

informative sounds

an investigation into the usefulness of the auditory channel
for conveying purposeful messages

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abstract

This dissertation investigates current uses of sound in information design.

It introduces a scenario that explains how information planning emerged as a visual practice, and argues that technical developments in the past three decades provided information designers with the tools to address the auditory dimension.

Based on the hypothesis that sounds can be purposefully designed to better convey information, this paper: (1) finds support in perception principles to verify sound's potential to construct meaningful, complex messages; and (2) draws on current design research to discuss the reasons that may explain the typically limited exploration of the auditory channel.

Evidence from studies and theoretical background are synthesised in critical observations. Proposed ideas present further uses for sounds in communication, encouraging investigation beyond prevailing conventions.

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introduction

We live in a visual world. Our perception of surrounding structures, artefacts, and events; and the messages persistently communicated by or through the use of such objects are, to a great extent, a matter of the visual. And so has been most of the pursuit of methods and processes concerning the design of information. But we also live in a world of sound – even if we may be less aware of it. Could designers respond to the increasingly audiovisual character of spaces, devices and interfaces? The utilisation of the auditory channel in communication, its interaction and repercussion in the processing of visual information, and most importantly, emerging studies that lead to the belief auditory information can be better designed, are the subjects of this dissertation.



Hearing is one of the first senses to which humans become alive, and since birth it is through the auditory channel that people interact with one another. Yet, we rarely fully acknowledge the auditory dimension of things and places we interact with. These landscapes of surrounding sounds, or *soundscapes*¹, characterise human experience and shape responses, as do the interactions with visual matter.

Since the 19th century developing urban soundscapes have become progressively cluttered, hindering the development of auditory messages in favour of visual ones. Also in favour of vision was the order in which technical advances occurred. As argued in chapter 1, while visual media rapidly benefited from mechanical and digital processes, it took much longer for technology to allow purposeful auditory messages to raise above urban noise. Consequently, this period during which visual channel and media grew in importance reasonably explain the modern sense of information design – and therefore the undertaking of assessing and planning information – as mostly associated with the visual dimension. Contrastingly, new developments in technology may have empowered auditory messages to stand out of a background of visually

[1] The term first appeared in Schafer's book 'The tuning of the world' (1977). Soundscape refers to the perceived acoustic environment made of natural sounds and environmental sounds created by humans. A soundscape gives its inhabitants a *sense of place* and, simultaneously, the place's acoustic dimension is shaped by the inhabitants' activities and behaviour. Thus, the sonic environment (or soundscape), which is the sum total of all sounds within any defined area, is an intimate reflection of the social, technological, and natural conditions of that area. Changes in these conditions means change in the sonic environment. (The Canadian Encyclopedia, World Soundscape Project. <http://www.thecanadianencyclopedia.com>).

cluttered environments (or interfaces) to provide information. As sonic communication (verbal and non-verbal) evolves in quality, occurrence and complexity, it becomes a concrete part of everyday interactions – encouraging and justifying their design.

To provide a concrete sense of what sounds can achieve in communication, a concise review on how auditory and visual inputs are processed by their respective perception systems seems fitting. Chapter 2 mediates the call for designed sounds proposed in chapter 1, the assessment of practical examples in chapter 3, and the studies on current applications of sounds in communication found in chapter 4. Chapter 2 should substantiate the observation and critique of current applications presented in subsequent chapters.

While studies suggest the importance of sound is being taken more seriously, it is vision the primary media and channel in communication. If the ever expanding use of the auditory channel in communication (digital interfaces, websites, electronic devices, transports, building interiors, cinema, television, to name a few) will not change that paradigm, it does pose new challenges for the design of information. Chapter 3 contemplates examples of current research on *sounds designed to inform*. Supported by the theoretical concepts reported in chapter 2, chapter 4 puts forward ideas that may contribute to the discussion of purposeful uses in information design.

The dissertation will not go into the technical aspects of sound crafting. The art of sound crafting can be compared in complexity with that of typeface design, which requires very specific skills and would raise discussions of different nature. While information designers are mostly not typeface designers, they should be able to competently use typography to convey messages. Likewise, proficiency in sound crafting is not a prerequisite for the planning and critical assessment of sound applied to communication.

Finally, it is worth noting that the discussion will be restricted to the sounds belonging to what has been conventionally referred to as *western world*. In other cultures sounds are known to have a different uses, distinct in meaning and importance, to those presented here.