

## Sound in the Networked City

Investigating the Role of Sonic  
Experience in the Informational Society

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Current discourses in urban computing explore the possibilities for new forms of sociality and aesthetic experience over networked media platforms, referencing practices that utilise the potential for geo-location, wifi coverage, and inter-device connectivity in urban space in order to consume, produce, and distribute diverse media content. The convergence of urban space, mobile actors and dynamic network topologies provoke new sociotechnical possibilities for the city dweller. While research in urban computing is frequently biased towards urban screens and visual interfacing, it can be argued that such an enquiry is particularly relevant to contemporary auditory experience. Increasingly, our everyday sonic experiences are interleaved with new mobilities, spatialities and networked infrastructure. It is relevant therefore to investigate how mobile sound and its exploration through media art and design practices could provide a platform for engaging with networked space, both in terms of possibilities for new cultural practices, but furthermore with regard to its critical engagement with network topology, often sonifying the complex interplay of social and informational networks that occurs with mobile media distribution in urban space.

Ways of conceiving urban space have shifted dramatically as a result of new mobilities, telecommunications infrastructures and virtual spatialities. The ubiquity of mobile media in the city engenders what is sometimes termed 'hybrid space' understood as multiple modes of spatiality enfolded together, as electromagnetic signals interleave and virtual platforms migrate from traditional desktop scenarios, becoming nested in the everyday rhythms of the urban environment. With these practices we witness a shift from bounded ontological accounts of space, with strict dichotomies between public and private, real and virtual, towards a metastable geography constantly performed by the mobility of people, objects and information. Mobile audio devices are arguably the first instance in which hybrid spatiality occurs, blending the physical spaces moved through with the virtual soundscape the listener carries on their person. Where the predominant listening experience of the city dweller is now channelled in this fashion, it is intricately connected with the management and production of urban experience. Until recently this auditory practice was largely individuated, limited in correspondence between the space traversed and the possibilities for

co-present interaction. However, as mobile devices become increasingly amorphous, often combining communicative capabilities with media production and consumption, they afford new practices involved in the networking of sonic experience. How might these media practices provide listeners with tactics to articulate and engage with the networked city?

The shift away from individuated listening towards interconnected soundscapes is endemic of a broader shift in mobile media ecologies from passive audiences towards what Varnelis et al. term the 'networked public' model (Varnelis, 2008), referencing linked practices of production, consumption and distribution that have emerged from decentralised networks and convergent media technologies. When these new practices: peer-to-peer music distribution, podcasting and networked composition and performance, migrate into mobile platforms, they provide new agencies for media publics in city spaces. While a number of different approaches within media art and critical design explore these possibilities, situating audio work within geo-spatial contexts, sonifying electromagnetic signals, and utilising various urban mobilities for musical composition, this paper focuses on the use of mobile ad hoc and personal area networks to consume, produce, and distribute sonic artefacts in urban spaces. These are network topologies which, rather than relying on a centralised relay structure, utilise pair-wise connectivity between mobile devices in proximity, producing a highly dynamic and decentralised topology that reflects the correspondence between social and informational networks in contemporary cities. Instead of a soundscape that is propagated on the air, here it is carried by the various mobilities already present in the city, the "chorus of idle footsteps" (de Certeau, 1984, p97), public transport infrastructures, crowd behaviours and the episodic connectivity of friends and familiar strangers.

Notable works such as Atau Tanaka's *Mobile Music Making* (Tanaka, 2004) and Bassoli et al.'s *Undersound* (Bassoli, 2007) are examples of media art and design initiatives that engage mobile networks to produce soundscapes, leveraging the sociotechnical possibilities of music on the move. Not only do these designs suggest new aesthetic and social practices for city spaces; through the interconnection of human mobility with the network architecture, they suggest novel ways of mapping and articulating the intricacies of networked space. This is an important area of enquiry therefore, not only for the novel listening experiences it facilitates, but also for the critical insight into networked space it provides; knowledge that in turn can be applied to the design of future mobile devices, networks and urban planning policy for the city.

#### References

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