

# 5. Synthesis:

## Conclusion and future development

The urban sonic environment is a complex phenomenon created by several interacting components.

Spatial quality, content and temporal features are all aspects that co-create and affect the overall and specific character of urban sound. This intimate relationship is the baseline condition of existence that creates an ever-changing pattern of urban sound, a pattern that cannot solely be communicated through decibel-levels. What this study attempts to add to the common methods for describing and handling the variations of subtle sound qualities in urban environments are complementary tools and strategies for dealing with the invisible and neglected “grey scale” of sound that the bright colors of the noise map do not show or cannot describe.

This work attempts to extend the colorful gradient scheme of a noise map by trying to capture, describe and analyze some of the disparate, contrasting, swift and ephemeral qualities of urban sounds that we meet in our everyday lives in a way that goes beyond common methods. The small yet perceivable changes in the experience of space and sound while moving through the urban weave as well as evident and highly intense changes of the same, are qualities that affect our own specific experience and behavior. These are important urban sonic qualities that affect the way we relate to, behave and participate in the same urban space.

The licentiate thesis attempts to identify and to unfold some of the various qualities of urban sound (human, natural, animal and mechanical), and how these interact and behave in relation to their spatial context, with the intention of enhancing the understanding of this complex phenomenon. The thesis also presents examples of how it is possible to approach, capture and describe sound in the built environment from an extended, yet limited, perspective. Extended in the sense that the main focus is on the explorative search and development of current methods for describing and communicating sound. Limited in the sense that the presented method only involves *one* single perspective (me, the researcher). In conclusion, the presented method only constitutes *one* single example of how such ambition can be achieved. Thus this study is an example that proves that it is possible to add layers of qualitative information that have both meaning and function which extends the current approach to urban sound management and brings forth other perspectives.

This study also shows that it is possible to, through broadened sonic communication, have another kind of discussion on sound, space and experience in the built environment that may lead to other kinds of conclusions and strategies of urban planning and design that would affect the wellbeing of the urban inhabitant.

However, there exist no absolute truths of how to grasp, communicate and deal with sound. Finding meaningful and efficient ways that embrace these complex features of intertwined perspectives; the subjective and the objective, the specific and general, the qualitative and the quantitative, is a veritable challenge that needs to be handled with awareness and respect if we want to build cities, urban areas and local sites that are well-functioning in terms of sound quality from the side of urban inhabitants.

### Tools techniques and strategies

So, what is the practical and useful outcome of this work? To identify, test and evaluate **tools, techniques** and **strategies** that are possible to utilize within practice-based and operative contexts like the architectural and urban planning sector, for example, when describing and communicating the complexity of urban sound, has been central to this challenge. Through constant and recurrent exploration, creation and re-creation, a model has emerged that offers a visual, textual and sonic survey of select spatio-sonic information, in the form of a three-dimensional document containing two-dimensional information as well as a digital document including recorded sounds and videos in the form of a website.

Some of the presented tools techniques and strategies have shown to be of greater importance and relevancy than others and could presumptively be applied in the work of professionals and other disciplines working with the creation of urban sonic space, like for example sketching and mapping techniques as well as the use of certain sound-concepts, textual descriptions and analyses etc. Other tools techniques and strategies have turned out not to be as successful at the final stages of the project.

### Spatio-sonic drawings

The tools, techniques and strategies proven to be the most useful and persistent all through the different stages of the spiral-researching process have been assimilated in the final version of the **spatio-sonic drawings**.

These drawings serve as a condensed visual, sonic and textual descriptor and analysis of each studied site along Hornsgatan. The drawings enable reflection, comparison and critical discussion on how space, sound, time and possible physical movement interact and potentially affect us at different levels.

In these compilations, decisions have been taken as to which information is assumed to be the most important to include when performing a qualitative sound analysis of Hornsgatan. The chosen information relates to the three identified parameters of spatial quality, content and temporal features. Important to note is also that the textual analysis of the final compilations builds its argumentation upon all of the made inventories and acquired knowledge generated when studying the sonic environment of Hornsgatan during the course of the project.

The spatio-sonic drawings contain information about the identified **active conditional agents** affecting the qualitative dimension of urban sonic space; **spatial quality**, **content** and **temporal features**.

As stated at the beginning of the thesis, the intention is not to propose a fully set program for how to manage the sonic environment at a severely problematic street in Stockholm, but to find strategies to approach these sonic spaces and discuss the active conditional agents affecting transient and ephemeral sound qualities on site.

In this case, it is the relation between sounds generated by intense traffic flows and sounds coming from other events and activities on site that is central for the analysis with regard to the spatial characteristics. Adding to this the dimension of experience and exposure to these changing urban sound qualities, posing questions like; how it is possible to move within a certain space? Can we access various spaces containing different and sometimes contrasting sound qualities compared to the most dominant ones on site? As this is highly interesting to discuss when also taking into account matters of health and everyone's right to choose what kind of sonic environment one wants to be part of, or not.

### Transdisciplinary communication

Sharing knowledge around these aspects over disciplinary borders may affect design-strategic decisions in urban contexts in a positive way.

This study had its point of departure in a critique of the prevailing domination of noise maps for planning and handling urban sonic space today, and it raises the issue of having a more integrative and holistic approach to sound in dense urban environments as well as striving for creative and practice-based methods of description and operation which may be of relevance for practitioners working with the planning and creation of public urban space at different levels. The noise map is here relevant as one of the necessary tools of description and operation, it cannot, however, be the only one. In this study, the noise map is integrated as a point of reference, a base point around which further and more elaborative discussions can take place along with a co-reading of complementary information on sound space and experience.

To be able to work with the temporal and transient architecture of sound in urban contexts in a conscious and creative way, it is necessary to lift forth and discuss what a well-functioning and sustainable urban sonic environment might consist of, by which components it is created and affected by, and how it may be experienced. To be able to do this we need efficient word and efficient tools to help us in the process of communication between professionals, interests and concerned stakeholders.

### A democratic urban sonic environment

One thing is for certain, the clearly outlined intent upon working with this matter in urban planning should not be about obtaining total or relative silence at any price on behalf of what is actually the main characteristic of a city; its life, its movements and activities. Instead, it should be a matter of conscious planning to strive towards the creation of variegated, contrasting and accessible urban sonic places – for everyone. These spaces differ from each other in terms of sound quality and are open to every urban citizen irrespective of age, physical ability or socio-economic ability. To have access to a sustainable and healthy urban sonic environment is a basic human right, this implies the existence of choice.

In a sustainable and democratic city, everyone should have access to different urban sonic spaces within reach, and they should not unwillingly be exposed to persistent and monotonous sonic qualities over extensive time

periods. Such an environment is, I claim, characterized by the existence of a pluralistic range of urban spaces containing a plenitude of distinct, contrasting and multilayered sonic qualities.

If we wish to transgress the mental and disciplinary borders of this field, and to increasingly address visually, spatially and functionally-oriented practitioners and other stakeholders engaged in the planning, creation and maintenance of urban environments, it is necessary to develop methods that may enhance communication and knowledge development and are possible to implement in practice.

When working in the frontline of everyday practice with the challenge of handling matters of sound quality of dense urban environments, it is necessary to pose questions of **what** kind of urban sonic environment one wants to achieve, **why** a certain urban sonic environment is necessary to obtain in a certain context and for **whom** urban sonic space is supposed to function on an everyday basis. The answers are not one-dimensional, but complex and multifarious, just like sound itself. Extending the practice-based and design-oriented competence of urban sound planning and design also requires demonstrative and educational examples to promote development. This study hopes to be part of that process by constituting an example of how to approach sound from a qualitative and operatively oriented perspective.