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SPECTRAL TRANSCRIPTS

## LANDSCAPE ACOUSTICS: SPECTRAL TRANSCRIPTS

*Nadine Schütz*

Landscape acoustics, a term coined in 2017, describes an empirical, integrated, site-specific, and design-oriented approach to sonic landscape qualities.<sup>1</sup> It challenges the common architectural notion of acoustics, which focuses mainly on sound propagation and a Euclidean idea of space. Instead, this approach attaches equal importance to the production and perception of sound, considering a meaningful (auditory) relationship between people and their environment. Reading and (re)configuring a sonic landscape's spectral

and temporal structure is a central related practice.

An appropriate spectral sound visualization method, the sonogram, conveys an intuitive understanding of sonic landscape space. A three-dimensional graph is produced based on an automated computer analysis of physical sound parameters. This graph shows the distribution of energy (grayscale) throughout the different frequencies (vertical axis) contained in a sound or a sonic landscape and its evolution over time (horizontal axis). Its pictorial quality often supports a more intuitive and bodily understanding of sonic landscape structure, obtained through listening and a holistic feeling of place. The manual transcript of the computer-generated sonogram (re)introduces this bodily grasp inherent to landscape acoustic experience and practice (fig. 1–3). It is both a means of artistic transmission and a method for training auditory imagination.

Recognizing the spectro-temporal evolution of ambient sound is vital for grasping the auditory richness that pertains to landscape space. This characteristic carries a sound's intrinsic materiality, and it can have a spatially formative effect in different ways. The three selected listening situations transcribed in the spectro-temporal charcoal hand drawings demonstrate this multifaceted formation of auditory space.

At Epidaurus in the Peloponnese, Greece, the continuous cicada chorus around the ancient theater (from the fourth century BCE) forms an auditory horizon underneath which the more

While listening again to the analyzed sound extract and projecting myself to the place of origin, I imitate the sonograms in the form of charcoal hand drawings. Thus, I try to enhance and make tangible their powerful suggestive character. Through the materiality of the drawing, I also include a critical thought about the "pollution" many people suffer—that is, the still too negligent and simplistic consideration of environmental "noise."

Fig. 1 Theater of Epidaurus (Peloponnese, Greece): a local summer afternoon scene, recorded from the theater's tiers

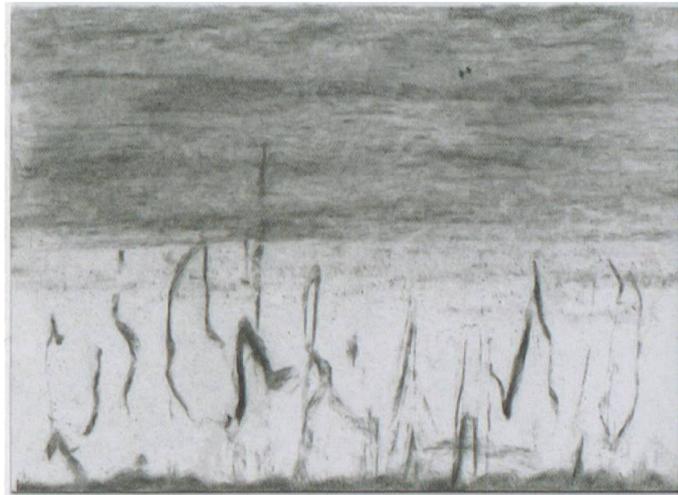


Fig. 2 Shisen-dô temple and gardens (Kyoto, Japan): the garden's auditory streams, recorded from the main hall's *engawa* during a late autumn evening

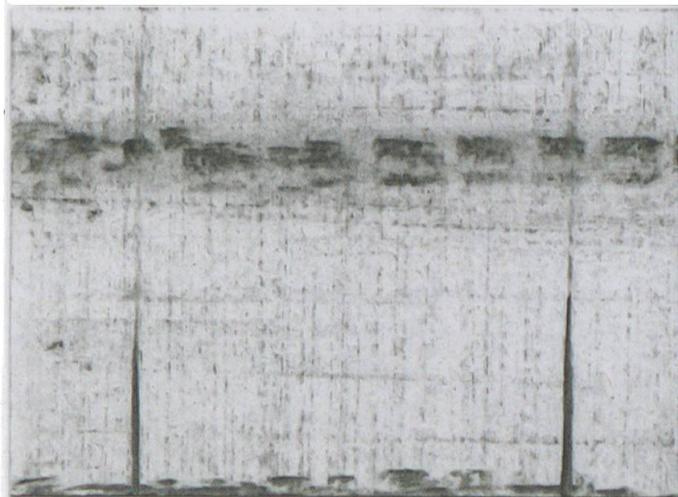
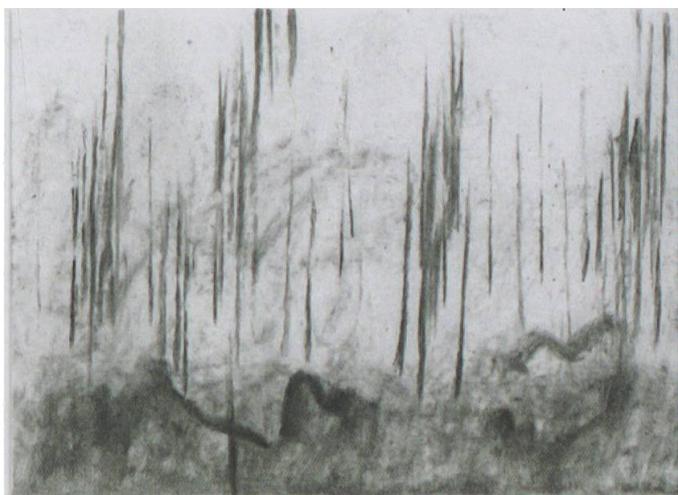


Fig. 3 Parc des Buttes-Chaumont (Paris, France): one of the many possible mixtures between city and park sounds, recorded during a fresh spring midday from the northeastern higher lawn overlooking the central lake and rock island



articulate and momentary appearances of human voices coexist effortlessly (fig. 1). At Shisen-dô in Kyoto, Japan, a cognitive approximation between the song of the suzumushi and the rivulet's murmur creates an enriching spatial ambivalence in the temple garden (1641) (fig. 2). At Buttes-Chaumont in Paris, France, the alternation between both stratification and masking effects contributes to the auditory variety in the public park (1867)—a well-balanced negotiation with its urban surroundings, orchestrated by topography (fig. 3).

These examples evoke the acoustic dimension of well-known sites from landscape history, widely spread across different cultures and epochs. They show how auditory spatial impressions are not only created through physical distances but essentially also through qualitative differences and changes between and within sounds. They do so by combining sensory and semantic aspects, always maintaining the relationship between sound and place through which sonic landscape spatiality unfolds.

► Follow this link to listen to the related soundtrack, recomposed from the original one-minute sound samples from these three sites.<sup>2</sup>  
<https://youtu.be/3dpBGsjmvnQ>

- 1 See Nadine Schütz, "Cultivating Sound: The Acoustic Dimension of Landscape Architecture," DSc diss., ETH Zurich, 2017. The present text contains reworked fragments from the doctoral thesis. I want to take this opportunity to express my deepest gratitude to my thesis supervisor, Christophe Girot. Thanks to his farsightedness, clairaudience, confidence, and advice, it was possible for me to write a doctoral thesis that has supported my design practice ever since.
- 2 Nadine Schütz, "Spectral Transcripts 1," recorded at Epidaurus, Peloponnese, Shisen-dô, Kyoto, and Buttes-Chaumont, Paris, 2022, WAV audio, 06:08, ETH Zurich, <https://doi.10.3929/ethz-b-000600289>.