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Experiencing resonance: everyday life in modernist blocks of flats in Oslo, Norway

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Based on an interdisciplinary approach to architectural history, drawing upon sound studies and anthropology, this article offers a case study of contemporary experiences of resonance by residents living in modernist blocks of flats in Oslo built in 1964. Drawing upon ethnography and archival research, I ask how these sonic experiences affect people's relationships, both with other neighbours and the building itself. Moving from the outside and into the building, following architectural historian Katie Lloyd Thomas' theoretical approach to materials and how these materials come into being, I discuss the way resonance creates a series of tensions, affecting the way individuals relate to their surroundings, both affecting the way we see our built environment and social relations. Asking what it means to live in a modernist block of flats, I frame the residents' own stories of resonance within a larger context of changing neoliberal housing reforms in Norway from the 1980s until today. I argue that the experience of resonance creates new spatial configurations and also can stand as a critique of neoliberal housing politics, forming connections that are both social and material.

Introduction

Noise is a problem, also in a tall block of flats. You might think that the further up you live, the better it is. It is not. The sound travels upwards here [...] So, we hear everything very well.¹

On a hill in central Oslo, a set of identical high-rise blocks of flats towers over the city (Fig. 1). Built in the 1960s within the modernist canon of architectural history, the fourteen-fifteen-story tall blocks have dominated the cityscape for more than half a century, resting majestically above the general low-rise built environment of Oslo. There are few residential blocks of flats that reach beyond five to seven storeys or stories? in the centre of the city, so few people have experienced domestic everyday life in the city from the block's

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height. As Eivind who lives on the ninth floor explains, quoted above, you might think that sound is not an issue high up and that above the city, quiet and tranquillity reigns. But, in fact, the opposite is true. High up in the blocks of flats, the sound appears to travel upwards, bringing the city into each individual flat through resonance.

What do we mean by resonance? According to Jean-François Augoyard's study on sound and the urban environment, 'the resonance effect refers to the vibration, in air or through solids, of a solid element'.² A sound source, thus, can produce vibrations, travelling through the air or materials: a human body or a concrete structure. In his work, Augoyard outlines the physics of the phenomena and the kind of shapes and materials that produce specific forms of resonance. Different surfaces reflect or absorb the vibrations in different ways, causing the resonance to be amplified differently. And the effect? Resonance can either make sounds highly aggressive or turn sounds into a

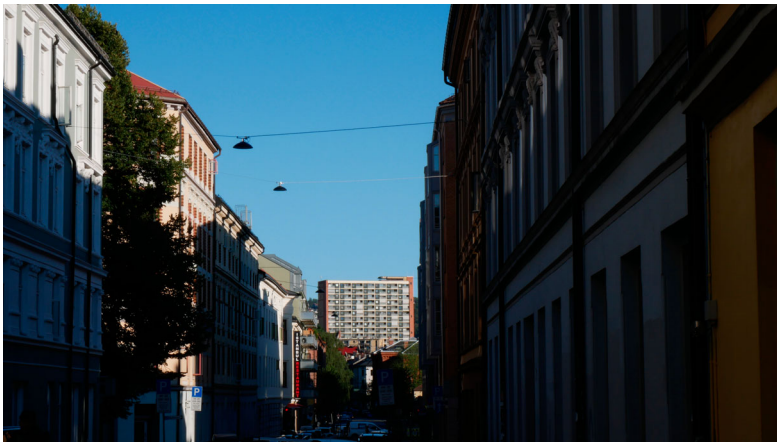


Figure 1.
One of the blocks at Enerhaugen towering over the otherwise low-rise built environment in Oslo, photographed by Anna Ulrikke Andersen, *Disobedient Buildings*, 2021



Figure 2.
The four high-rise blocks of flats at Enerhaugen borettslag, recognisable with their yellow and red brickwork, and green metal plates, tower above the city of Oslo, photographed by Anna Ulrikke Andersen, *Disobedient Buildings*, 2021

mere murmur. Yet, resonance could be understood more figuratively as creating connections and relationships between people, and people and objects, as in the work of Hartmut Rosa, in which resonance becomes a way for us to tune into the environment, built or social.³ This article draws upon these trajectories in its approach to the Norwegian case studies in question by allowing stories of sonic events to be told and recorded during ethnographic fieldwork. Framed by archival research, this inquiry offers insights into social and political tension within the local area, as well as the larger Norwegian political climate since the blocks were built.

In order to tackle these issues, this article is situated within the landscape of scholars from various disciplines, who link sonic experiences of architecture with the body, our senses, and social relations, centred around the keywords of wellbeing, resistance, social connections/hospitality, and hearing. Steve Goodman explores the way sound is used in warfare in his book *Sonic Warfare: Sound, Affect, and the Ecology of Fear* (2012), pinpointing the effect noise can have on our health and well-being.⁴ To Brandon LaBelle, noise can be a form of resistance, where otherwise marginalised voices can be heard without necessarily having to be visible in the more formal, open public debate as detailed in *Sonic Agency: Sound and Emergent Forms of Resistance* (2018).⁵ To Lutz Koepnick, resonance is inevitably linked with hospitality, in the way that sound waves create connections between people and spaces, as the waves move across borders and through walls.⁶ 'By responding to human presence, aural architecture is dynamic, reactive, and enveloping',⁷ argue Barry Blesser and Linda-Ruth Salter in their account of the aural aspects of architecture itself. Even if a wall, for instance, does not create sound waves, we often say that we can *hear* the wall. Hearing, then, is an important part of our experience of, and with, space and spatial attributes. Importantly, the way that aural architecture creates social cohesion or social distance shifts over time.⁸ This article contributes to these discussions regarding the social and architectural implications of sonic events, but goes beyond the state of the art by examining the role of materiality of the buildings themselves and how this materiality changes over time with the sonic conditions. Here I build upon Katie Lloyd Thomas' thesis on the genesis of materials, investigating how the actual material that makes up our built environment came into being and continue to develop and change also after being built.⁹

After a brief outline of the urban tension and the wider contexts, as well as methodology, this article is structured as three sections that move from the outside of the blocks to the interiors, and eventually into the walls and materials themselves. Each section is introduced with a quote from residents gathered during ethnographic fieldwork, allowing these experiences from within the block itself to guide the inquiry into the topic of resonance in order to understand the way that modernist, post-war architecture relates to shifts within the political climate as time goes by. Resonance is used to theorise the ethnographic information, as I argue that the experience of resonance creates new spatial configurations and stands as a critique of neo-liberal

housing politics, forming connections that are both social and material in its various vibrations.

Materials: context and tension

Eivind lives in the privately owned co-op Enerhaugen Borettslag (1964), designed by architect Sophus Hougen. The co-op consists of four high-rise blocks and two lower-rise blocks located at Enerhaugen in the central borough of Gamle Oslo (Fig. 2). The blocks replaced a built environment that consisted of small, wooden houses inhabited by a working-class population. Those buildings were removed in the 1950s, making way for the large blocks of flats. Today these modernist blocks are surrounded by a varied urban fabric: privately owned residential buildings dating back to the 1800s, newly built blocks of flats, as well as social housing. At street level, there are bars, shops and restaurants, and social and governmental services located at the nearby Tøyen Torg within walking distance from the blocks. To the east of the blocks is Oslo's main police station and to the west is the Botanical Gardens. Between the blocks within the co-op is a catholic church and monastery, and around the corner is Norway's first mosque.

Ulf Grønvdal and Leif Pareli award Enerhaugen Borettslag a prominent role within Norwegian post-war architecture in the way that the design reflected international ideals of modernist architecture. The co-op of 472 flats was built with welfare and collaborative ownership in mind, offering modern luxuries such as baths and running water to the population.¹⁰ The first 50 years of the co-op's history is documented in the publication *På topp i Oslo: Enerhaugen Borettslag 50år* (2011), edited by Trine Lynggard, Leif Pareli, Tron Hirsti, and Mons Andreas Finne Vedøy. This publication includes a series of shorter texts and interviews with residents, and historical accounts with a focus on the social and communal aspects of living in blocks. Here, many residents draw attention to the fact that the blocks have been commonly considered ugly architecture. Yet, the residents interviewed are very happy with the architectural quality of their flats.¹¹

Beyond the field of architectural history, anthropologists have also awarded the area attention. The most recent and relevant study of the area was conducted by an interdisciplinary group of anthropologists and architects on commission from the Work and Research Institute in 2015. Their task was to map and analyse the demographic, sociocultural, and spatial aspects of the area Tøyen. Adopting a quantitative approach, supported by in-depth interviews and fieldwork, their emphasis was on well-being, and what makes the demographic who live in the area feel at home. They underscore the diversity of the area, the high crime rate, and rising child poverty, pinpointing how many residents live in the area for a shorter period before moving to a different borough and, thus, feel less connected to the community where they live. Here, links are being made to shifting political attitudes that have affected the property market in a particularly dense and diverse borough. In conclusion, the researchers suggest a greater emphasis on developing public spaces where people like

to meet to reduce poverty and crime, better the living conditions, and strengthen the already existing activism and volunteering in the area.¹²

I draw upon their findings in my approach to sound and the interplay between the different groups in the area. While their objectives are to propose better solutions for the future and offer a review of a recent governmental scheme that poured money into the overall borough, I, instead, remain with the blocks, offering a more in-depth account of the resident's relationship with the buildings and their materiality through a discussion on sound and resonance. This study of sound yields new and otherwise untapped insights about the space, linked with specific neo-liberal tendencies and a shift in Norwegian housing policies.

Method

The direct experience of sound in the buildings in question is not my own, but rather the experiences of current residents in the blocks in question. Eivind's statement from the introduction of this article, as well as the accounts of others, comes from fieldwork that I conducted in these blocks of flats in Oslo over a period of eighteen months between 2020 and 2021. The fieldwork was conducted as part of the Disobedient Buildings project at the University of Oxford, where my colleagues and I conducted ethnographic fieldwork in blocks of flats in the UK, Romania, and Norway.¹³ We were interested in learning how residents themselves experienced living in an ageing block of flats, with a specific focus on health, well-being, and welfare. As responsible for the Norwegian field site, I conducted fieldwork in eight blocks of flats located both in the town of Halden and the city of Oslo. It was important for the team to reach a wide range of participants, coming from a diverse set of backgrounds. In my research, the participants were both men and women, in the age brackets 30s to 70s, who described their religious beliefs as Christian, Muslim or Jewish, and some identified as queer. Recruitment happened through snowballing and volunteering. As work continued, my main emphasis became the field sites in Oslo, where the blocks in question were in the borough of Gamle Oslo. Within the centrally located borough in question, I volunteered for a collective of architects and activists, as well as the local library, and collaborated with a local gallery, an artist, a construction company, and the board of a block complex, which gave me vital insights into the area and the people who live, work, and traverse the spaces inside and outside of the blocks. In this article, I have focused on two participants, Eivind and Randi, while other participants' experiences are brought in to offer depth and nuance to the issues in question.

Overall thirty people participated in the study, where fifteen of these received 'cultural probe' research packs consisting of creative tasks they could complete at home, often followed up by in-person meetings. Our method is developed from the idea of the 'cultural probe' developed by Bill Gaver, Tony Dunne, and Elena Paceti,¹⁴ which involves sending a pack of questions and creative tasks to participants, who complete the assignments in the comfort of their

home. The Disobedient Buildings packs are both digital (online on our website) and physical (to be sent and returned through the post or in person).¹⁵ During my follow-up conversations with participants who had already completed our cultural probe pack, several participants talked about sound in relation to questions of their well-being in the blocks, prompted by the task to 'photograph something that makes a sound you like [...] or dislike'.¹⁶ As I was noting down stories, anecdotes, and experiences related to sound, I became interested in understanding what role these sounds played in people's everyday life in the blocks. By focusing on residents living in the six buildings in the co-op Enerhau-gen Borettslag, Oslo, this article aims to unpack how these sonic experiences of resonance affect people's well-being and relationships, both with other neighbours and the building itself. I draw upon existing literature by anthropologists, architects, and historians, and my own fieldwork and archival research.

From the outside

When you stand in the bedroom, you can hear very well from that side of the block [to the east]. The sound carries well there. But also, up from the lawn [on the other side, west]. There must be something with the asphalt [to the east].

I think [...] There is asphalt behind the block and grass in front. And for some reason, I believe that the grass muffles [the sound], I don't know [...].¹⁷

Randi, a woman in her thirties, has lived in several flats in the co-op at Enerhau-gen, eventually trading up to a three-bedroom flat on the thirteenth floor. Here, she lives with her partner, their four-year-old daughter and newborn son. When my fieldwork began, Randi was still pregnant and working as a researcher. For most of the pandemic, Randi was able to work from the office and therefore was not confined to the home per se. As their son was born in March 2021, Randi went on maternity leave and ended up spending more time in the flat.

When asked about what sounds she can hear in the blocks, Randi describes a complex set of sounds, most of which she considers non-invasive, as quoted above. From their flat, she can hear sounds from the city, she explains. More specifically, a consistent hum from traffic in the city, clearly audible from her block. She tells how a few of the major highways leading into Oslo are located south and southeast of the block and, although they are not necessarily very close, traffic is audible from the flat. She explains how the block is located on a hill which leads the sound upwards and into her flat. These sounds are not disturbing, she says, and adds that they rarely close the windows due to noise from the city. No action is required to avoid the sound.

Closer to the block, right under the hill in question, is the location of Grønland police station. As the blocks are located so close to one of the largest police stations in Oslo, it is only natural that the residents often hear sirens. Also, sirens from ambulances can be heard in the flat, Randi explains, as they travel on major routes close to the block. When a siren is approaching, Randi often moves over to the window to get a glimpse of the vehicle, or she checks Twitter for updates from the Police. These sounds make her curious, but

she does not seem to consider them as causing any nuisance or unrest. Instead, these sounds coming from the outside remind her that she lives in a city, she explains, and adds that she is quite happy to call herself a city-dweller, with everything that it entails. On several occasions when we speak, she highlights positive aspects of living in the city as a young family, describing how common it is for people to move out of the city to the suburbs when they have kids. To Randi, the sounds coming from the city make an important part of her everyday life in the centrally located blocks.

Later in the fieldwork, I follow up on the conversations on sound. At this point, it is early June 2021, when the weather has been good for a few weeks. There are still some COVID-19 lockdown measures in place in Oslo, including restrictions on how many people can meet indoors, at organised activities and events. As we chat, Randi explains that there has been a lot of noise recently. Although she is still positive about general noise from the city, the warm weather has led to an intensification of certain noises that were not there when we last spoke. The noise in question comes from groups of teens with immigrant backgrounds who hang out in the streets and gardens between and around the blocks. These teens, who do not live in the blocks, but in the nearby social housing complexes, often arrive late at night, speak loudly, shout, and play music. Her bedroom is aimed towards the east and the dead-end road called Smedgata. Even if Randi and her family live on the thirteenth floor, conversations taking place on this street can be heard clearly in her flat.

Not only teens make noise here. This road has a row of lower buildings on the other side, and a walkway goes along the block and down the hill to Grønland, which is an area with busier nightlife and close to the aforementioned police station. The road is a common walkway for people walking home from the nearby bars and, in the building right opposite the block, there is an art gallery. This art gallery has openings and events, and Randi finds it incredible that the conversations from street level outside the gallery are so clearly audible on the thirteenth floor. Randi believes that the way the sound travels is related to the asphalt at street level, and the sound being carried between the buildings on the other side of the road and the block (Fig. 3). She does not think conversations carry as well on the other side of the block, where the ground is covered by grass.

How does the materiality of the space give life to the sounds heard in it? When Randi describes her everyday life at Enerhaugen, she considers the surfaces and materials used in the design of the blocks and urban area to affect the way sound travels from the street level and up to her flat on the thirteenth floor. For instance, she considers the hard asphalt and the close low-rise buildings on one side to affect the sound waves on the other side of the building. In his writing on resonance, Augoyard mentions a situation similar to that built environment by Randi's window, as shown in Figs. 1–3. He writes: 'Between two parallel walls, a system of standing waves — and thus resonance frequencies — is established.'¹⁸ Sound waves thrive particularly well between such parallel walls. What Randi describes — sound travelling up between the various

built structures in the area — is a case of resonance, taking place as a system of standing waves. Resonance takes place between Randi's block and the buildings on the other side of the narrow road, as well as in Eivind's experience of the way sound travels upwards in his block. Resonance is to be blamed as the voices of disobedient teens are carried up to her bedroom; at times resonance can be experienced as dissonance with social implications.

In his book, *Resonance: A Sociology of Our Relationship to the World* (2019), Rosa explores various ways that people relate to the world surrounding them, albeit people or objects. In contemporary society, there is an ongoing acceleration and optimisation of productivity, linked with neoliberalist ideals of efficiency. People can suffer burnout and alienation in their existence unless they manage to be in resonance with their surroundings. Resonance as a concept becomes a philosophical and figurative concept, described as a form of responsiveness and appropriateness between different people, or people and objects. One can experience resonance when 'our wire to the world begins to vibrate intensely, in which our relationship to the world begins to breathe'.¹⁹ Here, resonance becomes less of a law of physics that explains how a sound source sends off sound waves, which cause vibrations in materials, that again are absorbed by a receiving body. Instead, resonance is a set of metaphorical vibrations that can be experienced as meaningful encounters between different people (which he calls horizontal resonance), between people and things (diagonal resonance), or between humans and divinity (vertical resonance).²⁰ Resonance, thus, has social implications.

The issues with noisy teenagers have not only been noted by Randi. Many residents have noticed the noise, which has caused a heated debate in the block's closed Facebook group, as described by many participants during my fieldwork. Eivind does not live in the same block as Randi, but further up the road in another block in the co-op. Eivind is in his 70s and lives alone in a flat after his partner passed away. They initially moved into the blocks in the early 1980s and at the time were the first openly gay couple in the coop.²¹ The block that Eivind lives in is more or less the same as Randi's; they are by the same architects and there are only smaller variations to the design and layout. But where Randi's block is placed on the edge of the hill, Eivind's block is located further onto the plateau. Here, Eivind explains, the sounds from the city and its traffic are not clearly audible. But the noise from below still carries very well both from the street in front of the block and the gardens behind.

When interviewed about sound, Eivind quickly mentions the issue with teens and the noise that they make. A part of the garden has been a regular meeting place for the elderly living in the block, he explains. This area consists of benches, plants, flower beds, and pots. But recently, the youth has been sitting here making noise at night. A resident who has their bedroom window right over the spot described the situation as unbearable to Eivind. Now the board are considering moving the benches, and by doing so breaking with the tradition of the elderly meeting at this specific spot.

Figure 3.
The block with bedroom windows facing the street, and lower rise buildings in Smedgata, Oslo, photographed by Anna Ulrikke Andersen, *Disobedient Buildings*, 2021



Eivind describes the intensified situation as concerning and explains how the local police have encouraged people to report any issues. In the Facebook group, residents complain about the noise and the presence of young, disobedient people roaming the area at night. A discussion of whether the gardens surrounding the blocks should be fenced in or not is ongoing. Currently, the gardens are private and owned by the co-op, but today there are no fences and outsiders are welcome to use and enjoy the gardens, as explained by a sign. However, some residents believe that greater measures should be put into place. According to the Norwegian neighbourhood law §2-1, the place should be quiet between 11 p.m. and 6 a.m., and the co-op has its own, stricter, rules, of being quiet between 10 p.m. and 6 a.m. But the teens disobey. To some residents, keeping the gardens private and closed by a fence is the only option to ensure that there is no noise after 10 p.m., Eivind explains.²²

In the report by Ingar Brattbakk, Aina Landsverk Hagen, Monika Grønli Rosten, Oddrun Sæter, Jenny Osuldsen, Bengt Andersen, Erik Thorstensen, and Katja Bratseth from 2015, sound is mentioned as a factor that can contribute to public spaces being considered welcoming. The sound of the fountain at Sørli plass is one example where running water is considered a positive addition to the sonic environment.²³ But other sounds can be less pleasant. In the report, the way sound carries between the buildings at Enerhaugen Borettslag is discussed in the context of safety. Many residents felt unsafe due to crime and drug dealing in the area, which in 2015 led to the co-op hiring security to patrol the area. Residents link their experiences of sound, as it travels between the buildings, to crime at the street level.²⁴ One of the researchers lives in the co-op and included in the report a story from when she visited a neighbour late at night on a Wednesday, and how the teens hanging out nearby make noise at night. Here, the noise is described as *voldsom* [violent], and that *stemmer smeller gjennom luften* [the voices 'bang' through the air], even disturbing when windows are closed.²⁵ Here, the researchers described similar scenarios to what the participants of my study told me. The resident interviewed for the report from 2015 had called the police and emailed the board of the blocks and the nursery, but nothing seemed to help.

The feelings of hopelessness and lack of agency is similar today, as evident in Eivind's stories. In the report, the researchers point to specific measures that could help solve the problem. More streetlights would make the teens more visible, and them not wanting to stay in the gardens. But the researchers also mention the importance of communication between different groups. Not all teenagers are drawn to sports, which has been considered a good way to keep the teens at bay. The researchers argue that better communication between officials or white middle-class residents and mosques and Islamic centres all located in the area would be important in improving the situation, as both the teens and the parents gather here. Establishing new meeting places in public spaces, at youth clubs or in the local library, could help.²⁶

It is a particularly chilling experience to read this 2015 report during the time of COVID-19. The issues with disobedient teens were taking place already in 2015, but as youth clubs, religious gatherings, sports activities, and even

local libraries have been closed or operating at reduced capacity during the lockdowns, matters have not improved. The relationships between different groups are tense. To Randi, these frictions between the residents and the teens could be explained as an issue of class and race. The residents of the blocks are mainly white middle class, whereas the youth are usually immigrants living in the nearby social housing where child poverty is increasing. In the borough, inequality is real, felt, and experienced. Here, social housing complexes neighbour privately owned flats and, as the area continues to gentrify, the gap continues to rise.

From 2004 to 2019, the average price of 1 square metre at Enerhaugen rose from 26,244 NOK to a staggering 75,157 NOK, which, with the currency exchange rate of April 2022, would be a rise from £2,306 to £6,605.²⁷ Greater emphasis on capital, investor profits, and a clear shift away from the post-war welfare model are overall trends outlined by Jardar Sørvoll in his report on the changing housing policies in Norway from 1945 to 2010.²⁸ The housing shortage in post-war Norway led the government to play a pivotal role in the housing market. Homeowners received benefits and tax cuts to encourage more people to own their homes, and the governmentally owned bank Den Norske Stats Husbank offered mortgages with low interest and comfortable conditions. The number of homeowners rose from 51% in 1945 to 77% in 2001, as discussed by Tore W. Kiøsterud, who argues that 90–95% of the population own a home at some point in their lives.²⁹ Sørvoll underscores that one cannot link these changes to one specific event or policy, but instead sees a series of political negotiations eventually resulting in a larger shift.

It is, however, worth mentioning the conservative government in the early 1980s led by Prime Minister Kåre Willoch, who between 1981 and 1986 deregulated the housing market—both for renters and homeowners. Already in the 1970s, the Norwegian welfare state system which had its peak in the post-war years began to face criticism. Politicians from the right argued that there were moral, ideological, bureaucratic, and financial issues with the system that made the welfare state unsustainable in the future.³⁰ Sørvoll describes how Willoch's deregulation project in the early 1980s, has led to rocketing housing prices, making it difficult for people to break into the housing market without substantial savings or help from family members.³¹ The overall shift went from a more universal housing policy, where the government regulated and encouraged homeownership for all, to an open housing market where only the very disadvantaged would get support.³² This shift, towards a more neo-liberal political climate, has had an impact on the gap between marginalised groups and the middle class becomes greater, noticeable for the residents in the blocks and the people who live in the area.

The unusually diverse population in the borough are constantly reminded of each other's existence, even when they can only hear each other. In line with LaBelle's work on sound and agency, noise can come as a powerful tool for resistance that does not require visibility.³³ Despite the tension

between the residents and the groups of teens in June 2021, Randi strongly believes that the gardens should remain open to all. Instead of putting up fences, more should be done to create a dialogue between the different groups in the area. Eivind thinks differently about the noise issue and the presence of immigrant teens in the area. To him, these groups, who he describes as consisting mainly of teens with a Somali background, frighten him and make him feel uneasy. Being gay, Eivind raises concerns about what he considers to be conservative and discriminatory attitudes towards homosexuals in the Muslim communities of the area. As the block where he lives has a large queer population, he sees the noise that disregards residents' well-being as linked with homophobia. This makes Eivind move and act differently in the area. For instance, he explains how he attends the Oslo Pride parade every year. The parade begins near the Grønland Police station down the hill, and he feels safe attending. But when walking home after the events, he stacks his rainbow flag away, because he is worried that he might get attacked by Muslim immigrants in the area. In Eivind's experience, the noise problems become linked with issues of sexuality and religion. Eivind is not sure if he wants the gardens to remain open and explains how those who are pro-fence have certain sympathy for his reasoning. Here, the stories told by residents in the blocks offer nuance to the complex political climate of the area.

The outside creates tension within

[In our Facebook group] people mostly act normal and friendly. If people only used [the gardens] in a nice way, being polite, then people would not have been so annoyed, afraid, and sad [...] We are currently facing an insanely difficult situation, where people are expected to have the 'correct opinions' [...] I don't write anything, so I don't have to ever be in that situation.³⁴

When concerns are being raised online, Eivind notes how his neighbours are sad, afraid, and angry, and how tension forms between people with different opinions within the block itself. Because as the noise issues go on, and residents air their frustrations within the Facebook group, frictions develop between residents themselves. Eivind explains that it seems like the argument has developed from being an issue between outsiders and insiders to become an argument of what might be considered politically correct or incorrect amongst block residents. He feels that some people are too liberal and are naïve when they think co-op block residents should not interfere with the noisy teens, and, instead, blatantly promote 'dialogue'. These liberal people, he describes, are often younger, and they overlook that many elderly residents in the block find dialogue impossible because they are more fragile physically, and teenagers are threatening their sense of safety and security. Yet, Eivind acknowledges that some of the elderly residents do post comments in the Facebook group that both he and others with him find xenophobic and racist. With such a large block complex, there are always one or two

people with racist beliefs, Eivind says. Overall, Eivind is disappointed and saddened by the way that the noise is causing friction and tensions not only between residents and outsiders but also between the block residents themselves.

And it is worth noting that it is not only outsiders who are being told off for being noisy. Randi has noted that it seems like people generally have a shorter temper now than before the pandemic, causing greater tension and pressure than before. Recently, she witnessed an elderly woman who lives in the block complaining that even the children of other residents are making too much noise when playing in the gardens during the day. People are tired after a long period of pandemic measures and lockdowns, Randi explains, believing that more people are becoming vocal in the Facebook group as a direct consequence of a lack of well-being. This fatigue contributes to the tense relationships between people.

Some of the participant's stories and experiences of resonance, noisy or not, do appear to be in tune with the environment. Randi's stories about sounds coming from the city, and how she thrives by living centrally, are good examples. Other stories, such as the tension and friction between groups, outside of the block or within, are instead rather alienating. On a figurative level, the resonance experienced by the residents, and how they understand these experiences, has led to alienation and upset.

Lutz Kopenick is more optimistic in his approach to resonance, as he considers resonance as particularly well suited to address the various ways relationships can be formed beyond walls and built structures, as discussed in his book *Resonant Matters* (2020). Here, he explores the multimedia installation *The Visitors* (2012) by the Icelandic artist Ragnar Kjartansson, exploring how the notion of resonance comes into play in the artwork. In Kjartansson's work, a group of musicians are filmed playing a piece of music while spread across different rooms in an old mansion upstate New York. Placed in different rooms in the buildings, each musician must tune into their band colleagues without seeing each other, and the viewer can move through the installation where each room is shown on its own screen. Eventually, the musicians move from their individual rooms while still playing the music to join in one space, captured by one camera. In his discussion of this work, Koepnick is interested in the way that this artwork touches listeners, even at a distance, and beyond walls and physical barriers. If applied to the experiences of resonance by Randi and Eivind, this means that the disobedient teenagers create sound waves that travel through the built environment and into the individual flats of the co-op, which then is absorbed by the receiving body of a resident. The ethnography shows how an individual might understand their own position within these resonant sounds. Eivind's sexuality and life experience matter in how he reacts to the presence of the groups of teenagers with immigrant backgrounds. Randi's belief in the blocks as a safe space for her young family plays a role in the way she thinks about her experience of resonance. To her, the blocks should house dialogue.

According to Koepnick, resonance can 'push against the walls of ceaseless self-management we call neoliberalism'.³⁵ As walls are being built and borders reinforced, resonance does not allow spaces to stay secluded. It acts against the walls and enclosures that stand as a consequence of neoliberal tendencies in our political climates, where greater emphasis is awarded to the individual and the property that they inhabit, and the collective is of lesser importance. Resonance is the causal effect of sound moving through and being amplified by materials, dependent upon a relationship being formed between the sound source, the material, and the listener. The vibrations *will* find a body receptive to its message.

What kind of message is being conveyed in the various experiences of resonance by residents in the blocks in question? When Koepnick discusses Kjartansson's artwork, resonance becomes a form of hospitality: 'which demands categorical openness toward what is foreign, different and unexpected'.³⁶ As a sound source creates vibrations, these vibrations are taken up by the material worlds and buildings we inhabit, before being heard by someone somewhere located physically at a distance. Resonance, as such, can be understood as forming a critique of neoliberalism and offers 'a politics which opens our minds and hearts to what it not us and to what may unbuild the many walls we have come to set up to fortify the mansions of our living'.³⁷ Koepnick argues that resonance itself has a critical potential that is worth keeping in mind.

I would argue that the stories told by Randi and Eivind show tension rather than acts of hospitality. It is important to note how tension is not only formed between outsiders and insiders, such as the residents and the groups of immigrant teens but also among the residents themselves. Randi sees the COVID-19 pandemic to add pressure to an already difficult situation. But if continuing inwards, what other social tension emerge in this soundscape?

From within ...

The refurbishment of bathrooms [is the most troublesome.] It is the worst. There have been some issues during the corona period, when neighbours have [decided to refurbish their bathroom.] And that has caused frustration. You have to drill. And you drill in a way that it, sort of, settles in the entire block [...] If it takes place above you, or close to you, it is nearly impossible to be at home. Bathrooms are the worst. You can't even hear your own thoughts.³⁸

From within the building, neighbours themselves make noise. And, above all, it is the refurbishments of bathrooms and drilling that Randi finds most troublesome. She is not the only resident in the co-op blocks who has highlighted this issue. One resident, a woman in her thirties who works as an educator, explains how the constant drilling inside the block made it unbearable to work from home. As a consequence, she moved out to her boat and lived there for the duration of the lockdown. Several other residents describe the

horrific experience of drilling. Julius, a middle-aged man whose partner owns a flat in the high-rise blocks, tells the story of how he was standing in the kitchen and someone began drilling close by. The sound was so awful that he dropped everything to cover his ears. He ran into the bathroom, but there the sound was even worse. The noise came from drilling taking place in the flat directly above his partner's. If the drilling takes place in a different part of the block, it can still be disturbing, but not as unbearable, Julius explains.

Eivind also mentions the drilling, explaining that the concrete structure of the block is very solid and therefore drilling takes a long time and is noisy. The original layout of the flats had a separate toilet and bathroom, but today, most people want to remove the wall between them and make a larger bathroom. It is the removal of this wall that usually cause the worst noise, Eivind explains. There simply is no way to make that process less noisy. Pareli discusses the issues related to bathroom renovations in the cop's anniversary publication *På toppen av Ener'n* (2011):

Flats built fifty years ago, in a previous working-class district, do not satisfy the young, creative class's demands for aesthetics and comfort [...] Bedroom walls get knocked down by one owner and are put back up by the next. In blocks made of concrete, where the noise from drilling and knocking carries through many floors, the surrounding neighbours must live with the consequences of the renovation projects by their neighbours. They can only hope that the flat will not soon be sold to new owners with different ideas of where the wall should stand.³⁹

Pareli pinpoints the new demands for aesthetics and comfort as the reason for the frequent renovations, in tune with Eivind's experiences. Eivind sees the increase in complaints and the increase of renovations as clearly linked with the pandemic, and the fact that people are at home for longer periods of time and that they also renovate more. There were renovations in the past too, but they did not seem to cause that many complaints and friction between residents. Before Facebook, renovations used to be announced on notice boards. But Eivind cannot remember that there were many complaints. Overall, people renovate a lot more than before, he explains and describes how there is a large turnaround of flats in the complex, about 50 flats are sold every year. Whereas people used to buy a flat to live in for a long time and maybe renovated once or twice in 40 years, people today move more often and renovate more. The *Byggmonitor* study conducted by Prognosesenteret has followed Norwegian home refurbishments in Norway since 1978. In 2015, the refurbishment frequency in Norway was 3 years; in 2020, this rose to 2.5 years between each refurbishment, meaning that as many as 32% of all Norwegians refurbished their interiors that year. The age group 30–39 was the most eager to refurbish.⁴⁰ In an interview with Bjørn Erik Øye, the co-director of Prognosesenteret in *Aftenposten* from 2017, Norway is described as ranking at first place in Europe when it comes to the frequency and costs of refurbishments, including bathrooms. 'The overconsumption [of refurbishment] is not to

improve the standards and quality. We refurbish due to aesthetical reasons', Øye explains.⁴¹

When Randi and her partner purchased their current flat, hardly any renovations had taken place since 1964, including the bathroom. She explains how the flat needed to be renovated, but at the same time, she felt bad about being one of the people who make noise. The renovations included taking down the wall between a separate toilet room, and the larger space with a bath and sink (Figs. 4 and 5). Figure 4 shows the architects' plans from 1959, where the two spaces were clearly divided, and Fig. 5 shows the work in progress. The marks on the concrete wall to the right of the photograph show the drill work slowly taking the wall down. On the wall hangs a pair of hearing-protecting headphones. Randi and her partner were both very much aware and concerned about making noise and told neighbours in advance. Still, there were several incidences when angry neighbours came knocking and complaining, and she recognises that the renovations of their bathroom must have been difficult for their neighbours.

I have already pinpointed how resonance and the experience thereof create tension within the building, but what role does the block itself play in the way resonance travels from the sound source to a listening body? What kind of building materials comes into play? Although offering a comprehensive philosophy and theory of resonance that can be helpful in creating a more nuanced understanding of social relations and our relationships to things, I find Rosa to treat resonance too figuratively, and forgetting the literal experiences and physical phenomena that are resonant. Although Koepnick's argument is based on the way musicians tune in to each other while being in different spaces, the actual physicality and materiality of the architecture

Figure 4.

The original plan by Sophus Hougen of Randi's flat, the unit to the very left, with the original bathroom layout, allowing a door from the hall to a smaller toilet room and a different door leads to the bathroom with a sink and a bath, with a second door leads through to the kitchen, courtesy of PBE Oslo Kommune. Case number 195900188, file 41, 21 September 1960

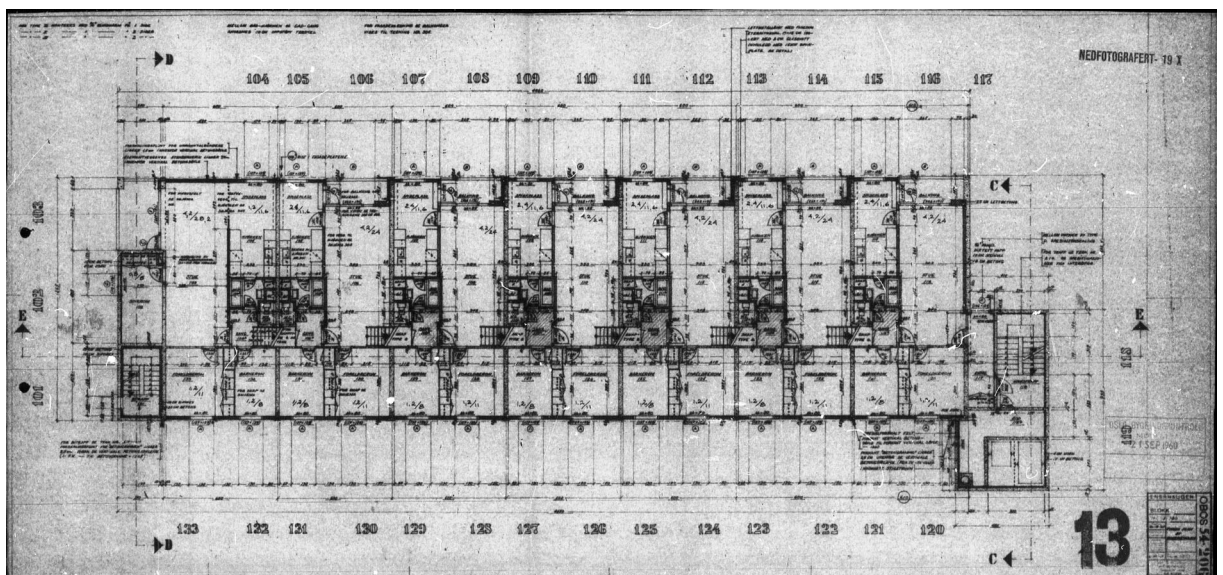


Figure 5.
Randi's photographs from the
renovations, 2018



appear less important. Instead, I follow Katie Lloyd Thomas' *Building Materials: Material Theory and the Architectural Specification* (2022), her interest in how materials are prepared for buildings, and what factors guide those preparations, awarding greater emphasis on the way materials are not only formed, but that they are shaped as a part of a larger building process.⁴² In this article, I have moved from the outside to the inside of the block, and for the remaining section of this article, I wish to continue moving inwards. As I turn my attention even further inside and explore resonance within the concrete itself.

Thomas insists that more attention should be afforded to specificities involved in the preliminary operations when materials are being prepared.

To her, the genesis of their being is important to understand how 'materials themselves are built'.⁴³ By studying building specifications and connecting the philosophical work of Gilbert Simondon with the field of material studies in architecture, Thomas sees the way that matter takes form as a chain of processes, inducing a set of relations between matter and other factors such as the wider building structure, physical environment, and inhabitation.⁴⁴ Within this process, both 'technical, contractual and bureaucratic procedures are integral to material in the wider sense of them as systems'.⁴⁵ Materials in buildings should therefore be understood in a tangible and concrete way. Instead of remaining abstract, materials should be discussed within the 'pragmatics and technics of building production'.⁴⁶

Archival material from the Oslo Plan and Building committee shows how the architect Hougen negotiated the use of materials with various parties in the bureaucratic process involved in getting the planning and building permissions approved. An application submitted on 8 May 1959 outlines the materials that were to be used in the block's structure. Firstly, it becomes clear that the architect intended to use different materials and thicknesses in different parts of the building. For instance, the thickness of concrete used in the lower part of the building is 20cm, whereas higher up in the building, the thickness is 15cm. The outer walls are the most elaborate in terms of a variety of materials. Listed from the inside to the outside, the walls begin with a 15cm concrete insulation wall, *gipsonit* drywall, several layers of felt for heat insulation, wood panelling, stud work, *asfaltimpr* boards, and enamelled plates. Insulation for heat purposes is included, but the acoustics are not mentioned, although materials such as felt and wood offer better defence against resonance than concrete and iron.⁴⁷

The internal walls are constructed also from reinforced concrete of various thicknesses. Even in the sections of the form where the planning committee asks what materials are used for sound insulation in walls between flats, within flats, or in staircases, no attention seems to have been awarded to sound insulation—only reinforced concrete has been used. The floor is made from reinforced concrete, cement, and linoleum. Corridors that run between flats, lifts, and staircases, have additional insulation of wood wool acoustic plates, which is a particular kind of board that helps with acoustic properties. This means an incredibly small part of the building—only the corridors placed on every three floors of the building—contains materials that are specifically added for acoustic properties, dated 8 May 1959.⁴⁸ A response from the plan and building committee signed A. Hjelmerud and J. Nisten dated 15 August 1959 highlighted that soundproofing of the boiler rooms and laundry rooms must be awarded greater emphasis.⁴⁹ It is uncertain what exactly the committee meant by suggesting that the issue must be awarded greater emphasis, and what specifically was entailed in terms of changes to the design. But, overall, it appears that acoustics were overlooked by the engineers and architects.

Fire safety, on the other hand, was of great importance to the team. On 23 October 1959, Hougen wrote to the planning and building committee to address the fact that they failed to receive approval due to the potential fire hazards involved in the wooden structure in high-rise residential architecture, referring to a meeting with the fire brigade on 11 August 1959 where these issues were discussed.⁵⁰ However, a response from the planning and building committee dated 4 November 1959 still showed a lack of approval.⁵¹ After this point in time, the planning and building committee in Oslo received several applications as the architect made changes, such as changes to the staircases in September 1960. A letter signed by Hougen dated 19 September 1960 explains how the concerns regarding the use of the flammability of wood and fire safety have been taken into account.⁵² Hougen decided to refrain from wooden stud work and wood wool in the hallways, but use instead reinforced concrete and aluminium plates. The buildings were built without a wooden frame.⁵³ Although the architect's applications eventually got approved and the buildings were being built, no further comments were made on sound and acoustics.

The archival material shows many issues that various parties raised, including the health department's concern about the size of both balconies raised in a letter dated 23 May 1959, but sound and resonance were, to my knowledge, not a concern. At least not a concern that trumped fire safety. This archival material suggests that the architect did intend to include materials such as wood in the reinforced concrete structure, which would have affected the acoustic properties of the building and affected the way sound could travel within materials. After the fire brigade raised issues related to the materials being flammable and potentially unsafe in a block of flats of that height, the architects made changes. The softer materials were replaced by concrete and aluminium. It is almost an ironic turn of events when several participants mentioned how the sonic environments in their flats have improved after a recent change of entrance doors leading to the hallways. Before, sound travelled very easily through the doors, but recently these doors were replaced by fire-safe doors, which also in turn happened to make the sound from the hallways more pleasant and muffled, as residents explained. In this context of the bureaucracy of planning permissions, it is interesting to see Randi's bathroom wall and the drilling thereof as a relation between drill, concrete, and iron rods. As a chain of events, the materials' own genesis — coming into being — results in resonance.

Conclusion

Building upon this emphasis on materiality, and the genesis of materials, it would be helpful to move back out, through the interior and into the neighbourhood, to offer some concluding remarks. How is the materiality of the space brought to bear on the tension that comprise it — tensions that are expressed and played both within the blocks and out in the neighbourhood

soundscapes? This article has focused on a set of blocks of flats in Oslo, unpacking how residents of these blocks experience resonance. By focusing on the relationships that are being created between insiders and outsiders, the neighbours with the same building, or the residents and that 'lump of concrete' that we can call the blocks, the research sheds light on larger societal issues, and our hopes and fears. The stories from the participants show a very specific set of vibrations, moving through solid walls or far up above the ground, beyond walls and borders. Yet, experiences of resonance also lead to new spatial configurations, as the elderly must find a new bench to meet in the gardens, or walls are being removed, put up again, and removed one more time by the new residents passing through the block complex. According to Koepnick, resonance has critical potential, and by creating connections between people, resonance stands as a critique of neoliberal tendencies. Experiences of resonance lead the residents to talk about issues, raising their concerns. Considered as acts of hospitality or not, the drilling through the bathroom wall makes the residents aware of ongoing renovations; these raise the value of their neighbours' flats, contributing to the rise of housing prices in an area that already is marked by inequality. Overall, a study of experiences of resonance in the blocks of flats in question reveals a complex interplay between people and building, and between neighbours themselves, where the ethnographic fieldwork and archival material approach these complicated problems in a way that allows ambiguity and nuances to come forth.

The interdisciplinary approach to architecture and choice of methods have been fruitful in uncovering these nuances. Each section is introduced with a quote, taken from recorded interviews with Randi and Eivind, allowing the residents' own words and experiences to lead my discussion of resonance. Without ever bringing up the word 'resonance' themselves, their stories clearly address the notion of resonance. By allowing this ethnography to take the lead, the complexity of life itself is brought into the way we might understand people's relationships with buildings. At the same time, delving into archival details regarding the use of materials and the processes that change and mould a building is important to acknowledge the physicality of resonance. The building is not a passive mediator of people's everyday life but comes into being with relevance.

It is within this construct that the link between resonance and neo-liberalism becomes crucial. When built, the blocks in question were celebrated as the pinnacle of modernity and technical prowess, embodying the social contract between citizens and their government at the base of the welfare state. In a material sense, the blocks in question are ageing. Plumbing gets old and rusty, and must be replaced. Fixtures are worn, colours fade, and concrete crumples. Residents navigate these ageing processes in their renovations and maintenance projects, which with regard to frequent bathroom refurbishment can be linked to the rising housing prices that in turn is a result of neoliberal housing policies set in place by the Willoch government in the 1980s. There

are shifting experiences of resonance at play in the block — drilling in the daytime and marginalised immigrant youth at night. As child poverty is on the rise in the borough, it could be argued that the notion of welfare that was so central in the building of the blocks in the post-war years is also ageing. Neo-liberalism, thus, becomes audible, felt, and experienced. The welfare model and its buildings are not dead yet, but the resonance of ageing systems and the materials that residents experience today should be taken seriously.

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21. Today the block is often referred to as *Homoblokka* [the gay block] with reference to the large queer population who lives in the block complexes. An article from 2010 describes the phenomena, and offers an explanation: central location, a large block where anonymous personal life has been possible for decades, as well as many one bedroom or studio flats, might have attracted residents who lead what used to be considered as 'unconventional' lifestyles. Today 'the gay block' is considered as an attractive place to live, for young, liberal Norwegians, identifying as queer or not. See Eivind Åse, 'Enerhaugen– Homsehaugen?' ['Engerhaugen: the 'Homo-hill'], in *På toppen i Oslo*, ed. by Lynggaard, Hirsti, Pareli, and Vedøy, pp. 74–7.
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