

## Listening Bodies – Tact, Pain and Urban Accessibility

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**ABSTRACT:** This paper examines characteristics from the dimensions of touch and discomfort or pain (nociception) that the sonic ambiance produces in our bodies when we navigate the spaces we inhabit. Based on an ongoing research investigating alternative conceptions to urban accessibility and diversely functional bodies, we argue for the inclusion of the tactile and discomfort aspects of sound as actors shaping the experience of our everyday spaces. We bring the focus on the physical perception of the sonic ambiance, from tact to transduction, listening through the body and its vibration. We investigate how this full body tactile experience, that at times and for some individuals can be an unpleasant experience, may unlock another perception on urban accessibility that goes beyond basic safeguarding measures. Using an ethnographic approach, we examine the relationship that deaf-blind and blind or partially sighted people establish with the ambiance in everyday life and the role the sonic ambiance adopts when they navigate the space in the city (both in terms of route and rhythm). We argue the tactile and pain dimensions of sound are an important element in the making of place for blind and deaf-blind individuals. They intervene on aspects of their spatial orientation but also of their connection to their emotions in and towards the space they navigate, deeply shaping their relationship to the city they inhabit and thus their making of place.

This paper presents the initial diagnostic of two collectives on aspects of the layout of accessible spaces in Barcelona, their actual use or ‘misuse’ by individuals in these two collectives, reflecting on the sonic ambiance and the practice of listening, even when being deaf-blind. We conclude by highlighting the importance of rethinking listening as a tactile, emotional and, at times (both in terms of nociception but emotionally), painful practice.

**KEYWORDS:** sonic ambiance, pain, nociception, touch, embodiment, ensoundment, accessibility, disability.

## 1. Introduction

The sonic ambience we live within is constantly morphing, echoing the changes of a rapidly changing environment. It is always on and while we may not notice it, we are constantly exposed both to the sound and the vibrations that traverse our bodies even while asleep (Schwartz 2003; Ingold 2007). This sonic ambience may not be always pleasant, and for diversely functional people it can be perceived with more intensity and, as such, have a worse overall impact. We approach listening from a full body experience where the sound is heard through the ears, but also through the whole body. In this immersive body experience, we listen to sound while being in sound; we are ensounded (Ingold 2007). Moreover, the sonic ambience is tactile and through this sense can connect to people's feelings and sensations, the body ensounded goes beyond the listening practice we engage in with our ears, it conjures the whole body, making it vibrate and make sense of the sound through the skin (Nancy 2002, Horowitz 2013). However, what happens when this bodily inception is a cause of discomfort or becomes a nuisance to urban navigation?

In this article we bring the focus on the physical perception of the sonic ambience, from tact to transduction, listening through the body and its vibration (Helmreich 2010; Rodaway 1994; Smart 2007). We investigate how this full body tactile experience can, at times and for some individuals, be an unpleasant experience or overwhelming (Drever 2015). In addition we analyse a perspective that may unlock another perception on urban accessibility that goes beyond basic safeguarding measures. It also questions the ways we think about sound, from design to implementation, notably when it comes to sounds that are utilitarian (like alarms, or car signaling sounds).

It presents the initial diagnostic of two collectives (blind and deaf-blind individuals) on aspects of the layout of accessible spaces in Barcelona, reflecting on the sonic ambience and the practice of listening, even when being deaf-blind. This diagnostic counterpoises the dimensions of usefulness of sound and that of its tactility and aesthetic perspective. We conclude by highlighting the importance of rethinking listening as a tactile, emotional and, at times (both in terms of nociception but emotionally), painful practice.

## 2. Methods

Our case study is in Barcelona, where we work with two local associations for diversely functional individuals, Apsocecat and B1B2B3. The former is an association for deaf-blind people in Sants and the latter is for blind and visually impaired people in Les Corts. B1B2B3 caters for all people that have visual impairments, irrespective of the degree of the impairment. This is relevant since the main Spanish association for visually impaired people only attends individuals with a 1/10 sight, legally blinds. It also means that many users in B1B2B3

still have a residual sight that, for some, enables them to navigate without any visual identification of having a visual impairment (no stick or 'low vision' badge).

Although the two associations cater for the whole of Catalunya. they are mainly rooted in their respective neighborhoods.

We have been conducting research with these two associations for the last three years (since 2013). Fieldwork consisted of an ethnographic approach inspired by mobile methods (Buscher & Urry 2009) combining non systematic observations, in depth interviews with users of the associations and their technical staff together with participant observation, focused on the examination and analysis of situated practices and knowledge enabling urban spatial navigation non visually (Haraway 1998). The documentation and observation of said practices has been video recorded. Upon analysing the recordings we have been able to identify and isolate a cluster of urban orientation practices and explore their articulation, mediation and translation in the urban environment's experience between its different elements (like sounds or tactile pavements) and specific urban interventions (Callon, 1987; Latour, 1999; Sánchez Criado & Cereceda Otárola, 2016). In addition we have gathered empirical data around the sensorial experiences and everyday life situations that affect visually impaired and deaf blind individuals' corporeality.

### 3. Results

In our preliminary analysis we have identified three major discourses around notions of pain, tact and sound in blind or visually impaired individuals and one major discourse for deaf-blind individuals.

Firstly, we saw there are two sides to understanding sound as a guide. Some participants identified sound as an orientation tool when navigating the city. Participant 1 is a middle aged man, totally blind living in the Eixample neighborhood in Barcelona. The Eixample is an area organised in a grid-like fashion, having every other (horizontal) street head towards the Sea (East) and the other towards the mountain (West) and every other (vertical) street head towards the Llobregat river (South)<sup>1</sup> and the other towards the Besós (North). Therefore Participant 1 knows that if the cars head towards the sea he is in Urgell and if they head towards the mountain he is in Villaroel. Participant 1 spends a few moments listening to the direction of the traffic to orient himself in the Eixample. In this sense the sound, although not a welcome sound (as Participant 1 says, the sound of the cars is sometimes too much), is a guiding sound without needing any extra information or adaptation given for blind or visually impaired people.

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1. In Barcelona we orient ourselves with the references that are at the limits of the city Sea (east), Mountain (west), Besós (north east) and Llobregat (South west) instead of North, South, East and West. Some maps actually place the city as if the Sea was South when it actually is East to facilitate this references.

Participant 2 is a deaf-blind individual with a cochlear implant that enables him to hear. He lives in Zona Franca and his perspective on sound as a guide is the opposite to Participant 1. Participant 2 is completely blind and has had hearing loss for many years, with a cochlear implant in one ear and a hearing aid in the other, his hearing is functional and we are able to have conversations without the help of a mediator. However, he is weary about using the soundscape to orient himself. Because he has been losing his hearing for a few years, he is not comfortable relying on the soundscape as an orientation, he states that it allows to know a general *geist* of what is going on but not to calculate distances and be able to travel safely in the city.

The second discourse revolves around the aesthetic and functional perceptions of sound. The participants talk about sound as a communicating aspect but also have an interest in how it communicates. In Barcelona traffic lights are equipped with an audio signaling capacity that can be activated through a small remote controller (“Comandament”) that blind people can carry if they chose to, this is known as the ciberpass system (López y Nieves, 2000) Once activated, the traffic lights will emit a loud repetitive beeping sound to signal that the crossing has a green light for pedestrians, making sure that visually impaired and some hard of hearing (but not totally deaf) people will be able to hear it and cross safely.

Participant 1 comments on the audio signal chosen for traffic lights. The sound is repetitive, very loud and is quite high pitched. This is to ensure it is heard by a majority of people, including the people around the traffic lights and inside the cars. However, it also means that the sound can be bothersome. He would rather the sound was more natural and relaxing, like bird or natural sound. Participant 1 does not understand why the sound of the traffic lights has to be so obnoxious instead of adding a sonic aesthetic aspect to the city. For him this sound is very intrusive into the everyday life of the inhabitant of the city. It hurts his ears, even though he agrees about its usefulness. However, he perceives it as a sound that is so intrusive it becomes disruptive, not only aurally but also mentally, impacting on his perception of space. It hurts his ears, body and mind and makes him become irritated.

Last but not least we identified a discourse around the notion of sound and confusion and fear. Participant 3 is a visually impaired woman whose sight is deteriorating over time because of a degenerative disease. She has much more difficulty to see at nighttime than at daytime. She stated two situations in which the soundscape gave her a strong sensation of discomfort. Firstly when it is nighttime and she hears sounds in the street that she does not recognise, it makes her feel vulnerable and very unsettled. The urban soundscape brings a sensation of discomfort and dissonance with the environment that makes the participant feel fear because of the difficulty she has in deciphering the sounds, understanding their meaning and she turns around and leaves. In the same line, several participants talked about rainy days where the rain is pouring and impacts on the floor repetitively and loudly for an extended period of time. They talked about how the rain is a problem for them, its sound, soothing for many, is confusing for them as it masks the other city sounds and disengages

the participant with their aural connection. Rain sounds overpower all the rest, they muffle the city leaving a sound residue that is not enough for them to orientate themselves and makes them even more confused.

## 4. Discussion

Our results show that sound does have a tactile and painful potential, mostly experimented through discomfort (bodily or emotionally) and listening as a practice that encompasses all the body, from the flesh to senses to emotion. Understanding sound and listening in this sense, can function as a tool to re-frame how we conceive and implement accessibility in the city (Imrie 2001; Imrie 2012; Imrie & Luck 2014; Bates 2011; Bates 2014), particularly in smart cities.

Indeed, urban sounds are lived by participants with diverse functionality in several levels. There is an interjection towards the sound designers to question the sounds designed and their impact on the urban space but also towards the technology behind the sound. It is important to attend to the ways in which sound communicates in addition to the message it transmits. There is a question surrounding ciberpas to know whether this sound (of a similar intensity and pitch to emergency services vehicles though with a different cadency) was designed having in mind the sonic impact it would cause, the discomfort and sense of rejection that transpires from our preliminary diagnostic. There is a question around the acoustics of said sounds (Suchman, 2012), the meanings they acquire in aspects that touch the collective of diversely functional individuals, like accessibility; special attention is brought to whether these meanings coincide with the original ones the designers determined at inception.

Through listening the user configures the meanings of sounds (Berrens 2015; Berrens & Calvet-Mir 2016) and they morph both their conception of space and the city layout. Thus visually impaired and deaf blind individuals reconfigure sounds, making the identification and composition of sonic urban objects an accessibility practice which produces aural spaces, sonotopias (García 2005). These make the design and materiality of urban sounds a relevant matter for diversely functional collectives (Callon & Rabeharisoa, 2008; Latour, 2004; Stengers, 2015).

The sonotopias (García 2006) unveil a different perspective on the urban, highlighting the materiality and design of the sounds themselves; attending to them can unlock a possible dialogue with the city in order to rethink notions of accessibility for diversely functional individuals that have the corporeal experience of the urban user at its heart.

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