

TOWARDS AN ARTIFICIAL SOUNDSCAPE? CAN WE DESIGN MODERN SOUNDSCAPES AS WE PLEASE?

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One morning about six months ago I was reading the biggest newspaper in Finland, and noticed a little article, which said, that the number of people suffering from unacceptable noise levels in the city of Helsinki, the capital of Finland, is expected to increase by 30 % by year 2020. According to the article, to keep the number of people suffering from unacceptable noise levels at the current level, the city of Helsinki should multiple its budget for noise reduction.¹ Currently approximately 90.000 people in Helsinki suffer from noise levels that are considered unacceptable by scientists and health experts. This is over 16 % of the total population of the city. For me the most interesting aspect of the article was the point that the expected increase in the number of citizens exposed to noise could be prevented by increasing the effectiveness of noise control. In other words the problem was not seen to be in inefficient methods of noise control, but merely in how we decide to allocate our resources.

The way of thinking represented in that little article is common in western societies. Our ability to do things is seen as mainly depending on how economic resources are used, and the kind of political decisions that are made. Technology itself seems to be less and less of a limiting factor in how

we can shape reality. In this article I will discuss the modern soundscape and ask whether it could be referred to as an artificial soundscape since by modern technology we are able to plan and shape soundscapes in ways never possible before. Artificial soundscape is a theoretical concept and I will only cover the theory behind it on a basic level, mainly towards the end of this presentation. I will not focus on historical data on the events or political or other decisions that have shaped the soundscape, or for example increased noise pollution. I will, however, give you some examples of historical as well as contemporary soundscapes both from Finland and abroad in order to help you better understand the concept of the artificial soundscape. After that I will discuss what kind of a soundscape is considered normal in urban areas of Finland and – as problems with noise are getting worse especially in urban areas – has living in a noisy environment become an auditory norm? I will also give some attention to the question of what kind of soundscapes we find good and of high quality. And finally I will discuss what are the moral-aesthetic values or standards by which we compare our success of shaping and designing the soundscape.

TOWARDS AN ARTIFICIAL SOUNDSCAPE?

What do I mean by the concept of the artificial soundscape and why would it be relevant in explaining sonic or auditory reality? The concept is closely linked to Finnish sociologist Risto Heiskala's idea of modern societies turning into artificial societies – if they have not reached that state already. By an artificial society Heiskala means societies where 'scientific and technological capacity to modify reality has reached the stage where most aspects of reality have come, actually or at least potentially, under human control.' Heiskala also claims that modern societies in particular have this capacity and as a result, as he writes, 'our willingness to shape and plan reality has become an essential part of the processes going on in society.'² Inspired by Heiskala's concept of the artificial society I have started to think if perhaps auditory reality is also coming more and more under human control. This question has become relevant as human actions and decisions seem to fundamentally determine the nature of the modern soundscape. Technology has obviously had a significant role in this but economic and social changes linked to the process of modernisation have had their effects too. These changes include urbanization, the increase of mobility and traffic, and consumerism among others.

Perhaps the simplest example of our crucial influence on the soundscape would be the building of a new freeway which would most fundamentally determine the character or the nature of the local soundscape. Decision-making by politicians and city officials, as decisions concerning city planning, the building of noise protection walls and directives concerning maximum noise-levels of motor vehicles etc. determine the nature of soundscapes everywhere. Similarly decisions made by ordinary people have an effect. As an example one's decision to buy and use a jet ski or a snow

scooter (snow mobile), which can be quite freely imported and used in Finland, can have a huge effect on the local soundscape as these vehicles are mainly used in rural areas, in the wilderness, and lake-areas, where many people spend their holidays and weekends. In Finland the number of



Noise zones of a motorway. Picture: Finnish National Road Administration.

jet skis and especially snow scooters has increased during the last ten years and raised a lot of criticism due to the noise they cause. Even though decisions affecting soundscapes are constantly being made by different actors, there are also many decisions that were made before our time. Decisions concerning transportation and traffic systems e.g. the choice made between public transportation using electricity as its power-resource, and combustion-engine-based passenger cars fundamentally determined the nature, and features of especially urban soundscapes for decades to come. This kind of decisions have a major effect on

the environment as passenger cars and road traffic in general cause many major environmental hazards, including noise pollution, which is mainly caused by traffic. This is just one example of how technological decisions have not only local and short term effects, but potentially also long term effects, that concern the whole of society and all its members over many generations. According to Langdon Winner the choices made between different technologies, their details, and the ways of using them should be given as much attention as legislative acts and political foundations.³

Because of technological development it is possible that even the most remote corners of our planet are no longer beyond the reach of technological sounds. Perhaps the most striking example of our capacity to shape and plan auditory reality is the underwater sonar system LFA which was tested by the United States Navy in 2002. The sound of the sonar could cover over 80 % of the underwater areas of the world. At the moment the system is not in use due to criticism from environmental organisations. LFA is suspected to seriously damage sea life and even cause the death of whales.

It is obvious that there have always been societies and soundscapes where different technological sounds and even noise were known. My point is, however, that in modern societies technological sounds have reached geographical magnitude and a sustainability that has never been possible before. (By sustainability of sound I mean that before we had a technologically mediated society, before we had combustion engines, electronics and electro-magnetic devices, sound was rightly seen as being ephemeral, sound lasted only a very short time. However, what modern technology has brought to sound is the possibility to make the sound permanent.⁴) In the current situation, as Risto Heiskala has noted, 'the things we are able to do depend on the

development of technology and political decisions. The reality, that we are not able to shape and plan, is becoming a marginal experience.⁵

Lately I have been thinking if the soundscape that is not under our control – natural silent soundscape – is becoming a marginal experience? The question has entered my mind as noise pollution, especially in urban areas, has become the dominant feature of the soundscape. It seems that our capability to shape and design the soundscape, no matter how logical or consistent our actions might have been, has led to the situation where noise – by which I mean unwanted and unnecessary sound – is today regarded as being one of the most serious environmental problems. In a European Union Green paper from 1996 it was estimated that around 20 percent of the Union's population, close to 80 million people, suffer from unacceptable noise levels. An additional 170 million citizens were at that point living in so-called 'grey areas' where noise levels are such to cause serious annoyance during daytime.⁶ The number of people suffering from noise is expected to increase in the future.

As a result of the current situation, the possibility of finding a natural silent soundscape or silence in general, has become more and more difficult. It is true that for several years now we have had access to so called 'silent technologies'. One example of a 'silent technology' is low-noise asphalt. We are also able to build less noisy engines, such as the ones used in aeroplanes. Unfortunately 'silent technology' is more expensive and, in the case of aeroplanes, the increase of air traffic has countered its benefits. This seems to be the case at least in Finland. So it may be that the only way to preserve silent areas is conservation, the protection of silent areas by law. In Finland there have been one or two pioneering projects on the conservation of silent areas. This can be

seen as a further example of how auditory reality, the balance between noise and silence, is coming under our responsibility.

Another way to conserve silence is to turn it into a product: when something becomes rare it can be sold as a luxury. When silence becomes a luxury there is a danger that noise will be distributed socially unequally. Already it seems that in Finland the prices of apartments located in peaceful areas are higher than dwellings situated in less quiet parts of cities. According to a Finnish study published in 1996, people living in the noisiest areas had the lowest incomes. The study was made among people exposed to aircraft noise.⁷ According to another Finnish study made by the city of Helsinki, people with high income lived the furthest away from their work places⁸ The reason behind this was the willingness to live in peaceful and silent rural areas. Commuting is expensive and not everyone has the financial resources to do it.

WHAT KIND OF SOUNDSCAPES DO WE CONSIDER ACCEPTABLE?

In a society where people are not in an equal position to choose to live in noise-free or at least relatively peaceful environments, discourses concerning noise, especially in urban areas, seem to partly concentrate on something that I call the cultural forms of regulation concerning the acceptance of living in a noisy environment. In other words it seems that modern societies contain and have for some time contained (cultural and other) elements that urge us to see noise as an essential or normal part of urban life. In my PhD thesis I have studied historical sources where the reasons why people should accept a noisy environment as an inevitable part of their everyday life are expressed quite directly. One of these sour-

ces are Letters to the Editor on sound and noise (20–70 items annually), which I have studied covering the period 1950–2004. The letters are from Helsingin Sanomat, the largest daily paper in Finland, and most commonly concern the city of Helsinki. Helsinki is the capital of Finland (population 559.330 in 2004) and is located in the south of the country. Several arguments on why noise complaints are unnecessary or even undesirable recur in the letters decade after decade. Without exception these arguments are found in replies to earlier letters (annually 4–11 % of all Letters to the Editor on noise).

Over the past 50 years in the area of Helsinki the most common reasons why complaints about noise were seen as being unnecessary were because

1) everyone was seen as being individually responsible for choosing a place to live that fits his or her expectations. In other words you only have yourself to blame if you have moved to an area that is too noisy, and you should live with the consequences.

2) Criticism of noise-causing hobbies was seen as negative since the urban soundscape already was so noisy, that no one could seriously be annoyed by a tiny amount more. In some of the replies the willingness of other people to ban the writer's hobby or way of transportation because of noise was disapproved of. The demands were seen to threaten individual autonomy or freedom.

3) Some of the writers could be seen to suffer from 'technological fix syndrome' as, according to them, there was no point in complaining about noisy vehicles as jet skis and other technical devices will be silent in the near future anyway. Some thought that the entire society was developing so fast that some minor faults occurring at the moment should be tolerated in the name of a better future. Aircraft noise was sometimes seen as indicating our international connections

and our potential in world-wide economic competition. According to this argument aircraft noise is not so serious a matter that it should be used as an excuse for setting limitations to air traffic and the functioning of Finnish airports.

Letters to the Editor, which are pre-selected and therefore a problematic historical source, are not however the only arena where these arguments occur. Some of the arguments can be found – perhaps in a slightly different form – in studies and official reports in Finland. In these reports citizens may be urged to choose a place to live where noise levels suit one's individual tolerance. To make this easier for the citizens, authorities should provide information on noise levels in different areas of the city. According to a study where people living near the largest airport in Finland were asked their opinions about the airport and aircraft noise, many felt that the economical benefits and jobs provided by the airport make the undesirable effects, such as aircraft noise, irrelevant. In several answers it was indicated that the noise problem will be solved through technological development.⁹

Some of these arguments may be just empty rhetoric but they also reflect a fatalistic attitude towards noise pollution: noise has been and will be a constant feature of the modern soundscape for some time. In the current situation we just have to adapt as we are not able or willing to channel economic, political, or other resources to solve the problem. As a result of the current situation, especially people living in urban areas have no choice but to find ways of making their noise-dominant environment feel less unpleasant, or find excuses for why we should accept living in an unhealthy and unpleasant environment. Cultural adjustment will not, however, solve the physiological, or psychological problems caused. Noise has many negative effects on health: it has

been reported to cause physiological stress responses, cardio-vascular reactions, sleep disturbance, and effects on mental health. It also affects performance and productivity, and can lead to measurable changes in blood pressure, heart rate, vasoconstriction, and endocrine excretion levels. It also causes children to take more time to learn to read and affects concentration.

The increase of noise pollution reminds us of the fact that our increasing capacity to shape and plan the soundscape has not resulted in a healthy nor pleasant sonic/auditory environment. As noted, the situation seems to be quite the opposite: living in an artificial soundscape seems to mean – irrespective of laws and thousands of pages of resolutions – that more and more people are being exposed to noise pollution. The fact that our culture urges or even requires us to adapt to noise seems to indicate that in the urban soundscape noise has become the norm, a normal and widely accepted state of affairs in modern society.

NATURE AS A SOURCE OF MORALITY?

What should an artificial soundscape be like in order for it to be pleasant for the majority of Finnish people? What are the yardsticks that we could use to measure how successful we are in designing and modifying (artificial) soundscapes? While studying the historical sources of my doctoral thesis, it became clear that the evaluations of soundscapes from the 1950s until today are characterised by a yearning for silence, or a naturally quiet environment. In other words, the possibility of experiencing natural, silent soundscapes seems to be the moral and aesthetic basis on which people measure how successful we are in designing them. This seems to be the case at least in urban environments. The soundscape of Helsinki and the effectiveness of noise reduction were evaluated

on the following basis: the availability of peaceful parks in the city or playgrounds, and gardens where one can hear the sound of wind in the trees or the ability to hear bird song in one's own garden as compared to just the rumbling of engines. Also, the soundscapes of rural areas have for decades been evaluated and are still being evaluated using these same criteria. In what follows, I will give four examples of how soundscapes have been evaluated in different decades. These examples are picked from the Letters to the Editor section in Helsingin Sanomat. The first two concern the urban soundscape and are from the years 1971 and 1999. The last two concern rural areas and are from the years 1968 and 1991.

Example 1, date 1971-6-28:

[...] 'Now the already limited possibilities of enjoying at least some peace and quiet in the middle of this concrete jungle are becoming even rarer as one must every few hundred meters cross a noisy freeway. Bridges and tunnels won't replace the disappearing nature.' (The writer criticises freeways that were planned to be built across the Central Park in Helsinki)

Example 2, date 1999-9-16:

'Before this one could hear birds singing and leaves sighing in the wind. [but after aircraft noise has increased in the area] ... one cannot expect to sleep late on Sunday mornings since aircraft noise does not take Sunday rest.'

Example 3, date 1968-6-5:

[...] 'From open windows and yards and especially from the shores of the lake and from boats carries far sounds that torture us who have escaped the noise of the city [to the country side] and would rather listen to bird song and other voices of nature and are not in need of this rattle that has no other meaning but to cover the emptiness

of the mind.'

Example 4, date 1999-2-18

'Do we, ordinary Finnish citizens, have the right to silence when we arrive by car on a wintry Friday evening to our summer cottages just to feed birds and enjoy the nature? For many the most precious luxury in the countryside is the silence, which, once you get used to it, is suddenly full of nature's own voices.' (The writer has been irritated by the noise of snow scooters near her summer cottage).¹⁰

According to psychological studies and people's own evaluations, even a brief chance to experience peace and quiet in the midst of daily routines is vital for our mental and physical well-being. In a noisy environment the need for this kind of features is highlighted.¹¹

It is very likely that our ability to design and modify soundscapes means moving further away from quiet natural milieus, which perhaps are precisely the kind of soundscapes that most Finnish people consider desirable. Why is it so? One reason is perhaps connected to the built-in line of thought in modernity, which resists the idea that 'nature' (in this case, the natural soundscape with its sounds and forms of silence) could be a source of morality. The roots of this kind of thinking are in the Enlightenment, the era which gave birth to the idea, which matured in modernity, that we can and are indeed entitled to use our knowledge and technological capabilities to control, shape and profit from 'nature'. Nature was considered something that exists outside of human subjects and also, at the same time, is a social construction. Because of this kind of thinking, the development and use of the scientific and technological innovations of today are not led by traditions, religion or even the premises drawn from 'nature'. And as nature does not guide us in a way that

we could directly understand,¹² modernity is forced to find the guidance from itself. As a result, as has many times been noted, our actions and decisions, where it is decided how reality should be shaped, are mainly made by various kinds of experts based on their knowledge of the natural sciences.

This feature of modernity can be considered to be one of its major weaknesses. Because of instrumentalism, the pattern that predestines the knowledge we think is vital in decision-making, everything that lies outside this scientific pattern, stays beyond our reach. Modern man becomes alienated from nature and at the same time from oneself when 'we substitute formula for concept, rule and probability for cause and motive' – as Adorno and Horkheimer have written.¹³ Man renounces any claim to meaning¹⁴; we have stopped asking what is the point of all this, where are we heading? And when science and reason will not provide an answer to questions concerning our goals and aims, our decisions concerning the shaping and designing of reality are like a ship adrift, drifting at sea without a rudder and going where the wind happens to blow.

This lack of values or meaning, something to look for, the very feature of modernity and what Jürgen Habermas has called 'Die Neue Unübersichtlichkeit'¹⁵, may be one of the reasons why many of us live in a noisy, unhealthy, and unpleasant sonic environment. As a result, our capability to shape and design the soundscape has not proved to be the key to a better and healthier one. As our culture contains elements that force or at least urge us to live in a noise-dominant soundscape, it is important to ask whether the control and domination of nature also means controlling and dominating ourselves. Modernity will not admit that 'nature' could set us limits while at the same time we can force nature to fulfil our cultural expectations.¹⁶

It is true that at the present time we

have true need and honest aspiration to create a new concept of nature and also to find new values and practices as yardsticks for our actions and decision-making.

But it seems to me that the structures of modern society, that has produced the artificial soundscape as we know it today, are still guided by and have their basis on the old, historically formed structures, ideas and ideologies of modernity. The artificial soundscape may well turn out to be an unfortunate example of how the reality crated under the pressures of modernity and realised through technology may mean drifting away from an auditory reality that many Finnish people at least would want to live in. Finally I would like to note that by the concept of the artificial soundscape I do not mean that technology is the force dictating the nature of the soundscape. I do not see artificial soundscape as being a technologically deterministic concept, because I do not claim that noise-causing technology has been the principal cause of the noise-dominant artificial soundscape. To me it seems that technological changes, as Christopher Lasch has noted, 'tend to be absorbed into existing social structures; far from revolutionizing society, they merely reinforce the existing distribution of power and privilege.'¹⁷ This seems to have happened with the soundscape as well.

¹ Helsingin Sanomat 9.11.2003

² Heiskala 1996, pp. 182, 195 (translation into English by Outi Ampuja).

³ Winner 1985, pp. 30-31.

⁴ See Franklin 2000.

⁵ Heiskala 1996, pp. 194-195.

⁶ <http://europa.eu.int/en/record/green/gp9611/noise.htm>.

⁷ Höglund 1996: pp.10.

⁸ Pääkaupunkiseudun liikennetutkimus 1988.

⁹ Höglund 1996, pp. 23–24 and summary.

¹⁰ Translation by Outi Ampuja.

¹¹ Kaplan – Kaplan 1989; see also Buchholz 1997.

¹² Haraway 1992; Giddens 1996, pp. 205-206.

¹³ Adorno — Horkheimer 1979: pp. 5.

¹⁴ Ibid.

¹⁵ Habermas 1985; see also von Wright 1983.

¹⁶ Cf. James C. Scott's analysis of modern societies on how their large-scale schemes to improve the human condition in the 20th century have so often gone awry. He gives many illustrative examples of how people are expected to fit the system but the system is not made to fit the people. J.C. Scott, *Seeing like a State*. Yale University Press, New Haven 1998.

¹⁷ C. Lasch in the introduction to F. Noble's book *America by Design*. Noble 1977, pp. xi.

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KOHTI KEINOTEKOISTA ÄÄNIMAISEMAA?

Outi Ampuja

Modernisaatio on monitahoinen ilmiö. Siihen liittyvät rakenteelliset, taloudelliset ja aatteelliset muutokset ovat muokanneet mm. elintapojamme, arvojamme ja yhteiskunnallista todellisuutta yleensä lukemattomin eri tavoin. Erityisesti tekniikan kehittyminen on muovannut ihmisten arkielämää, ympäristöä ja ihmisyhteisöjen ulkopuolistakin 'luontoa' aivan uudella tavalla. Voidaan jopa väittää, että juuri tekniikan avulla modernit yhteiskunnat ovat kyenneet kasvattamaan todellisuuden muuntelukapasiteetit mittoihin, jotka merkitsevät laadullisesti uuden tilanteen syntymistä. Teknologian avulla todellisuus on tullut yhä suuremmissa määrin inhimillisen suunnittelun ja muuntelun piiriin.¹

Kuvatakseni näiden moderniin liittyvien rakenteellisten muutosten vaikutusta äänimaiseen olen kehittänyt käsitettä *keinotekoinen äänimaisema*. Artikkelissani pohdin keinotekoisesta äänimaiseman käsitteen mielekkyyttä modernissa äänimaisemassa tapahtuneiden muutosten kuvaajana. Oleellista käsitteessä on sen sisältämä väite, että rakenteellisten muutosten ja erityisesti tekniikan kehittymisen myötä äänimaisema olisi vähitellen tullut yhä enemmän joko potentiaalisesti tai reaalisesti inhimillisen suunnittelun ja muuntelun piiriin. Näin ollen päätöksemme määrittäisivät lähtökohtaisesti äänimaiseman luonnetta sekä paikallisesti että laajemmalla mittakaavassa. Esimerkkinä tästä voi käyttää hiljaisten alueiden suojeluhankkeita tai yksittäistä päätöstä uuden maantien kulkureitistä. Myös melusteiden rakentamista ja kaupungin liikenne- ja ratkaisuja koskevat päätökset — suositaanko joukkoliikennettä vai yksityisautoilua - kuuluvat niihin toimenpiteisiin, jotka näyttäisivät saattavan äänimaiseman inhimillisen suunnittelun ja muuntelun piiriin.

Näiden kysymysten lisäksi käsitellen luonnonhiljaisen äänimaiseman asemaa ja merkitystä äänimaiseman arvioinnin esteettis-moraalisena

mittapuuna. Melukeskusteluissa luonnon äänimaisema tuntuu usein olevan se lähtökohta, johon vertaamalla etenkin kaupunkilaiset ovat vuosikymmenien ajan arvioineet onnistumistamme (keinotekoisena) äänimaiseman suunnittelussa ja muuntelussa. Pohdin myös sitä, onko hiljaisuudesta tulossa marginaalinen kokemus, sillä siirtyminen keinotekoiseen äänimaisemaan näyttäisi merkitsevän yhä useamman altistumista ympäristömelulle, jolla on vakavia haittavaikutuksia niin fyysiseen kuin psyykkiseen terveyteemme. Artikkelissa esittelen myös argumentteja, joilla ihmisiä on 1950-luvulta lähtien kehoitettu tai jopa vaadittu sopeutumaan meluisaan elinympäristöön; pohdinkin, onko melusta tulossa tai jo tullut (urbaanissa ympäristössä) äänimaisemallinen normi.

¹ Risto Heiskala, Kohti keinotekoisista yhteiskuntaa (1996), s.182.

FM Outi Ampuja valmistelea ympäristöhistorian alaan kuuluvaa väitöskirjaa ympäristömelusta. Hän toimii tutkijana ja tuntiopettajana Helsingin yliopiston historian laitoksella.

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vakiinnuttamiseksi johtavaksi tyyliuunnaksi. Tämä johti myöhemmin vastaliikkeeseen, post-modernismiin.

Moderni eli kansainvälinen tyyli, kuten sitä myös kutsuttiin, oli tietoisesti ylikansallista. Modernismin juuret voidaan jäljittää Italian, Alankomaiden ja erityisesti Saksan arkkitehtuuriliikkeisiin, jotka kukoistivat 1910–20-luvuilla. Modernia arkkitehtuuria muovasivat myös ohjelmalliset, poleemiset ja historialliset kirjoituksen arkkitehtuurista. Usein selitykset arkkitehtuurista tai toteutumattomat suunnitelmat ovat olleet yhtä vaikuttavia kuin itse rakennukset. Modernismin propagandakampanjassa käytettiin hyväksi myös arkkitehtuurivalokuvausta.

1950-luvulle tultaessa modernismista oli tullut ainoa oikea oppi, ja arkkitehtuurin historiat 1950-luvulta 1970-luvulle omaksuivat modernismia ylistävän näkökannan – ne eivät onnistuneet näkemään modernismin puitteiden ulkopuolelle. Myöhemmät historiat ovat onnistuneet paremmin hahmottamaan modernismin esteettisiä valintoja sen yhteiskunnallisen, teknologisen ja älyllisen kontekstin valossa sekä paremmin valaisemaan modernistisen liikkeen kulttuurisia seuraamuksia.

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