounds or by designing the auditory environment: our Senseo coffee machine mimics the sounds of a traditional coffee maker; the doors of a BMW sound distinctively from those of a Suzuki;

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checking in and out of a train or subway is accompanied by specific bleeps; etc. [2].

*Stage 3:* To escape noise pollution, to alter or maintain our mood, to stimulate action (or, conversely, to calm down), or simply for entertainment, we can surround ourselves with our favorite music—almost anytime, anywhere. Whether commuting, shopping, working, exercising, socializing, cleaning, or even preparing for sleep (or aiding in falling asleep), music accompanies us, either individually or collectively, through loudspeakers or earphones, as background or foreground. There are few individuals who do not engage with music daily [3, 4].

Why do I begin this paper by discussing these three “stages,” as I call them? Why do I draw your attention to noise pollution, everyday sounds, and music? The reason lies in the fact that these three topics are seldom addressed together in academic publications. Conferences such as Euronoise or Internoise typically focus on outdoor and indoor noise pollution; the majority of presenters at these conferences possess technical backgrounds, and their papers are rarely read by musicologists, musicians, or philosophers interested in sound. In contrast, the study of everyday sounds tends to be confined to social scientists or humanities scholars—sociologists, psychologists, anthropologists, philosophers, and so forth—who have developed their own discourse, publication channels, and specialized conferences. The same is largely true for musicologists and musicians, who show little interest in noise (except as a musical genre) or everyday sounds (except in the context of using [processed] field recordings in compositions).

It is true that such generalizations involve some degree of stereotyping: cross-disciplinary interactions do occur. Psychologists address both noise pollution and music; there are technological discussions of music, sound, and sound art; philosophers engage with music as well as noise; and musicologists sometimes do discuss daily (non-musical) sounds. However, the central points I wish to emphasize are, first, that the fields addressing noise pollution, everyday sounds, and music are often quite distinct; and second, that these fields could greatly benefit from one another. They could enrich one another through the exchange of ideas, academic and artistic practices, societal contributions, and educational programs.

This paper, therefore, aims to propose a model for soundscape and sound studies in which these

intersecting fields can converge and influence one another. For several years now, I have been working to establish such a multidisciplinary platform—both virtual and physical—in the Netherlands: The Sound Studies Center.

## 2. THE SOUND STUDIES CENTER

The Sound Studies Center (hereafter SSC) is a part of Leiden University’s Academy of Creative and Performing Arts in the Netherlands, and it was officially launched in 2023. Since its inception, the SSC has been continuously evolving as a research institute, a network, a platform, an educator, and an advisor. Emerging in response to the “sonic turn” of the early 21st century, the SSC reflects the growing societal awareness and significance of sound. Both scholars and citizens alike have come to recognize the substantial influence that sound has on our mood, experiences, behavior, and (re)actions. As academic publications on sound continue to proliferate, sound art becomes increasingly integrated into festivals, and noise pollution is acknowledged as a global concern, the SSC seeks to unify these diverse activities. As both a physical space and a social community, the SSC serves as both a sanctuary and a catalyst for researchers and artists invested in the study of sound and its intersections with other societal domains.

The SSC thus functions as a research institute dedicated to the study and development of discourses surrounding sound. It is a place where sound art is both created and reflected upon, where educational programs on sound are designed and implemented, and where organizations can seek expert guidance on sound policies. That is, the primary objectives of the SSC are to promote academic research on sound, soundscaping, and sound art, to provide sound artists with opportunities to create new works and conduct research, to offer advice to societal organizations on sound design, and to develop educational initiatives in sound, sound art, and music. To achieve these goals, the SSC collaborates with scholars and artists from diverse backgrounds and areas of expertise.

The SSC serves as a platform for fostering and maintaining cooperative feedback loops between academic research and applied knowledge. It supports a range of initiatives that promote artistic production, lifelong learning, and policy development.





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### 3. FOUR POSSIBLE PILLARS OF SOUNDSCAPING AND SOUND STUDIES

From paragraphs 1 and 2, two conclusions can be drawn: first, soundscaping and sound studies should deal with sounds that are often or in specific contexts considered as noise; with sounds that are primarily considered for their aesthetic value and are often called music; and with everyday sounds that are not classified as music and don't (always) qualify as noisy. Second, soundscaping and sound studies can benefit from a multi-, inter-, and/or transdisciplinary approach, bringing together knowledge, ideas, concepts, and research methods from the natural sciences, the humanities, the social sciences, and the arts/artistic research. This may result in a range of interrelated research activities that mutually affect one another. To elaborate this, I will outline four foundational pillars upon which soundscaping and sound studies can be built: discourse, sound advising, education, and sound art.

#### 3.1 Discourse

According to the French philosopher Michel Foucault, the concept of "discourse" should not be reduced to language or mere modes of expressing ideas. Rather, discourses determine what can be discussed, the manner in which it can be articulated, who is authorized to speak, and the positions from which they can speak. As such, discourses play a fundamental role in shaping and co-constructing power relations, societal norms, knowledge production, and the construction of reality [5].

Given that discourses influence perceptions of reality and impact societal, scientific, and academic norms and behaviors, it is crucial to recognize that the discourses about and around soundscaping and sound studies determine which ideas are legitimized, while marginalizing or even completely excluding certain topics or approaches. To advance sound and soundscape studies as truly multi-, inter- or transdisciplinary fields, I contend that research bridging the various emerging and established discourses from the social sciences, natural sciences, humanities, and sound art must be actively supported.<sup>1</sup> I advocate for the creation of a vibrant

research community where these varied strands of sound-oriented discourses interact with, reinforce, and provoke one another.

While the development of this argument is beyond the scope of this paper, several potential topics may serve as illustrative examples:

- Rethinking noise: Noise (and noise pollution) is often broadly defined as unwanted sound, and typically associated with loudness. However, within the domain of music, noise has its own aesthetic significance and has played a positive role in the development of music since the early 20<sup>th</sup> century.
- Sound beyond acoustics: Sound can be studied, analyzed, measured, and experienced in terms of its acoustical properties. Simultaneously, its influence extends far beyond the realm of acoustics alone: sound affects social interaction, ecology, economics, the political, and feelings of (in)security, among other factors.
- Attention to everyday sounds: Without a priori condemning the multitude of sometimes disruptive sounds in our environment, we can explore how these sounds influence our lives, behavior, and mood, as well as also how humans shape (or fail to shape) their sonic environments. Such explorations would certainly benefit from a multidisciplinary approach.
- Bridging soundscape studies and music studies: A gap remains between soundscape and sound studies on one hand, and music studies on the other. Nevertheless, music is an important part of our everyday sonic environment, and maintains a specific relationship to, for instance, power, politics, economics, identity issues, and the concept of noise.
- Inclusive discourses: Discourses around soundscaping and sound studies should more systematically and structurally integrate the "voices" that are frequently excluded. This includes non-Western voices, the voices of non-human entities, and those of individuals with hearing loss, etc.<sup>2</sup>

#### 3.2 Sound Advising

In the realm of noise abatement and sound policies, international, national, and local governments, organizations, and institutions seem to be undergoing a

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<sup>1</sup> The SSC aspires that professors, postdocs, PhD candidates, MA and BA students from the disciplines of sound art, musicology, composition, anthropology, area studies, art history, and science and technology studies work together with invited (artist-)researchers from outside the academic world on projects that contribute to the ongoing dialogue within these developing soundscaping and sound studies discourses.

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<sup>2</sup> Besides research being done at the SSC, the center also hosts the [Journal of Sonic Studies](#), which since 2011 provides a platform for sound scholars and artists to present their ideas on sound, sound studies, and sound art.



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significant and fundamental shift these days. Traditionally, efforts have been centered almost completely on measuring decibels and developing predictive computer models. However, recent research conducted by SSC members for various entities - including the Dutch Ministry of Defense, the city councils of Leiden and Rotterdam, the Provincial Council of Zuid-Holland, and several civil organizations in The Netherlands - has increasingly prioritized the concrete experiences of sonic environments and the ways in which (sonic) interventions can enhance people's relationships with these environments.

Much of the SSC's advisory work is grounded in fieldwork, citizen science, soundwalks, interviews, and the contribution of sound artists, alongside sound metering and the extensive use of best practices and relevant (inter)national publications. This work is not only intrinsically connected to the creative interventions of sound artists but also informs concrete policy recommendations and advice through the diverse discourses on soundscaping and sound studies, developed within the SSC and globally. Simultaneously, this advisory work actively forms, informs, and transforms the discourses.

Key considerations in this context include:

- The interrelationship between sounds and, for instance, health, inclusivity, politics, social interaction, technology, and sustainability. Rather than focusing solely on the intrinsic features of sound, both clients and researchers stand to benefit from a broader perspective on sound, noise pollution, music, and sonic ambiances.
- Expanding the focus beyond the interaction between sounds and humans by including non-humans. Not only would people benefit from more biodiversity; even inanimate entities interact with sound, for example, by vibrating in response, absorbing or reflecting sounds, masking certain frequencies, or amplifying others.
- The role of sound artists and composers in revealing the contingent (sonic) potentialities of a given space. At the same time, incorporating artistic practices into urban (re)design may alter the role, function, and position of an artist: artistic interventions in this context might become less autonomous and more utilitarian, potentially even shifting into the realm of "non-art" (i.e. works that are not recognized as art within institutional frameworks).<sup>3</sup>

<sup>3</sup> See for more on the role of sound art and (experimental) music, section 3.4.

## 3.3 Education

It is self-evident that education plays a crucial role in raising awareness of the fundamental impact of sounds, sound policies, and sound design on society, and how they affect the ways humans as well as non-humans act, react, and relate to one another. To foster this awareness, a diverse range of educational initiatives - including workshops, lectures, seminars, conferences, and courses at the BA, MA, and PhD levels, as well as programs outside regular educational institutions - are essential.

For example (and in connection to Section 3.2), it is striking that (landscape) architects, urban planners, and project developers often have limited knowledge of sound and sound design beyond the legal frameworks within which they need to operate. In response, the SSC develops courses tailored to these professionals, emphasizing the role and influence of sound on the environment and living conditions. Through a broad theoretical foundation supplemented by site visits, activities, and readings, these courses elucidate the agency of sound and its practical application in urban planning, design, architecture, and other related fields.<sup>4</sup>

At the other end of the educational spectrum, the SSC is also developing a course meant for primary schools that could replace or supplement traditional music lessons. In this program, pupils record both ordinary and less ordinary sounds from their surroundings and process them using free software such as Audacity. This hands-on approach heightens their awareness of their sonic environment, encourages active and attentive listening, and fosters creativity.

Between these two initiatives, another notable program is the SSC's collaboration with the Orpheus Institute in Ghent (Belgium) on the Sound Arguments seminar series. Each year, this program brings together a new international group of sound scholars, sound artists, sound students, and professionals to discuss topical issues in soundscaping, sound studies, and sound art, while also engaging in practical workshops.

A thorough understanding of current discourses in soundscaping and sound studies is a prerequisite for developing effective courses and workshops. Moreover, given the SSC's emphasis on creativity and imagination, a solid foundation in both theoretical and practical aspects of sound art and experimental music is essential. Conversely, the process of designing educational programs and delivering courses contributes to a

<sup>4</sup> Here, the SSC functions primarily as a service center for non-academics.







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deeper—and at times critical—understanding of the discourses and artistic practices.

## 3.4 Sound Art and Experimental Music

Sound artists, composers – particularly those working in experimental music – and/or performers of contemporary music can offer unique contributions to how we reflect on, evaluate, think about, experience, and (re)design the sonic ambiance of (public) spaces. Said differently and more definite: artists can contribute in ways that other disciplines cannot. How?

- As noted in Section 3.2, art, by its very nature, enables people to encounter the unexpected, the unknown, unanticipated possibilities that other disciplines have neither thematized nor studied.
- Section 3.3 highlighted how (artistic) creativity can help schoolchildren investigate their sonic environment and compose works based on field recordings.
- Artists, of course, can “beautify” an existing environment through aesthetic interventions. Several compelling examples – some more overtly artistic than others – are documented in the [Catalogue of Soundscape Interventions](#). In this sense, sound art can serve as a means to mask, enhance or transform an already existing sonic environment, thereby informing sound advisory recommendations.
- Artists can also alter how a specific part of a city is experienced. For instance, an audio tour could allow participants to listen through headphones to a curated soundscape that contrasts with the environment they are physically navigating.
- However, and here the connection can be made to discourse and education, beyond these aesthetic and experiential contributions, artists can engage with soundscapes in ways that have profound social, political, and ethical implications. Because they listen differently, artists may evaluate, experience, and reflect on soundscapes in ways distinct from scholars, residents or users of a space. Sound artists, in particular, can teach others how to listen – more attentively, unprejudiced, with openness to the unexpected, beyond mere instrumentality and functionality, and even sounds we might otherwise ignore or dismiss.
- Artistic research conducted in and through sound art can add new value to public urban spaces and contribute to broader debates on, for instance,

ecology, biodiversity, and climate change.<sup>5</sup> In this context, art should not so much be considered as an object but as a tool – art as a mode of thinking.

## 4. LISTENING

Whether dealing with noise, everyday sounds, music or sound art; and whether studying these sounds through the lens of the natural sciences, the humanities, the social sciences, or artistic research – one fundamental principle should lie at the core of all research in and on soundscaping and sound studies: listening!

Listening can take many forms. It may involve only one’s ears or be aided by devices that grant access to a sonic world otherwise imperceptible to human hearing. It can occur during a soundwalk<sup>6</sup> or to pre-recorded audio. This can take place at home, on the street or in a concert venue. It can be done alone or collectively, organized and structured or spontaneously, etc. However, if soundscaping and sound studies are to be promoted as multi-, inter-, and/or transdisciplinary fields, then (and perhaps first of all) diverse listening attitudes should also be integrated – attitudes that mutually (and positively) influence one another.

Listening and (simultaneously) analyzing the acoustical properties of a sound might primarily belong to the domain of the natural sciences. Yet, music studies can contribute depth and richness to the discourse. The humanities and social sciences introduce listening attitudes that emphasize political, social, psychological dimensions of listening, while artistic discourse and practices tend to focus on aesthetics. From the natural sciences also comes the idea of extending listening beyond the human, whether through bioacoustics or AI-assisted technologies. For the philosopher Hans-Georg Gadamer, true listening requires openness to the other, without which genuine human relationships are impossible. Belonging together, he argues, always also means being able to listen to one another [7]. Literary scholar Elaine Scarry suggests that encountering objects and events we consider beautiful (e.g. music or any other sound) can cultivate sensibility, recommitting us to a standard of perpetual care and ethical responsibility [8]. Likewise, listening to sounding art often demands a careful,

<sup>5</sup> In this respect it should be mentioned that in all the advisory work that is currently being done by the SSC, sound artists are part of the team.

<sup>6</sup> According to Hildegard Westerkamp a soundwalk is “any excursion whose main purpose is listening to the environment. It is exposing our ears to every sound around us” [6].



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sensitive, hospitable engagement – one that moves beyond prejudice.

All these approaches, all these listening attitudes, all these different outcomes from different forms of listening can deepen the discourses on soundscaping and sound studies. They can be incorporated into educational programs and prove essential in advisory work. In short, aiming for a multi-, inter-, and/or transdisciplinary approach to soundscaping and sound studies ultimately necessitates an exercise in developing a capacity for genuine listening, that is “an attitude which occupies no space but creates ever new spaces in the very ‘place’ where it is carried out” [9].

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