

# The Uncanny Signal

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## Abstract

This paper describes a developing series of highly speculative works and activities that suggest new ways to experience urban space, by listening to and analyzing audio environments using speech recognition and image analysis software, to produce texts, voices and sounds that disturb our sense of the shape of our space, by changing our physiological, psychological and emotional states.

The city is considered as in a constant state of becoming, as a series of moments of lived experience, of active spatiotemporal events that suggest both time and space are often fluid when considered by a perceiving body. The project explores new cultural constructions of the city to reimagine and rediscover urban space.

## The Concealed Uncanny

*"...strange out-of-mind-and-body states induced by the morphings and animations of digital modeling, as well as by the sense that the new space of cyberworld is less a virtual version of reality as we know it than a preparation for a reality that we would rather not know."* [1]

New and radical modeling, mapping and imaging systems have realized the construction of both physical and virtual spaces that were, until recently, impossible, even unimaginable. Increasingly novel, unknown or unknowable, exacerbated by diminished or non-existent powers of recognition, and the difficulty of distinguishing the virtual from the real, these spaces are disorienting and unsettling, and surround us with an anxiety of uncertainty. This anxiety has changed the sense of the physical body, its subjectivities, its cognitive and emotional internalizations, as everyday experience is characterized by constant ambivalence in the face of uncertainty and unpredictability.

One of Freud's original senses of the uncanny, that feeling of something appearing to have an inexplicable basis, beyond the ordinary or normal, seeming uncomfortably strange, included the notion of "the unhomely", the experience of strangeness associated with aspects unfamiliar to or out of place in house and family. This very particular strangeness was extended to include those spaces that had been transformed through

destruction, as in war, that produced unsettling emotional and psychological states of anxiety, trepidation and psychosomatic trauma. Freud also suggested that there might be aspects of the uncanny that arise from feelings that are usually not allowed to come to consciousness and remain unspeakable. For this project, this suggested that the withheld or concealed might give rise to a sense of the uncanny at the moment that such concealment or withholding is apparent. Moments of recognition of presence rather than absence, pattern rather than randomness, might give rise to feelings that are synonymous with the uncanny. Early investigations have focused on coincidence, repetition, and revelation to explore the momentary perception that there is something meaningful arising from a place where there should properly be nothing meaningful, forming the basis of recent explorations of urban space.

The works set out to investigate the presence of the uncanny and its effect in the urban environment. While contextual dissonance and (un)familiarity is important in any consideration of the uncanny the work focuses on ideas about the recognition of meaning in chaotic and random systems.



Fig 1. *Jardin du Luxembourg*, 2014, installation projection, © 2014

This investigation has resulted in the development of a series of works to suggest new ways to see and navigate urban space by looking at and listening differently to the ambient audio of our environments, to reveal, and to generate voices and sounds that disturb our idea of our surroundings by changing our psychological and emotional states. It associates Freud's uncanny with the mirage of urban life, looking for the presence of an unsettling unknown. The works take as their starting point ideas about the illusory nature of the city, through an exploration of the invisible and the concealed, the unseen and unheard, and the uncanny.

## Early Work

Early work has concentrated on attending to our sonic environments. The project monitors ambient and environmental audio, using microphones worn by participants moving through urban spaces, and uses bespoke speech recognition software to tease, isolate and generate words, phrases and sounds from the noisy environment.

The intent is to draw attention to how we might perceive space differently through the lenses of the misheard, the half-heard and the imagined to perceive alternative realities. Referencing the seeing of images and hearing of sounds in random stimuli known as pareidolia, Electronic Voice Phenomena, and the uncanny transmissions of Numbers Stations,[2] the project exploits the deficiencies of speech recognition software, its tendencies to throw up false positives, to generate clusters of words, phrases and sounds that re-describe and remake urban space, enabling new topographies to emerge, new maps to be drawn, through new emotional responses to the city. This initial research is highly exploratory and consists of developing means and ways of analyzing ambient audio, using it to generate both non-existent and existing sound, and interpreting this in meaningful artistic ways, together with research into how participants can access this as they navigate through urban spaces, and how it can be translated into other forms for display in exhibition and other spaces.

This research explores means and ways to analyze the ambient noise in the city, and map this to a new psychological topography to re-imagine and re-make the city, using historical and contemporary conceptual models to open the city to change through disorientation and drift, through the perception of the most ordinary objects and places as poetically exciting, uncanny, and even supernatural. It uses the disorientation experienced when something hidden is revealed, to draw attention to a disturbance in the relational field made of the self and its surrounding space. As a participant moves through a city recorded ambient audio is analyzed using speech recognition software to generate sound and speech. The results are reminiscent of numbers stations transmissions: fragments of sound, human speech, buzzing, sounding like gibberish, but uncannily and disturbingly suggestive of meaning and structure.

Acoustically the natural and manufactured world is extraordinarily complex, multi-layered, and coincident. We are surrounded by noise to which we rarely attend beyond the simplest of registers. Many instances of frequencies that lie beyond the range of human hearing,

occurrences of both destructive and constructive interference, or sounds that are muffled or suppressed are common, and develop a rich stew of sound that is difficult to molecularize beyond a very general level with few salient characteristics. Nonetheless such sounds do characterize the space they inhabit. Birdsong, screeching tires, music on the boulevard, all contribute to a sense of what a place is and importantly how it is to be navigated and what is likely to be experienced. Very loud or very jarring noises, and alarms, signals, sirens and other sounds deliberately designed to be noticed do rise beyond the general hum of the city, but they rarely, if ever, strike a listener as being more than their designed purpose. They call attention to danger, to movement, to laws and regulations, but they are familiar and understood, and form part of the fabric of sound that makes up the everyday acoustic space.

When noises with no apparent source or cause occur, listeners attend more closely both to their environment, and to the noise itself. In a recent example in September 2013, residents of Terrace, British Columbia, Canada woke at 7:30 AM to strange, loud, grinding and whining noises that lasted 10 minutes,[3] describing the noise as eerie. Even when a logical explanation was offered the sense of something uncanny remained. There are many more examples as evidenced by the multitude of websites that track unexplained sound.[4] Bringing hitherto unheard or unnoticed sounds to the attention of a listener can invoke a wide range of emotional responses and intellectual, but in all the nature of the sound is interrogated: what, why, how?

The project is particularly interested in these sounds precisely because they reshape local space by changing an inhabitant's psychological view of the space. In the most extreme response to these sounds they become evidence of conspiracy, or alien activity or hauntings, but in all cases they change our sense of the shape of the world. What was once a short walk through a friendly alley, becomes an interminable passage through a frightening valley, an excursion to a sunny beach become a dangerous trip to shark infested waters.

In ways similar to those described by Alejandro Román as musivisual language,[5] the ambient audio used by the project establishes the shape, space and time of our immediate environment. Working beyond our conscious thresholds, it forms our expectations of what is to occur, as space is continuously inverted and twisted as Barthes' denotation and connotation conflate and "...narrative and diegetic processes tend to fuse, ...causing frequent heuristic confusion between them." [6]

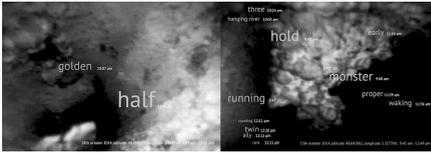


Fig 2. *endoscope observations, Paris, 2014*, large scale digital images, © 2104

Early work, using Google's Cloud Vision API, has produced word fragments from apparently empty, silent spaces, and initial experiments have teased words and phrases from ambient audio that does not have an obviously distinguishable or salient speech component. Using a combination of very simple speech recognition software, the words and phrases, largely nouns and adjectives, but often strings of vowels, emerging through computer analysis are, like other work looking for images of faces in random noise, often convincingly real suggesting, some actual voice or intelligence behind the words, though, however unsettling, in actuality they emerge only from algorithms carrying out the work of analyzing the audio, or the imagination of the listener. The ambient audio of the city has a mix of human, machine and natural sounds. The intent is to develop software that can attend to these noises and recognize within them real and imagined words, phrases and sounds, and use the results in installations and a wide range of artworks.

Voice-recognition software programmes work by analyzing sounds and converting them to text. They use knowledge of how language is likely to be said. Most modern systems recognize continuous speech with an accuracy approaching 90% under perfect conditions, but they are notoriously inaccurate in noisy conditions or when there are multiple speakers, resulting in false matches. This project sets out deliberately to exploit the occurrence of false positives to generate new meaning in the urban landscape, to develop algorithms to allow purposely sounds other than speech to be recognized as words, to allow multiple sound sources to be monitored, and to enable a set of parameters to be used to tune the analysis to reveal sufficient and different quantities of words. The software builds upon several of the available speech recognition software development kits but has committed early endeavours to using CMU's open source, speech recognition toolkit, Sphinx.

The sounds and texts generated rely on their context to give them meaning, but in turn, they also bring new context to the environment that generates them. Fragmentary, poetic, usually descriptive in nature, the texts and sounds generated will be used to create new street names, new maps, and other visual and audio

forms to transform and characterize the urban landscape through new emotional responses to the city. In re-characterizing the city, new nested cities emerge. As a participant travels through the city, texts and sounds thrown up by the recognition software distort and change the perception of the landscape. As the paths of participants overlay and intersect, these layers produce more and more complicated features that can be translated to topography, generating emotional maps of the city in terms of more or less psychologically charged zones as features within the city.

The work explores the idea of multiple cities occupying the same physical space, but comprising different psychological dimensions conjured up through various emotional valence - the intrinsic attractiveness or aversiveness of an event, object, or situation. Descriptors of place are fundamental in characterizing places. These descriptors are revealed through careful walks and explorations of the visible city during which the texts and sounds that emerge from the analysis of ambient audio, warp of our prevailing sense of space. In addition to the notion of Numbers Stations, the work builds on the legacies of Walter Benjamin's expression of profane illumination,[7] Anthony Vidler's architectural uncanny,[8] the Surrealist and Situationist projects to open the city to change through disorientation and drift, through the perception of the most ordinary objects as poetically exciting, uncanny, and even supernatural.

The works set out to explore the city using an interpretation of ambient audio environments within the contexts of surrealism and the uncanny in order to continually reconfigure the city in terms of its psychological and psychogeographic zones. In remapping the city the project opens a new sense of the dimensions of the city, by giving form to its immaterial, psychic shape.

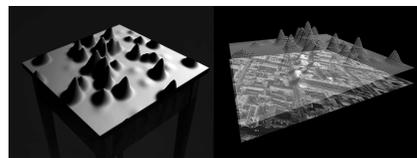


Fig 3. *maps of emotion, Paris, 2014*, interactive digital images, © 2104

## Previous Work

The current project has grown out of recent work that used pattern recognition to reveal images and forms in random noise or unexpected places. One ongoing project explores inaccessible or unseen spaces in urban environments discovering some of the coexisting yet

unnoticed environments and ecologies hidden within the fabric of our cities. This work explored the hidden and unseen aspects of the urban environment, using very small diameter endoscopes, snake cameras and tiny microphones. Peering into the smallest of spaces, the gaps between buildings, a crack in the ground, the cameras explored the visual and sonic characteristics of the spaces and monitored the spaces for any activity through motion detection and pattern recognition, finding moulds, insect colonies, strange amalgams, and sounds, shaped by reverberant or anechoic chambers coexisting within the visible city.



Fig 4. *Endoscope Paris*, 2014, interactive touch enabled table top projections, © 2014

This work in turn grew from earlier work that used the ideas found in *Electronic Video Phenomena* to explore ideas about felt presence and absence, pattern and randomness. Installations took the form of blinded cameras, or cameras that were operating at the limits of their sensitivity, that sent visual noise to a computer that analyzed it for patterns that looked like human faces.



Fig 5. *Ghosts in the Machine*, 2008, Laboral Centro de Arte y Creación Industrial, Gijón, Spain, installation. © 2008

On occasion these faces and voices were utterly convincing and unsettling. They were, to all intents and purposes, real faces, real voices. They were not images of people, but another kind of image loaded with meaning, which arose accidentally, but irresistibly, from the hybrid interaction between machine and body, hinting at an immaterial hybrid body that existed in the pattern and information flows that were fusion of body and machine, and suggesting that there might be real information contained within the random noise of the work.

Similarly, any hitherto unheard or registered voices or words that are teased from the ambient noise of the city exist only in the inner processes of the computer, even if they are correctly recognized. Their reality, their connection to our sense of place, arises out of their context and their effect on our understanding of place. This new work seeks to extend the ideas of earlier work to a rather different real world situation, to understand the city through a re-characterization of place.

In the end the discovery of meaning comes from the effect of a poetic acting upon the imagination. Given the right situation, all manner of things may be suggested to the imagination, and as Freud himself suggests, the uncanny emerges when the distinction between imagination and reality is effaced. In this sense, and in the context of the project, echoing McLuhan's famous observation, perhaps the noise is the signal.

### Acknowledgements

†. Paul Woodrow died on July 24, 2015. His essential intellectual contributions to the research and development of the works cited in this paper, to the writing of this manuscript are joyfully acknowledged.

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