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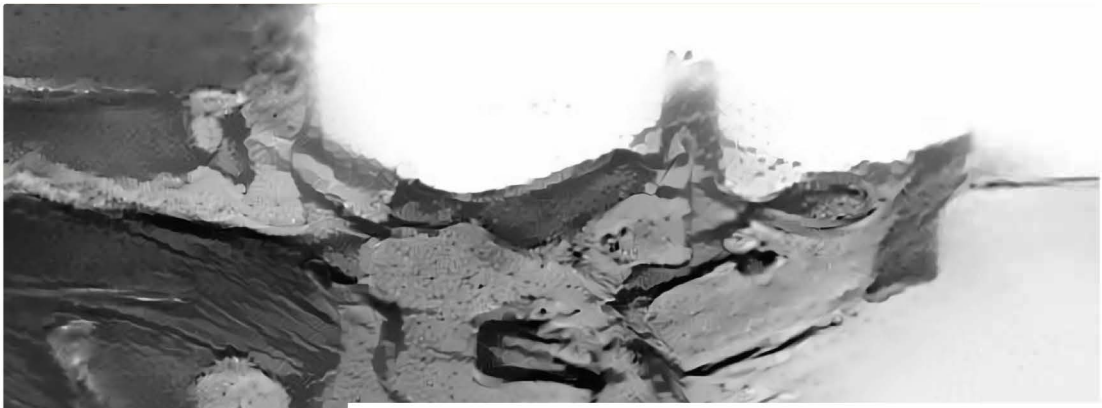

Negotiating Noise

Across Places, Spaces and Disciplines

SANNE KROGH GROTH AND JAMES G. MANSELL (EDS.)
SOUND ENVIRONMENT CENTRE | LUND UNIVERSITY

NEGOTIATING NOISE

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James G. Mansell is Associate Professor in the Department of Cultural, Media and Visual Studies at the University of Nottingham, UK. His academic training is in cultural history. He works at the intersection of history and sound studies, including research on the history of responses to noise. His current research is on sound in museums and global histories of sound collecting.

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Marie Thompson is a Lecturer in Popular Music at the Open University, UK. She is the author of *Beyond Unwanted Sound: Noise, Affect and Aesthetic Moralism* (Bloomsbury, 2017). Her current research project is named Tinnitus, Auditory Knowledge and the Arts, and she is the co-founder with Annie Goh of the ongoing project Sonic Cyberfeminisms.

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Introduction: Negotiating Noise Across Places, Spaces and Disciplines

Sanne Krogh Groth and James G. Mansell

As a term, 'noise' is as disturbing, indefinable and wild as the phenomena it describes. A definition appearing crystal clear in one context is easily distorted in another. In both academic and everyday settings, noise emerges in different forms, depending on epistemological approach and sensemaking ontology. What is heard as a disturbing sound in one setting can appear meaningful in another. Noise can be detected through sonograms and analysis; it can occur in signal processing; it can be experienced through aesthetic – or anti-aesthetic – means; it can be significant to our understanding of a specific sociality, culture or society; and it can serve effectively as a metaphor for other phenomena. As Novak (2015) puts it: 'The concept of noise is like the hub of a wheel: its differences radiate in every direction, and each appears to extend to a separate end point' (133). Despite its troublesome etymology and the challenging domestication of the term, the study of noise also invites interdisciplinary and transdisciplinary approaches, where the term unavoidably, and perhaps productively, travels from one meaning to another.

Noise is an unusually fascinating and difficult topic to grapple with across disciplines. There are long-established ways of thinking about noise in the fields of acoustics, art, architecture, communication, engineering, medicine, music and philosophy, and newer perspectives in history, sociology and social anthropology, that have distinct episte-

mological roots and rarely come into contact with one another. There are, underpinning these fields, very different knowledge paradigms at work. Since at least the eighteenth century, complaints about unwanted sound and organised campaigns to suppress it have situated noise as unwanted or polluting sound that disrupts and disturbs people (Bijsterveld 2008). Academic research allied to this way of thinking seeks to control or suppress noise. On the other hand, noise has been embraced as a radical, creative disruption, a future-orientated auditory force, and as a state of alterity (Hegarty 2020). It has been acknowledged as affective, subaltern and socially productive, or at the very least as a site of social and/or aesthetic conflict in which righteousness is not at all clear cut (Sunya 2020; Thompson 2017).

Confusingly, noise is not even necessarily sound. In communication theory traditions, especially those connected to Shannon and Weaver (1963), noise is what disrupts a signal, and not necessarily only in the auditory domain. Hence literary theorists discuss noise not only as a refusal to make linguistic meaning but also as a kind of sound that can be described in texts (Schweighauser 2006). Noise can be both acoustic disruption in telecommunications and undesirable forms of communication on social media (Carmi 2020). Further, as Novak (2015) points out, 'Evaluations of noisiness vary widely between cultures and historical contexts: for example, many languages do not distinguish noise as a general category of sound' (125).

It was from thoughts such as these – chance conversations between this book's editors on the strangely diffuse and difficult terrain of noise in research – that the concept of 'Negotiating Noise' was conceived. The Negotiating Noise project developed from the editors' shared interest in sound and society, but also in the circumstances of their meeting – one based in Nottingham, Great Britain, during the process of Brexit and the other in Denmark, commuting to Lund in Sweden at a time of increasing border control. Both of us were constantly reminded of how changing international politics affect our work and research while we developed the Negotiating Noise project. With the coronavirus pandemic at the time of writing, in March 2021, these circumstances are only accumulating. Our aims, emerging from

these circumstances, were twofold. First, we wanted to bring together different disciplinary perspectives on noise, to see what would happen if conversations were initiated between different kinds of researchers. Reflections on noise that aim to cross disciplinary boundaries are often primarily definitional in nature, seeking to make sense of the many meanings of noise (e.g. Novak 2015). We wanted to do something more prosaic. We wanted to understand the everyday business of researching noise as it is practised by different kinds of researchers. We wondered what would happen if we got those different kinds of people in a room together, to talk. Definitions are part of what facilitates conversation, of course, and we wanted to learn about how different researchers use their various working definitions of noise to anchor what they do. But we wanted, primarily, to understand why, for example, philosophers of noise rarely find themselves in conversation with medical researchers or anthropologists, and what might happen if they met each other for a sustained dialogue.

Second, we wanted to begin to think beyond national boundaries and to take some steps towards globalising conversations about how we research noise. Both editors had already started to think in this direction, expanding our previous research on electronic music studios in Europe (Groth 2014) and noise in British history (Mansell 2017) to experimental sound art in Indonesia (Groth) and cultures of listening in the British Empire (Mansell). Historical research on noise often deals with national case studies because noise was thought about in the nineteenth and twentieth centuries as a problem of national culture and a problem to be solved by the interventional powers of the nation state. At a transnational level, histories of noise tend to treat noise as a European and North American problem, born of processes of industrialisation and urbanisation that began in Europe and North America. Rarely are questions of what noise is and how we should research it dealt with in cross-cultural contexts or in the context of the legacies of empire and globalisation (notable exceptions are Guillebaud [2017] and Steingo and Sykes [2019]). What if noise were a cross-border problem as well as an interdisciplinary problem, we wondered.

Negotiating Noise was thus born out of curiosity about a term that we did not and still do not wish to define, but one which we wanted to learn about in different contexts to those that we usually dealt with in our individual scholarship. We therefore invited researchers from a broad range of disciplines to two, two-day workshops: first, a group of northern European scholars to Lund University's Sound Environment Centre in November 2019; and second, in January 2020, a group of researchers mainly based in Southeast Asia, to the University of Nottingham's campus in Semenyih, near Kuala Lumpur, Malaysia. In total, the presenting participants counted 20 people coming from Denmark, Great Britain, Indonesia, Japan, Malaysia, the Netherlands, Singapore, Sweden, Switzerland and Vietnam, with academic backgrounds in architecture, anthropology, cultural history and theory, ethno- and historical musicology, digital culture, linguistics, medicine, musical composition, sociology, sound design, sound art, and urban planning. The focus on Europe and Southeast Asia simply represented the institutional positions of our home universities, Lund University and the University of Nottingham. It was intended to be a first step towards thinking through cross-disciplinary approaches to noise on a global scale. We by no means attempted to globalise the field of noise in our workshops and nor do we attempt to do so in this book. This was beyond our means. Rather, running the Negotiating Noise workshops twice, once in Europe and once in Southeast Asia, was an experiment to see what kind of different perspectives would emerge in the two regions. We are very grateful to Sergio Camacho, a composer and the University of Nottingham's Director of Performing Arts in Malaysia, who collaborated with us in making the Malaysia workshop happen. We also wish to extend out warmest thanks to the Sound Environment Centre's coordinator Emilie Stroh for her great help in organising the workshop at Lund University.

Position Papers

On the first day of the workshops, participants were asked to present what we in the invitation had called a 'position paper', a 10-minute public presentation reflecting on the following questions: What is noise?

- What is your approach to researching or working with it?
- What are the major challenges you face?
- Where should work on noise be taken next?

The intention with these presentations was to give each participant a chance to present their own position in the field of noise research as early as possible in the workshop. The context in which we would be working during the two-day workshop would be highly transdisciplinary, and to make such transdisciplinarity succeed, we believed that the presenters should introduce themselves as clearly as possible in terms of definitions and starting points in their work. The positioning we asked for was not only about methodological, theoretical or empirical placement in relation to research results and scholarly literature. With the notion of 'positioning', we also hoped to gain a sense of the different ethics and politics at work in noise research. As Donna Haraway notes, in 'Situating Knowledges':

> Positioning implies responsibility of our enabling practices. It follows that politics and ethics ground struggles for and contests over what may count as rational knowledge. Otherwise, rationality is simply impossible, an optical illusion projected from nowhere comprehensively. (Haraway 1988, 587)

We hoped that through an invitation to reflect explicitly on their disciplinary starting points, and by hearing these side by side, our participants, and us as organisers, would gain a new ability to reflect on their, and our, subject position.

It is these presentations that have been developed into this book's position papers. These represent some, though by no means all, of the

divergent strands in noise research. Reading them as a set reveals that these divergent strands have some things in common. A focus on disruption in acoustics, aesthetics or communication could be said to unite all the position papers included in this book. Authors do not agree about the nature of that disruption. For some, it is medically or socially unhealthy, while for others it is necessary to creative and aesthetic advancement and/or for political reasons. For others still, the hearing of disruption helps us to perceive social relations in the auditory realm, to hear how noise creates, solidifies or resists processes of social belonging and exclusion. By presenting the position papers in this book, we hope to draw attention to the differences but also the meeting points of the various research traditions dedicated to noise. We hope that by seeing the position papers together, readers will gain a sense of the breadth and diversity of the field, but also of the possibilities for future conversation and even collaboration across disciplinary divisions.

To help you, the reader, on this journey, let us briefly introduce the position papers, drawing out what we see as some key connecting threads. Several are principally concerned with the creation, management and preservation of 'soundscapes', a concept popularised by R. Murray Schafer (1994). Researchers in architecture, applied acoustics and urban planning take it as their mission to research and/or create soundscapes that balance the needs of human health and wellbeing with the realities of mechanical and urban life. Some thinkers in this strand follow Schafer in advocating the protection of traditional sounds specific to particular cultures in the face of the intruding and homogenising sounds of industrialisation and globalisation, which threaten to drown them out. Noise in this context is primarily the sound of motor traffic, aircraft and audio technologies, sounds which, through their newness, loudness or constant presence, are identified as threatening the physical and mental wellbeing or cultural cohesiveness of a community. Research in medical science associates exposure to some of these kinds of sound, particularly road and airport noise, with cardiovascular disease, especially where sleep disturbance is a factor. Medical and architectural/urban planning research in this strand of

researching noise usually reinforce one another's logic: noise is an environmental pollutant, like dirty air, that poses a risk to human health and that should be eliminated as far as possible in environments where people live and spend their leisure time. This strand of research is represented to greater or lesser extents, and in different ways, by position papers from Maria Albin from the perspective of medicine, Gunnar Cerwén, Trond Maag, Christina E. Mediastika and Thulan Nguyen from the perspective of architecture and urban planning, Julia Chieng from the perspective of urban soundscape ethnography, Marie Højlund from the perspective of sound design and Jacob Kreutzfeldt from the perspective of urban studies.

Some of these position papers, particularly those by Albin and Nguyen, represent what might be described as an 'empirical science of soundscapes' approach, in which data and quantitative methods are to the fore. Others blend quantitative and qualitative methods from the social sciences, such as Chieng's concept of soundscape ethnography. Indeed, Cerwén makes an explicit case in his position paper for the balancing of quantitative and qualitative methods in noise research.

Schafer (1994)'s approach to soundscapes was always as much about aesthetics as science, and some researchers represented in this book take an aesthetic approach to thinking about what a good-sounding urban environment might be. Maag writes about his work encouraging urban planners to consider the sound qualities of the spaces they create, emphasising methods such as sound walks, which allow a community to consider its sound environment by listening while walking. Højlund's paper celebrates the inclusion of artists and arts practices in soundscape research, arguing that the healthy attunement of people to their sounding environments is a matter not just for engineers and scientists, but also for artists and designers, who can contribute their skills to the cause of creating healthy spaces for hearing and listening. What is notable in all these soundscape-led position papers is the extent to which the authors view positive sound environments as a public good, a route to taking care of one another in our urban environments. Albin's medical research, for example, is motivated by a desire to show that those who are forced to live in the noisiest environments,

near busy roads and airports, because they are poorer than their fellow citizens, have their poverty compounded by the ill health caused by the disruption to sleep caused by noise.

A second strand of position papers cluster around the notion of noise as it relates to music and as a feature of sound art practice. This is an older strand of thinking than the area of soundscape research, with its origins often traced to the Italian Futurist movement's embrace of mechanical and industrial noise as a source for the aesthetic renewal of music. The influence of Luigi Russolo's *Art of Noise* manifesto (1986, first published in 1913) is perhaps overstated in the stories told about the collapsing boundaries between music and noise in the twentieth century, but this manifesto remains a frequent source of reference for those with an interest in noise as an artistic resource. Indonesian composers/sound artists Patrick G. Hartono and Gilang Damar Setiadi contribute position papers which trace the different ways in which noise, now electronic and electroacoustic rather than mechanical, is still inspiring artists in the twenty-first century. Sergio Camacho also writes from a composer's perspective, though not one who usually works in the medium of noise. Where for some artists noise is a source of aesthetic renewal or expansion, for others writing in this tradition, the emphasis is more philosophical. Paul Hegarty's position paper represents the meeting point of critical theory and noise art practice, and emphasises refusal rather than expansion. For Hegarty, noise is always beyond music and aesthetic norms. It stands for the possibility of difference, both aesthetic and political. Groth's paper also deals with the aesthetics of noise, but stresses that the definition of noise always depends on the individual's perception in political and cultural contexts. Writing about her research on Indonesian noise bombing, a form of street-based sound art, she reflects on what it has meant to listen to Indonesia with European ears.

A third, altogether newer strand of work has emerged in the recent turn to sound in media and cultural studies and other humanities disciplines. Here, noise is notably treated not as good or bad, nor for its aesthetic value or significance, but rather as an essential part of social relations and as highly revealing about power relations and cul-

tural change. Historians, represented in the position paper by Mansell, have shown that definitions of and attempts to intervene in noise as a social problem shift historically according to the culture and power structures of class, gender and race. Some in this tradition, such as media and music theorist Marie Thompson, are explicitly critical of attempts to define 'good' and 'bad' soundscapes. Singular models of 'good' soundscapes reproduce, according to this line of thought, a culturally specific, culturally dominant auditory habitus at the expense of other, subjugated, or progressive cultures of sounding. Thompson and others highlight certain kinds of noise art as representing a progressive social politics that is not given space by the narrowly environmental politics of Schafer and some aspects of the soundscape research tradition. Like Thompson, Marcel Cobussen, working at the intersection of music and humanities traditions, is 'less interested in what noise *is* than in what it *does*, how it *works*', both musically and socially. Sandra Lori Petersen's paper represents research in social anthropology and draws attention to the 'multiple' nature of noise in society: while there are clear norms for the quietness of the Scandinavian home, those norms are challenged by culturally different traditions, especially where people of different cultural origin live side by side. Petersen gives the example of the French radio programme *Confidences*, which provides a space for the sound worlds of Maghreb immigrants and their descendants in a culture which tends to deny their sonic difference. Finally, Elinor Carmi's paper takes us in a somewhat different direction, asking what noise means now, in the digital age. This is an important departure, since our sensory lives are now just as bound up with data as they are with machines and cities. Is there such a thing as digital noise? Carmi traces the social media industry's definitions of 'anti-social behaviour' back to early twentieth-century telecommunications research on noise to show that our media and communications technologies have long played a central role in what is defined as 'deviant'.

Manifestos

After the presentation of position papers, the participants were introduced to the concept of a manifesto by way of introduction to our next workshop activity. We gave examples of famous manifestos and their political, aesthetic and communicative modes of expression. We revisited the *Communist Manifesto* (1848), early twentieth-century Dadaistic and Futurist art manifestos for their graphic expressions and media tactics, as well as more recent manifestos, such as the New Nordic Kitchen Manifesto (Lauterbach et al. 2004), the 'Dogme 95 filmmaking manifesto' (Trier and Vinterberg 1995), the 'Manifesto for Agile Software Development' (Beck et al. 2001) and one for 'Xenofeminism' by Laborio Cuboniks (2015); we ended with the Centre's own 'Manifesto for a Better Sound Environment' (Arlinger et al. 1995). The introduction was summed up with a little manifesto of manifestos, stating:

The manifesto:

- is a performative statement in itself;
- does not only encourage action, but is the action;
- may carry a concrete and site-specific aesthetic – where it is first published and how it is designed is of importance;
- can be transformed and remediated along the way;
- is an organic text which is developed and entangled in various practices, movements and tendencies;
- is nothing in itself – but finds its value in actions, and in its engagement with action;
- is hereby part of greater social ecologies;
- has a performative nature;
- it may cause affection and hereby afford explications of the embedded ethics and politics.

In groups of three or four, the workshop participants were assigned the task of developing a joint manifesto on noise to be presented in public in the afternoon of the following day. By presenting what we believed was a clear but challenging task with a tight deadline, our intentions were to push the participants into immediate negotiations. In hind-

sight, we might acknowledge that we were pushing a bit too hard. We also acknowledge how hard a task it is to negotiate between the various disciplines – to combine the individual ethics and politics of researchers in a shared manifesto. And we might have underestimated the pressure a public presentation would put on the participants after only one and a half days of work. But despite this, all group sessions were summed up in a manifesto presentation at the end of the two-day workshop. All presentations were followed by an extensive discussion among the participants and the attending public audience. The talks in these sessions not only reflected the work developed during the workshop, but also brought forth new enlightening, highly interesting and relevant issues concerning noise. The negotiations on noise were vividly taking place and brought forth.

The manifestos published in the current book are the results of this process followed by collaborative online writing. They reflect transdisciplinary discussions and are best read as such, rather than as final negotiated and unambiguous manifestos. They are not rooted in long-term collaboration but are based on the intense meetings between the various workshop participants and the dialogue and discussions that were carried through during the two days that were spent together. It cannot be said enough how grateful we are to the participants for playing along, and for being willing to share their thoughts in this book.
Each of the six manifestos published in this book has its own concept, format and focus. They all in their different ways highlight important current noise issues and how they can be spoken about. What they also share are clear alternative ways of conceptualising noise, as well as reflections on the process of working together in a highly transdisciplinary setting.

Maria Albin, Marie Højlund, Jacob Kreutzfeldt and James G. Mansell's process started out from the concept of rethinking the place of noise in the United Nations Sustainable Development Goals, with the idea of later presenting the manifesto to policymakers and legislators. Born out of the discussions generated in relation to this writing, the manifesto itself does not present a new set of regulations, but reflects, under the title 'The Noise Spectrum', the difficulties of finding a

common ground in interdisciplinary collaboration.

In close dialogue with literature in the field, Kelvin E. Y. Low, Sergio Camacho and Julia Chieng offer an overview of the existing noise discourse, which they draw further into a broadening of the terms 'sound' and 'noise'. Their perspective is explicitly 'southern hemispheric', and there is a strong resonance with decolonial approaches. Meanwhile, the queries over regulation, which they suggest towards the end of their manifesto, also stress a sociocultural aspect of noise policy that is relevant to everyone working within this field.

Elinor Carmi, Gunnar Cerwén and Marcel Cobussen conceptualised their manifesto 'To Noise' by starting out from the concept of an 'anti-manifesto'. Even though not explicit in the final text, the idea is still present since 'noise' does not appear as a static term, but rather one that is as elusive as the matter of noise itself. This is also expressed in the layout of the text, where the use of various graphic styles underlines the reconstruction and deconstruction of the term.

The manifesto by Marie Thompson, Sandra Lori Petersen and Trond Maag is derived from discussions at the workshop about shared ideas to do with the acoustic and theoretical connections between noise and water, and how each author, from their different subject positions, considered, perceived and conceptualised their listening to various water events: raindrops, neighbours in their bathrooms, drinking and swimming. Their second step was to combine this with an awareness of how each of them speaks of sound. It is these considerations that we witness in their shared text.

Patrick Hartono, Thulan Nguyen, Phyllis Toh Chze Woon and Sanne Krogh Groth found their common ground by leaving the present and acting as 'A Board of the Future'. By approaching the theme in this way, their suggestions on future noise negotiations are to be read both as concrete recommendations and as speculative suggestions. Their text 'Future Guidelines on Noise' contains an introduction to their process of writing as well as their manifesto, 'A Manifesto for Balance', offering concrete observations and suggestions aiming at future noise negotiations in all parts of the world.

Christina Mediastika, Paul Hegarty, Gilang Setiadi, and Tey Ming

Luan's manifesto reflects their group negotiations in Malaysia. It takes as its starting point a shared interest in music and a joint suggestion that teaching all children to listen to music might help them, as adults, to be more critical but also more tolerant listeners. Finding shared ground with others, this manifesto emphasises the need to cultivate listening as a shared social skill and point of cultural negotiation. While acknowledging the social damage that noise can cause, the manifesto advocates for listening negotiations which take account of different social needs rather an oversimplified noise reduction policy.

Listening as a Method of Collaboration

In preparing the programme for the two workshops, we did our best to carry through with identical concepts and to prepare the participants in the same manner, even though the practical circumstances were very different in Sweden and Malaysia. Besides the presentations and the manifesto workshops, both events also had an element of listening activity that was non-conventional in an academic context. We hoped that by introducing group listening activities, we would spur new ways of connecting to one another via shared experiences of sound. We are both advocates of listening as a method, and here we employed listening as a mode of generating a collaborative atmosphere at an academic workshop. We note the detail of these activities here to highlight some of the ways in which shared listening activities might inspire different ways of engaging and collaborating at academic gatherings.

On the evening of the first day of the workshop in Sweden, Trond Maag, an urbanist who involves active listening combined with walks as tools within urban design processes, took us for a city walk in central Malmö. Here, with analytical and creative ears, he introduced us to the soundscapes of Malmö: the noisy background sounds to the visually harmonic urban park; the messy auditory composition of various city squares; and the calm resonance of a backyard next to one of the main streets. He not only reflected and criticised, but also gave us an insight into how the urban planner could work pragmatically with

sonic perspectives: how a water fountain could be moved to the right with only small, architectural adjustments but with significant positive benefits for the soundscape of a public square; how the hidden spaces of a city can be activated sonically; and how placing parking lots underground can improve the soundscapes of the city drastically. The sound environment discourse in Sweden is, like in many other places, struggling with the integration of considerations of sound and noise in processes of urban planning. Maag pointed out the noisy areas of Malmö, but he also pointed towards how people can feel uncomfortable or even frightened when hearing unfamiliar steps or no sounds at all in a given location. Among our British visitors, the Swedish silence even became a theme in our more informal talks. 'Everything is really silent here, you know? Every door in the hotel says "schwuuch" when you close them – it is like one big IKEA kitchen. What do people do here when they actually want to slam a door?' Some wondered how far acoustic design should be taken, for want of protecting cultural multiplicity and opportunities for agency in the urban soundscape.

Such reflection on Swedish sonic culture could have been a theme in our final discussion, after the presentation of the manifestos, picking up the issue of different national cultures of managing and talking about noise and their embedded ethics and aesthetics. But these were hardly touched upon; neither had anyone addressed them in their position papers. Rather, the discussion in Sweden was primarily concerned with the dynamics between regulations and health issues, acoustics and architecture, as well as the freedom of the individual and the right to be noisy. At the time, we did not reckon this as being a particular feature of northern European ways of discussing noise. It was not until after the similar discussion we had in Malaysia that we realised that there had been blind spots in our Sweden workshop. Questions of multiculturalism are central to the cultural life of Southeast Asian cities, where different ethnic groups and religious cultures must coexist. Did we overlook the significance of cultural dimensions of noise and listening in Sweden, as all present in the auditorium had too similar backgrounds and a consensus was present that we were not aware of? Perhaps the impact of governmental control (national and

European) was taking the lead in the discussion, as this is where we by nature found the responsibility for noise regulation? No one addressed the suppression – or the opposite – of cultural sounds, in relation to religion, for example, which was a theme that featured interestingly in our discussions in Malaysia.

Where the non-academic activity in Sweden was a sound walk, Camacho organised a full concert programme in Malaysia, presenting artistic work by some of the workshop participants, as well as a careful selection of audiovisual pieces by various Indonesian and European composers. Among the workshop participants' performances we experienced various ways of framing noise aesthetically. Indonesian Gilang Damar Setiadi first conducted the collaborative aleatoric piece 'Noise 52', which is a piece that found its inspiration in Rully Shabara's 'Ganung Jagat' (an alternative method to conduct improvised music with a deck of cards) and Sean Stellfox's modification of this. In Setiadi's version, members of the audience were invited on stage to play on various musical and non-musical instruments that were amplified with contact microphones. Setiadi played the card deck and, guided by this, he decided whose turn it was to play. Just as in all other noisy surroundings, the noise in this concert depended on the equipment at hand, the skills and willingness of the participants to join in, and someone to control the overall structure, acknowledging the many random factors in the situation. This way, the piece finely illustrated elements in ecologies of noise that are not unfamiliar to the ecologies of noise one could find outside the arts scene. Setiadi's second performance was an illustration of a 'body synth' he had developed in collaboration with Sean Stellfox for the noise-duo ASU(USA). By placing two sensors with Velcro strips on the musician's wrist, noisy sound could be controlled with muscle movements. Members of the workshop took to the stage to try out Setiadi's 'body synth', becoming themselves noise-making instruments in the process.

Another way of showing how to take control of noise is the genre of 'harsh noise'. Paul Hegarty's piece fell within this genre, where extreme loud noise was presented live to the audience by using electronic devices, some digital and some analogue (such as cassette tape play-

ers). The aesthetics of the piece suggested a letting go of the uncontrollable – but in a very controllable manner – and evoked the acoustic power of media technologies beyond their expected and usual use. The piece seemed especially out of place on a university campus, usually a place of heightened order and quiet contemplation. It is fair to say that those members of the audience who had never heard a harsh noise performance were quite taken aback. Patrick G. Hartono invited us to listen to an electroacoustic music piece of his performed live. The sounds in the piece were still recognisable as noise, but were organised into a musical format, with the electronic noises morphing into musical form and sequence. The concert did not form an explicit part of our ensuing discussions, but we could perceive its effect in bringing together the members of our group who would usually diverge along the dividing lines of 'noise makers' and 'noise controllers'.

What Next?

Where should noise research be taken next was a question we explicitly asked our contributors to address in their position papers, and you can read their individual responses in this book. Their answers differ and make for fascinating reading alongside the group manifestos. We hope that our readers will draw their own conclusions about this question as they read the position papers and manifestos. We organisers, and dare we say our contributors, too, would be happy to hear from you.

As organisers, we were lucky to absorb all that happened at the two workshops in Sweden and Malaysia and draw some of our own conclusions about where we should go next. We finish our Introduction, here, with these thoughts. First, it was noticeable that we organisers and participants arrived at the workshops with different notions of whom our research should be for and where it should reach. Some contributors were primarily focused on influencing professional practice, for example in architecture and urban planning. Others were explicitly focused on global and national policymaking related to noise. Others were more used to thinking of their work reaching the concert hall or music and arts practitioners. Some in the humanities disciplines were not used to

thinking about the practical application of their research for policymakers or other areas of social and cultural practice. The manifesto activity pulled us all in the direction of thinking about how we might come not only to a shared scholarly way of thinking but also to a shared way of intervening in the world of noise. Conversations in between formal sessions seemed to concur that one key challenge for those who wish to influence policymakers is that noise researchers pull in so many different directions, making it hard to see what the 'science' of noise actually is. Without wishing to flatten the differences between disciplines, we think it is fair to say that those of our workshop participants who do not normally tend to think of themselves as having a policy mission began to see the value of allying themselves to those who do, to bring about positive change in the world. And, vice versa, the scholars grounding their work in quantitative and policy-orientated analysis reached out toward the more qualitative and interpretive approaches. We had, and still have, some negotiation to do about what exactly that positive change might be, and how it can avoid the pitfalls of normalising dominant auditory ontologies and cultural norms. On the other hand, if we all agree that sound plays an important role in making and breaking communities, and that societies should be responsible for collectively attuning themselves to how and what they hear, around which there did seem to be clear consensus, then coming together to present a common argument to policymakers about what noise is and how it should be managed might well be a goal that many of us could agree upon.

As we suggest above in relation to the question of religion, we made small steps towards confronting questions of national and hemispheric difference in relation to the perception and control of noise, but much, much more remains to be done in this regard. Interestingly, those whose work fell in the area of soundscape research and management were perhaps the most globalised of our participants; their shared mission to quantify and control healthy sound environments has become a transnational mission. Research on questions of cultural difference and cross-border hearing are much less globalised when it comes to noise. The design-driven quietness of the Scandinavian city, the comparative neglect of soundscape management in UK cities, the

unspoken rules of mediating between different religious and secular sound cultures in Malaysia and Singapore were issues on the tip of our tongue, but we often lacked the words to talk about them. Noise history, anthropology and critical theory are in need of a different, postcolonial frame to grapple with these questions. As the manifesto by Low, Camacho and Chieng suggests, one place to start is the place of noise control and management in imperial histories.

Finally, it is notable that research on noise is still very much grounded in thinking about machines and urban environments but much less with our newer, twenty-first-century digital cultures. As Carmi points out in her position paper, noise can be a fruitful frame of reference for connecting media history, specifically telecommunications history, to today's social media platforms. There is, it strikes us, much more to think about in relation to 'digital noise', building, among other things, on Sterne's (2012) insight into the way digital formats, such as MP3, draw upon and shape our listening cultures. Writing as we are in the midst of a global coronavirus pandemic in which our listening lives have been severely curtailed and become more dependent than ever on digital media, it seems to us that negotiating noise should increasingly be a matter of thinking critically about our digital listening as well as environmental listening.

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Position Papers

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Traffic Noise, Health and Urban Planning

Maria Albin

Urbanisation is a global process, with 55% of the world's population now living in urban areas. This figure is expected to increase to 68% by 2050, and most rapidly in low- and middle-income countries. This puts the health effects of the urban environment at the centre of public health, and especially environmental medicine. This is reflected in substantive new knowledge on the contribution of current exposures in the residential environment to the burden of chronic diseases such as cardiovascular diseases, cancer, respiratory diseases, and possibly obesity and diabetes. A consensus that such effects could be caused by everyday exposures was first reached for air pollution, but more recently also for traffic noise, especially with regard to cardiovascular effects (WHO 2018).

What Is Noise?

The everyday definition of noise as unwanted, disturbing or harmful sound is not useful for medical research since much favoured sound (e.g. music) at high volumes can harm our hearing. Early guidelines on community noise from the World Health Organization acknowledged that:

> The perception of sounds in day-to-day life is of major importance for human well-being. Communication through speech, sounds from playing children, music, natural sounds in parklands, parks and gardens are all examples of sounds essential for satisfaction in everyday life. (Berglund et al. 1999, 21)

They continue:

> this document is related to the adverse effects of sound (noise). […] an adverse effect of noise is defined as a change in the morphology and physiology of an organism that results in impairment of functional capacity, or an impairment of capacity to compensate for additional stress, or increases the susceptibility of an organism to the harmful effects of other environmental influences. This definition includes any temporary or long-term lowering of the physical, psychological or social functioning of humans or human organs. (21)

The contribution of medicine to this field has mainly been studies on hearing impairment, and cardiovascular and metabolic effects, while behavioural sciences (mainly psychology) have provided evidence on disturbance of daily activities, sleep, cognition, learning and, more lately, behaviour. To this end, environmental medicine and risk assessment have focused on characterising exposure for large populations with regard to sound pressure (usually as modelled, representative yearly averages over, for example, 24 hours, or separately for day and night) and the source/type of sound (e.g. road, rail or air traffic).

The Public Health Approach

While it has long been common knowledge that high levels of traffic noise are annoying, and can disturb sleep, compelling evidence has emerged during the last decades that common levels of traffic noise have serious health effects. This is a turning point from a public health perspective, since harmful exposure levels are common, affecting over 100 million citizens in the European Union, and increase the occur-

rence of common diseases, thus creating a large disease burden. This has led the WHO (2018) to declare noise to be 'one of the most important environmental risks to health' – second only to air pollution.

The current evidence indicates that the risk of ischaemic heart disease, for instance, increases by 8% for every 10 dB increase in exposure to road traffic noise from a level of 50 dB (which is below the limit set in most national guidelines). Recent studies also suggest an effect on stroke, obesity and diabetes, consistent with a metabolic syndrome. Sleep is impaired (awakenings, difficulties falling asleep, not feeling rested) at low levels (40 dB and under). Other suggested (but not established) effects concern pregnancy (birth weight) and a possibly increased risk of breast cancer (WHO 2018).

Noise exposure induces an acute release of stress hormones (which in turn affects blood sugar and lipids) and increases blood pressure. It is not necessary to feel annoyed: this happens also during sleep. Although the mechanisms through which noise can cause chronic disease are not fully understood, the two major biological pathways are thought to be long-term overactivation of stress hormones, and sleep disturbance, both with secondary metabolic and cardiovascular effects (Eriksson et al. 2018).

Because negative effects of air pollution on the cardiovascular (and possibly metabolic) system were established before those of traffic noise, and they both mainly emanate from road traffic, attribution has been a concern: is it the air pollution or the noise? This has now largely been resolved through studies that have examined both factors and shown that each contributes separately. Moreover, studies of railway and aircraft noise, neither of which generates significant local air pollution, have shown excess risk of the same diseases as from road noise (although the excess risk may vary between road, train and air traffic for the same noise level) (WHO 2018).

Challenges

The major challenge is to include traffic noise as one of the major health risks in urban planning, as there is strong evidence for this. Specific challenges to achieve this include:

- the assumption that the evidence is not applicable to modern buildings (SOU 2103), which has been challenged by expertise in building acoustics (Socialdepartementet 2014);
- the perception that low exposure to traffic noise is a barrier to the provision of sufficient amounts of housing (which is true only if road traffic is assumed to be unchangeable);
- a recent backlash in Sweden which led to permissible road traffic noise levels increasing from 55 dB to 60 dB in 2017 at the front of accommodation buildings (for flats with a floorspace of up to 35 m2 this was set at 65 dB) (SFS 2015), while the WHO recommended level is 50dB;
- the unequal geographical distribution of noise exposure (EC 2016; EEA 2018; WHO 2018; Eriksson et al. 2020), which has added environmental injustice to the other structural adversities faced by underprivileged groups.

In all, the recent increase in permissible levels (in spite of clear evidence of adverse health effects and joint warnings from public health experts) indicates that societal pressure to build new flats has prohibited integration of relevant health considerations (Radio Sweden 2015). It seems to be a break with the integration of all relevant scientific knowledge into a long-term sustainable solution, often considered a key factor in creating the Nordic welfare states, as well as with the 1930s reform agenda of 'healthy housing', which has long been a hallmark of social policy in Sweden.

Next Steps

We still have important knowledge gaps with regard to the disease panorama caused by traffic noise. If traffic noise were conclusively shown to increase the risk of breast cancer, it would introduce an obvious gender perspective on environmental policies/societal planning. Also, the effects of traffic noise on behaviour need to be further investigated. For example, is our empathy affected, or the long-term attention of children? While road traffic is the most common source of noise disturbance, noise from neighbours is the second – but there is no information on its potential health effects. Also, the knowledge base is small for balancing the wellbeing of residents against community noise in inner-city areas from music and voices from restaurants, bars and shops. However, the knowledge base on adverse health effects is already more than sufficient to warrant full consideration in urban planning.

What will it take for this knowledge to be considered an asset rather than obstacle to city development? My suggestions for future work would be:

- An enhanced interprofessional dialogue on the concept of sustainable urban development, health and wellbeing in urban environments. We are now creating the living environment for generations ahead, and current perspectives need to be critically revisited, not least in terms of environmental equity.
  - We should create an attractive narrative about the good urban life, using the advantage of short distances, a rich social and cultural life, and good housekeeping of natural resources, but with a new planning concept which avoids the current disadvantages.
  - Dissemination of the current evidence on health effects and effective interventions.
- The curriculum for architects and planners should include knowledge about the impact of the built environment on health, covering benefits (green space) as well as risks (air pollution, noise).

- Communication with policymakers on the feasibility of interventions, including new standards/regulations (e.g. tyres and road surfaces that produce less noise) and opportunities offered by new technology (e.g. electric cars emitting less noise than conventional ones if low speed limits are implemented).

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It's Not Music, It's Noise: Negotiations and Challenges in the Explorations of the Boundaries of Noise

Sergio Camacho

As a composer, I have always understood the crafting of music as a quest for expression and beauty, and the very concept of noise seemed to be a contraposition to the mere idea of music. Noise was something to be avoided, at all costs.

However, during years of development and exploration, I have come to terms with noise, not as a necessary evil inherent to musical sound, but as the natural extension to it. It is on those boundaries where composers can find the grounds for expansion of our musical discourse. Negating noise is denying music as a living form.

Art in general, and music in particular, has evolved through the permanent challenge of pre-established conventions. We now accept as music what was previously considered wrongful sound or noise. The evolution of Western art music is frequently narrated as a defined track of milestones, each laid upon the circular process of tension–expansion–acceptance–tension of the expected limits. Following this cycle over the span of several centuries, the concept of consonance was confronted and extended over and over again. Intervals that were once understood as dissonant, and therefore non-acceptable, became consonant through their proactive use by composers, who resorted to them for expression. That way, harmony, texture and musical colour expanded and extended to the maximum possible complexity until the early twentieth century, when music, as did most forms of art, entered

a process of deconstruction, and further reconstruction, which was built upon the express avoidance of previous conventions.

Yet, if the nineteenth was the century of extended tonalities, and the twentieth of deconstruction and atonality, I would argue that the twenty-first century is the era of noise, or, to be more accurate, of the death of noise. In a similar fashion to the described process of acceptance of musical tones as consonant, the opening field for composition nowadays is the progressive expansion of the discourse through the acceptance of new sounds in the musical palette. It is the century of the killing of noise, as that process of integration and acceptance will likely blur the difference between noise and musical tone. If noise is eventually assimilated into music, what will noise be then? Such negotiation is where we stand now.

Hence, the first, and almost unavoidable, discussion centres on an attempt to define what noise is. If we accept, as a working statement, that noise could be described as 'unwanted, unruly, or otherwise transgressive sound' – as the organisers of the 'Negotiating Noise' workshops suggested in their call for participation – is noise intrinsically different from music? Sound is frequently discussed according to its physical properties: duration (length), frequency (pitch), amplitude (loudness) and timbre (quality of sound, tone colour). But a musical sound, what we could call a 'tone', could be described as 'a sound whose principal identity is a musical identity, as defined by people – though not necessarily all people – who make or experience that sound' (Bakan 2012, 3). Therefore, music is *meaning*. Each tone gains musical meaning through its relationships with other tones forming the building blocks of music – melodies, chords, rhythms, textures. But tones also acquire cultural meanings from the symbolic associations that people attach to them. However, any attempt to define noise as an opposition to music, or as a counterpart of music, would require a delimitation and definition of what music is. For doing so, and in accordance with the five propositions presented in Bakan (2012), music could be framed as a culturally informed, intentionally produced and perceived humanly organised sound.

Hence, what is noise, indeed? It can be argued that noise is incompatible with music; noise is what music is not. I have just stated that a sound

that has meaning, intention, use or purpose could be considered a tone, regardless of its physical characteristics. At the same time, if music is stripped of such intention (by the composer/producer or the recipient), or has no use or purpose, it can be argued that it is not perceived as music, but as noise. Consequently, and paradoxically, the acceptance and assimilation of noise in music will cause its own disappearance.

Nonetheless, beyond the musical discussion, noise, all forms of noise, do bear meaning. The noise of a car tells us if it is coming or going, or the whistling of steam coming out of a kettle announces that the water has boiled. Noise is, therefore, information. In a world such as ours, increasingly conscious of the importance of control of noise as pollution (a fight particularly important in contexts such as Southeast Asia, with a great tolerance of noise), I will argue for the importance of noise as freedom. Noise, as mentioned, is information; however, it is information whose access we cannot control, as we can hardly choose whether to hear or not to hear. Consequently, if we strip the environment of all unruly sounds, but promote noise as an information bearer, we will end up submerged in a soundscape saturated with unwanted information, and we should all defend our freedom to free ourselves from it. But regulating noise also points us to equally important discussions on sound governance, regulation and, once again, freedom of expression – the freedom to produce noise and the freedom to opt out of hearing it.

It is not the intention of this position paper to find a categorical answer, to defend any particular cause or to advocate any specific policy. As a composer, I do claim there is no noise or music, just intention and meaning. The summary of this position paper is, therefore, a mere statement: we live in a world of noise, which we cannot avoid; we can only try to learn how best to negotiate it. I believe this is precisely what this publication is about – *Negotiating Noise*.

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Deviant Media: Thinking Beyond Noise to Understand It

Elinor Carmi

What if I told you that to understand noise you need to think beyond it? You need to mute all the noises and start with a new rhythm. This is a position paper about noise, and it is the position you take that will shape how it vibrates and resonates. Instead of finding a fixed and definite definition of noise, we need to take a step back and ask:

- How does noise become noise?
- Who created noise as a category distinct from sound?
- Why did they do this and with what rationale?
- Who does this category serve?

While noise has traditionally been examined by scholars, practitioners and artists from the fields of music, acoustics and acoustic ecology, I suggest that mixing several approaches –specifically media and communication studies, science and technology studies, and feminist technoscience – can create a different soundtrack to our understanding of noise as something that disturbs and disrupts the order of things. In my book *Media Distortions* (Carmi 2020a), I argue that noise is a deviant media category which was created as part of a larger project enacted by media companies to shape how we understand and engage with media by producing deviant categories. The production of deviant media categories changes according to the time period and medi-

um. What in the early twentieth-century media landscape was called noise, in the late 1990s and early 2000s was called spam, and at the time of writing, in the social media age, is now called the 'antisocial'. As I argue elsewhere, '[d]eviant media categories are about the struggles to determine what is human, normal, and social – It is about what makes us as individuals and society, it is about the default settings of our lives' (Carmi 2020a, 252). Noise and other deviant media categories are meant to influence how we understand media and communication, and therefore hold a powerful position in shaping society.

When I started my research on spam I was trying to understand its origins. What I realised is that most of the discourse of spam has been constructed by computer scientists and lawmakers. But when I dug deeper, I understood that a lot of the assumptions and 'common-sense' understanding of it were actually not so clear cut – they were flexible and changing, just like noise before it. So the core thing that I set out to do in my research was not to automatically accept these narratives about spam, noise or any other deviant media category. I understood that spam is part of a larger media category of investigation which can broadly be configured as *the deviant*. Instead, I tuned into the conditions, times and instruments through which deviant categories of media are created and recreated.

How to Understand the Deviant?

So how do we start to understand the politics of deviant categories in media technologies? In my approach, I mix several fields that examine categories and standardisation, but instead of using visual concepts, I use sound. There is not one way of understanding the deviant but, depending on what you want to figure out, it is rather a good practice to cross boundaries – just like sound. In my soundtrack, I use elements from science and technology studies, feminist technoscience, media theory and sound studies. Just like a DJ, I take the pieces that examine the politics of categories and produce a new mix. So what's inside?

After going over the data that I had collected, I identified two knowledge-production processes that media companies enact simul-

taneously in media technologies to produce deviant categories: *processed listening* and *rhythmedia*. The first concept is inspired by Alexandra Supper and Karin Bijsterveld's (2015) modes of listening and feminist technoscience's (Barad 2003; Braidotti 2002) theory of development of process. *Processed listening* is the way media companies selectively tune into different sources through the media apparatus, by using several tools (automatic or manual), in different temporalities, to produce different kinds of knowledge (mainly profiles) for economic and political purposes. This process involves monitoring, detection, measurement, categorisation and recording, which are stored in a dynamic archive/database.

Inspired by Raymond Williams's (1974) 'planned flow' and Henri Lefebvre's (2002) 'rhythmanalysis', *rhythmedia* describes the ways that media companies use the knowledge in the archive produced by processed listening to (re)order people (bodies and behaviours) and the relations between them through media territories (analogue or digital). It is the way media companies conduct repetitious training on people through orchestrating the architecture they design that influences the way they live in mediated spaces. These companies conduct the way architectures change according to the knowledge they gain from processed listening to people's behaviour. Rhythmedia involves (re)organisation, exclusion, removal, deletion and filtering of noise. My argument is that media companies have been using *processed listening* and *rhythmedia* to (re)produce subjects and territories. The outcome is the production of subjects who behave in an efficient and economically desired way through media.

What happens when we apply these two concepts on what deviant means in the early twentieth century and social media? Let's tune into the case of the biggest media company of the early twentieth century – Bell Telephone Company – and how it produced the media category of noise. With devices that it developed and only it could interpret, Bell measured people and spaces in New York City and decided what types of behaviors should be categorised as noise. This processed listening enabled Bell to remove anything that could harm its business. In 1929 the Noise Abatement Committee (NAC) partnered with Bell

to create a map to spot problematic noisy groups of people and practices. The main goal was to turn various spaces across New York City towards commerce-orientated activities. To do that, Bell had to define the people and behaviours that interfered with that goal as noisy. These included street commerce as well as unauthorised house parties, and also union protests in Union Square, mainly targeting lower classes, immigrants and Black-Americans. In this way, Bell conducted rhythmedia by orchestrating the way all the components of a city's sounds (such as people and their behaviours, commercial activities, buildings and cars) were temporospatially ordered.

Moving to social media, to illustrate the connection between 'noise' and today's 'antisocial behaviour', Facebook is a great example of how media companies orchestrate people's mediated experience towards a desired rhythm (sociality) while filtering out problematic rhythms (the antisocial). Social media companies like Facebook offer their services for free because they operate a multi-sided market where people's behavior becomes the product (Zuboff 2015). People's behaviour is traded between multiple third-party companies, mainly advertisers, and, therefore, it is important for them to create a big database, but especially to make a categorical distinction between what behaviours are profitable (social) and what are not (antisocial). In order to do that, Facebook conducts *processed listening* to people's behaviour by using tools such as commercial content moderators (Roberts 2019) and their social plug-ins, which are web cookies and pixels. With these human and non-human tools, Facebook listens to people's actions within and outside its platform to assemble a dynamic database that is updated as the listening is ongoing. To conduct a rhythmedia, the company needs more information to establish which behaviours can harm its business model and hence be categorised as antisocial so that they can filter out their noise. To conduct rhythmedia the company uses algorithms and architecture design in a way that makes possible only the desired rhythm. By doing so, Facebook establishes what types of behaviours have a value and are thus possible on its platform – what type of sociality counts more (Carmi 2020b).

In both of these examples, media companies wanted to produce commercially oriented territories, and to do that they wanted to exclude and filter out the deviant – everything that can interfere with their business model will be categorised as noise or antisocial. What is common with all the media companies I have examined is the normalisation of their exploitative practices. This is dangerous because ordering society in particular ways has consequences for how we understand politics, news, economics and ourselves. So what can we do in the future?

Future Distortions

It is hard to predict what kinds of new deviant categories will arise in the future. But what we can know for certain is that there will always be media companies that want to control, shape, manage and manipulate how we think, understand and engage with media. The 'deviant' always corresponds with the norm, and so the more we challenge what is the 'regular', the more we discover what is the deviant and what are the tensions between them. In short, we need to challenge discourses of power. The way to go forward is to question how different types of discourses seem to be the 'common sense' and to tell different stories about noise. In the context of media and communication, it is about challenging different technology infrastructures and how they are promoted as the only way to do things, from smart cities to facial recognition and artificial intelligence. The power of media companies lies in their ability to present these standards as the exclusive way to experience technology, while in fact there are always multiple ways to develop and use media technologies. Therefore, negotiating noise is important to our political futures – to make our own senses.

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Noise: Five Challenges in Landscape Architecture

Gunnar Cerwén

As a researcher in landscape architecture, I have mostly been in contact with noise in relation to the planning and design of outdoor environments. In this context, noise is generally regarded as an unwanted disturbance, exposure to which is measured in sound pressure levels (EU 2002) and associated with adverse negative health effects, like stress, hypertension and cardiovascular disease (WHO 2018). The most established means to deal with noise is through environmental noise management, which largely relies on a quantitative understanding of sound (Brown 2010; Bild et al. 2016).

In my research, I have sought to expand environmental noise management by adding qualitative perspectives that better comply with established design processes used in landscape architecture. In my doctoral thesis (Cerwén 2017), I proposed 'soundscape actions' as a tool for landscape architects and urban designers to consider in noise-exposed situations (see also Cerwén et al. 2017; Cerwén 2019, 2020). Based on three main categories (localisation of functions, reduction of unwanted sounds and introduction of wanted sounds), the tool merges knowledge from several fields. For future work, I have identified five noise challenges that I find significant for research relating to the planning and design of outdoor environments.

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Challenge 1

Going Beyond Sound Pressure Levels to Uncover Types of Noise and Their Characteristics

Noise policies go back as far as at least ancient Greece and in the modern Western world they have been widely implemented since the 1970s (Goldsmith 2012). Most of the established policies tend to rely on calculations and/or measurements of sound pressure levels (Brown 2010) but this is not sufficient to understand noise from psychological and contextual perspectives (Hellström 2003; Hedfors 2003).

In environmental noise management, distinctions are made between different types of noise, such as that from road traffic, rail, aircraft, industry and wind farm noise (EU 2002; Bild et al. 2016). Such classifications are sufficiently nuanced for some purposes, but they do not reflect real-life situations, where combinations of multiple sources are to be expected. There is a need to further uncover the situational perception of noise, including sound source type(s), combinations of sources, time/space variations, physical properties (e.g. rhythm, frequency distribution) and relations to other sensory impressions.

Challenge 2

Acknowledging That Some of These 'Noises' May also Contribute with an Experiential Quality

In recent years, soundscape thinking (Schafer 1994 [1977]; ISO 2014) has been increasingly applied to study how contextual and psychological factors influence the perception of sound and noise in urban situations. It has been shown that some sounds typically labelled 'noise' may also have positive connotations, such as signalling vibrancy, human activity and life (Aletta and Kang 2018; Whyte 1980). For instance, part of the appeal of shopping malls, markets and city centres can probably be ascribed to 'noise' (Whyte 1980). This type of environmental experience is now acknowledged in soundscape research

and referred to either as 'exciting' (Axelsson et al. 2010) or 'vibrant' (Cain et al. 2013; Aletta and Kang 2018).

Following from challenge 1, we should expect to find that perception of noise and vibrancy vary from person to person, and also depend on mood, life situation, task at hand and many other factors. What is conceived as an unwanted sound one day may, on another day, by the same person, be appreciated (c.f. Hellström 2003). In addition to soundscape, visual information and the presence of other people are important factors in vibrancy (Aletta and Kang 2018). Inherent in challenge 2 is a need to understand the extent of vibrancy: in what kind of situations does it happen? What is the role of visual cues in relation to noise? Are there different typologies of vibrancy?

Challenge 3

Understanding How Noise Influences Neighbouring Soundscapes, Potentially Enhancing Tranquillity Through Contrast

The soundscape discourse has tended to focus on generalised experiences in (static) environments (Yang and Kang 2005; Axelsson et al. 2010). Less attention has been given to the interaction between different kinds of soundscapes and how previous events influence the experience. There is an interesting tension/relief relationship between contrasting soundscapes that should be given further attention.

In my doctoral thesis (Cerwén 2017), I focused on tranquil soundscapes and proposed a set of strategies by which to highlight such qualities – often in relation to intense (exciting/vibrant) soundscapes in the surrounding area. I argued that city planning should take account of and emphasise contrasts between different types of soundscape. By ensuring access to multiple kinds of environment, people would automatically have an extended possibility to choose where to go, according to their preference, mood and current needs.

Challenge 4

Understanding the Relationship Between Noise, Behaviour and Social Communication

As human beings, we have the ability to produce sound, by ourselves as well as through interaction with the environment (Thibaud 1998). This ability is an important part of our communication, not only through speech but also through the sounds we generate while walking and carrying out everyday activities. The characteristics of those sounds help us understand other people's intentions and emotional states through subtle variations.

Noise is potentially problematic since the increase in sound pressure level reduces our ability to appreciate such differences. Based on studies of social life in public space, architect Jan Gehl (2006) has suggested that subtle human sounds like footsteps and soft voices require sound pressure levels below about 45–50 decibels to be discernible. Similarly, he argues that verbal communication becomes severely compromised if noise levels exceed 60 decibels. Noise may also affect our attitude towards other people; it has been found that people are less willing to help each other with small tasks at high exposure levels (Cohen and Spacapan 1984).

Conversely, noise may sometimes also be regarded as an attractive expression of social life. Based on observational studies in New York, Whyte (1980) found that people were often drawn to areas with extensive noise and hypothesised that the reason for this was the association between noise and social action, that is, a form of communication. (A related appreciation of, or, rather, fascination with, noise can be found in art, for instance among the Futurists of the early twentieth century.) Whyte (1980) also argues that high noise levels can offer a form of privacy, since an increased background level reduces the risk of being overheard, which connects to the territorial properties of sound (Kreutzfeldt 2009).

Affordance theory postulates that different environmental settings encourage or 'afford' different social activities (Gibson 1986) and it has

been proposed that this could be applied to study soundscapes (Thibaud 1998). Such work has recently been initiated (Bild et al. 2018). The notion of 'acoustic affordances' should be an interesting topic to explore further.

Challenge 5

How to Design with Consideration of Noise

With a background in landscape architecture, much of my previous work on noise and soundscapes has focused on the practical design of outdoor spaces. I believe that a nuanced understanding of noise could be of paramount importance in the creation of better everyday environments. The fifth and final challenge consists of three questions, all relating to implementation strategies.

First of all, how to represent sound and noise? Architectural disciplines have traditionally focused on visual representations like plans, drawings and perspectives (Raimbault and Dubois 2005). This makes it challenging to highlight the role of sound. Noise maps constitute one example of visual representations of sound, but there is a need to include more qualitative information. Some initiatives have been taken to develop such tools (Hällgren 2019; Fowler 2013; Aiello et al. 2016). Technological developments in visualisation and auralisation offer interesting possibilities within future projects (Rémy and Chelkoff 2016).

Secondly, how to value noise? The established approach in environmental noise management has been to generalise and label all noise as problematic (Brown 2010; Bild et al. 2016). In the future, perhaps we will see complementing strategies aiming to design urban vibrancy where (some) noise is emphasised as a benefit. There is a potential conflict between these two approaches, but coexistence could be motivated by zoning, where contrast and variation are emphasised. The notion of 'quiet areas' (EEA 2014; EU 2002), where designated areas are restricted from noise, might be part of such a solution.

Thirdly and finally, how to ensure that soundscape approaches are

used, but not misused? There have been reports of designers using soundscape ideas as a means to motivate development in noise-exposed situations (Cerwén et al. 2016). Consequently, if urban vibrancy is further acknowledged as a desirable quality in city planning, there is a risk that it will be used as an impetus for exploitation and for disregarding the negative health effects associated with noise exposure (WHO 2018). One way to counteract this would be to develop a means to assess the quality of soundscapes, such as a sound quality mark. I believe that variation should be a fundamental part of this endeavour, and perhaps the most important question of all is how to orchestrate variation in noise and sound.

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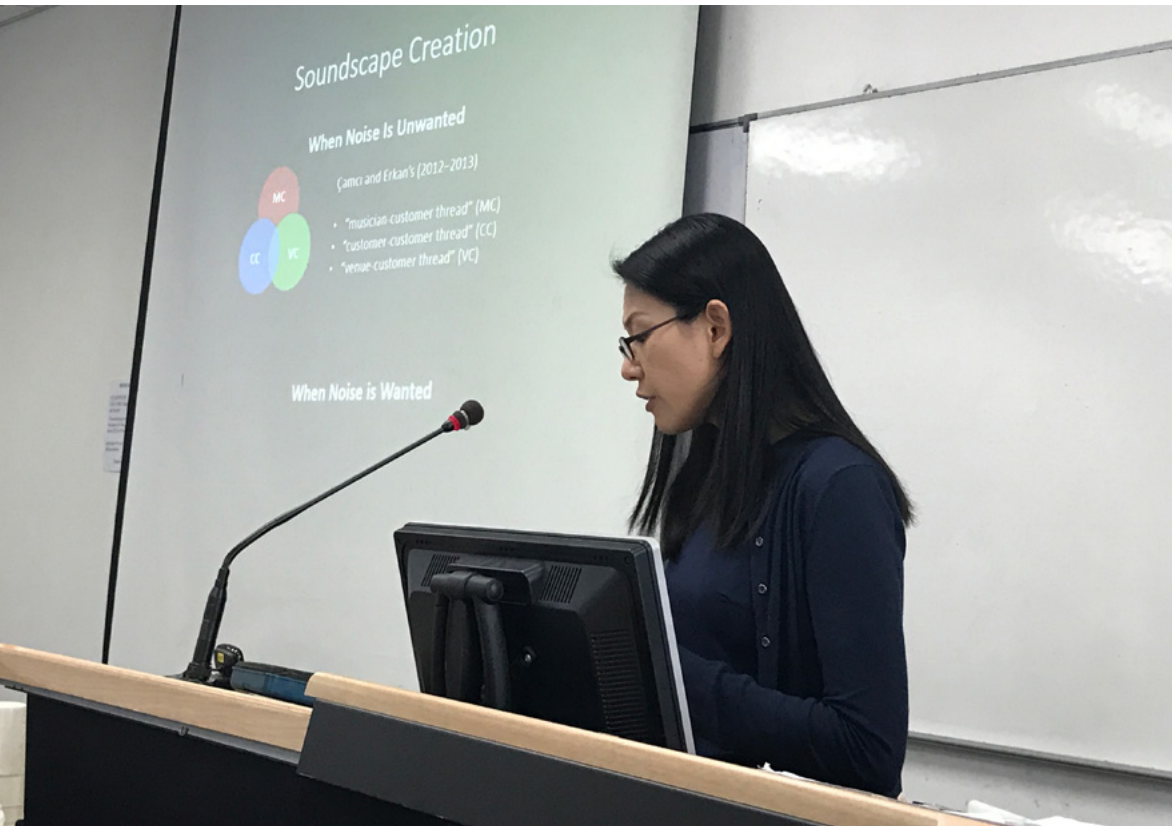

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Sound Ethnography: Negotiating Noise in the Leisure Soundscape

Julia Chieng

A sound or a sound environment is usually identified as 'noise' through perception more than as an acoustical object. What counts as noise is strongly dependent on sociocultural constructs as well as personal preferences and values at a specific context of time, place and event. 'Noise' is also perceptually dichotomous because it can be both unwanted and desirable.

Noise as an unwanted sound is, however, the more commonly understood use of the term globally. From the aspects of perception, acoustic properties and context of sound, my conceptualisation of noise is based on the following propositions:

- The main indicators in our perception of noise are an unpleasant feeling, annoyance, one's feeling of being disturbed by the sound and/or the belief that the sound is harmful to health.
- Secondly, the common acoustic properties of what is being considered as noise are loudness; piercing high frequencies or very low and vibrating bass line; and/or it not being informative, or it being useless, mostly in the case of repetitive sounds.
- Thirdly, noise is the incompatibility of sound with time and place and involuntary participation in the sound environment or when one has no control over the sound in the case of a forced listener.

On the other hand, noise that is wanted, or sometimes strongly desired, is not only pleasant and functional to the listener, but also highly gratifying. This is usually the case in leisure soundscapes.

Leisure Soundscapes and Sound Ethnography

The types of soundscape can generally be categorised into natural, industrial or construction, transportation, commercial, domestic, and leisure, with each having its distinct sound sources and forms of experience. Leisure soundscapes contain sounds of recreational activities and entertainment, such as those found at discotheques, pubs, clubs, concerts and festivals.

Industrial and construction noise are by-products of machinery and definitions of unwanted sounds in these environments are usually straightforward. Standardised measurements of exposure and clear guidelines can directly help to minimise occupational aural health problems. Contrastingly, monitoring sound intensity in leisure soundscapes can be rather complicated, as the sound itself is the main product of consumption. While the management of noise in a workplace, from traffic or in residential areas is usually aimed at reduction of sound level, leisure sounds are mostly amplified. Like the oxymoron 'deafening silence', quietness or minimal sound activity does not always make a soundscape pleasant, as the place can be viewed as uneventful or meaningless. The shout 'make some noise' is often heard in leisure events at which people are yearning for a highly soniferous environment.

In the leisure soundscape there is a tension between quality, demand and aural health, with cultural and musical considerations heavily embedded within the overall sound environment. When the sounds are harmful but do not cause immediate discomfort or pain, the jurisdiction over the control of sound emission from leisure events is usually subjectively qualitative. This type of soundscape study invites challenges in existing methodologies that mainly aim for aural health and aural comfort.

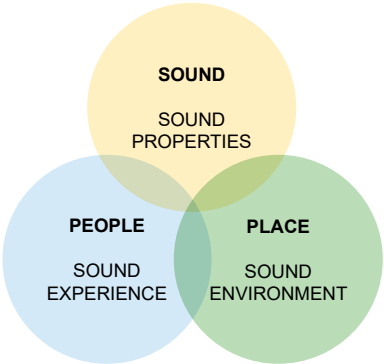

Figure 1: A trichotomy of sound, people and place in the sound ethnography approach

My research on leisure soundscapes employs an interdisciplinary approach with a combined focus on sound, its medium and reception. My framework is sound ethnography, a method that combines soundscape studies and ethnomusicology and includes a trichotomy of sound, people and place (Figure 1). Accordingly, I study the interrelationship between sound properties, sound experience and sound environment. This approach involves the investigation of the meaning of sounds in relation to the time of experience.

Desirable and Unwanted Sounds

An example of desirable noise at a leisure event is intensified loudness, which is a rewarding experience for some. Blesser (2007, 3) suggests that 'An aural space with loud music is often experienced as "exciting" because loudness represents intense activity'. Todd and Cody (2000) found that exposure to loudness above 90 dBA and frequencies between 100 and 300 Hz can produce 'acoustically evoked vestibular responses' that can be pleasurable and arousing. Welch and Fremaux (2017, 7) found that loud sounds can control emotions:

> Loud sounds, particularly music, were seen as a form of 'escapism' to distract people from their thoughts and feelings. In particular, the feeling of 'losing oneself in the music' was felt to be facilitated by loudness … a direct effect of loud sound making it harder to think – about anything – which is perceived as beneficial when negative thoughts are intrusive on a person's life.

Within a highly desirable 'noisy' environment, there can nevertheless also be unwanted sounds. These unwanted noises are not loud and dominating as in the usual case of other types of soundscape but 'smaller' sounds that interfere with one's auditory experience. At a music festival, mechanical sounds that carry no useful information were unfavourable, such as from a generator and an air-conditioner, as was the invasion of sounds from other places, as well as incompatible sounds from broadcasted music of a different genre at a live music event (Chieng 2019). When people experienced aural saturation and aural fatigue from prolonged exposure, sounds that were once desired became unwanted; rather than the sound itself, the time of exposure acted as a significant factor in determining sound preference (Chieng 2019).

While there are multiple efforts to create a healthy soundscape in outdoor spaces and measures to minimise hazardous sound exposure in the workplace, leisure soundscapes with massive amplification (for example in Electronic Dance Music festivals and experimental music performances as well as private celebrations such as weddings and religious ceremonies) may produce loud sounds beyond the need of audibility. While art has been a platform for communicating a message of change, such as on issues of politics, some of these creative sounds conveyed in great loudness can be simultaneously condoning a different movement in aural appetite. Does art possess a different aural 'licence' in sound expression?

Controlling and harmful noise can be made desirable by sound branding and with commercialisation in disguise. Pleasure and profit can minimise the awareness of 'unhealthy' sounds among the sound-makers and participants. When unhealthy noise is very much desired, should there also be another kind of negotiation? Should there

be intervention on the ignorance of or negligence towards the consequences of certain soundscapes that are designed at the expense of listeners such as irreversible hearing loss?

Soundscape Creation

Sound environment studies include documentation, description, appraisal and/or creation that involve improving the soundscape by reducing, masking or introducing positive sounds. The approach to 'noise' is very much perceptual and contextual, and it is further complicated by multiple participations with different motivations in the same sound environment. Soundscape experience can be recreational (looking for relaxation), diversionary (escaping from one's usual place in seeking difference, such as from the city to a rural area) or experiential (where meaning and authenticity matter) (Cohen, 1979). Each of these has a different aural taste. Thus, negotiation of noise can be challenging in a common shared space with differences of soundscape values.

One of the ways to approach soundscape design is to identify the function of the environment and its potential users. Accordingly, the three types of 'acoustic communication threads', as proposed by Çamcı and Erkan (2012–13), can be adapted to provide insights into the layering and alignment of sound species at a place in creating a quality soundscape:

1. Musician – customer thread (MC)

The MC thread is usually found at cultural and intellectual soundscape venues such as places with music performances. The featured sound, for example music, is an important factor for a positive soundscape experience, and so should be heard clearly, without interference.

2. Customer – customer thread (CC)

The CC thread happens mostly in social venues such as food stalls where people gather to have conversations besides having their meals. For this type of place, even a sound level of 60 dB can be considered noisy. According to Berglund et al. (1999, ix), the ambience level for this type of soundscape should be below 35 dB as the level of normal speech is about 50 dB and signal-to-noise ratio of 15 dB difference is needed for the intelligibility of speech.

3. Venue – customer thread (VC)

For the VC thread, the place is usually site-specific for a purpose and has distinctive self-contained sound characteristics. A pleasurable soundscape can be achieved by the clarity of local sounds that are compatible with the venue, with minimal presence of foreign sounds. For example, in a relaxed al-fresco tea house with a waterfall and natural sounds, establishing a clear acoustic territory without sound-masking from external sources would preserve the quality of the soundscape.

Summary

Leisure soundscapes necessitate a different approach in sound management due to their attached sociocultural meaning and the level of desirability among the voluntary soundscape participants. Whether noise is unwanted or desirable is highly dependent on the context and time of exposure. Creating a positive soundscape can be challenging as there can be different perceptual values in a shared auditory space. Identifying the function of a place and its activity can be a way to initiate a spatial-temporal order in soundscape design towards a more meaningful sonic experience and acoustic comfort collectively.

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Some Noise on Noise

Marcel Cobussen

I am not fond of definitions; they *suggest* clarity, uniformity, generality and often even a kind of eternal value. Defining enhances and (implicitly) takes as its point of departure the idea that a clear separation is possible between inside and outside, between inclusion and exclusion: 'noise is the other of music and silence' is one such utterance. But what about noise music? What about so-called 'non-harmonious sounds', often equated with noise, that are always already a part of any music? What about 'extra-musical sounds', which have been integrated into musical compositions for more than a century already? And what about Cage's remark that silence can be very loud, very noisy? Could we also reverse that idea and claim that noise can be very soft, as, for example, in the minimal sound world of the Japanese sound artist Sachiko M?[1] Of course, it is not my aim to claim that all noise is music (or silence); what I do claim, however, is that the borders between music, noise and silence are porous and that a clear separation cannot be made on the basis of the intrinsic characteristics of the 'sounds themselves'.

In short, I am less interested in what noise *is* than in what it *does*, how it *works*. And, as such, I need to make a separation between thoughts about noise coming from sound studies, the music world, (music) philosophy, sound artists, and/or musicology on the one hand

1 For a short impression of her work listen to her video posted at https://www.youtube.com/watch?v=-N2JpUSOGQw.

and from people who are not active within these fields, on the other.[2]

In his famous book *Noise: The Political Economy of Music* from 1977, Jacques Attali presents noise as productive force. According to Attali:

> each network pushes its organization to the extreme, to the point where it creates the internal conditions for its own rupture, its own noises. What is noise to the old order, is harmony to the new: Monteverdi and Bach created noise for the polyphonic order. Webern for the tonal order. La Monte Young for the serial order. (Attali 2003, 35)

Several remarks can be made on the basis of this quote, for example that Attali introduces noise as a metaphor for disruption in general, not necessarily or directly connected to sound. Another observation could be that, for Attali, noise is a motor of progress or development. Noise is needed to break or to overcome a certain status quo; it is necessary, positive and even (historically) inevitable. A third remark could be that Attali presents noise as relative to a situation; noise has no absolute qualities, but as a transformative force it is dependent upon already existing circumstances. This last remark is echoed by Douglas Kahn, who writes: 'we know they are noises in the first place because they exist where they shouldn't or they don't make sense where they should' (Kahn 1999, 21). Both Attali and Kahn are emphasising the contextual nature of noise: noise, one could say, is sound out of place. A logical consequence of this way of thinking is that sounds do not have to be noisy, that is loud, in themselves; they can simply become qualified as noise if they occur in places where they are not supposed to be. This 'being-out-of-place' refers, then, to the occurrence of certain amounts of disorder, instability, the undermining of dominant organisations, disharmony, and so on.

However, when confronted or working with people who are suffering from noise pollution, often on a daily basis, I become aware that this

2 Needless to say, this short text will not give a comprehensive overview of thoughts on noise from any of these fields. That would not only by far exceed the objective of this essay, but it would also do injustice to the many scholars and artists who have dealt with the issue of noise on a much deeper level than I can do here.

rather liberal view of noise as a positive force of transformation needs some nuance and modification or has to be abandoned altogether. These people live in the vicinity of an airport, busy highways, rail yards or long-term construction works; or they find themselves confronted with noisy neighbors or commercial activities in residential areas which produce irritating sounds, because of the time of day (early morning, late evening, night), the days themselves (weekends, holidays), loudness, frequencies (high, shrill sounds but also ultra-low frequencies), the regularity or irregularity of the sounds, and so on. In these cases, sounds are qualified as noise because they cause physical and/or mental problems and, in general, have a negative influence on one's health and well-being; timbre, frequency and decibels are certainly directly incurred to name and frame specific sounds as noisy. However, as Hillel Schwarz (2004) and Eveline Maris (2008) make clear, besides the mere volume or tone quality of sounds, other factors play an important role in perceiving or subsuming certain sounds under the denominator of noise: social temperaments, class background, cultural desire – all historically conditioned – play an important role in one's judgement on being exposed to sound (Schwarz 2004, 52). Maris investigated to what extent the social process between the person(s) operating the sound source and those being exposed to the sound influences the latter's evaluation of the sound, and concluded that their annoyance increases once they feel that their exposure to sound is somehow unfair and cannot be controlled (Maris 2008, 9 and 108).

Although the scholarly and artistic approach to noise seems quite far removed from the way noise is perceived and valued by people who are unwantedly exposed to it, what seems to unite the two (very heterogenous) groups is that in both cases noise is experienced and described as that which deviates from the norm, from standards, from certain regulations, from normality. Nevertheless, one of the major challenges I face in my work is how to bring these two rather different ideas on noise together. How can I use artistic, aesthetic, philosophical and even ethical approaches to noise in my work to improve concrete problems with the perception of sounds in, for example, urban spaces, to improve people's sonic environment, to ask from policy-makers,

urban planners, city governments, architects and many others to pay attention to the sonic design of a space, indoors or outdoors, urban or rural, public or private?

So far, two strategies have proven to be helpful for me and might also illustrate in which direction my work on noise can develop. First, what I think that many people can learn from sound artists is to listen: to listen to their sonic environment, to listen to everyday sounds, to listen to sounds which are sometimes all too easily disqualified as noise – to listen attentively and without prejudices. Through sound art, people might be able to open themselves to the unfamiliar in the familiar; through soundwalks or by making recordings themselves, people might relate to their sonic environment differently, more consciously and more cautiously. As Brandon LaBelle claims, listening 'moves beyond the surface appearance of things; to listen into the architectures, the social experiences, the ecologies, and the often quiet or non-human soundings found therein' (LaBelle 2019, 520).

Second, although it might not immediately help people who are burdened by unbearable sounds, be they loud or otherwise intolerable, we should remember that, compared with the soundscapes of a century or more ago, we do live in relative quiet, and this is most likely to increase in the decades to come, due to, for example, silent asphalt, electric vehicles and sound insulation as well as new norms, regulations and laws such as the international soundscape standard ISO 12913-1 (https://www.iso.org/standard/52161.html). Although many researchers have found evidence that working in a more tranquil environment might certainly help to increase our overall health and well-being, the social aspect should not be forgotten here as well.

Perhaps we can learn something from the successful policies against smoking: in a way, they have made us less tolerant of the few smokers who are left – a development which has positive as well as negative sides to it. Some deviating, even loud, sounds every now and then cannot be avoided and can perhaps even contribute to a more heterogeneous – and therefore interesting – sonic environment.

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Conversations on Noise

Sanne Krogh Groth

My contribution was the last one at the position paper session in Kuala Lumpur in January 2020. But it was not only for this reason that I was feeling a bit groggy. The jetlag was starting to hit, and so was the cold I had had since Christmas. My dry coughing was noisy and disturbing – to my surroundings and to my night's sleep, and to obtain some relief at night and during the day I medicated myself with a cough syrup containing opium. I can't help thinking that if the workshop had taken place two months later, during the time of COVID-19, the sound of my dry cough would have been heard within another register. Instead of annoyance, it would have made people insecure. Indeed, I would probably not even have attended in the first place. If the workshop had been scheduled to take place three months later, it would have been cancelled, no matter if we heard the cough or not. In the midst of a pandemic virus that travels in respiratory droplets, the cough is no longer the concrete sound of an individual, but has become a general symptom and symbol of a dangerous, disastrous global enemy that has led to governmental restrictions on the many.

In the preparation of my paper, I had been struggling a bit. It was James Mansell who suggested that we, the organisers, should contribute too – and not only conceptualise and affiliate, as I had initially imagined. Although the idea of having position papers was mine, I realised while formulating the presentation that my own position was not clear. My only position was that noise, like everything else I study, is a situated phenomenon defined in and by its context. I discussed the

task with Emilie Stroh, a scholar of occupational and environmental medicine and a colleague of mine in the Sound Environment Centre at Lund University. Emilie referred me to a short film developed by the Swedish sound design firm Lexter, which I ended up using as an icebreaker for the presentation. Emilie had previously used it in a presentation on noise and health in office environments, as it illustrates that whether a listener dislikes or feels comfortable with a noisy sound depends on if they like or dislike the source they identify as the origin of the sound. In the film, a fizzing sound is first accompanied by an image of rain on asphalt that morphs into one of bacon being fried; white noise is first accompanied by an image of reeds being blown by the wind, which gradually changes to an office ventilation system; and finally, a busy highway shares its soundscape with the noise of an ocean. Previous studies have shown that it is not possible to mask a noisy office, for example, with the sounds of the ocean, as the workers would be annoyed, because they would think that someone had only turned up the ventilation system (Hongisto et al. 2017). The experience of sound is anchored in the listening situation and is shaped by physical prerequisites, cultural contexts and personal remembrances.

By showing this short film at the start of my presentation, I wanted to state a position that is shared with researchers across disciplines, from natural sciences and social sciences to humanities: noise should not be treated as an objective and physical phenomenon, as its effect on the individual depends on the context, as well as on the person's memory, culture and experiences, and, of course, physical hearing ability. The perception of noise is to a large extent subjective, and so are the intentions and logics behind the cause of that noise. This makes the study of noise a truly complicated matter, and one that might always raise more questions than it answers. But it also makes it a topic that leads us to relevant, important and stimulating issues calling for trans-disciplinary approaches.

My own research on noise is conducted with the anthropologist Nils Bubandt and concerns aesthetic and cultural aspects of noise and experimental music centred around Yogyakarta on Java in Indonesia. The

The Bali based noise artist JAGAJAGA performs a street noise bombing at the Jogja Noise Bombing Festival in Yogyakarta, January 2019. Photo: Sanne Krogh Groth with permission from the artist.

artists in the community of Jogja Noise Bombing mainly play harsh noise, both at concerts and in public spaces through portable speaker systems. The latter is named 'noise bombing', which is equivalent to 'graffiti bombing' – but with sound. The idea is to intervene in public urban spaces with pop-up events and play harsh noise in unexpected contexts. As these pop-up events mostly happen in cities that are already very noisy, with busy traffic intersections, crowded squares and lively fairs, one can say that the noise is added to a noisy background. A dB measurement from a recent 'noise bombing' in Yogyakarta showed that the constant traffic as well as the occasional sound checks from a nearby outdoor pop concert were far louder than the noise artists' intervention. One had to listen carefully through the noisy ambient setting in order to register the noise music. The noise concert of the artists thereby established a concentrated and calm listening situation in a place where most people on a daily basis probably compensate by ignoring the noisy soundscape. Hence, the 'noise' at this event was not really the audible or physical sound but, rather, was visual and social: the sudden gathering of a static group in a lively and dynamic place; the fact that many of the audience and performers had

tattoos and piercings and wore black clothes; that some shared alcoholic drinks; and the sights of the messy DIY technologies. It was a noisy intervention in the everyday city-life of Yogyakarta.

After having visited Asian cities, it is hard to consider the regulated cities in my own hemisphere as being really noisy. Without traffic streams and intersections that constantly reach 85–110 dB, or the constant risk of getting hit by a motorbike, they are actually quite peaceful and organised. A noise concert in such a place would be a very different intervention from one in Yogyakarta.

The soundscape in urban spaces can be listened to as negotiations among the citizens of public spaces and territories (LaBelle 2010). Aside from the busy traffic noise of Yogyakarta, a significant sound in and to my Nordic, *secular* (Sykes 2019) and *listening ear* (Stoever 2016) is the sound of Muslim call to prayer. The sound that I hear on numerous occasions during the day in the cityscape is a loud, amplified and distorted singing in a language and a tuning I relate to the Middle East. I am not familiar with the meaning of the words, nor with the inner logic of the tunes. It is hard for me not to exoticise the sound, and I find it difficult to integrate it into the urban soundscape the way I would with the sound of a church bell. My listening position is formed by my ontology – my cultural, aesthetic and academic heritage.

In Indonesia, just as there is a law with dB guidelines for traffic noise, among others, there is also one from 1978 dealing with the use of loudspeakers outside mosques and places of worship (Henley 2019). For good reasons, this guideline was forgotten or overlooked in the discussions on public noise regulations during the 2010s between the government and Muslim representatives, when the government was trying to avoid being accused of blasphemy while trying to protect the citizens' soundscapes. The increasing loudness of religious sound signatures even led to what has been called an acoustic war:

> The acoustic war is largely undeclared; in public church leaders usually deny that their own noise is a reply to that of Muslims. In private, however, they express their annoyance at the way Islam has attempted

> (as they see it) to dominate the public sound scape, and their determination to restore the only kind of justice they can by filling the air with yet more noise. (Henley 2019, 238)

This is another example of the soundscape of a city being not only a negotiation over decibels, but also one over sounds of symbolic significance situated in ontological, cultural, spiritual and physical contexts.

I included the aspect of religious sounds in my presentation as an invitation to start a debate on city soundscapes with issues central to a Southern hemispheric perspective. But, when I asked the workshop participants for comments, I met with silence. I later understood that the issue was not to be discussed while the documenting camera was running, and my point became even stronger: issues on noise are not limited to decibels, aesthetics and disturbance of daily routines – they clearly also raise questions that reach into politics and cultural will, as well as personal fear and belief.

Again, it is not the noise and its physical sound characteristics that by default are the problem. It depends on the context: why the noise is produced, how it is perceived, and how final agreements and restrictions are negotiated. During noise concerts we find consensus, a mutual agreement and trust among the participants regarding what is happening. The noisy scenery is a noise that is actively engaged with, listened to, danced to, screamed to, or even left to, if one prefers this. We here get the chance to explore and celebrate noisiness together with the artists producing it. At other events, even a tiny sound – such as a squeak from the pedal of a grand piano – can feel like torture, almost a pain in your bones. The noisiest sound wall can serve as a salvation to some, while a salvation purposely in sound can be experienced as an assault to others. Noise is negotiated because it matters.

Acknowledgement

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Understanding Noise: A Composer's Reflection

Patrick G. Hartono

Being educated in both European and Asian countries has given me a unique insight into 'noise'. This is reflected in my artistic practice as a composer. This paper discusses my personal understanding of noise, which has been influenced by the Western conservatorium environments that I have studied in, and how I position myself within noise-making communities in Indonesia.

Noise or experimental music is something new for an Indonesian composer. In fact, in 2009, I decided to study abroad as electroacoustic music was not yet being acknowledged in either academic or non-academic communities in Indonesia. However, within less than a decade, noise music has become a new trend, especially in Yogyakarta, Indonesia. Most of the activities are centred at the annual noise festival called 'Jogja Noise Bombing', which has inspired other regions in Indonesia to start events of their own. In 1913–14, the Italian Futurist Luigi Russolo staged what are now considered to be the first noise concerts, performed with the *Intonarumori*, a noise-generating instrument that he built himself (see Russolo 1986). In his revolutionary performances, we can see that the DIY culture of making musical instruments has existed since the beginning of noise music activity. It is still highly relevant to noise music today. In Yogyakarta, for example, the collaboration between DIY instrument-making and noise-making communities has resulted in various new noise instruments that are used by musicians.

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My understanding of noise is derived from a Western music education background where noise is understood not only as a loud signal or sound, but also as musical material that offers the possibility of a new aesthetic. As a trained composer, I use noise as creative material for my composition. It is created through a series of processes where the sound material is transformed into the desired one. The sound materials are derived from recordings of Indonesian traditional music instruments, human voice, field recordings as well as synthesisers and computer-generated sounds. Sounds are modified through the application of audio effects and digital synthesis techniques, later to be assembled into a compositional form. This process is heavily influence by electroacoustic music practices. According to Doug Van Nort (2006), '"Electroacoustic" itself has come to mean everything from the specificity of genre to any music whose sound is not possible without electricity and electronic' (p. 173). As my next artistic approach, I began to incorporate non-sonic idioms (visuals). Such audiovisual composition is not restricted to the common musical rules such as melody, harmony, rhythm and so on.

In 2015, I had the chance to collaborate and perform with the noise community in Yogyakarta for the first time. Since most of them are not musically trained, there was a gap between us on how we defined noise. This gap was certainly not an obstacle in establishing artistic collaboration, but instead aroused curiosity in my collaborators about how I produce noise in my work. Questions were asked, but the most intriguing ones were 'What kind of noise do you use?' and 'Why does it not sound harsh like others?' This difference in noise aesthetics and the dialogue that followed created willingness in my collaborators to know more about noise from a formal perspective, such as electroacoustic music. Prior to my creative collaboration with Indonesian noise artists, we had had several discussions, either physically or online. What is interesting is that most of the conversations (for example, with the synth-builders and some members of the Life-Patch community) dealt only with the technical aspects of generating sound. Aesthetic or musical aspects were rarely touched on, which made me wonder whether my collaborators positioned themselves as 'artists' or 'art-

ist-technicians'. Or perhaps in this context, at least for them, technicality is perceived as a meaningful idiom that has equal value to artistic or musical concepts. Having a robust musical concept is important for an electronic musician; otherwise, the advantage of technology may remove the objective of artworks and leave art only a flaunt of technology.

Regardless of the pro and cons, I personally argue that the balance between technological and musical aspects is an important concern for technology-based arts, including noise music and electroacoustic music. This is reflected in the most recent audiovisual work that I am working on now, 'Quarantine', as part of my doctoral research. Although the utilisation of technology through the applied computation process is important to the way that I work, the audiovisual system that I am working on is built upon the implementation of a form of musical interactivity based on the *wayang kulit*, or shadow puppetry, tradition. *Wayang kulit* is a multidisciplinary art that involves music, theatre and visual performance. My objective is not to imitate or recreate the *wayang* performance through the involvement of technology but, rather, to create a new audiovisual system and performance that creatively develop the cultural form of *wayang kulit*.

Noise communities in Indonesia are developing in interesting directions both within and beyond the harsh noise genre. Collaborative work between practitioners from different musical backgrounds is needed to maintain this. The intention is not to direct them to a certain genre but, rather, to give insights into various genres of experimental music and let them decide which path they choose.

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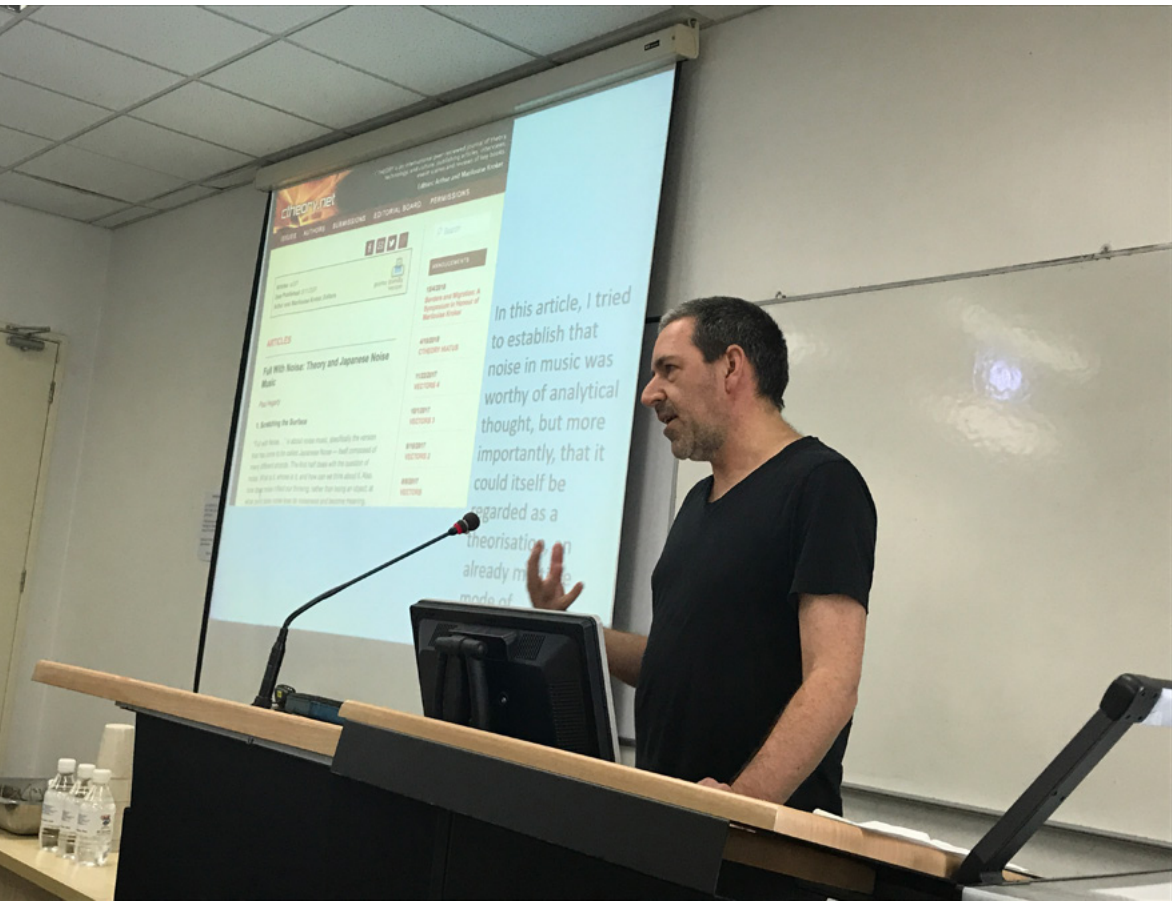
Noise is Not

Paul Hegarty

I started with the end of art – at a conference in 2000 on Georges Bataille in the beautifully brutalist Trent University in Ontario. I took a chance on including Japanese noise artist Merzbow as a notional endpoint of music, but one that would initiate a living-on in the end. Following that, tech ultra-modernists Arthur and Marilouise Kroker invited me to write for the online open access theory journal *ctheory*. Like Merzbow, I kept jamming more stuff into that article, form and content over-full and tough to digest. From that point, it already seemed that not only was noise music worthy of theoretical or analytical attention, it actually already acted as a theoretical mode. The noise music of many styles that had emerged from Japan gave me a model with which to approach preceding and succeeding waves, splashes and pisses of experimentation that opened up the idea of noise as disruption. Every article, and then every chapter in both *Noise/Music* (2007) and *Annihilating Noise* (2020), would be written with a different theorisation, one that could be heard to emerge from the forms under discussion. There is no one thing called noise.

Uniting the multiple and even contradictory emergences of noise is the underpinning that, fundamentally, there is no noise. There are only judgements, perceptions and decisions about what noise is. Noise is never inherent or essential, but always processual, contingent. This is not to say that noise is subjective. Rather, it is quantitative and determined by majoritarian rejection. Noise is not what you decide it is, but what a given society has determined it to be. Your subjective reac-



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tion has been squeezed into you on a social drip. At the same time, there is only noise once those have been stripped away. But this does not mean that we float in a bath of positive noise, like imperious ringéd Saturn in its imaginary bath. Nor does it mean that noise can simply be, safe from the worry of not being liked.

What would be the point of nice noise? How would it be noise? Noises are not just sounds; noise is not just music someone didn't get yet. Even if it kind of is the latter, the noise is not in the not-yet-getting, but in the brief experience of noise as noise, before the control mechanisms recalibrate and everyone understands once again.

Noise is only (attains the height of) negativity. Which is not really about not being liked, or the rejectedness that makes noise noise. Instead, it is about the relationality of noise, the not existing autonomously of noise, the nested oppositionality of noise. No noise by itself. Noise is not a monadic comfort potential of a secure radicality. Noise is about troubling the people that like it.

And all of this can be modelled outward. For me, the noise that occurs in the vicinity of music, in the place of music or against it, is rich with diagnostic insights for exclusions, resistances, underminings and, yes, transgressions of norms. The belief that noise should be positivised and defined is a loss, the sign of the marketisation of noise; noise is always being defined, always shaped, always recast and used as part of a signal, like information theory's fear of being only one of the multitudes of noise potentials in a system, any system. Noise is not realised in a determined frame and, if it is so fixed, the definer will be cast as Legend, the unwitting murderous monster portrayed by Vincent Price and then Will Smith.

It's very tempting to shape noise into a simple sacrificial model, or at least it should be. But how much better, or less than better, to have it lose that power, for the noise to be about the loss of power as noise. Like failure, only less didactic, noise would be where noise does not even coalesce. And so, after some time, and when I finally (c. 2013) started to connect what I was doing when acting as something like a musician as a writer, it seemed that noise as weakness, incapacity, brokenness, but all in an absence of tragedy or sublimity, would be one

way to move noise from the status of would-be slayer of music to being the soft pillow on the wheezing decrepitude of noise itself.

From a music or sound-making perspective it is much harder to aim to be noisy in a way that exceeds genre or sonic expectation. So it's quite futile. But to participate in a genre coded as noise is something else, and quite straightforward. If you make sounds from 'analogue' electronics, or by crunching sharply resonant or complex-sounding objects, you might well be making harsh noise music. But you are not really making noise. Where others say that this means we should abandon the idea of noise as 'against', I suggest that until the new generic practices have become statistically not-noise, and normative, then all that has happened is that an elite has decided to close off noise through its connoisseurship and is engaging on a process of pulling up the ladder to make sure the elite listener can bemoan the lack of really exciting new noise in the silent sanctity of rightness. So, on the one hand, if something that seems like noise is not new, why does it need to be? Why cannot it not be processed for what it does and how, as opposed to just the 'whatness' of what it is? On the other hand, without some awareness of what has happened with noise as a kind of escalation over time, the noise-maker is likely to replicate what went before, while imagining they have really and truly broken free (this is a potential trap for the trained musician attempting 'noise').

What is now called 'harsh noise' can still produce a deeply physical power for the listener, and bring about a sense of being overwhelmed – not violently, but with a range of possible sensations. But as with ideas of noise, if the playing of something like noise is about actual noise, then maybe weakness is a way forward and down. There is certainly a lot of badly made DIY sound that plays precisely with and within limitations where once harsh noise would force failure on machinery to produce a whirl of unexpectedly generated sounds. Uniting many types of noise is the freedom and risk of improvisation – something that has defined noises I have made with Safe, Maginot and others.

As co-director of a record label with founder Brian O'Shaughnessy and artist Alex Rose, I was more interested in picking things I liked, while conceiving of the coloured seven-inch vinyl as material noise in

a dematerialising world of music consumption – and this was more curious, perhaps between 2005 and 2013 than now, with the current and endless reissuing of records in different vinyl formats and the scourge of Record Store Day. As someone restarting in that domain, I now plan only to release ever-more limited editions that will quickly vanish into someone else's ether. For a while, down- and uploading were seen as noisy but, like disruptive innovation, in practice these serve right-wing capitalist ends, shoring up the industry through defunding the producers of work and closing down employment for many.

If noise is not something fixed, it can take material form, it can be about struggle and resistance. Of course it can. This is where I return to the points at the beginning: noise is statistical, like entropy, and is not something you own, or get to keep. Noise is a position or set of processes you will be moving through, or being moved through. Taking charge of these might well remove noise, and still lead to a freer, better existence. So, lastly (… or …), noise is temporal, fleeting, a passage. Noise is along the way to something, as opposed to being located for all time, or even a long amount of time. Noise is not tragic either, as, despite its being bound up with judgement and the negative, it is not a human possession or attribute. Noise is not.

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A Design Practice-Based Approach to Noise: Habitual Ways of Listening

Marie Højlund

The 'soundscape approach' has grown significantly over the past 20 years in the field of community noise research and environmental acoustics and has now come to the attention of policy-makers, architects and city planners (Kang et al. 2013). This development represents a paradigm shift from noise control policies towards a new multidisciplinary approach, as it involves not only physical measurements and quantitative data, but also data from human and social sciences with a focus on how people experience an acoustic environment in context.

As an example of this new paradigm shift is an ISO standard published in 2014 that aims to bring together knowledge to provide requirements, specifications and guidelines that can be used consistently to ensure soundscape processes are fit for their purpose (ISO 2014). The second part of the standard, published in 2018, is concerned with methods of data collection and reporting on soundscapes by combining interviews and soundwalks with physical measurement (ISO 2018).[1] However, even though both the standard and other central documents on the soundscape approach (e.g. Kang et al. 2013) require

1 The second part of the ISO standard on soundscape is not a full standard yet, but a so-called 'Technical Specification', which is a device used where a science is emerging and further research is required to provide the evidence that will result in it becoming a full ISO standard in due course.

a multidisciplinary and multimethod approach to the analysis of complex everyday soundscapes, I want to argue that there is an important blind spot that the proposed Swiss army knife of methods and disciplines is likely not able to catch or fix.

The ISO standard acknowledges that our listening spectrum always includes different states of attention, both conscious and non- or unconscious. An example is the note added to the definition of 'background sound' stating that, 'Often these sounds are not consciously perceived, but they act as conditioning agents in the perception of *foreground sounds*' (ISO 2018, 1, original emphasis). However, the standard does not provide methods that actively seek to account for these important conditioning agents. Similarly, I found, through my PhD on noise in Danish hospitals, difficulties in existing methodologies and approaches to account for affective, embodied and atmospheric conditions that influence the experience of noise in hospitals (Højlund 2017). As Eric Clarke points out, the idea that anyone can provide a complete and faithful account of their own listening experience in survey contexts is illusory, as a lot of what is heard remains un- and non-conscious and thus escapes our conscious descriptions (Clarke and Clarke 2011). Thus, our ways of knowing in – and with – these vague conditioning sensations are likely not cached either through technologies of measurement or through soundwalks and interviews.

My research has therefore aimed to find ways to address this blind spot, in order to heighten the ecological validity of the soundscape approach, through combining existing methods with practice-based methods IN artistic – and design –research. My guiding research question is: how, through real-life design cases, can I explore ways to understand, catch and transform the affective intensities that condition the experienced listening quality in vulnerable atmospheres?

I want to present the case of *KidKit* as a concrete example from my research in Danish hospitals, which was conducted in collaboration with architect Sofie Kinch at the neuro-intensive care unit (NICU) at Aarhus University Hospital. In a NICU, patients are hovering between life and death due to severe head and spine injuries (Højlund and

Kinch 2014). During the experimental phase, we conducted user studies, prototyping, observations, interviews, field recordings and atmosphere walks, that together identified a wish of nurses to motivate parents to bring children to visit relatives, to help demystify the situation. However, there was a lack of tools to prepare the visiting child for the alarming atmosphere in the shared ward, dominated by a cacophony of up to 45 different alarm sounds. When relatives visit the patients, they often spend hours in a small waiting room before going into the ward. The shift from an atmosphere of absence in the waiting room to the ward often resulted in the child standing frozen against the wall in the ward, unable to focus on the visit with the relative. Our design case therefore addressed how we could help the child to avoid becoming overwhelmed by the powerful soundscape in the ward. Following this, how could we address this soundscape problem, when it was only affectively and not consciously perceived by the child, but acted as a powerful feeling of walking into an intense, alarming atmosphere of alertness?

We based our experiment on Heidegger's theory of attunement, which suggests how agency towards existing attunements, because of their affective quality, must be exerted in a mediated way through counter-attunement (Heidegger 2002, 136). A counter-attunement can emerge only if it resonates with the existing attunement, due to its affective character. In this way, facilitating counter-attunements demands a disjunction between one (existing attunement) *there* and another one (counter-attunement) *here* and then offering a process of tuning, where a counter-attunement happens by way of over- or undermatching the existing intensities. Counter-attunement in the NICU should thus be facilitated by first getting close to the existing patterns of intensities and rhythms through sensible exposures.

To experiment with this in practice we created *KidKit*, which consists of interactive furniture placed in the waiting room, where the nurse engages the child in counter-attunement to intentionally and actively change the existing attunement (Højlund and Kinch 2014). A touch interface is sewn into the surface of the *KidKit*, consisting of eight sound triggers that play the alarming sounds, all recorded in the

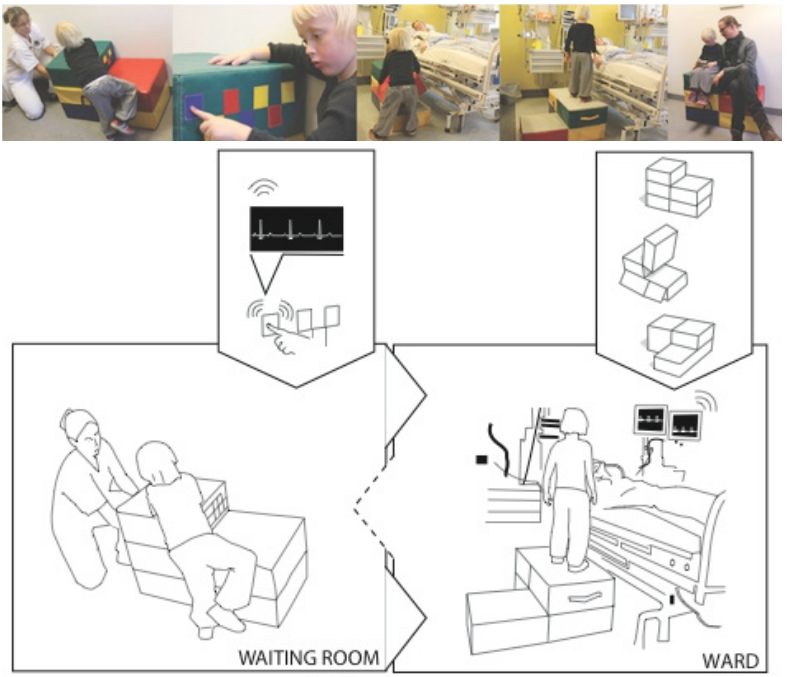

Figure 1. The interactive furniture *KidKit* at the Neuro Intensive Care Unit. Photo: Sofie Kinch

ward. Thus, through simple interaction, the alarms become attentional cues that represent a rupture to existing attunement by presenting the alarming sounds from the ward integrated into an interface controlled by the child, in relation to their own bodily rhythms and intensities. After this embodied habituation process in the waiting room, *KidKit* accompanies the child as something familiar when going into the ward (Figure 1).

The process of capturing the existing attunement and facilitating counter-attunement happens through the emergence of a shared rhythm between nurse, child and furniture based on intensity, shape and timing. This approach to relational rhythms breaks with the idea that we can 'install' rhythms and slow atmospheres in a room, independent of the embodied circumstances of the involved entities. The

design case highlights the reciprocal relationship between the way in which atmospheres condition shared rhythms that shape us, but also the way in which we can tune them in different ways. In the context of sound and listening, counter-attunement becomes a key concept capable of reconfiguring habitual background and foregrounding relationships in the listening domain, and the transformation that it leads to embeds itself in new habitual ways of listening.

Kidkit is an example of how practice-based research methods can complement the existing methods, not only as a solution *after* a diagnosis of a problematic soundscape, but as an integral part of data collection and analysis. However, I find that the inclusion of such practice-based methods highlights the need for much more transdisciplinary negotiations, not merely different, separated methods stacked together. Both Blesser and Salter and Jean-François Augoyard have pointed out how different research approaches to noise and acoustics often remain fragmented as isolated islands of specialised expertise, due to their different criteria for research validity and different intellectual frameworks (Blesser and Salter 2007, 298; Hellström, 2003, 13).

Working towards trans-disciplinarity, on the other hand, would require the soundscape approach to accept reflexive epistemological diversity to allow alternative frameworks to fruitfully coexist alongside each other. This will force us to reflect upon the limitations of each individual approach and thus gain both greater ecological *and* explanatory validity.

To sum up, this position paper is a call to negotiate noise together, across disciplines, by adopting trans-disciplinarity and reflexive epistemological diversity in the broad field of soundscape research, *and* to invite practice-based artistic – and design – research approaches into these negotiations.

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Urban Noise and the Politics of Sound

Jacob Kreutzfeldt

Dealing with noise is a complex task. Not only do we apply the concept to different phenomena, we also define it in a myriad of different ways. Looking at the *uses* of the concept of 'noise', overlapping and sometimes slightly contradictory meanings emerge. For instance, the call to 'Make some noise!' may be a socially encouraging gesture during a concert, a political statement during a rally or a destructive act in everyday life. The meaning of the concept will be determined by the context and the ideological framework of the discourse. Yet the imprecisions and struggles around the concept of noise testify to larger ideological conjunctures. Noise is a travelling and multi-valent, hyper-complex concept not because it is badly defined, but because the phenomena it covers are by definition marginal, vaguely understood and barely perceived. Noise takes place in the rim of our attention; it is that which we do not want to focus on, while persistently being made aware of. The concept of noise is phenomenologically indefinite and semiotically imprecise, but also analytically very fertile, precisely because it deals with marginal phenomena that we are struggling to deal with.

This position paper follows a pragmatic approach to the matter in order to open up the field of urban noise research. It points out three different understandings of the concept of noise and suggests some entrance points for analysing the dynamics of urban noise.

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Three Understandings

Bearing in mind that noise is a multi-valent and complex concept, there is no intention here to pin down one single meaning. Rather, the exercise here is to trace different conceptual layers around what is intuitively understood as noise.

Noise as quantity

Noise is often discussed in terms of quantity alone. In this case, it is often synonymous with loudness or sound level. The felt or measured sound pressure can be understood as noise when it exceeds a certain level. We see that in the noise maps produced by all major European cities since 2006. We feel it simply when an environment is understood as 'too noisy', meaning that the sound level is too high no matter what quality that sound may have: be it the sound of waves in the ocean, wind or music. Urban noise maps are representations of measured sound levels whether these are caused by traffic, human interaction or music. When noise is understood as quantity, the term noisy simply refers to an abundance of sound. In this understanding, even the sweetest music or the most beloved voice can become noise if it is too loud.

Noise defined against signal

Noise is often discussed as something relative to something else. The technical term *masking* refers to this phenomenon, where one sound masks another, more important sound and therefore is understood as noise. The notion clearly refers to information theory, where noise is understood as disturbance relative to a signal. In a telephone conversation there may be a hiss produced by the cables; when listening to an LP there is a crackling noise caused by dust; and in the digital realm we have got used to glitch and other forms of digital noise. Noise as something counter to signal can be found in many different versions: informational noise is the sounds masking the sounds that are the

focus of attention; semiotic noises are sounds that are simply not meaningful and thereby considered unimportant; and we could even talk about phenomenological noise as sounds that simply do not constitute a phenomenon – all the indefinable sounds that make up most of our everyday lives, but that are understood as 'just noises'. These sounds could include textiles rubbing against each other, oral and guttural sounds, the touch of skin and objects, and so on. All these sounds may, when considered in a particular context, be understood as noises, simply because they are marginal, maybe even disturbing, to that which is the centre of our interest.

Noise defined by preference

In some instances, we see noise understood simply as bad or unwanted sound. In these cases we are not dealing with noises that are disturbing to something else, but simply with sounds that are not nice. Traffic and machinic sounds are often understood as noise in this way. Inharmonic sound may be understood as noise. Muzak may be understood as noise. Death metal may be understood as noise to some people, and so may the sound of violins to other people. In such cases it does not matter if the sound is loud or not, whether it is masking other desired sounds or not. It is the quality of the sound itself that makes it noisy.

The three above-mentioned different ways to use and thus define the concept of noise may sometimes overlap, but from a logical point of view they differ radically. Different kinds of music do not in themselves qualify as noise when employing the quantitative notion, and similarly loud sounds are not automatically noisy when talking about noise as preference. The founder of soundscape theory, R. Murray Schafer, combined all three meanings when stating that loud mechanical sounds of the modern world mask the tiny and more desired sounds of nature and human interaction. The argument is convincing when it comes to Schafer's prime example: the combustion engine and the noise emerging from it to disturb social and natural life. Yet it is a little less convincing when it comes to music – for instance in arguing that amplification is noise (Schafer 1994).

Arguments combining the three meanings of the concept of noise in a generalised image like Schafer's are forced to assume a relationship between the three – for instance, that of low sound level, signal and preference, which does not correspond to the social meanings of the word. Instead, one may find in these arguments all kinds of hierarchies, preferences and idiosyncrasies projected into the politics of sound.

Contexts for Urban Noise

Cities have always been connected with noise in the sense that the noisy city contrasts with the quiet countryside. An early example is the Roman poet Juvenal's Third Satire, where the disillusioned Umbricius names noise as one of the many reasons why it has become impossible for him to live in Rome. Clearly, what is felt as noise is also an indication of a balance between the subject and the productive forces shaping the urban economy. In the fictive case of Umbricius, the balance tips between the subjective need to sleep and the objective need for swift ox-driven circulation of goods to the central markets of Rome.

While noise in Umbricius's case is caused by ox-driven traffic, we find clear imprints of industrialism in the ways noise is handled in Europe in the nineteenth and twentieth centuries, where new forms of transportation, construction and production made themselves felt. More recently, other types of economies have emerged around larger cities, where events and experiences have become an important factor for attracting inhabitants and tourists. In the experience economy, streets are not just scenes for transportation and trade, but central venues for events to take place and thus also containers for sanctioned noise in the forms of festivals, parades and street parties.

The lively and liveable city has become a new planning ideal, and the prevailing experience of noise may not be that of a constant mechanical noise but, rather, that of noisy events, concerts and night life. On the other hand – as a consequence of the constant move towards larger cities – we also see in smaller cities a *fear of quiet*. The quiet city may be a hot dream in large cities, but it certainly is not in smaller cities, where a lively urban scene is a prerequisite for consumers to return.

Conclusion

Dealing with noise may be a complex task, but the analysis of noise as indications of some sort of individually felt disorder may be equally rewarding. This brief position paper has only allowed a few observations in the field, but it hopefully illustrates that in approaching noise, not as a personal idiosyncrasy nor as a question of exposure to external stimuli, we are allowed to conceptualise some tensions in the relationships between the individual and the environment, that find few other outlets as precise – and yet indefinable – as that of noise.

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Encouraging Resident-Grown Urban Sound Quality

Trond Maag

This position paper is written by an urbanist who has been working with a team of researchers and artists in sound and urban planning in Europe for many years, developing projects on the scale of national policy-making, research projects at universities, urban planning and design education, urban sound installations for cities, and public art projects that explore the urban sound realm. The 'we' beneath represents the experiences from this collaborative work.

We recognise the sound of a city as unique, in how it is shaped by the city's morphology, how it influences people's behaviour and how it gives form to the city. We acknowledge that sound plays an important role for individual wellbeing and public health. Within the urban design process, however, sound is only beginning to be understood as a designed and planned quality. Drawing from our past experience, we know that the various elements that comprise both the built and the natural environment articulate and modify each and every possible sound. The surfaces, materials, architectures and landscapes – as well as the ways in which different people activate these forms – play a decisive role in contributing to the sound and the identity of the city. The urban morphology and the design of the city influence the quality of the urban sound realm in two ways: by determining how sound propagates and accumulates within the built and static environment; and by influencing how people, individually and as members of com-

munities, react to these spatial and dynamic conditions. It is important to involve the city's residents to come to understand this embodied knowledge and how it is articulated within the city. We understand that these individuals and communities possess the most acute awareness of the unique qualities the city has to offer, and can thus become leaders in guiding the sound-aware city-making process.

The importance of the relationship between sound and the living quality in cities has also been highlighted in the context of European legislation. Sound is included in two out of the 17 Sustainable Development Goals[1] of the European Commision (2018). In order to 'make cities and human settlements inclusive, safe, resilient and sustainable' (goal 3) and to 'ensure healthy lives and promote well-being for all at all ages' (goal 11), sound-related objectives and environmental noise issues must be given high attention. But sound is still rather seen as an unresolvable problem in urban planning and design. With the considerations above in mind, we propose in our work to relate sound not only to noise in the negative sense. We rather recognise that sound has the potential to improve urban development, to be used more actively as a form-giver and quality factor for urban public spaces. Because the mechanisms that shape the cities that we live in often produce the acoustic conditions as by-products, whether they relate to inner-city areas, residential developments or recreational areas, sound has to be thoroughly considered at various points of the urban design process (Gisladottir et al. 2018).

An objective of our work is thus to achieve a more sound-aware planning and design practice that contributes to the development of attractive public spaces (Maag et al. 2021). This quality depends on the noise and sound-related characteristics of the public space and is a pan-European issue that currently concerns every city and brings together interdisciplinary knowledge on environmental noise (EU 2002), soundscape design (ISO 2014) and urban planning and design. Being able to speak in one's own environment is an ability that we are

1 The Sustainable Development Goals (SDGs) themselves were defined by the United Nations General Assembly (2015).

Figure 1. Struer Lydgartneriet invited people to explore the space with simple boomboxes and cassettes containing carefully curated sounds recorded in different locations in Struer. By working with others to choose cassettes and position the boomboxes, people could become involved in the acoustic design of Lydgartneriet. The project was developed by Sven Anderson, Andres Bosshard and Trond Maag in collaboration with Struer Kommune and Struer Lydens By. Photo: Trond Maag

all familiar with. Because this basic quality for democratically communicative places both involves a social-cultural dimension and depends on physical-acoustic criteria, we encourage a sense of agency for the residents of a city, allowing them to actively participate in discovering and shaping the sounds of a specific place. Our projects focus on the everyday activity of listening while slowly walking in public space. People can explore the relationship between sound, the spatial and social environment, and city planning on a walk. Within the given location, walks are led by a guide, or interested persons get actively involved through a leaflet or a temporary intervention (Figure 1). The listening-led approach invites people to undertake their own walking routes and routines and share their listening experiences with other people (Figure 2). As people are involved in mapping qualities, routes and experiences, they will become connected with their own environ-

Figure 2. A series of guided walks of approximately 100 km were conducted for the city festival Oslo European Green Capital throughout 2019. The walks were organised by Trond Maag in collaboration with Oslo Bymiljøetaten and Oslo Plan- og bygningsetaten and invited people to discuss how Oslo could draw more attention to a practice of sound-aware urban development. Photo: Trond Maag

ments in new ways, and will begin to gain more of a personal, social point of reference for the sound of public spaces.

This involvement of people follows Lucius Burckhardt's approach of strollology – the science of walking (Fezer and Schmitz 2012) – which we combine with acoustic perception and shared listening. While walking through the city or a given space, people experience differentiated sound environments in an explorative manner. People become aware of how sound quality is created and the way voices and other human sounds are modified by space and natural phenomena, with the aim of being able to put this knowledge into practice at home. In particular, the *in situ* context of walks provides a forum to discuss specific issues and objectives of a project, which actors should be involved and how a given space and users could benefit from this process. Local residents may contribute with site-specific knowledge, while professional actors may transfer knowledge between disciplines.

This awareness can have a positive effect on urban development because actors within the urban design process can take into account these new observations and details that a walk brings to the surface through participatory design and research. We believe that these details can influence the attitudes and behaviours of architects, investors and other decision-makers. By participating, people will become more aware of the sound in the city, consider how sound is caused and shaped, and learn to express this by sharing their listening experiences with other people. We also believe that such a process should be open to people with different abilities, knowledge and backgrounds. As they come together, these different experiences will activate a series of new ideas for a given space, that are linked to both sounds and places, individuals and collectives, the past and the future. In this way, the knowledge of sound can interweave between disciplines and spill over into everyday city life, where it will take root and begin to evolve.

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Noise in History: Someone Else's Sound

James G. Mansell

The category of noise – what kinds of sounds count as noisy – is less self-evident than it might seem. Some commentators take the ugliness and unwantedness of certain kinds of sound to be a given (Schafer 1994). The historical archive shows us, however, that far from being a stable category, how noise is heard differs from one historical context to another. More than that, noise is *actively produced* as a meaningful category of sound in different ways at different times. Its ugliness is an inversion of sonic beauty cultures that are no less historically changeable. In the modern era, a considerable amount of cultural work has gone into transforming sounds into noises. This work has been structured by historically contingent *ways of hearing* (Mansell 2018) which seem common sense to those who play a role in generating them, but which are the auditory dimensions of the social dynamics of power as it operates in everyday life. Producing noise culturally activates sound socially. Learning to hear what noise sounds like structures whose sounds belong and whose do not, whose audibility is legitimate and whose is not, and who must keep quiet so that others may hear. The affective encounter with noise makes social difference real. Noise and quiet are the acoustics of social relations.

Let me illustrate the cultural work of shaping noise with some examples from twentieth-century British history. The image in Figure 1 is from a 1935 advertisement for Remington Noiseless Typewriters. The

sound made by female typists in offices was promoted as noise by manufacturers of noiseless typewriters in the 1930s. This followed a rise of public interest in everyday sound prompted by the founding of the Anti-Noise League, a national pressure group seeking to quieten life in Britain. The League's leaders identified machine noise as a public health crisis, but a crisis primarily affecting what were described as 'brain-workers', those involved in intellectual work rather than those involved in manual and clerical labour, such as typists (Mansell 2017). In the publicity materials created by the Anti-Noise League and by commercial enterprises such as Remington, which took up the League's challenge of creating a quieter world, noise was a matter of protecting acoustic 'civilisation' (Mansell 2014). 'Civilised' sound was nevertheless male and middle class. In the case of the advert in Figure 1, noise is made by a machine, the typewriter, but associated simultaneously with the kind of person who operates these machines in offices, female clerical workers. The sound of a typewriter was noise, not sound, because it disrupted the thought of professional men. This way of hearing the social acoustics of office work was not innate to the auditory life of the office but, rather, activated by cultural materials associated with the anti-noise movement, such as the Remington advert (Figure 1). These cultural materials brought noise into being and shaped the hearing of it in ways that reproduced class and gendered social relations through sound.

Britain's first significant legislative attempt to control noise was the Noise Abatement Act 1960, which decreed that 'noise or vibration which is a nuisance shall be a statutory nuisance for the purposes of Part III of the Public Health Act, 1936 (p. 1). The UK government's Noise Advisory Council, which subsequently became responsible for generating policy on noise control, nonetheless recognised that, far from being self-evident, 'the importance of the noise problem and the possibilities of alleviating it should continually be drawn to the attention of the public'. For this purpose, 'Publicity and education to discourage the making of noise' were said to be 'invaluable' (Noise Advisory Council 1981, 4). Local authorities led information campaigns which produced represented noise in much the same way as the Rem-

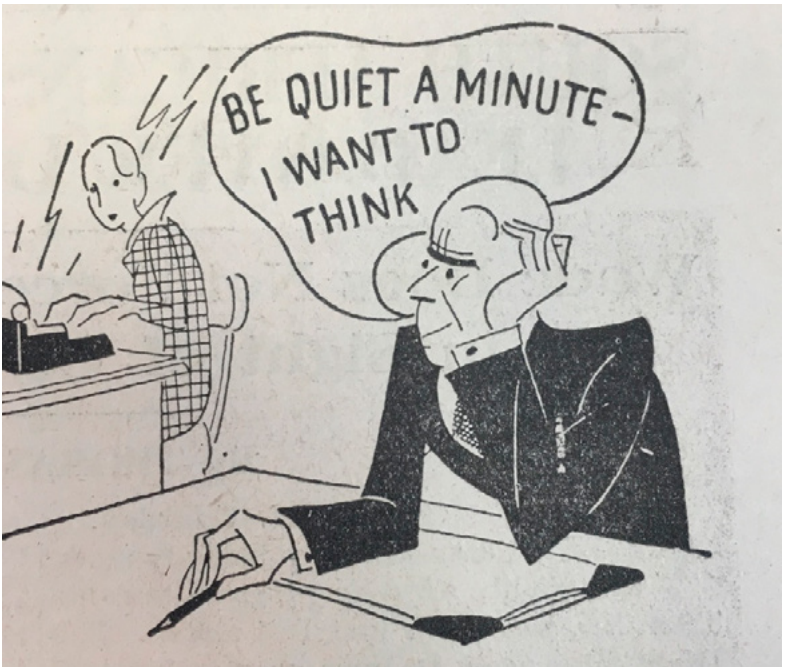

Figure 1: Detail from a 1935 advertisement for the Remington Noiseless Typewriter

ington advert. Figure 2 shows a noise abatement campaign photograph documenting the deployment of an anti-noise poster made by Lambeth Borough Council in London. As a photograph, the image doubly articulates noise as generalised nuisance and as the sound of unruly, unsupervised, children on the street. There are class and racial dynamics at play in the image, the parentless children signifying lower-class status and, in the case of the boy whose face is visible, ethnic otherness in a time of heightened racial tension in Britain. The vibratory presentation of the word 'noise' in the poster mirrors the lightning strike in the Remington advert. These stylistic elements point to the affective nature of noise as it was imagined by the expert hearer of noise. Noise's affective power is shown to carry with it disruption from some social bodies – working women and parentless children – more than others, to an implied or actual listener, the middle-class male expert listener,

Figure 2: Noise abatement campaign photograph promoting the Lambeth Borough Council 'Noise can be a Nuisance' campaign. Photo published in *Quiet, Please*, the magazine of the Noise Abatement Society, 1961. Reproduced by kind permission of the Noise Abatement Society.

whose affective encounter with noise is one of encountering the sound of othered bodies.

Training for this expert listening was provided by cultural materials such as noise abatement magazines, which have been actively published in Britain since the 1930s. After the Second World War, the Noise Abatement Society took over from the Anti-Noise League. In the 1960s, its magazine *Quiet, Please* ran a campaign encouraging readers to send in drawings of 'ISUs'. ISU stood for 'The Intelligence and Sensitivity Underprivileged' or, in other words, people who do not sufficiently appreciate quiet. The drawings, such as the one in Figure 3, frequently tied noise to what were evidently supposed to be people of lower-class status. The language of 'underprivilege' serves as a euphemism in British culture for class difference, a class difference that,

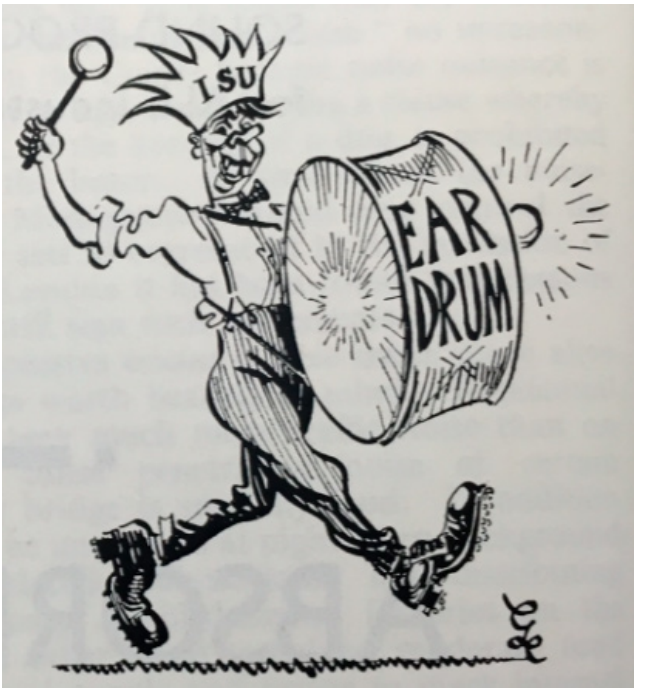

Figure 3: ISU drawing from *Quiet, Please*, the magazine of the Noise Abatement Society, 1961. Reproduced by kind permission of the Noise Abatement Society

as the twentieth century progressed, became increasingly entangled with race. The ISU campaign was designed explicitly to direct listening not towards particular kinds of sounds, but towards particular kinds of people and their failure to appreciate the value of quiet. It is, in fact, the absence of quiet rather than the presence of any particular kind of noise that the ISU drawings captured.

This points to the need for historians to be just as attentive to quiet in their research on ways of hearing as they are to noise. Quiet is culturally produced no less than noise is, and is perhaps even more interesting. From the 1930s to the 1960s, the period covered in the examples above, noise and quiet were treated as matters of public health and rational social organisation by noise abatement campaigners. Those working for the Anti-Noise League and the Noise Advisory Council believed in quiet as a public good, even if their definition of good sound actualised and normalised social relations in the everyday soundscape. In the twenty-first century, quiet is no longer typically viewed as a public good, but has been financialised as private 'natural capital'. In 2016, the Noise Abatement Society's website explained that: 'Recognising that all wealth derives from natural systems, we need to find practical ways of expressing the value of ecosystem services in all decisions which risk reducing natural capital'. In this way of hearing, noise is framed as an unnatural intrusion into the natural state of quietness. Quietness is a potential source of wealth, like land on which crops grow, because it allows the discerning hearer to cultivate economically productive creativity and personal wellbeing. The Noise Abatement Society makes quietness available to buy through its Quiet Mark endorsed products, including through a long-standing arrangement with upmarket department store John Lewis. Quiet is a luxury for those who can afford it and who know what it can do for them. The cultural logic, here, is that those people who fail to appreciate the creative power of quiet and expose themselves to noise have only themselves to blame for their lesser earning potential. Transposed into the neo-liberal language of natural capital, the hearing of noise still does social work by organising the logic of unequal access to quiet and the individualisation of responsibility for productive life acoustics.

In 1935, G. W. C. Kaye, the head of acoustics at Britain's National Physical Laboratory, wrote that noise was a species of sound defined not by its loudness or intensity but, rather, by its social origin. Noise, he wrote, is 'sound made by some one else' (Anti-Noise League 1935, 7). He meant that scientific attempts to define and control noise were being hampered by the fact that almost any kind of sound could be heard as noise if it was perceived to be intruding on the listener's privacy. His definition of noise is one that I have adopted, though not quite in the sense that he meant it. Producing ways of hearing noise is a matter of reproducing normative social relations. Those who have the means to determine what noise sounds like, via noise abatement campaigns and related cultural activity, have activated social difference in sound. Rather than soundscapes of noise and quiet, we should perhaps think instead of affective socially active sound.

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Understanding Noise Through Visually Impaired People

Christina E. Mediastika

The rapid escalation in the use of motorised vehicles is a notable trend of the last decade in Indonesia. It has positioned road traffic as the dominant noise source in many places in Indonesian cities, including in and around residential areas. Yulyanto (2009) reports that 96% of cities in Indonesia exceed the recommended sound level of 55 dBA, as stated in an outdated regulation from 1996 (Kementerian Negara Lingkungan Hidup 1996). This fact has not led to greater awareness about noise among Indonesians. They consider noise a matter of comfort rather than a health problem. In fact, many Indonesians have difficulty even defining what noise is (Mediastika 2000).

Many studies have proven that the impact of noise on human health is a severe problem. Those by Stansfeld et al. (2000), Clark and Stansfeld (2007), Fyhri and Aasvang (2010) and Basner et al. (2014) are only a few of them. Thus, on the one hand, noise is not considered a problem by Indonesians, while on the other hand, noise is proven by scientists to reduce the level of comfort and health. There is quite a lot of research on noise in Indonesia, but most has been published in the Bahasa Indonesia language. A profound study is by Colombijn (2007), which classifies cities in Indonesia as unquestionably noisy.

Still, all these reports have not triggered Indonesians and the Indonesian government to pay more attention to noise. Indonesia uses the above-mentioned 1996 outdated regulation produced by the State

Ministry of the Environment, which is very loose in its implementation and punishment. Ministerial regulations are not as strict as government laws set by the House of Parliament. There is a building code dated 2002, in which, unfortunately, noise is designated as a matter of comfort only, not as a health problem. Also, many studies on noise have not been incorporated into actions or regulations. The noise problem remains difficult to solve.

The Noise Approach Through Books and Visually Impaired People

The lack of awareness of Indonesians about noise starts with basic education. At the elementary, secondary and senior levels of education, students are not well taught about the human senses, especially about how ears, sound, health and comfort are related. Books specifically addressing noise and noise in developing countries with a tropical climate are essential for learning but widely lacking. The noise sources in developing countries differ from those of developed countries, from where books and other publications mostly originate. Also, the way in which sound propagates in warm climates differs from that in temperate climates. In my work (Mediastika 2005, 2009, 2012, 2019), I have sought to discuss sound and noise in Indonesia in ways that address this gap. However, these efforts have been unsuccessful insofar as these books are not read by lay people. The books are mainly read by academics for research and for student projects and assignments.

More recently, other efforts in my research to broaden people's perspectives on noise have been carried out in collaboration with visually impaired people. Sound is an essential element for these people as they mainly depend on their sense of hearing and tactile sensation. Blind people are more sensitive to sound than are normal-sighted people (González-Mora et al. 1999). A study I carried out was focused on collaboration with visually impaired students from Yayasan Pendidikan Anak Buta, in Surabaya, and at Yayasan Kesejahteraan Tunanetra Islam, in Yogyakarta. Working with educational institutions is appropriate because they encourage their visually impaired students to carry

Figure 1. Activities with visually impaired people to learn about how they live their life using the surrounding sound, which is essential in a high-fidelity mode (i.e. in shopping malls, in parks, on footpaths and in cinemas). Photographs: Christina Mediastika.

out independent activities in public areas and these students have been taught about proper orientation and mobility, so that they will not be endangered while participating in the project. Focus group discussions were held before the *in situ* survey to determine the public places that were to be visited. Four locations were identified: the park, a footpath, a shopping mall and the cinema (Figure 1) (blind people also like to go to the movies).

The first set of data on park visits collected from the focus group discussions was interesting. Visually impaired people describe parks with more terminologies than sighted people (Figures 2 and 3; Mediastika et al. 2019). They are more deeply involved with the surrounding environment. Then, using the soundwalk method, they also set more sound-

Figure 2. Sighted people elicited fewer terminologies associated with parks (Mediastika et al. 2019)

scape dimensions by adding unique soundscape dimensions of direction and danger (Mediastika et al. 2020a). This showed that they use the sound environment to detect direction and danger with the help of their sense of hearing. The visually impaired found that traffic noise is the dominant noise in parks. Meanwhile, on footpaths and in shopping malls, they defined, again, more soundscape dimensions than sighted people, including the dimensions of direction and danger (Mediastika et al. 2019). At the cinema, they determined that the pleasure of enjoying films is related to the storyline and sound quality of the cinema.

This research showed that sound is a crucial element for visually impaired people. A noisy environment might confuse them in determining direction and being aware of danger. They agreed that high-fidelity sound is the sound environment they need every day. However, they disagreed on the full elimination of traffic noise. They need traffic noise to ensure they are in a safe place, away from traffic. This means that the presence of traffic noise can be accepted when the intensity level is appropriate. In areas visited by visually impaired people during the survey, they said that the human voice is also a vital sign of feeling safe. They also want to communicate with people around them when visiting public places.

The Indonesian standard maximum of 55 dBA for places such as housing, hospitals, schools and religious buildings as stated in the 1996 regulation does not appear to be in line with World Health Organiza-

Figure 3. Visually impaired people defined more terminologies and unique terminologies (those underlined) associated with parks (Mediastika et al. 2019)

tion (WHO) guidelines. The WHO determines that background noise for many sites is set comfortably at about 35 dBA (Berglund et al. 1999). If sighted Indonesians are ignoring noise, now is the time to rethink this situation, because visually impaired people have shown that a high-fidelity sound environment is an essential element in supporting their lives.

Of the Indonesia population of 270 million, 1.5% have a visual impairment. That is equivalent to approximately 4 million people – second only to the visually impaired population in India (UNDP 2017). Thus, sighted people have to support the existence of excellent sound by reducing the occurrence of noise. By reducing noise, the community of sighted people can support visually impaired people to live their life independently.

The Major Challenge

Low-fidelity noise, in which sound marks and soothing sounds that guide visually impaired people are masked by traffic noise, occurs in Indonesian cities. Preliminary data collected from 10 cities in Indonesia showed that, at the most visited public places, traffic noise masks all other important sounds (Mediastika et al. 2020b). However, it is interesting to know that the presence of traffic noise at favourite pub-

lic places was not regarded as an annoyance. In noisy public places, visitors are seen to be involved with their activities, comfortably. This may be because of a lack of awareness about noise or their long adaptation to noise. This is a significant challenge for improving noise conditions in Indonesia. Strict rules with fair penalties are needed to correct this problem.

Because lack of awareness and knowledge starts at an early age, the right method to convey information about the importance of sound to children is crucial. Teaching methods that actively involve children are believed to be the most effective ones, such as using drama in class. It helps students learn a subject academically, socially and developmentally (Moore 2004). With thousands of tribes and vibrant cultures, including the traditional drama of each tribe, the method of acting can be mixed with the local culture. This method is also useful for encouraging students to respect and preserve local culture.

Where Next?

Indonesia has an arduous amount of work to do to overcome the issue of noise. The stepping stone to do this is the delivery of new and strict regulations. Therefore, researchers need to bring this case to the fore. Collaboration projects between ordinary students and visually impaired students are also planned. The importance of sound will be conveyed to regular students using two methods: (1) programmes of interactions with visually impaired students, and (2) programmes with local dramas played by students. Interaction with visually impaired students will open the minds of regular students to the idea that the sound environment is an important matter.

The programmes are also planned to invite government institutions, especially those related to environmental issues, to take part in conveying the importance of sound in class. With this method, noise problems are brought directly to those with responsibility for setting regulations. Then, with new and strict rules, further stages of noise awareness socialisation are more likely to succeed.

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Noise in Vietnamese Cities: Urban Change and Community Awareness

Thulan Nguyen

According to a general definition, noise is any sound that is noisy, unwanted and disturbing to us. Noise is a subjective judgement of sound, which, in contrast, is an objective physical phenomenon. The term 'sound' relates only to audiological and psychological aspects, while noise also relates to human relationships and society. In the field of architecture, noise is defined as all sounds in the built environment that make humans feel uncomfortable.

Current Research

My work in the field of environmental architecture deals with noise control and room acoustics. My current study focuses on the impact of transportation noise on communities and finds suitable measures to mitigate the effects of annoying noise in the living environment. My colleagues and I conduct a series of socio-acoustic and health surveys in residential areas in Ho Chi Minh City, Hanoi, Da Nang, Hue and Thai Nguyen in Vietnam. The data accumulated from comprehensive and large-scale research in big and medium-sized cities are analysed to inform policy and regulation. Since the cities targeted in this study have different features, the results are expected to broaden knowledge of noise annoyance in Vietnam as well as to contribute to the discussion of cross-cultural differences in the community response

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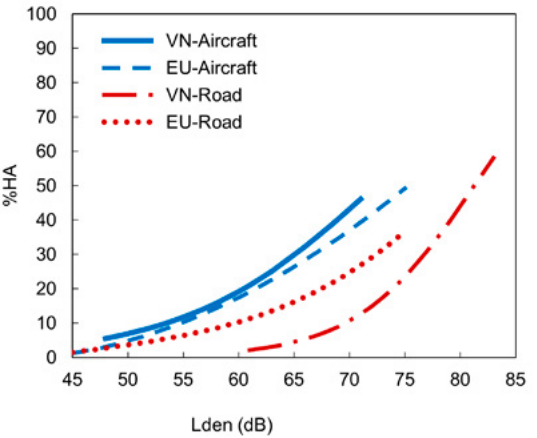

Figure 1. Comparison of the relationships between the percentage of highly annoyed persons (%HA) and average sound level (L_{den}) of road traffic and aircraft in Vietnam (VN) and the European Union (European Commission 2002)

to noise. Extremely high exposures to road traffic noise existed in almost all areas of the major cities, including in the vicinity of airports. The dominant noise source in most of the survey sites in Vietnam is road traffic, mainly the huge number of motorbikes (rather than cars or light trucks as in other countries).

Representative exposure–response relationships were proposed based on over 4,700 and 2,200 annoyance responses to road traffic and aircraft noise in Vietnam, respectively (Figure 1). The curves were plotted by applying a logistic regression function to the day–evening–night average sound level (L_{den}) and the probability of being annoyed or highly annoyed in individual responses. The percentages of annoyed persons (%A) and highly annoyed persons (%HA) were calculated using the top five (top 46%) and top three scores (top 27%) of an 11-point numerical scale, respectively.

The curve for aircraft noise is in the range of primary interest in the policy of the European Union (EU) (European Commission 2002), while that for road traffic noise in Vietnam is in the range 61–83 dB L_{den}. This means that one-third of the road traffic curve lies outside the

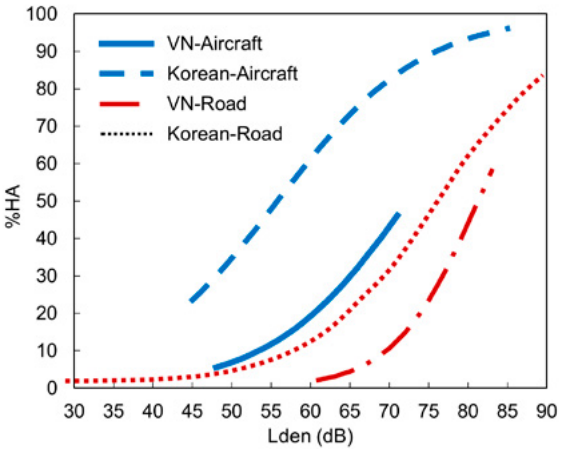

Figure 2. Comparison of the relationships between the percentage of highly annoyed persons (%HA) and average sound level (L_{den}) of road traffic and aircraft in Vietnam (VN) and Korea

comparable range for the EU. Eighteen of the 39 sites in the road traffic noise surveys in Vietnam were exposed to noise levels above 75 dB L_{den}. It can be argued that, at the same noise exposure level, Vietnamese people were slightly more annoyed by aircraft noise but less annoyed by road traffic noise than European people.

Continuing the discussion on the implications of the differences between Western and Asian countries in implementing a suitable noise control approach, a comparison between the relationships in Vietnam and Korea was also made (Figure 2). The results show that Vietnamese respondents were less annoyed by road traffic noise than respondents in the European and Korean studies (Lee et al. 2008), and that the aircraft noise annoyance curve for Vietnam was slightly higher than that for the EU but considerably lower than that in the Korean study. The similarity in the level of road traffic noise annoyance of Korea and the EU is reasonable, considering their similar road traffic conditions, with noise coming mostly from cars, while road traffic noise in Vietnam comes mostly from the large number of motorbikes and the frequent sounding of horns. Attitudes to the various means of transpor-

tation were found to moderate the noise annoyance in Vietnamese cities. Further research is necessary to assess the difference in noise perception between citizens of Asian and Western countries and between developing and developed countries for the effective implementation of a global noise policy.

Current Challenges

The scatter of data points around the exposure–response curves implies the influence of non-acoustic factors on people's perception of noise, or their response to noise (Figure 3). To establish policies and to enact appropriate noise counter-measures, it is essential to understand this variation among communities. Our study yielded two unexpected results: coping capacity and attitudinal factors had no significant influence on community annoyance in the three cities in Vietnam. Respondents in Hanoi judged their annoyance to be associated with their sensitivity, while the response to noise in Ho Chi Minh City mostly related to satisfaction with the living environment. The respondents in Da Nang judged their level of aircraft noise annoyance to be based

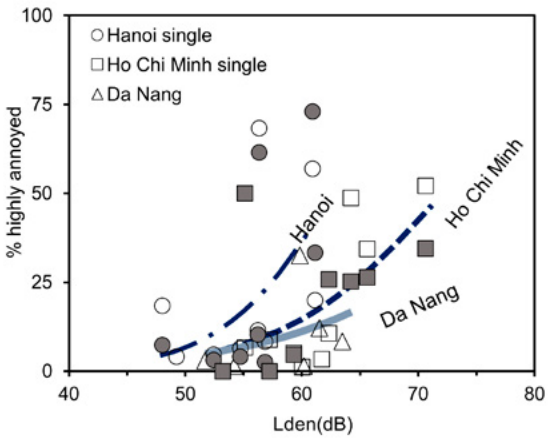

Figure 3. Exposure–response relationships for aircraft noise annoyance in Ho Chi Minh City, Hanoi and Da Nang

on their evaluation of the degree of interference with their activity, which in turn was indirectly influenced by satisfaction with the living environment and sensitivity to noise (Nguyen et al. 2018). The finding in Hanoi is consistent with the study by Miedema and Vos (1999), which found that sensitivity has a large impact on annoyance. Sensitivity is considered to be a personal characteristic and a result of individual personal development, whereas satisfaction can be considered a social characteristic, shared by a larger group in society. Social characteristics can be targeted for noise abatement programmes while personal characteristics are difficult to affect. However, sensitivity in all three cities is closely related to satisfaction with the environment.

An increase in the numbers of flights to meet the growing demand for air travel has various negative environmental impacts, particularly noise and air pollution, that affect the quality of life and health of communities living near airports. However, the number of studies on this issue is very limited in developing countries, where aviation transport has the fastest growth rate. The exposure–response relationships for noise annoyance were proposed based on data from socio-acoustic surveys as a baseline for noise policy. However, most of the surveys have assumed a steady state, where the noise exposure does not change throughout the year. Fewer studies have looked at the step changes in noise exposure levels due to changes in airport operational conditions (Brink et al. 2008; Fidell et al. 2002). Recent investigations based on meta-analysis found that step changes in traffic noise cause an excess response. The effects of noise exposure in steady-state conditions were defined as the 'exposure effect' and the additional effects of noise exposure change as the 'change effect' (Brown and van Kamp 2009). For the change effect, the case where the response is higher or lower than the steady-state conditions, that is, when noise exposure increases or decreases, is called 'excess response'. The development of air transport infrastructure, which is being actively promoted in developing countries, is driving the negative environmental changes in areas around airports, including noise problems. Therefore, it is essential to understand the impact of environmental change on the human mind and body. Only then will it be possible to manage the increasing aircraft

noise appropriately, in harmony with the health and quality of life of residents in the vicinity.

In parallel with the change in air transport, recent years have witnessed a dramatic change in the world's economy and urbanisation. As a result, the housing conditions of the people living around airports in developing countries have also changed. Noise annoyance was found to vary with factors other than noise exposure, such as housing, neighbourhood environment, sociodemographic variables, and personal and environmental contexts (Miedema and Vos 1999; Guski 2001). In further investigations, the effects of noise changes should be assessed, studying the effects of both acoustic and non-acoustic variables.

Where Next?

The community response to noise in extremely noisy cities like Ho Chi Minh has very specific characteristics. The high levels of background noise from heavy motor vehicles mean that residents are unable to identify a particular noise source that they are exposed to. People living in such noisy areas, for example in the city centre and near the airport, tend not to notice and underestimate the impact of noise. Most of the respondents said they had grown used to noise, so they did not pay much attention to it. The respondents in quieter areas, such as those away from main roads, reported being more disturbed by noise, even though the noise level was below that of the downtown areas, and the noise level from aircraft was not as high as that measured near the airport. In other words, people are more annoyed by noise when they can easily identify its source. People's limited awareness of the harmful effects of noise and their indifference to environmental protection makes the development and implementation of policies to limit noise increase and noise exposure difficult, especially in urban areas with the most serious noise problems. Moreover, to mitigate the impact of noise, simply trying to decrease noise levels might not be effective. The social and benefit relationships between the perceivers and sources of noise should be given more attention. Community awareness should be enhanced.

The growth of mobility has enriched people's lives by connecting people and places but has also led to more exposure to noise. There will be new roads, new airports and infrastructure expansion projects. As a result, the impact of noise change is becoming especially serious for residents living in areas close to expanded and new facilities. However, there are no specific measures in place to manage the changing sound environment – only some regulations and standards on the general, stable sound environment. To enhance environmental preservation in the face of the rapid increase in noise levels, the establishment of policy to regulate that change is an urgent issue.

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Noise is Matter Not in Place

Sandra Lori Petersen

Noise is a grey zone, ambiguous and imprecise but also concrete – at times volatile, at times massive. Perceived from various disciplinary perspectives, noise takes on different forms. Its expression can be the paragraphs of law, measured decibels, experienced emotions, artistic utterances, negative health effects, and much more.

If noise has an essence, from my perspective, it is that it remains indefinable. That makes it troublesome and difficult to handle in some contexts. It also means that it stays open and fertile in untamed ways. Working anthropologically, noise to me has become about exploring the multiple ways in which that category of sound is perceived, about its multisensory entanglements and about experimenting with how I express my research in forms that are perceptible from other disciplinary positions. What I find especially interesting to wrestle with is understanding perceptions of noise from a multisensory perspective and exploring ways to balance interdisciplinary collaborations while respecting the particularities and specific range of questions that each discipline raise.

Noise Is Multiple

On the topic of intellectual ownership, British anthropologist Marilyn Strathern describes 'the idea' as a cloud of potential formed by a network of sources of inspiration (Strathern 1999, 177). In order to demand ownership of an idea and, for example, apply for a patent, one

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must concretise as much as possible of its branched out sources of inspiration and embed it in a specific context (ibid.). 'Ideas travel along networks', Strathern writes (Strathern 1999, 169). In the process of concretisation, this travelling must be halted and its open-endedness interrupted (ibid.).

Noise is much like Strathern's cloud of potential – unhalted, diffuse, multiple and open for an unlimited amount of connections, concretisations and interpretations. It can be disturbing and destabilising and contain subversive potential. It can afford space. In the French phone-in programme *Confidences* aired on Beur FM, the soundscape is inhabited by a mixture of languages, agitated and intense conversations, technological mishaps and poor telephone connections. Here, minority groups of Maghreb immigrants and their descendants share their particular minority experiences while they insist on being no different from the French majority population. The soundscape of the programme generates a space where it is possible to oscillate between identitary positions of sameness and difference. Through its shifts, extras and open-endedness the very noisiness – the grey zone and its multiplicity – of the programme's soundscape is what allows its listeners to identify with two seemingly opposite positions. In this way, *Confidences* puts into practice the ambition of Beur FM to 'bridge' between minority and majority in French society, where the official discourse insists on unity and tends to deny difference (Petersen 2017).

Noise has the capacity to engage its listeners involuntarily. Sounds of neighbours are experienced as noises when they activate certain particularly attentive forms of listening, thus capturing the listener's awareness (Petersen 2020, 2021a). As part of what I call sonic relations between neighbors, they represent the auditory aspects of a social relation that may have many other facets. Focusing on one sensory aspect of a social relation only makes sense while acknowledging that all other facets of the relation is part of what shapes it, and as such are present within it.

The Scandinavian home is conceived of as a space for privacy, integration and wholeness, an *inside* in contrast with the more fragmented *outside* (Gullestad 1991, 490, 494). Sounds that transgress the borders

of the home, and that draw the attention of its inhabitant out of its wholeness, can complicate the inhabitant's possibility of turning their attention inwards, to life in their own home and their own interior.

Noise has the potential to obscure what seems to be the order of things. Often, it is not welcome. It can be perceived as threatening – and not only by those in hierarchically superposed positions. To the Scandinavian person, a particular set of boundaries typically contributes to the constitution of self (Gullestad 1992, 197). A close identification with the home makes the limits of its private sphere important boundaries as well. The home is like a shell to the self, and within it, it needs to be safe to be soft. The home is expected to be tranquil, and contain the self within clear borders. If the boundaries of the home are obscured or seem to be confounded by the ambiguousness of noise, it can be experienced as a threat likely to obscure or confound the boundaries of home and self. *When* the sounds of others transgressing the borders of the home are perceived as noise is deeply personal, and depends on subjective experiences and relational capacities and qualities. Ultimately, it might depend on the experienced risk and value of being soft and of having a solid shell.

Mary Douglas famously described dirt as 'matter out of place', and described it as 'a kind of compendium category for all events which blur, smudge, contradict, or otherwise confuse accepted classifications' (Douglas [1966] 2006, quoted in Campkin 2013, 49). Describing noise in terms of Douglas's structuralist logic bears the risk of making it appear sharply defined and in opposition to a form of clean noiseless sound (such as a signal). It is important to recognise and respect how noise can affect people who are exposed to it – or who are identified as the producers of it – in intense, far-reaching and incredibly negative ways (see Petersen 2020, 2021b). But when sound comes to be experienced as noise and possibly as a great nuisance, other potential forms and multisensory effects are still present. From my perspective, the very character of noise is that it is volatile and diffuse as well as concrete and compact. Noise is ambiguous and mixed up, grey rather than black or white. It is not per definition 'out of place', but it cannot be 'in place' either: noise is *matter not in place*.

Challenges and Futures

Noise is a notion recognised in a range of disciplines. The many shapes it takes make for a display of its multiplicity as well as an exposition of the rich and facetted forms of knowledge wrestling with it. The ways in which experiences of noise are connected to and formed by other sensory perceptions are under-researched.

In order to communicate and collaborate around matters related to noise, members of different disciplines must halt the specific flow of multiple meanings and queries around noise within their tradition. The challenge is to concretise a version that is 'simple' enough to be intelligible to outsiders of the discipline who do not know its back catalogue of theories and methodologies, but complex enough to contribute in new and interesting ways to the conversation. I find it to be an important challenge as well as an especially interesting point of development to continuously consider how to balance complexity and clarity in the dialogue between disciplines. How many branches should be kept and which twigs and shoots should be cut off in order to give the concrete version of an idea of noise a shape that will allow it to make sense in an interesting way? It is a relevant question when communicating with colleagues of one's own discipline, but even more when one wishes to communicate with other professions, such as acousticians, health researchers and architects.

This, I guess, is a general challenge when it comes to interdisciplinary conversations, but I find it especially important while working on issues of noise because noise runs the risk of being perceived solely as 'polluting dirt' as Douglas would put it, or – possibly as a counter-reaction – to be celebrated for the richness of its potential. I find that an interdisciplinary conversation around noise that includes the ways in which other sensory experiences – olfactory, haptic, gustative, proprio- and alteroception and more – are included would allow us to make leaps of understanding into the complex ways in which noise partakes in shaping the world around us.

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Noise in a Volcanic Breeze

Gilang Damar Setiadi

If you can imagine a noise so loud that it can burst an eardrum up to 40 miles away from its source, then you'll have some idea of the magnitude of the world's loudest recorded sound. The horrific phenomenon occurred when the ancient volcano Krakatoa erupted in August 1883. With an equivalent power of 13,000 atomic bombs, this eruption produced more than 180 dB. The sound was clearly heard in Perth, in Australia, 1,930 miles (3,110 km) away, as well as on Rodrigues Island near Mauritius, approximately 3,000 miles (5,000 km) away. This eruption took place in an archipelago with the largest group of volcanoes, the fourth most populous place in the world, a house of various complex noises, and the place where I live now. Yes, Indonesia.

I am writing this on the sidelines of the worldwide COVID-19 pandemic that has taken a toll on my country. Recently, I have been waking up later than usual, due to the lack of noise from motorised vehicles, the chanting melodies of travelling food vendors peddling their dishes by cart, and the lively chat of neighbours on the side of the road that usually awakens me. I feel like I am in a very different atmosphere. Noise, or the lack thereof, is a sign of this.

Luigi Russolo, a composer from Italy, believed that noise was futuristic sound. In his manifesto, *The Art of Noise* (1913), noise is said to be a cultural product born of the Industrial Revolution. The Industrial Revolution has given modern humans the capacity to appreciate sounds that are far more complex than before. Through his experimental work with instruments he called *Intonarumori*, or noise intoners,

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Russolo succeeded in producing sound and forming a noise orchestra by utilising the chimneys at the many factories he found around him.

I often talk to Lintang Radittya, a good friend, the maker of many DIY synths, and the man behind the Javanese Modular. As people who grew up in the Javanese traditions, we agree that noise requires the listener to observe the sign. In semiotics, there is sound which is intended as a reference point. Responding to sound as a reflection brings us to the reading of the situation. The world that is not all right, the increasingly narrow living space and the rapid flow of random information can be passed over with a calm heart. Does this kind of noise have a magical effect? I think everything in the world has a miraculous impact on our collective minds.

Within the last decade in Indonesia, noise began to be seen as a serious phenomenon which is enjoyed by the subculture of underground musicians. Like the 'Ring of Fire' chain of volcanos, the chambers of various noise scenes are very active and spread from Sumatra to Bali, and swoop north through Sulawesi and Kalimantan. Throughout its development in Indonensia, noise artists are widely affiliated with various sub-genres. Two examples of these sub-genres that may be well known in Indonesia are noise rock and harsh noise. Seek Six Sick, Indra Menus (To Die) and Sodadosa are some of the central artists who helped establish Indonesian noise in its early developement.

In a noise performance, the process of creating sound is something that is highlighted by the artist. Interestingly, there are no similar games; there isn't anything to be memorised from every noise stage. Players and listeners are equally unable to guess what sounds will come out of the speaker. Exploration of sounds goes hand in hand with the exploitation of technology, so that even simple items can be used to produce strange, repetitive or random noises as structures in performance.

In sounds like this, intensity and repetition are used as a medium that takes the player and listener into a trance-like phase, where the only thing that is concerned is the preoccupation of drowning oneself in the sound. The audience is completely submerged and has lost all sense of self. The duration on the stage of the noise performance cannot be limited. The show will end when the emotions completely reach

a climax and nothing else is explored. In this way, the noise artist can be similar to a spiritualist during their worship, or a Jathilan dancer on stage who is not aware of the pain they suffer while eating broken glass or walking on embers. Exploration carried out by the noise artists themselves is a form of expression that knows no boundaries, and is not trapped by the standard rules of music that demand systematisation of tone or sound. So then the jargon 'anti-musical' appears as a dogma that is widely adhered to by some noise acts.

Noise is rarely explored as a medium of social and political discourse. Although it can be used in this manner, it really depends on the artists. Therefore, noise's function is truly personal. So, is individualism really celebrated in noise? A person's experience produces different effects when they hear noise. It does not always have to be associated with a collective experience. I had a discussion with Remon Red, one of the first noise artists in Jakarta, as well as Pandu (Bergegas Mati), who owns the noise record label Gerpfast Records, about how they approach noise when they perform. For them, noise is inevitably a celebration of oneself. This meaningless performance seemed to confirm that they only want to play and enjoy their time with the sound, without any additional frills. There the form is completely dissolved so that there is no definite form. The absence of structural form makes it no risk to be fragile. This meaningless sound in noise could be the culmination of the celebration of individualism through the most dissolved sounds.

Another thing that must be faced by noise artists in Indonesia is the difficulty of finding venues for noise. For even a small gig we have to rack our brains hard to find ways of being accepted by the venue owners. They already have a negative perception of noise. We are often told to turn down the sound or stop playing because the venue owners fear the performances will damage their equipment. As a result we are forced to do what seems impossible at a glance: present noise in public spaces. The street became our stage until finally noise festivals popped up, like Jogja Noise Bombing, Malang Noise Fest, Solo Harsh Fest, and Bali's Chaos non Musica. However, the venues for our festivals are still constantly changing due to the same issues found when

hosting a small gig. This is typical in Indonesia, where communities last longer than venues. Well, here places are seen as temporary, they are easily destroyed by natural disaster, or they get replaced by new buildings as the population increases. Dedicated venues are not as common in the Indonesian underground scenes as they might be in other parts of the world. What truly lasts in Indonesia isn't a physical place, but the community connections found and formed within those places.

You can agree or disagree with my thoughts on this, but discussing noise with all the debates is still too futuristic, even today. I was reminded of my conversation with Lintang Radittya about his work named 'Acak Baur' ('Acak Baur' means the unity or combination of chaos). According to him, the project is a reminder that life is the result of a mixture of past, present and future. Everything is unpredictable, like the sound produced by the modular synths he makes. We know that in this world everything will change soon. The thing about communicating through cultural artefacts is that they are always circulating and, therefore, always make noise.

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Noise as a Musical Resource

Marie Thompson

In 'Keep the Salt', the opening track from *Stackes* (Fractal Meat Cuts, 2017) by Bredbeddle (a.k.a. Rebecca Lee), an eclectic selection of audio loops meld into, overlap and interrupt one another. Drones and lolloping rhythms emerge and fade, voices appear and disappear. There are hisses and clicks, crackles and thuds: a tapestry of noises stitched from different sonic media. These noises are not simply a reminder of the loops' varied origins from records, tapes, CDs and MP3s. Nor are they an auditory effect that the listener hears the music through. These noises are inseparable from – or, rather, are part of – the musical materials that are drawn together in 'Keep the Salt'. As they come to the fore, they contribute to the piece's complex rhythms and evolving textures, serving to orientate and disorientate.

In foregrounding the noise inherent to mediated music and using this to generate different sonic affects and sensations, 'Keep the Salt' exemplifies some of the themes I explore in my monograph *Beyond Unwanted Sound: Noise, Affect and Aesthetic Moralism*, where I approach noise as a transformative, affective force relation and a necessary component of mediation (Thompson 2017). Drawing upon Claude Shannon and Warren Weaver's information theory and the media philosophy of Michel Serres, I argue that noise's 'unwantedness' is not necessarily definitive. If, as both Shannon and Serres suggest, noise is an inevitable condition of mediation, then this suggests that noise might be approached otherwise. Indeed, noise may also be informative, serendipitous, comforting or aesthetically pleasurable. In order to allow

more fully for these experiences with noise, as well as noise's unpleasant, negative and unwelcome manifestations, I posit that noise's unwantedness is secondary and contingent, rather than constitutive.

My intention in developing this account of noise was not to create a universal – or 'one size fits all' – definition of noise. Rather, my primary motivation was to allow for noise's use as a musical resource. Indeed, noise has long been a source of fascination for composers, artists, listeners and critics. It has also been a source of anxiety: in fields such as acoustic ecology and soundscape studies, noise has often been uncritically framed as a symptom of a 'sick' society. As such, I aim to disrupt and reconfigure two rhetorical tendencies. The first I characterise as a conservative politics of silence. This is indebted to an 'aesthetic moralism', where negativity of noise is contrasted to the positivity of silence and quietude and is underpinned by a conservative valorisation of harmony, balance and control. Instead, I propose an ethical understanding of noise-as-affect: to describe noise as 'good' or 'bad', 'positive' or 'negative' is ultimately to describe the effects of a relation, from the perspective of the affected.

The second tendency that I aim to reconfigure concerns noise music's poetics of transgression. By artists and critics, noise has been posited as a radical exteriority and attributed a mythological power to leave minds blown and bodies shocked. Noise, in this formation, lies beyond, outside or in opposition to music. While rhetorically compelling, the poetics of transgression often fails to hear noise's more banal, quotidian or quieter manifestations. As 'Keep the Salt' makes clear, these noises, too, have been used in music. Furthermore, insofar as the latter is predicated on mediation, noise can also be found lurking within music. To this end, I propose an alternative understanding of noise music, whereby it is not a musical form marked by contradiction but is constituted by the extension and foregrounding of that which already inhabits music. Again, 'Keep the Salt' illustrates this approach. In Bredbeddle, music is not pushed to its limit into noise but, rather, noise is drawn out of music.

Of course, challenges remain with the approach to noise I propose. There are, for example, important questions as to whose experiments

with noise are recognised as valid and valuable: in Tara Rodgers's seminal text *Pink Noises: Women on Electronic Music and Sound*, the music group Le Tigre discuss how gender informs whether creative uses of noise are heard as innovation or 'a horrible mistake' (Rodgers 2010). Indeed, noise is itself mediated through social relations. Noise's use as a creative force therefore requires that attention is paid to the co-constitution of the aesthetic and the social.

In my more recent work, the complexities of noise's effects and affects have become pertinent once again. As part of the research project Tinnitus, Auditory Knowledge and the Arts, I have revisited the conservative politics of silence and the aesthetic moralism that underpins it. Tinnitus refers to the conscious perception of sound for which there is no external source. How tinnitus manifests and how it affects listeners can differ widely: some may hear high-pitched continuous tones, while others may hear throbbing bass, distortion or even musical motifs. Tinnitus may be associated with intense distress and frustration, yet for others it may be barely noticeable. Noise's relationship with tinnitus is complex. On the one hand, tinnitus may be caused by noise exposure (a term that is itself ill-defined, typically referring to potentially harmful volumes and durations of sound). Indeed, tinnitus is a common yet infrequently discussed auditory condition among musicians; a recent study has found that musicians, along with construction workers, are at high risk of tinnitus, due in part to experiencing higher levels of occupational and recreational 'music noise exposure' (Couth et al. 2019). Tinnitus, then, may exemplify noise's capacity for harm: its capacity to damage and debilitate listeners, to transform their abilities of hearing. Yet, equally, noise may also be a source of comfort for those who experience tinnitus. A silent room and the absence of background noise can work to amplify tinnitus in the ear of the listener and, in so doing, amplify the distress caused by it. Conversely, a noisy environment may serve to dull, soothe and mask tinnitus: the whirr of a fan or the hum of a fridge may be able temporarily to abate the noise of tinnitus. The private noise of tinnitus also makes apparent the unacknowledged audism that often accompanies aesthetic moralism. Acoustic ecology has frequently made use of pejorative descrip-

tions of auditory impairment and disability, from R. Murray Schafer's warnings against a noise-induced 'universal deafness' to Barry Truax's use of 'deaf spots' to refer to arguments about noise that demonstrate 'a lack of sensitive hearing combined with an ignorance of fact' (Schafer 1993; Truax 2001, 88). There is therefore a need to consider how 'auraldiversity' (Drever 2019) can shape and transform normative concepts of noise, silence and listening.

In aiming to create space for noise's more benign or even positive manifestations, my intention is not to diminish the ways in which noise can be a source of upset, harm or irritation. Nor am I seeking to revert to a relativism whereby noise can be anything to anyone. Yet 'Keep the Salt' and the phenomenon of tinnitus both illustrate noise's resistance to generalisation: what noise is and what noise does can vary widely. Consequently, it is important to interrogate how and why noise becomes unwanted, if it does at all.

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Listening Activities

Listening in Malmö and Semenyih

At both workshops the participants engaged in activities outside conventional lecture halls. In Sweden, the first day took place in stimulating surroundings at Lund University's Inter Arts Center (IAC), which usually presents and organises events related to artistic research and experimentation. The photo on page 34 from IAC shows Mathias Kristersson's wall painting *Allt hat i en och samma mening* (2015) from a performance as part of the project Black Noise Wind. In the evening, Trond Maag guided us through the streets of Malmö, introducing us to the city's sounds from the perspective of an urban planner (page 155). On the second day, during the lunch break, participants were invited to visit Lund's renowned Museum of Artistic Process and Public Art (page 154).

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In Malaysia, Sergio Camacho curated and organised a concert (page 164) presenting a wide variety of composers and sound artists. The first part of the concert introduced us to the artistic practices by the three workshop participants Gilang Damar Setiadi (ID), Patrick Hartono (ID) and Paul Hegarty (UK) (pages 158-166). The second part had an audio-visual programme presented in collaboration with Föreningen Musikspektra T. and the festival "Crosscurrents & Nodes". Pieces performed were: Sergio Camacho (ES): Máni (2018); Simon Berggården (SE): Bridges (2019); Soňa Vetchá (CZ): Wavelengths (2019); Anders Flodin (SE): Epitafio (2019); Juhani Topias Vesikkala (FI): } woes...to die with thee again { for quadrophonic electronics (2013); Patrik Kako (SK): Prečo je nebo belasé (2019); Bence Pintér (HU): ...what if a Monday afternoon... (2019); Fabrizio Rossi (IT): Approaching and contact for flute and electronics (2019); Sanket Mahapatra (IN): Stars in a Purple sky (2019); Daniel Chudovský (CZ): Scattered solitude (2019).

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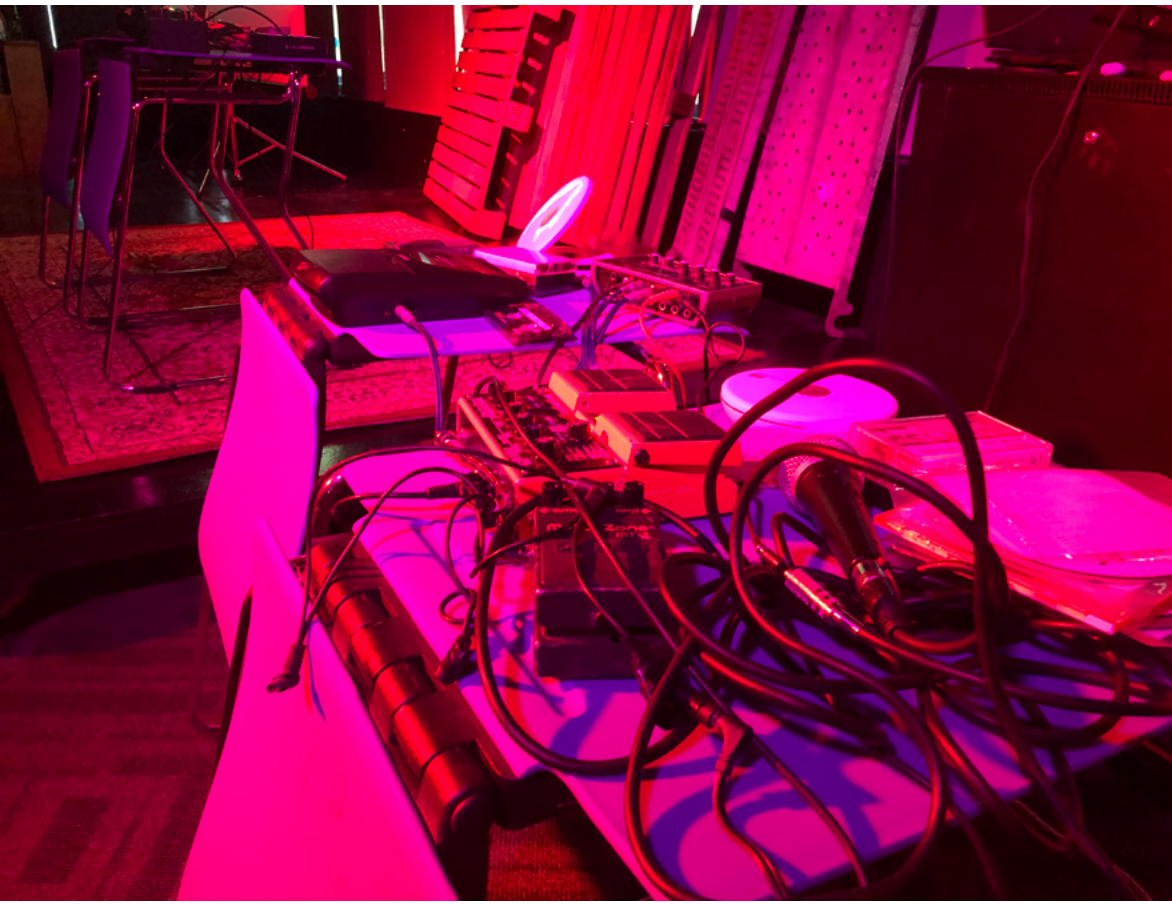

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Manifestos

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Notes on Noise

Marie Thompson, Sandra Lori Petersen and Trond Maag

'Notes on Noise' gathers a selection of ideas and observations, which represent our disciplines and serve as a sort of compass that guides us through our everyday professional practice. During our cooperation it quickly became clear that it would not be possible to write a common, generally valid position, but that we should put the multifaceted nature of the term 'noise' at its centre. Starting from water as a daily source of inspiration and personal reference point for our professional work, we have jointly drawn up a list of attributes during a first work step: our inter-relationships with and to noise become evident, for example, when listening to raindrops and thunder, when swimming in the sea, in the context of bodily organs such as drinking, kissing, speaking, in the city near a fountain, or when in older buildings the neighbours can be heard in their bathrooms. In a second work step, we combined these attributes into the following compilation. How does each of us use the term 'noise'? In which cases can we speak of 'sound'? And how do we, and our disciplines, deal with the countless concatenations and overlapping interweavings between the mindsets noise and sound? It seems important to us to reflect the different reference frames of each discipline to be aware of the incomparability of the term 'noise'. Ultimately, the recurrent exchange of knowledge and constant reinterpretation are essential to find ways in our noisy universe.

Noise Is Unwanted Sound (Marie)

Not all noise is unwanted, but the term is frequently used to describe sound that a listener, or listeners, would prefer not to experience.

Noise is deemed unwanted due to its effects. It may interrupt, distract or disrupt; irritate or frustrate; hurt or harm.

Noise may be undesirable insofar as it makes meaning indiscernible, introduces unintended sonic artefacts or directs attention towards itself.

Noise might be considered unwanted from the perspective of an individual – it can be a subjective judgement of sound.

However, this judgement is often informed by social norms and contextual conventions. A neighbour's night-time washing machine cycle becomes a threat to aspirations of productivity and privacy. A telephone conversation breaches the unspoken rules of shared auditory space. Recurrent silences as an audio streaming service cuts out break the mood of a party.

The Noises in the City Are Dynamic (Trond)

As soon as we differentiate parts of the all-surrounding noise, we begin to understand what we are listening to and what these fragments of noise are doing. We talk now about sounds, which have properties and behaviours. So we are speaking of sounds which radiate and seem to move between buildings and along streets. We assume that all sounds, which a listener can hear in the city, come from all different spatial directions and originate from various sound sources and will finally join the sound of a city. If the sound of a city is chaotic and without shape or sense, we speak again of urban noise. Most sound sources in the city are in permanent motion. The acoustically caused perception of space is therefore in permanent change. Just think of a busy street, where listeners cannot allow themselves to direct their attention to how the actual space interacts with sound but, rather, will have to focus on the most important and significant sound.

Domestic Noise (Sandra)

During dinner, more often than I am proud to admit, I put cotton in my ears.

Though it seems abnormal, I continue to feel a jolt when forks and knives meet the plates of my family with cold clunks.

The Noises in the City Are Ambiguous (Trond)

In the city, the noises of our own walking can cause very different reactions: while one person is happy when they hear and recognise our steps, the same steps can seem frightening to another person. Sound always allows different interpretations; ambiguity lies in its nature. We know this from general language use, in which noise often comprises the negative connotations of sound. The term 'noise control' refers to the intention to defend oneself against certain sounds. Heavy noise is a sound event that has marked in the past an immediate threat or the beginning of a hostile attack.

Noise Is a Gendered Formation (Marie)

Noise is both a symptom of problematic femininities or, indeed, the problem of femininity, and a masculinist formation.

Noise is a marker of bad, deviant or failed femininity, in co-constitution with race, class, sexuality and disability. Women whose voices deviate from expectations of pitch, timbre and volume, who talk too much or refuse to conform to the norms of conversation by interrupting, speaking over or gossiping are noisy.

However, while certain associations endure, noise's gendered connotations are by no means static.

Certain masculinist notions have also been connected to noise. Industry, militarism and war have been heard as both domains of masculinity and domains of noise.

To hear noise is to hear gender.

Leaks and Noises (Sandra)

Accounts of hospices document how patients whose bodily surfaces have broken down through disease tend to frighten and cause revulsion to others; it is as though humanity is seeping out of them.

In a comparable way, sounds escaping from the insides of hospital patients into the common space of multi-bed wards tend to betray the human integrity of patients. Sighs, belches and cries puncture any notion of privacy, and when the intimate space of the patients sonically leaks, seemingly faint sounds loudly betray their privacy.

People's Reaction to Noise Is Shaping the City (Trond)

The perception and evaluation of urban sound, and the way people react to it, is a cultural achievement. Sound and architecture are inseparably embedded in a practice through permanent legislation and standardisation, as well as communication formats such as tools for mapping, measuring and modelling sound. This practice, as the result of a culturally informed process in a given political and social context, ultimately gives shape to the city. Noise is a politically defined term. It dictates how infrastructures, buildings and outdoor spaces interact acoustically, thereby influencing the listening experience of people.

Noise Is Heard with a Romantic Ear (Marie)

Noise is often subject to romanticisation. In the sonic arts, it has been celebrated as a vanguardist force that revolutionises music and culture, an ecstatic energy that facilitates transcendence.

The hum and clatter of the city have also been heard with a romantic ear, inasmuch as they provide a sense of 'happening' and 'liveliness'.

There are other romantic noises: the rush of the ocean, the throb of the club, the babble of the crowd, the crackle of vinyl, the hiss of tape.

Noise Is Deadly (Sandra)

Every day, noise causes nuisance that is deadly, the World Health Organization underlines. Every year, it cuts shorter human lives by more than one million years. Traffic noise above a certain level is a well documented killer. Other kinds of noise are hardly innocent. But regular people experience all sorts of things as noise. Intimate sounds of others.

A woman I know sleeps next to a wall. On the other side of the wall is the bed of a couple. In the evening, as they gently talk to each other, their faint sounds seep through the wall. They probably share experiences from the day – an awkward comment made by a colleague and something they saw on the bike riding home from work.

There is a softness to such late-night sharing; words and touch that intertwine and voices get airier as sleep approaches with its dreams and nocturnal shapes. The woman I know has a hard time getting to sleep. When the sounds of the couple reach her, it feels like they itch. Might the itch be deadly?

Noise Is Inner (Marie)

The ear is imagined to quietly await sound, which will animate its inner workings. This fantasy conceals those whose bodies and minds produce a personal noise: a clicking, humming, ringing, singing that accompanies and is sometimes abated by what comes from 'out there'.

Context Shapes the Noises in the City (Trond)

A densely built-up housing development does not sound like a shopping street in the city centre. However, it is entirely possible that two people in both places like what they hear and would like to stay a little longer to talk to each other. People's expectations of the acoustic character of the city are strongly influenced by context-related considerations, such as the type of architecture, the design of the public space, the sound sources present and the way in which individuals and communities activate these forms and spaces.

Noise Is Commercialised (Sandra)

When the World Health Organization describes traffic noise as the second largest health issue in the European Union next to particle pollution, they point to a societal challenge and inspire sales arguments for a branch of businesses developing and producing sound insulation, noise screens and the likes.

My own research is funded from this emerging attention to noise as something that we have more of than we should. The 'should' is a moral judgement, enveloped in a shield of health considerations, health being an incontestable value nowadays. Imagine a World Morality Organization.

The Climate Activates the Noises in the City (Trond)

A deciduous tree, a river, a water basin and other natural phenomena and design elements which are activated and altered by wind and rain often possess acoustic resources that are directed towards people. The sounds of water in motion, aquatic plants, reeds and leaves in the wind create an acoustic space that can help to keep the listener's attention to the location and thus make the city seem more attractive. The consideration of the climate – be it the greening of facades to shade and cool buildings, the unpaving of streets to better control surface water runoff, the general greening of public spaces, and so on – has an immediately positive audible result in the city and modulates its sound variety.

Noise Is Necessary to Mediation (Marie)

The transmission of information – be it sound, text, data, images – requires a medium.

The medium – the material means of transmission, connection, relationality – leaves an impression. This impression is called noise.

But the separation of medium and information, noise and signal, is by no means straightforward: the latter relies on the former. No information without medium. No signal without noise.

What belongs and what doesn't is contingent.

Noise Is Work (Sandra)

I push open a tall glass door and enter a large room. The walls are in raw concrete and the ceiling is beyond my field of vision. In the street, I could see my breath, but it is warm inside the architectural firm.

Desks are placed next to each other, forming lines through the room that are effortlessly echoed in the attires of the youngish architects and in the hairstyle of the intern. She made the model that we are gathering around in the glassed-in meeting room.

Noise is work here. We scrutinise the model of what is to be densely built up with housing, while it also fosters collectivities, outdoor life and sustainable living in a car-free area. The landscape architect rearranges bits of green foam along the borders of a circular road and a railway. In its midst is a maintenance centre for metro trains. The challenge is how to handle massive traffic noise *and* move beyond a notion of sound merely as noise that is to be reduced.

The mobility expert joins us via video call. The microphone and speakers add a metallic ring to the room – a faint noise that breaks out in low eruptions and does not seem to follow any pattern in particular.

Relations Between Notions of Noise

This collection of notes gives concrete descriptions of notions of noise and of its multifaceted qualities by injecting our own subjective experiences of noise. This messy myriad of concise, cultural and casual observations stitches together fragments of the personal, the local, the global and the historical.

To us, formulating these notes proved to highlight disciplinary variations, and to play around with their order of appearance was to experiment with how they could shed different lights on each other. It's up to you now to continue that game of considering how the different notes can be combined and related, and especially to explore what lies between them. Somewhere in between, the reader's own experiences, ideas and observations are likely to be found – probably holding yet untold notes on noise.

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Sounding Things Out: Sonic Parameters and Possibilities

Kelvin E. Y. Low, Sergio Camacho and Julia Chieng

Making Sense of Sound Studies

Forming a pertinent strand of burgeoning scholarship on the senses and society, the field of sound studies has gained traction over time in providing a crucial enlargement of extant debates concerning how the sensory matters in different domains of everyday life premised upon both historical and contemporary contexts (Barringer 2006; Bautista 2019; Chandola 2012; Corbin 1998; Eisenlohr 2018; Hearman 2017; Rice 2013). A recent work, *Remapping Sound Studies* (Steingo and Skyes 2019), for instance, draws attention to how scholarship on sound ought to bring further analytical attention to the Global South, especially when the North is often associated with science and rationality, as opposed to the South, which is conjured through magic and irrationality (Steingo and Skyes 2019). Building on these works, we add to current debates by considering and revisiting two lines of enquiry. The first is to broaden what we mean by 'sound' and 'noise' and how these are approached across the various disciplines, including anthropology, sociology, ethnomusicology, performance arts and history, among others. In doing so, we deliberate upon the possible parameters of how to conceive sound knowledges and what potentials they carry in furthering sociocultural surveys of the sonic in everyday life. The second line is to query how such knowledge is to be harnessed and

deployed in the imbricated contexts of regulation and control, as well as notions of freedom.

Between Sound and Noise

When we think about the whole spectrum of sonic and auditory experiences that envelop us in our surroundings, categories and analyses deployed to broach these varied experiences are wide-ranging, shifting and emergent. Music, noise, sound and white noise are but some examples that demonstrate how any umbrella terminology captures only a variant or slice of these sonic possibilities. In other words, sonic categories are polyvalent, socially constructed and deployed across different sociocultural contexts, and studied through the lenses of different disciplines and their own specific analytical framing. Our interest here is not so much in delineating or hierarchising how dissimilar approaches lead to the production of knowledge about sounds. Rather, we wish to rethink how sounds in social life may be addressed. In particular, we wish to think again about sound as organic matter, emanating from nature, and sounds that are produced by human actors through instruments, machinery and other forms of communication, including the technological manufacturing of synthetic sounds in the field of electronic and experimental music (Emmerson 2007; Holmes 2012). Hence, we are mindful about how to grapple with and make sense of the corpus of different categories, sources and permutations of the aural and the sonic. We do think it is important to begin at least with identifying categories, because they potentially represent different experiences simultaneously. And those experiences unfold throughout variegated temporalities, locales and spatialities, and transpire across manifold cultural contexts. Therefore, we are cognisant of a sense of historicity, in also pursuing, where relevant, etymological delineations behind these categories and terms (Kelman 2010).

Sound knowledge can be broadly explained in three aspects: sound object (sound species and sound properties), sound event (a perceptual construct on meaning, function and affectiveness) and contextual affiliation (temporal and spatial context). Conversely, what is being

considered as noise is contingent upon its affective qualities interpreted in the listening experience. One person's aural sensorial disruptions may not always be viewed as transgressive by another. The fluidity of sound in existence and the indefensible ear of the receiver add to the complexity of sonic evaluation. In the connected fields of ethnomusicology and the performing arts, in interdisciplinary terms, sounds are approached from the perspective of studying world musics, which covers concerns revolving around the cognitive, cultural, social, material and biological, among others (Rice 2017). A combination of approaches underlines ethnomusicology, including a study of the music itself, how people orientate their behaviour to the music, and theorisations about music (Rice 2017).

As important counterparts in studies of sounds, noise and music, disciplines in the social sciences and humanities, including sociology, anthropology and history, address these categories of the sonic by focusing on the sociocultural meanings and symbolism underscoring such aural experiences (Corbin 1998; Feld 1990; Roseman 1991), how these experiences play out in relation to different types of socialities and social inequalities (Chandola 2012; Corbin 1998), religious soundscapes (Bautista 2019; Eisenlohr 2018; Hirschkind 2001) as well as the extent to which sounds, noises and silences all inform and constrain experiences of urban soundscapes, city planning and policy-making (Cardoso 2016; Colombijn 2007; Earl 2017). Making sense of sound studies should rightly incorporate a wide berth of works that consider noise as well (Alexander and Stokoe 2020; Puwar 2011; Schulze 2016). Elements of the sonic contain those that are deemed aesthetically pleasant, utilitarian or harmonious, as well as those which, by contrast, engender fragmentation, transgression and disagreement. These are important avenues for further consideration, especially when noise as a category indexes related notions, running from distortion, disturbance and disruption to difference and experimentation, and as a marker of marginality (Graham 2016). Given the whole gamut of possibilities and potentials of which social actors define and enfold sounds and noises in both similar and discordant manners, it is therefore paramount to consider how a range of definitional categories, contestations and sonic behav-

iour may be interpreted and further comprehended in connection with the domains of governance, regulation and freedom.

From Knowledge to Governance and Freedom

Sound governance, and the apparent necessity of producing a regulatory framework for sound environments, may encounter resistance and contestation, due to the intrinsic friction between the right of production and the right of reception. The perceptual value of both sound as object and sound as event imposes the responsibility directly onto the individual, whose decisions on sound production ultimately impact those around them and their immediate milieu. Consequently, shared acoustic environments evolve with acoustic communities that rely on social conduct to provide safe environments to all their members, while attending to the particularities of the sociocultural values and practices of the collective. As opposed to other expressions of social interaction, sound is not a custom that the individual could simply opt out from. The decision of each individual in sound production directly alters the sound environment for all the members of their sound community. This complexity adds a particular importance to the observation of individual fundamental rights and freedoms (both for production and for reception), and shores up questions on how, and by whom, sound governance is addressed, including issues regarding gender, identity and power. As an illustration, a recent discussion on forms of sound control and knowledge is connected to materialist-feminist schools of thought vis-à-vis conceptualisations on patriarchy, violence and harassment. As an apparatus of male social control, Lentjes (2019) conceives of the notion of 'sonic patriarchy', which refers to 'the domination of a sound world in gendered ways, as well as to the control of gendered bodies via sound' in addition to the male gaze. In this context, therefore, sound could be understood as a form of material force that exemplifies male power and control (Thorkelson 2020).

Toward a Noise Manifesto

Arguably, strict sound governance and intervention can create oppressive soundscapes that hinder individuality, creativity and expression. Alternatively, deepening sound knowledge can potentially provide an extended awareness of sociocultural values and an alternative in coming up with a positive soundscape as well as offsetting the complexity of sound preferences among the acoustic community by cultivating and increasing understanding and interpersonal respect. Topics on sounds and sound environment can be introduced in education along with creative arts and movement to equip society with both cognitive and affective skills in relation to sound environments.

Noise, as unwanted sound, becomes a subjective concept that routinely defies regulation. Defining unwanted sound as a quantifiable object or event and attempting to fit this malleable item into a set of rules that is intrinsically tangible and measurable becomes problematic. Noise forms an intrinsic part of soundscapes and their communities. Sound governance should be a warrant of all rights: rights for individuality within a community, rights of a community to preserve their sociocultural values, rights for collectives and individuals from each community to preserve and express their identity, rights of individuals to live in safe and healthy environments, rights for contestation and protest against regulations, and rights for speech and expression. In short, it could be argued that all members of a sound community possess equal rights for noise and the rights for silence. Effective sound governance should consider and protect both.

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The Noise Spectrum

Maria Albin, Marie Højlund, Jacob Kreutzfeldt and James G. Mansell

As a group, we could hardly have come from more different backgrounds – a doctor, an artist, a festival director and a historian. We began with quite different ways of thinking about noise. One of us was used to dealing with it as a cause of physical illness. Others worked with it as a site of psychosocial conflict or as a cultural form reflecting changing identities and social norms. We were divided, too, between those of us who tended to see noise as a problem to be solved and those who thought that problematising noise risks imposing the norms of dominant social groups. Our academic fields have perspectives on noise that are difficult to reconcile: on the one hand, that excess exposure to certain kinds of sound, such that of motor traffic, causes ill health; and on the other, that in daily life what counts as a noise – a Christian church bell versus an Islamic *adhan*, for example – is a matter of social belonging and exclusion. Is noise an environmental hazard or a means by which dominant social groups impose their aesthetic and political will? Is it the job of the researcher to find new ways of quietening the world or to listen more attentively to different kinds of noise and their social effects?

Despite our different research backgrounds, we quickly agreed that our different positions need not be mutually exclusive. We agreed to think of noise as lying on a spectrum. At one end of the spectrum, there is health-harming noise such as traffic noise and extreme noise zones such as those around airports. At the other end of the spectrum, there are the much more diverse sound environments of cultural and

social life. The two ends of the spectrum should be treated differently, we decided. We should not try to use a model designed to understand and manage one end of the spectrum at the other end. For example, while attaining maximum possible quietness might be a desirable aim for airports, it is not right for life in urban centres, where sound is necessary for sociality and cross-cultural interaction.

However, researchers working at different ends of the noise spectrum tend not to be aware of each other's perspectives. Our conversations with one another began to highlight the value of coming together through interdisciplinary work in a complementary way. What we learn at one end of the noise spectrum could inform work at the other end and vice versa. We agreed that some sounds are harmful to health but also recognised that demands for quiet can sometimes exclude, restrict and universalise cultural norms and limit intercultural understanding.

Ultimately, we found that despite our different ways of thinking about noise, we were united in a mission for social justice in human practices of sounding and hearing. People who must live near busy roads and airports, typically in cheaper housing, are unequally impacted by the health effects of noise. Humanities and social science researchers, who typically focus on meaning and culture, could add these unequal health effects to their understanding of the auditory dimensions of inequality. Scientists who campaign for noise control to alleviate some of the effects of poverty can learn from humanities scholars about the dual impact of exposure to environmental pollution and cultural exclusion.

As we thought through the value of research collaboration, we agreed that bringing together diverse perspectives on noise can in fact help to deliver practical solutions to those involved in delivering public policy and urban planning. As researchers, it should be our responsibility not just to stack research results, some of which conflict with one another, but to create new things together, across disciplines. Within the sociology of science and technology, David (2005) has proposed adopting reflexive epistemological diversity in complex areas of research that recognises the value of many forms of explanations and interaction between these different explanations. Epistemological

diversity does not mean that all explanations are valid, but that causation occurs at many levels, and that specific events are caused by a complex set of factors. Instead of aiming to find the evidence to solve the problem, reflexive epistemological diversity aims to gain greater explanatory breadth, recognising that various contributions force us to reflect upon the limitations of each individual explanatory approach. This way of working would suit the sometimes highly polarised fields of noise research. Finding ways of overcoming our disciplinary differences would also allow those noise researchers who wish to impact public policy to do so with a more unified expert voice.

We also agreed that intervening in noise should be a matter of public culture. In contrast, European policy-makers and noise abatement campaigners have increasingly dealt with noise as a problem for the individual to solve and as intelligible only via financial logics. The marketing of quiet consumer products to those with the ability to pay for them transforms quiet into a commodity. So do cost-benefit analyses of quiet spaces such as parks. We propose instead that negotiating noise publicly should be a path to greater social awareness and intercultural understanding. We should not seek to shield ourselves from other people's experience of noise but, rather, should learn to perceive health-harming noise and the sounds of unfamiliar cultures.

We therefore propose that active listening should become a skill of the social researcher and urban planner. It should also become an everyday practice of community life. We concur with Han's proposal that: 'Listening means something entirely different from exchanging information; listening does not involve any exchange whatsoever. Without neighbourliness, without listening, no community can form. Community is listenership' (Han 2018, 74). Rather than listen with a preconceived notion of the 'good' soundscape, however, we propose an inter-subjective listening mode through which we seek to gain not just a deeper understanding of the sound environment but also a deeper understanding of the multiple listening subjectivities that constitute our auditory communities.

We propose that in handling noise concerns, a range of collaborative and participatory tools, workshops and dialogues should be deployed,

Figure 1: Birgit Õigus: *Forest Megaphones* (2017). Part of 'The Overheard' project. Photo: Malte Riis

Figure 2: Frode Gundorf Nielsen: *Vind & Vand* (2017). Part of 'The Overheard' project. Photo: Olaf Zhiga

where concerned citizens and stakeholders can meet and negotiate concrete concerns and problems as well as visions and ideals. Temporary art installations and participatory workshops, interactive artworks and public installations can play an important role in this work. An example of the kind of thing we have in mind is 'The Overheard'

(2017), a sound art project which invited the citizens of the Central Region of Denmark to actively tune into their overheard surroundings, and begin to rethink traditional distinctions between sound, music, noise and environment. The aim in this project was to develop an attentive ear and inspire everyone to form a new relationship with everyday noises. There were six mechanical and electromechanical outdoor sound sculptures around the Central Region of Denmark (two of which are shown in Figures 1 and 2) and a webpage that streamed live audio from the locations of the sound sculptures. The sound from the locations was streamed through mobile listening devices from which sound was distributed in real time to a server and made available for listening at the website. The soundscape could be heard only in real time and was not recorded. 'The Overheard' aimed to be a critical practice focused on challenging and discussing existing strategies for the aestheticisation of public places. The coming together of medical, artistic and cultural researchers in such projects should, we suggest, embed the kind of reflexive epistemological diversity we have called for in this manifesto.

In sum, we accept that noise is harmful to health. People who must live near busy roads and airports are unequally impacted. They need noise control. Sustainable sound environments should be included in the United Nations 2030 Agenda for Sustainable Development under Goal 11: 'Make cities and human settlements inclusive, safe, resilient and sustainable'. But, at the same time, we acknowledge that social life is noisy. Demands for quiet can exclude, restrict and universalise cultural norms. We do not wish for silence but, rather, vibrant, meaningful and sometimes restful sound environments which are inclusive and contain diverse aspects of social life.

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To Noise

Elinor Carmi, Gunnar Cerwén and Marcel Cobussen

Noise is a multifaceted concept. It can be used to describe everything from physical phenomena to social situations in everyday life. Online dictionary Merriam-Webster lists no fewer than 10 definitions, ranging from electromagnetic radiation, unwanted sound and signal interference to rhetoric metaphors in language. Despite these differences, most definitions seem to share a trait of 'chaoticness'. In a way, the wide range of understandings might well be regarded as a kind of noise in itself.

This 'manifesto' is a reflection on noise. At the same time, it might also be regarded as a collection of noise. Based on the work of three different authors, this entry vibrates a variety of standpoints and ideas; some are graphic while others are expressed in text or table. The purpose was not to reach a mutual agenda or understanding about noise. Just like noise's chaotic and untamed characteristics, the idea is to embrace differences and allow them to coexist.

The etymology of the word 'noise' is uncertain, although it has been suggested that it could stem from the Latin word for discomfort, annoyance and seasickness, *nausea*. Others have suggested that it comes from *noxia*, which is Latin for injury, hurting. Combinations of these and/or other origins are also possible.

In an attempt to amplify various avenues of the concept in academic situations, we have outlined eight types of noise. For each of these types, we have provided examples and highlighted some of the research areas in which it is likely to occur and how it is studied. These are set out in Table 1.

Table 1. Eight types of noise

Type	Examples	Predominant fields and methods
Environmental noise	Traffic noise, aircraft noise, construction noise	Natural sciences, acoustics, soundscape, sound pressure levels (SPL), quantified health outcomes
Domestic noise	Neighbour disturbances, children, outside traffic, home appliances	Anthropology, acoustics, sound studies, interviews, questionnaires, SPL sound design; how certain appliances are sonically designed
Noise in art and culture	Noise music, sound art	Sound studies, musicology, soundscape
Social noises and communication	Shouts, screams, politics and power manifestations	Anthropology, human geography, sound studies
Body noises	Hungry stomach, burps, hiccups, heavy breathing	Gender studies, sociology, cultural studies
Media and information noise	Media noise, multisensory overload	Humanities, cultural studies, sound studies
Disturbances, unwanted data and signals	Poorly connected circuits, lo-fi	Natural sciences, signal-to-noise ratio
Sonic noise	White noise, pink noise, brown noise	Acoustics, frequency distribution

and other objects.

Non-linearity

is something that you cannot

Noise

capture, you cannot contain it

≠ evolving

within a box

COMPARED TO HUMANS, ANIMALS

And

It is chaotic

the way you position yourself

and relates to

Affect and Ambivalence

Noise takes place. It is not a noun, but a verb: to noise. Someone or something is *noising*. Noise happens between subject and object, between subject and subject, between object and object. Hence, noise is neither subjective, depending on personal taste or feeling, nor is it an objective characteristic of sound. Noise affects and can be affected. Think Spinoza's noising. The ethics of noise: noise as a materialisation of a being-with (although it can isolate too), a being-with which signifies connectivity and separation at the same time. Think Nancy's noising.

Noise is not by definition connected to sound. It is the resonating force of the in-between. Biotic and abiotic beings exist in this in-between, in a sonic atmosphere that can be noisy – or even better: that can noise. As such, noise is social, political, economic, ethical, spiritual, and so on. Noise creates distance, but also proximity. Noise excludes, but also includes. Noise is loud, but can also be silent. Noise creates affects and prevents affecting. Noise impedes meditation, but simultaneously makes meditation possible. Noise takes place against one's will, but can also be actively sought. Noise usurps space and control, but can also make any appropriation impossible. Noise creates an atmosphere; noise *is* an atmosphere.

Ex-President Donald Trump noised, but so did Gandhi. Football hooligans noise, but so do Gyoto monks. Men noise, but so do women. White heterosexuals noise, but so do black homosexuals. Intelligence services noise, but so did the Occupy movement. Policy-makers noise, but so do artists. Capitalism noises, but so does aesthetics, and so on.

Noise is ambivalent and undecidable, and because it is ambivalent and undecidable it is interesting and requires our permanent attention.

On Liminality

A threshold. The quality of ambiguity, of disorientation. The quality; that is, noise as a positive force, questioning, challenging and/or disrupting a status quo in order to bring it to its limits, in order to establish something new. This is how Attali thought about it:

> Each network pushes its organization to the extreme, to the point where it creates the internal conditions for its own rupture, its own noises. What is noise to the old order is harmony to the new: Monteverdi and Bach created noise for the polyphonic order. Webern for the tonal order. La Monte Young for the serial order. (Attali 2003, 35)

Of course, we could go further and include Cage's *4'33"* in the list. However, why should we mention the most 'silent' composition in Western history in a manifesto about noise? Which 'order' did this piece bring to its limits? First of all, of course, the clear distinction between music and non-music. But, more important perhaps for the topic under discussion: the difference between noise and silence. *4'33"* poses questions such as: How silent is noise? Can silence be noise? How silent should noise be before it stops being noise? Can noise be inaudible? *4'33"* makes us aware of the fact that real silence, considered as the absence of sound, doesn't exist: we are always surrounded by sounds. Silence and noise meet when they are considered as the unintended sounds that accompany every musical composition. Silence and noise meet when you compare various versions of *4'33"*: it is remarkable how many different 'silence-noises' can be heard.

Just as silence can be noisy, noise can also be silent, that is, inaudible. For human beings the most dangerous frequency is at the median alpha-rhythm frequencies of the brain, 7 Hz. This is also the resonant frequency of the body's organs. At high volumes, infrasounds that are inaudible to our ears can affect the human central nervous system directly, causing disorientation, anxiety, panic, bowel spasms, nausea, vomiting and eventually organ rupture. They can even cause death after prolonged exposure. Through noise, we may cross the threshold between life and death.

Relations

At an extreme level, noise can be lethal; exposure to an excessive amount of decibels may stop vital functions of brain and body. However, often noise is not absolute, not measurable in decibels but de-

pendent upon and relative to specific situations, contexts, relations. Here, noise is not necessarily a property of sound anymore: every sound can become noise, for example when it is qualified as unwanted, when evoking negative associations, or when obscuring acoustic information. However, this emphasises only the negative aspects of noise. Noise is also the symbol that offers hope for new meanings to be created, new orders to be established, new systems to be developed, before new noises – coming either from the inside or from the outside – disrupt these meanings, orders and systems again.

So, instead of reducing the discourse on noise to a discourse on loudness, it might be necessary to expand the terminology and think of vibrations, frequencies, intensities, resonances, (dis)harmonies and so on. However, more important than trying to explore what noise *is*, is what noise *does* or *can do*. Noise affects the mind, the body, behaviour, communication, wellbeing, acting, music-making, sleeping, stress, politics, economy, war, thinking, organisation and so on. Noise affects both the biotic and abiotic components of a system – the living components (humans, animals, trees, etc. and their organisational structures) and non-living, chemical and physical components and processes.

Noise is emergent from specific situations, events, histories, stories. It cannot be generalised, defined, framed – it escapes generalisation, definitions, frames, categorisation. Noise *is* not, it *does*. It depends on concrete situations; that is, it doesn't precede those situations but comes into existence in and through them. Noise not only disconnects, it connects as well, bringing agents together.

Besides, noise depends on judgements. Noise is politically, socially, economically, ethically, historically, aesthetically determined and determining. Who decides? Who controls? Who defines? Who judges? Who excludes? Who is heard? Who is recognised? Who screams? Who suffers? Who is marginalised?

Chaos

A CYBORG IS A CYBERNETIC ORGANISM, A HYBRID OF MACHINE AND ORGANISM, A CREATURE OF SOCIAL REALITY AS WELL AS A CREATURE OF FICTION. **Collisions between the classes of the old society further, in many ways, the course of development of the proletariat. The bourgeoisie finds itself involved in a constant battle. The public library is the local centre of information, making all kinds of knowledge and information readily available to its users.** *We shall declare that the world's splendour has been enriched by a new beauty: the beauty of speed. What about slow noise? The noise of a tree growing, a wave travelling to another continent, the melting of a glacier? A racing motor car, its frame adorned with great pipes, like snakes with explosive breath … a roaring motorcar which looks as though running on shrapnel, is more beautiful than the 'Victory of Samothrace'? In our world, there must be room for both silence and stimulating sounds. The differences between work and rest also apply to the world of sound.*

A CYBORG MANIFESTO, 1985 (HARAWAY, 1991)
The Manifesto of the Communist Party, 1847 (Marx and Engels, 1969)
The public library manifesto, 1994 (IFLA/UNESCO, 2021)
Manifesto of futurism, 1909 (Marinetto: In Joll, 1961)
Manifest for a better sound environment in Sweden, 1995 (Arlinger et al 2006)

Health

Much research on environmental noise has been focusing on negative health effects. It has been found that especially long-term exposure to noise can lead to stress-related illnesses, such as cardiovascular disease and hypertension (WHO, 2018). The findings are well established, but most of the research is based on quantifications of large samples of people, with little attention being given to subjective perspectives and variations. There is a need to uncover health effects (positive as well as negative) in relation to contextual, cultural, historical, social and psychological factors.

Sound pressure level has been a central factor in research on environmental noise. Sound pressure alone is known to cause arousal in people, so the focus is understandable, but there are several other factors that should be taken into consideration, such as people's attitudes towards different kinds of sources. Stress response is likely to increase if the cause of the noise is perceived to be 'unnecessary', such as a motor vehicle without a muffler or the neighbour's TV on maximum volume. On the other hand, noise that is expected in a certain context may be more acceptable or could even be part of a positive experience.

Some of the urban sounds arbitrarily labelled as unwanted 'noise' (also) contribute to defining cities in a positive way, by signalling life and social presence. Noise, like all sound, is a result of vibrations. In urban situations, many of these vibrations are caused by human activities. Social communication happens not only through speech and body language, but also through seemingly arbitrary noises of everyday activities. Noise can be disturbing and have negative effects on health, but it is also a signal of life. As social beings, a certain amount of noise may well be a prerequisite for health. The COVID-19 lockdown has, for a limited time, highlighted this in many places around the world. Before the lockdown, it might have been difficult to imagine a city without noise. A quiet city can equally be a 'dead' city.

Sometimes, noise contains vital information that can be the difference between life and death. For instance, most vehicles produce noise while moving. At the same time as being a nuisance for many people,

these noises are also a warning system. The rapid increase of electrical vehicles with quiet engines has illustrated how this lack of noise can be problematic. As of 2019, all electrical cars sold in the European Union are required to include a warning sound while travelling at low speeds. The addition of this artificial noise might save hundreds of pedestrians' lives each year.

Related to health, let's not forget the sounds that are not (primarily) perceived through the ears but that directly penetrate the body: ultra-sounds or low-frequency sounds. On the positive side, ultrasounds are used to crush kidney stones, while echography is a renowned method to get (visual) access to bodily organs. On the negative side, let's consider 'the Hum', a more or less recent phenomenon where people perceive a highly disturbing low rumble or drone.

Noise Beyond Anthropocentrism

Noise and Objects

Perhaps it is time to disconnect noise from human perception. Can an object, a non-living entity be affected by noise? 'I love the sound of breaking glass', Nick Cave once sang. He probably wasn't thinking of *Kristallnacht*. We could also think of the famous bridge collapsing because an army was crossing it. Or windows or glasses being destroyed by certain frequencies. Think of some famous commercials in the 1970s starring Ella Fitzgerald and the Memorex cassettes: just like Ella, the cassette is able to break a tumbler. Objects affecting objects through sounding is something we should consider. One possible effect is acoustic levitation, sound's ability to counteract the effects of gravity. This needs about 160 decibels, which is quite noisy according to human standards.

Noise and Animals

Intra-species communication between animals. Sounds are, for example, used to warn group members of potential danger, such as an approaching predator, or to coordinate a group that is foraging or hunting together (Hollén et al. 2008). Whales are restricted in their communication because of human activities on seas and oceans. Birds have to change frequency because certain frequency spectrums are being occupied by human activities; this prohibits their contact with birds from the same species but living in another territory.

Inter-species communication between animals. Communication can also take place between different species, sometimes in a way that is mutually beneficial, sometimes in a way that mainly benefits the producer of the sound.

> Fork-tailed drongos (*Dicrurus adsimilis*) are tropical songbirds that can often be found in the vicinity of meerkats (*Suricata suricatta*). The drongo can warn a group of meerkats of a nearby predator by making a specific call, and meerkats respond by fleeing to cover (Flower, Gribble and Ridley 2014). During the dry season, when food is scarce, the drongo sometimes produces a false alarm, in particular when the meerkats have just caught a prey. The meerkats flee and the drongo gets the prey. The drongo makes sure not to cry wolf too often, so that the meerkats cannot risk ignoring its alarm calls (Flower, Gribble and Ridley 2014). In the end, both the drongo and meerkat benefit from one another, but the rewards are not equally split. (Halfwerk in Bull and Cobussen 2020, 75–76)

Sometimes the drongo produces noise to the meerkats, and noise here is regarded as false information.

Noise and Space

Think electromagnetic waves that generate hisses, pops, whistles and other noises produced by natural objects such as stars or other celestial objects.

Think intermittent sounds caused by electromagnetic disturbances in the Earth's atmosphere.

Think solar storms, whose sounds can be picked up by certain highly sensitive antennas.

Think radio waves or 'star noise' being identified as emissions from beyond the solar system.

(Most of these sounds are perhaps not sounds in the strict sense of the word [another noise in the machine] but vibrations that can be made audible through sonification.)

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Future Guidelines on Noise

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Our manifesto group was highly diverse, with transdisciplinary educational backgrounds and transhemispheric perspectives. Despite our different interests and focus, we all shared the intention to *idealise future soundscapes*. Our differences were of such a degree, though, that, while discussing how to write a manifesto, we also spent much time listening to one another – to our different professional approaches to sound and to the many stories from our everyday experiences with sound. We discussed how neighbour noise can be an integrated part of the everyday atmosphere in one place but impolite, rude and even illegal in another. We talked about how living in noisy places can be bad for your physical health but that living among too much quietness can also harm you, mentally. And we discussed how small businesses can have an effect on the lives of a whole neighbourhood (e.g. a swallow's nest business, with the sound from speakers and the sound of the birds themselves). Traffic noise can be annoying, we agreed, but it can also be the signifying sound of an urban soundscape. We talked about how traffic from airports should be adjusted according to when the citizens in a specific culture go to rest at night and when they rise in the morning. We discussed how religious sounds play minor and major roles, depending on the cultures present in a given society. We touched on how the right to experience silence – and to make noise – are often reserved for privileged citizens or powerful companies and how the regulation of noise and silence should be enforced: can they

be handled by governments, or are parallel non-governmental organisations necessary?

To meet on shared ground, we decided to leave the present and to develop a manifesto for future societies, by imagined future leaders. We did so not through any desire to arrive at universally applicable noise management guidelines but, rather, to see what would happen if we adopted the position of an imagined policy-maker, to test what common ground we could agree on if we suspended disbelief and imagined what we *might* agree on if we were policy-makers of the future.

A Manifesto for Balance: Negotiating Noise and Silence

By a Board of the Future

The manifesto is written by a Board of the Future. A Board of the Future is a gathering of leaders who are able to encounter the problems that had emerged in the past and go beyond what the majority of people could comprehend at the time. A Board of the Future acts for – and as – one united world.

The problems arose as a result of humanity's failure to live in balance – with nature, with one another and with their increasing material demands. The world was left in suffering and at the end, a dystopia was not only to be imagined, but was created. At the last moment, world leaders were gathered, seeking a solution so that catastrophes could be resolved in the future. As a guidance, they left a manifesto with guiding points on how the future should be. To execute all the points, new Boards of the Future should be formed and be responsible for any acts relating to all the issues raised in the manifesto.

Recommendations

As a Board of the Future, we recommend that the regulation of noise should always be considered a matter of *balance* – balance between silence, daily rhythms, traditions, culture and aesthetics, economy and

politics, and local and global balance. We recommend that noise regulations adopt *scales* that can access the problem on various levels. The scales in this manifesto are suggested as entries to the development and implementation of noise regulations, and are applicable across hemispheres, wealth and poverty, political and industrial structures. The details and the concretisation of the scales suggested should always be defined locally, and the range of the individual scale can be narrow or broad. In all scales, noise is negotiated with its effect and affect on mental and physical health in mind. The *personal scale* brings in the perspective of the individual citizen; the *residential scale* concerns specific local housing areas; the *rural and urban scales* concern the overall planning of an area; the *local scale* includes perspectives of culture and identity; and the *global scale* considers international and transhemispheric perspectives.

The Personal Scale

Noise can reflect activity and creativity but can also be a disturbance of the same. Noise controls should balance between privacy and public culture.

In a too quiet restaurant, a private conversation can easily be heard by a nearby table's guest, but if background noise or music is loud enough to mask the talking, privacy can be maintained. However, if the background sound is too loud, a voice will not be heard and people in that space cannot comprehend the communicated information. One can imagine a technological scenario in which people could possess the ability to switch on and off their acoustic comfort zone in the same way as the current ability to adjust lighting and air conditioning. Absolute privacy could be achieved when entering an individual zone, while this space could blend into public spaces if the zone is switched off.

Noise demands understanding.

It has been found that experience of natural environments in childhood relates to adult perceptions of the value of natural spaces for health and wellbeing. Past experiences can shape how a person perceives and accepts the presence of noise. Further, if a person has lived in a noisy environment, it is easier for them to accept noise, and sometimes feel insecure in a too quiet environment. On the other hand, a person could be oversensitive to noise if they have grown up in a quiet environment. Consequently, noise negotiation should address the involved parties' past experiences. It will be easier for people to accept noise if it is explained and given causality. Therefore, predicting a noisy situation and spreading information in advance is indispensable.

Noise always represents a connection between the individual and the community.

Individuals living in a very quiet environment are more likely to be negatively affected by a given noise. But it is also possible that a lonely lifestyle with little exposure to the community makes people more sensitive to sounds caused by neighbours. So, within defined time frames, each individual in each community should be able to and even encouraged to experience the joys of connecting to their surroundings by making sound, for example with designed sound games in public places such as staircases with the footsteps of music, rain canopies releasing sound when it rains, music from a water fountain in the park, and instalment of public instruments. This positive noise should be presented in a creative and scientific way.

Relations to noise are established through social interaction.

The individual should always be able to connect to the community through the medium of sound at a personal scale and the community should be welcoming of the connection, even where this involves overcoming prejudice against what might be perceived as noise. Each in-

dividual can, for example with the use of social network services (SNS), share their sound environment and instantly get back reciprocal responses from others. By sharing places that can bring people a positive feeling or tranquillity, we can help improve acoustic experiences, as well as invite some out of an unhealthy sound area.

Every person in a given society should get an educational insight into sound perception and awareness.

People are educated instinctively very early about sounds that bring meaningful messages, such as spoken language, the human voice or music. However, there has been little education about sound without meaning, such as the noise emanating from everyday activities, the background noise of a city, the sound of the clattering of books in the library, the wind blowing and noise from building equipment, and so on. Sounds have an unconscious psycho-physiological impact on each person everywhere and at all times. An individual should adequately understand these effects and activate sensibility and knowledge that can enhance positive effects and reduce adverse effects.

The Residential Scale

Balanced soundscapes should be maintained or created in a way that preserves or shapes the identity of a place.

Sound is one of many components in the environment and is an intangible element that is received actively. There may be an imbalance in the perception of the sound environment by the residents of a place, which can lead to differences in awareness and in understanding of the actual sonic profiles in the environment. The tolerance of a shared soundscape is therefore to be considered in order to create or maintain a balanced sound environment in a residential area. An example here is the contrasting roles of musicians: they need quiet spaces for practising or recording but are also part of the sound contribution in the same shared soundscape. Their presence is part of the overall sound-

scape identity and should be considered when identifying signifying sounds in the overall soundscape.

Sound environments should make sense and stimulate awareness for everyone.

Differences in socio-economic status may influence the residents' choices of home, and it should be considered how this corresponds to the characteristics of sonic life. Everyone is responsible for the implementation of suitable soundscapes. The responsibility is acted upon with negotiation, and with careful consideration of stimulation by the educational systems, parents, community, municipality and private companies. All take part in designing and developing the future soundscape. The perceiving of a sonic environment is highly subjective, and may not always be identical to a decibel measurement of auditory circumstances.

Noise spaces are provided to produce sound freely. Quiet spaces are provided for resting. Quietness should be provided as part of municipal resources. Quiet is a public good.

There are spaces with noise at levels that cause complaints, but where people also find comfort and familiarity. Examples include open-air markets, Asian commercial streets, central squares or club areas with public events and outdoor live concerts. For a long time, the abandonment of traditional commercial streets in Japan and other Asian countries due to the dominance of large-scale shopping malls has made the streets' bustling soundscape as symbols of prosperity of a metropolis fade out. Such noisy spaces should be preserved and promoted as a place where people are not afraid to make noise or create special sounds. Along with that, absolutely quiet spaces for people to enjoy silence need to be established, maybe in places far from the noise, but also as separate spaces in the midst of the noise. Advanced sound insulation technology (like a vacuum space through which sound cannot propagate) will be applied to boxes that allow people to freely make

noise without affecting the surroundings. Quiet areas or a quiet side in private houses should also be integrated and designed, to minimise sleep disturbance and noise annoyance.

The profits from noisy activities in residential areas are shared among the citizens. When something is taken it must be compensated.

There must be an organisation taking care of compensation, which may include both money and cultural benefits. People living around airports, along the highway, train routes or next to outdoor concert or festival sites share a portion of the profits from these infrastructures according to the extent of noise they are exposed to.

The Rural and Urban Scales

When someone causes noise they should pay back with quietness.

Noise sources should be taxable, just as carbon emissions are. There will be a system of tariffs that adjusts the payments not only according to decibels, but also to where the noise is made and whom it is bothering. Not only the disturbance of human beings' wellbeing will be taken into account. So too will the disturbance of sound ecologies that causes damage to the life of non-human creatures.

All citizens should be able to experience a balance between noise and silence.

Busy streets with heavy traffic and industrial areas are compensated with quiet areas such as parks, playgrounds, backyards and outdoor and indoor gardens. The places are open to all citizens; they afford auditory balance in the community and they stimulate awareness of society's social and auditory dynamics. High-rise buildings have the ability to obstruct the free propagation of noise from street and road traffic. In the context of ongoing urbanisation, planning divisions into high-rise and low-rise areas and nature conservation areas is a must to

optimise land use, while also reducing the negative effect of traffic noise. Quiet cores separated from traffic noise sources are placed in the centre of super-high-rise zones.

The Local Scale

Every community has a unique soundscape developed on its own premises. Development should be negotiated through a close relationship between the citizens and the decision-makers.

People in modern societies face frustrating situations due to urbanisation. Natural environments are replaced by artificial facilities that satisfy and bring convenience to human life. Airports are an example of this. The residents have to adapt to the circumstances, as well as their frustrating feelings, when they have to choose between a desire for a life of convenience, or a preference for natural surroundings and environment preservation. Therefore, the noise negotiation process is not only to focus on decreasing noise emission, but also to seek solutions to enhance the coexistence of nature, artificial facilities (noise source) and local communities.

Aesthetics of noise and silence are passed on, explored and reflected in arts and in everyday practices.

Besides regulating noise pollution, establishing auditory awareness is necessary since sonic entities are an integral part of social interaction; most of our routines are inseparable from noise or creating noise. Hence, a creative approach is proposed to build auditory awareness through activities that enable participants from different backgrounds to be involved.

Two particular activities are substantially relevant, as they trigger a personal auditory awareness and are fundamental to encounter noise-related issues. First, sound walks are considered essential activities due to their purpose of raising auditory sensibility by guiding participants to conduct 'perusal hearing'. Second, DIY activities that

produce sonic items in both non-musical and musical fields are significant as an expressive medium where 'noise' represents a connection between an individual and community. Both activities are relevant regardless of time, and can be adapted to the technological and cultural circumstances of the given era.

Local art-based communities dedicated to sonic-related areas are created to hold, design and develop a creative activity in conjunction with the local culture. Such sustainable creative activity leads to auditory awareness in the community, and contributes also to global noise-related problems. Through interdisciplinary dialogue, noise aesthetics are evolved in the sociocultural aspects that directly impact the emergence of new sonic-related art forms. Facilities that accommodate future noise art manifestation and reflection are prioritised.

A diversity of noise and silence is found in all communities.

By contemplative listening and explorative cultural analysis, the professionals and the citizens of a community together define what sounds and sonic atmospheres they find – and wish to find – significant to what they consider as their home and neighbourhood. The sounds and atmospheres are integrated in the design of cities and other housing areas: their gentrification, renovation and development. The sounds and atmospheres are integrated in official regulations. The responsibility of overcoming these regulations lies with the local municipality, the government in office, the private companies and industries, and with the citizens themselves.

The Global Scale

The balance between noise and silence is a global concern and should be viewed and stimulated continuously through a global perspective.

Problems caused by noise depend on scientific and technical development, lifestyle and social awareness. Therefore, there will be problems that disappear according to the transformation of society as well as new

problems that will arise in the future. For example, the noise in subway stations became less serious because many people began to wear earphones and listen to music; meanwhile, electric cars that do not make any noise are considered dangerous for pedestrians. Now, noise has to be added. Super-fast vehicles have resulted in a generation of high-frequency sounds, while wind turbines emit low-frequency sounds. Both of these go beyond human hearing, but recent studies have shown that there are potentially dangerous effects of these new types of noise. The trends are projected at a global scale and noise policies should minimise risks to human health.

Transferring of noise (by creating industrial noise in a new place) is always considered and discussed with the community receiving the noise-making.

When removing and starting up industries in new parts of the world, this process is to be negotiated on the global scale in terms of what effects and changes such action causes the existing balance of a given society. Global regulations and standards are required.

Closing Remarks

This manifesto was conceptualised during the Negotiating Noise workshop in Semenyih, Malaysia, in January 2020, just before the global coronavirus pandemic. Meanwhile, the final writing happened collaboratively online during the time of the pandemic.

Due to the global pandemic, there are clearly changes in soundscapes in every corner of the world. Less traffic has meant that the decreasing noise in outdoor soundscapes has become significant to us all. The forest near the airport in Copenhagen is suddenly a peaceful place to visit; meanwhile, the parks in the city have become livelier, full of people playing, exercising or taking a stroll while talking to a friend or family member. Sounds such as birds chirping and religious calls to prayer are heard more vividly, especially during the daytime. There seems to be more balance surrounding us, not only when it comes to the soundscapes, but also when it comes to time. As we all

have to stay at home, our travelling, commuting and social gatherings are replaced with time spent in or near our residence.

These unusual changes in our sonic life have reminded us that the soundscape still flows while life flows, regardless of any condition or circumstances. In other words, sounds become the reflection of the ongoing changes in our environment, and our auditory experience in our daily lives has been reshaped too. Schafer (1994, 4) stated that 'The general acoustic environment of a society can be read as an indicator of social conditions which produce it and may tell us much about the trending and evolution of that society'. It is undeniable that our life conditions impact on how we listen to or experience the soundscape. Hence, efforts at soundscape design could help to increase our awareness of the sonic environment and allow us to play an active role in its subsequent transformation.

Reference

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Manifesto To Noise

Christina Mediastika, Paul Hegarty and Gilang Setiadi

Our group comprised two academics with research interests in sound, noise and music and a musician. One of those academics is also an artist and musician. That was why our group addressed both sound and sound as it occurs through music.

Christina started the discussion with an opening statement that a sound is an object that society is not fully aware of. This idea stimulated immediate agreement across the group. We then shared some examples of situations, events and experiences which revealed that lack of attention to sound. From this overview the group began to think in more detail about how people could be made more ready, more receptive to the sounds that they would hear, often unexpectedly. One route, which is both simple and full of potential for future listening, is the presentation of sounds to children, maybe through music, at first. This needs to happen as early as possible.

- We must learn about music, we need to teach music in schools. Music teaches us how to make sound and listen at the same time.
- We must learn about sound, appreciate sound as well as music – less talking, more listening, not rushing to judge if it is good or bad.

Music and life are two things that are difficult to separate. At all times, we can feel the integration of musical elements and the rhythm of life. Nature also gives its own rhythm.

The sound of the wind blowing, of waves crashing, birds singing, and the rubbing of leaves all create a rhythm in enriching this universe of life, and all of this needs to be made present in as many ears as possible.

Music is not just about passing on skill, whether of listening or of playing: it is also able to stimulate various senses and help children learn and improve language skills. Music also develops listening, reading and writing skills, improves fluency in speaking, and communication. Through music, language becomes not just a tool of information-transmission, but the KEY to creative sound INWARD and OUTWARD.

For the youngest children, music can teach the value of patience: how to appreciate their own efforts in practicing, making, and playing music; how they appreciate the music that other people are playing; how they can learn to give and receive input on the exercises they are running, and so on. They can learn about cooperation: helping each other in preparation for a performance and sharing tasks in playing a composition. Through learning song lyrics, children can learn about love, peace, compassion, simplicity, responsibility, humility, patience and also discipline. Through music, children learn to socialize and interact with other people. This simple yet utopian idea is another KEY to unlocking the listener, the sound-making child, the sound-hearing group or society. Then, only then, maybe, can we think about the arrival of noise.

Important note! Music is a stepping stone to bringing sound awareness to young children because it lets us make sound and listen to it simultaneously. By using music, people can learn about sound and appreciate it simultaneously by more listening, less talking, and <u>without deciding whether it is good or bad.</u>

Interruptively, we also affirm:

- Sound tolerance not sound ignorance
- Sound comes before the human, and before all humans, so we should not try to control the sound of the world
- Instead of letting the tap leak, let it flow!

Sound is very common around us. Sound is in a way the 'all around us'. The sounds of everyday life, the sounds of nature, even the sound of one's own thoughts (if only these could be made silent, this would be the noise of thinking, a noise in thinking)! No matter the location, or the time of day, we are always wrapped in a rug of incredibly detailed sound. It expresses the special qualities that define the world that surrounds us. So, it is part of that ground, but also the way we encounter the ground, and how it all translates when we hear, or even better, when it is too loud for us!

Some sounds are so common that we might take them for granted and not even notice, maybe something as small as a cricket, while others are unpredictable and prominent; like an explosion of thunder. Some voices even sound soft and fleeting, like the rustling of a bird on a brush. NOISE SPANS ALL OF THIS. OR NONE OF IT.

Cultural sounds also define our listening experience, from horns and the hum of traffic to children playing. YOU MIGHT THINK THIS IS NOISE. STOP THAT THOUGHT.

By paying attention to this layer of sound, we know and appreciate other aspects of our environment. This does not mean we congratulate ourselves, but that we are open to the unexpected.

Clear Policy? BUT. Or AND.

- We have to have some limit on anthropogenic noise production to recognize what it means to live in and AS a society.
- Sound awareness can lead to a better understanding of when you can complain: where rights and the right to noise coincide.
- Sorry but we do not have a clear law for this policy. Bad noise, not good at present. Total freedom is just social Darwinism and allows sonic bullying.
- Instead, learn to decide when and where the sound is good, bad, or whatever. This is about the community as a whole deciding. Then, when we want noise, we can have it.

One of the biggest problems facing the world today is noise pollution. It is suffering that causes an estimated one million deaths every year,

and affects the lives of many more people. *This does not mean we cannot like hearing the sound of noisy music on a traffic island.*

Despite these glaring problems, people continue to honk their vehicles without thinking, and scream at ever-increasing volumes, which increases the destructive power of noise pollution. Additionally, loud music fills restaurants and bars, while hospitals regularly experience noise levels above 100dB, well above the recommended level of less than 30dB.

In fact, various steps have been taken by governments or organizations in the world to control it. But there is still room for improvement. At the end of the day, governments need to recognise noise pollution as a serious problem, and implement strict regulations and practices to ensure a quieter, more peaceful environment for everyone to live in.

As governments continue to develop and enforce noise standards and guidelines, we should not forget that we also need to do our part in abiding by these measures to limit noise.

Whatever, the perception of sound for each person is subjective. Thus, we should not think of sound as good or bad based solely on our perceptions but should be open to understanding other people's perceptions. That is why clear laws or policies are an urgent matter so that we can be fully aware about when we can complain about particular noises and when we cannot.

Laws do not limit forever, but establish the ground for a safe environment for the everyday. Noise as experimental sound can play at the edges and sometimes will need to make the law change, will need to go around the law. So maybe instead of worrying about specific laws the important thing is to agree that the law is one way we help a society to function. And after all, how many sound studies thinkers live in extremely busy megalopolises? We cannot wish away noise or reactions to it. We cannot just think about the aesthetics and radicality when government and global economy are the biggest noise-allowers of all!

Do we need Noise?

- Sound or noise can be "suara adalah tanda" (guide or signal), so we identify and create such sound signals.
- Noise can be calming, if we choose it, if we know the purpose.
- Some people need noise, like us, and eliminating noise can lead to confusion for blind people, and not just for health but also how engaged they are in the world.
- In other words, making the world safe from noise works for some, but too much sonic hygiene creates danger. NOISE IS SAFE!

Your whole body will rest and relax when you fall asleep. However, the brain is still actively processing information, especially in the form of sound.

Noise can make you move, change stages of sleep, experience changes in blood pressure and heart rate, and wake up. Everything happens in a short time and you may not remember all of this the next day.

White Noise as caring noise?

However, not all sounds can keep you awake at night. A person tends to wake up when they hear a sound that triggers emotion and alertness. For example, the sound of a crying baby.

On the other hand, sounds that you have often heard don't easily disrupt sleep, such as white noise. This is why some people do not wake up easily even though they sleep with a partner who often snores.

The way white noise works is by combining several sound frequencies simultaneously. Combining the frequencies of different types of sound produces background sound in a calm, stable, and regular pattern.

The background noise then mutes other sounds that are often disturbing, such as the sound of doors closing, the bed rubbing, or vehicles coming from outside the house. Even though you still hear it, the effect will not really disturb your sleep. You don't have to have any special tools to get this type of sound.

The reason is, this calming sound can come from various sources such as fans, air conditioners, and the like. White noise is any sound

that sounds consistent and soothing. Besides, this sound will not surprise you. In fact, all of this, hours and hours. Can be found easily on the internet.

The meaning of sound in human life is incalculable, though its importance in today's society is often underestimated. Without any doubt, modern culture is more visually than sound oriented and therefore grasping the information from the environment created by sound, the so called 'soundscape,' is less prominent. Marshall McLuhan said, in the late 1960s, that the connected global world would be at least as much audible as visual, as above all it would be tactile (or haptic as we might say today). However, for people with visual difficulties who cannot use visual cues for their orientation in interiors and the urban environment, hearing is a crucial vital function. Attention needs to be paid when you either add or subtract noise as this will affect users of the environment differently according to how they navigate.

Sounds and noise are signals for people, especially those who primarily use the sense of hearing in their daily life. Eliminating noise may confuse certain people, whilst a place may lose its sonic identity. This is fine, as long as it changes organically, without central imposition or by an accident of urban regeneration which pays no attention to the citizens.

Noise helps us understand that we live in society. We have to tolerate a certain level of sound, even though it is noise. And of course, we may be wrong in what we identify as noise. It cannot be a subjective choice, but a consensual one – even at a noise festival. So in some ways, perceptions of sound are more about community perceptions. Even noise can be soothing to some people if they choose and know the purpose of listening.

How then, can we make noise an expression of community, a way of linking the citizens to environments, of allowing space for creativity and freedom in sound with an awareness of the impossibility of living in perma-noise?

This we think can only be done, or started, when we think about nature, about education, about law, about the day-to-day of mass urban living in cities around the world as opposed to a universalised idea of 'the' city.


MANIFESTO TO NOISE
We must learn about sound, appreciate sound as well as music – less talking, more listening, also not deciding if it is good or bad
We must learn about music, we need to teach music in school. Music teaches us how to make sound and listen at the same time.
C D E F G A B C
THE BIG BANG THEORY
Sound come before the human, so we should not try to control the sound of the world.
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NOISE
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SOUND TOLERANCE NOT SOUND IGNORANCE
Sound awareness can bring a better understanding of when you can complain and this will based on consensus
Some people need noise, like us, and eliminating noise can lead to problems for some who cannot use visual cues, and how engaged they are in the world.
In other words, making the world safe from noise works for some, but too much sonic hygiene creates danger. NOISE IS SAFE!

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