

Reworking Environmental Sound Composition: Live electronics and phonography as an alternative production model

Thomas Voyce

New Zealand School of Music, Victoria University of Wellington, New Zealand
thomas_voyce [at] yahoo.com

Many composers and practices that use environmental sound as a source for acousmatic composition make use of a particular production model in the creation of musical compositions: a composer records material in the field, these materials are later manipulated in the studio and re-presented to an audience through loudspeakers. Such a model promotes a specific and often problematic relationship between the audience, the materials of composition and the composer. Through the manipulation and arrangement of materials, composers can create a sense of narrative or discourse in their works, where a relationship between the composer and the materials can be established. Musical *meaning* constructed on this basis can, in principle, be transmitted to a listener. While the success of such a transmission is arguable, attempting to understand the composer's presentation becomes the primary focus of a listener's engagement with the work, and in the process, other forms of engagement, such as spatio- and spectro-morphological appreciation (Smally 1986) and more personal, subject-driven engagements, become secondary or absent altogether. With a production model that employs live electronics *in situ*, where a single-take recording of this event becomes the object of a listener's engagement, other aspects of environmental sound composition can be explored, by both composer and audience alike.

To begin with, I would like to outline the course of this paper. Firstly, I will describe the various approaches to environmental composition and their respective aesthetic concerns. I will then describe the production model common to almost all types of environmental compositions, explaining how this model can be understood as promoting an established relational understanding regarding the composer, the listener, and the materials of composition. Finally, I will detail my own compositional process, providing some rationale as to how this model extends the established readings of environmental composition into new territory.

Environmental sound in acousmatic composition

Musique concrète

A great deal has been written about musique concrète, not least of all by its founder, Pierre Schaeffer. While I do not wish to detail all aspects of this practice, there is one key element which is crucial to consider when charting the development of electroacoustic compositions with environmental materials. Schaeffer, while clearly breaking new and exciting ground with musique concrète, ultimately adhered to and promoted formalist aesthetics.¹ Those familiar with the legacy of musique concrète will be aware of the terms *l'objet sonore* and *l'écoute réduite* (Chion 1983: 26-33). Schaeffer's techniques aim to remove the source context of recorded sound in order to produce new materials, to be listened to for their 'spectromorphological' (1986) properties. As such, Schaeffer's techniques can be seen to promote an appreciation of the formal attributes of his 'sonic objects', with the ex-

trinsic, social and cultural properties muted altogether. Luc Ferrari's *Presque Rien No. 1* was developed within this context and can be understood as a rebellion against Schaeffer's prescriptions:

Once I'd done *Presque Rien N° 1* I didn't need to be that radical any more. There's one landscape, a given time, and the radical thing is precisely that it's just one place at one specific time, daybreak. (Ferrari 1998)

Ferrari's work was radical in the context of musique concrète. Where Schaeffer required the removal of any reference to the source material, Ferrari insisted on the source material as a primary aesthetic concern. In many respects, Ferrari's piece can be understood as both composition and documentary. His lack of explicit editing and manipulation of materials allows a listener to explore the environment *as if* they were there, or rather, as if the environment were transported into the present listening context. This particular understanding of the listening experience draws from the writings of Roland Barthes (Barthes 1980), and as I will explain further on, his ideas greatly inform my own practice.

Soundscape composition

Much like musique concrète, a great deal has been written about soundscape composition, notably by Barry Truax, an original member of the World Soundscape Project². Truax's ideas are greatly influenced by the field of acoustic ecology, a practice concerned with noise abatement and sound preservation. Although the World Soundscape Project focused on the recording of environmental sound for documentary and education alone, Truax and other members would begin to use recordings

of the environment in electroacoustic pieces. It could be argued that unlike Ferrari, soundscape composers (as they began to call themselves) were not using environmental sound in composition as a form of rebellion against formalism. Rather, their concerns retained an educational dimension, as is apparent in Truax's widely circulated definition of soundscape composition:

1. Listener recognisability of the source material is maintained, even if it subsequently undergoes transformation;
2. The listener's knowledge of the environmental and psychological context of the soundscape material is invoked and encouraged to complete the network of meanings ascribed to the music;
3. The composer's knowledge of the environmental and psychological context of the soundscape material is allowed to influence the shape of the composition at every level, and ultimately the composition is inseparable from some or all of those aspects of reality;
4. The work enhances our understanding of the world, and its influence carries over into everyday perceptual habits (Truax in Drever 2002: 22)

Much like Ferrari's *Presque Rien N° 1*, soundscape composition promotes an understanding of recorded environments as a kind of documentary, where it is intended that the listener will be able to appreciate the original context of the recordings. Unlike Ferrari's work, soundscape composition, as defined by Truax, makes considerable assumptions about the roles and capabilities of the listener and composer alike. To begin with, regarding successful soundscape compositions, it is assumed that the level of 'listener recognisability' can be ascertained by a composer. This seems problematic at best, if not impossible. In the second point, it is assumed that not only will a listener recognise source materials, but they will also 'complete the network of meanings ascribed to the music.' This requires a composer to ascribe meaning to the work via the editing, arrangement and manipulation of environmental materials. In a successful soundscape work, a listener is able to decode and comprehend a composer's message. This seems like a particularly difficult exercise, where the slightest misinterpretation of a composition would result in an unsuccessful work. Finally, Truax suggests that a soundscape composition 'enhances our understanding of the world'. Such a statement relies on a particular reading of education. To paraphrase this model, the teacher (composer) is in ownership of knowledge and the student (listener) attains this knowledge via a direct communication from the teacher. This particular understanding of education has been criticised by Jacques Rancière, for promoting an 'inequality

of intelligence' (Rancière 2009: 9). Rancière's ideas, which further the concepts of 19th century writer Joseph Jacotot, are too dense to detail in this paper, but I suggest that there is an argument to be made that soundscape composition's educational dimension houses a similar notion of intellectual inequality between the composer and listener. In brief, Jacotot's counter model called for intellectual emancipation. Rancière extended this emancipation from the student to the spectator (2009), and it is my belief that his ideas can be further extended to include the emancipation of the listener. Such a conception elevates the prior experiences of a listener to a central role in the evaluation of acousmatic works with environmental materials. In Truax's definition of soundscape composition, prior listener experiences are not afforded a central role, neither are these experiences understood as governing a listener's ability to recognise or respond to source materials. Soundscape composition conceives of its listeners as having uniform experiences, or rather, the same experiences as that of the composer.

Phonography

Phonography (loosely translated as 'sound-writing') is a term that describes two practices, where one can be considered a subset of the other. In the broader sense, phonography can be used to describe the process of framing and recording sonic information; that is, the transduction between sound waves and voltages, stored on tape or in digital format. Such a definition includes all types of audio recording regardless of the material being recorded or the intentions of the person recording it. In this way, the famous recording of Martin Luther King Junior's 1963 address in Washington DC is as much an example of phonography as the individual tape tracks that make up The Beatle's 1968 recording of *A Day in the Life*.

Phonography is also a term used to describe a specific practice that involves the recording of environments for acousmatic appreciation, and it is this definition I would like to consider here. The motivations of phonographers, at first, seem less prescriptive than that of soundscape composition or musique concrète. According to Yitzchak Dumiel, phonographers aim to 'discover rather than invent' (Dumiel 2008). This suggestion places documentary and compositional practices in opposition to each other, which I believe fails to account for the role of composition *in* documentary.

As a result, the use of the term 'phonography' in my own practice (and in the title of this paper) is understood as having the material engagement of Dumiel's conception³ (specifically, the recording of sound environments), without the understanding of recording as purely docu-

mentary. While the intentions and aesthetic concerns of phonographers requires a very detailed examination, I will say here that I understand 'invention' and 'discovery' not as opposing forces, but fused together in the complex act of composer and listener engagement.

Other practices

To suggest that formalism has no place in the aesthetic judgment of works with environmental materials might seem appropriate given the rebellion of *Presque Rien No. 1* against the formalism of *musique concrète*, and soundscape composition's emphasis on education. However, formalism is not so easily dismissed. There are composers who actively promote formalism as an appropriate way to understand their environmental compositions. Spanish composer Francisco Lopez has written a great deal about this (Lopez 1997), and it is his contention that environmental sound recordings should be heard using techniques similar to that of Pierre Schaeffer's reduced listening model. In short, Lopez is concerned with the sounds of an environment for their intrinsic, or specifically music-sonic, qualities. Further to this, he criticizes soundscape composers for requiring an 'unjustified re-integration of the listener with the environment' (1997). Lopez's critique carries some weight. As mentioned, it is my belief that soundscape composition does not take into consideration the prior listening experiences of the audience, and therefore soundscape composition's listener/environment relationship can be seen as forced or 'unjustified' as Lopez suggests.

Summary of practices

Like Ferrari's piece, Lopez's work allows a listener to approach the materials in an open manner. Where Ferrari invites a listener to discover the original context of source materials, Lopez invites a listener to discover the spectromorphological qualities. As with phonography, the concept of a listener's *discovery* is fundamental to both Ferrari's piece and Lopez's compositions. Soundscape composers however, while promoting listener engagement, fail to do so in the same manner; their prescriptions will not always be met with understanding. Salomé Voegelin, in discussing soundscape composition's fixation with communicating the concerns of acoustic ecology, notes that such works produce 'a more didactic composing *at* the listener...' (Voegelin 2010: 32).

The three-phase production model

While there are seemingly substantial differences between the aesthetic concerns of many composers of environmental materials, they all share a similar production model, and I believe this model has a significant effect on

the way compositions are experienced by an audience, regardless of what is intended by the composer. The production model can be summarised in three basic stages: recording, editing, and diffusing. It is important to note that while 'composing' is often associated specifically with the second phase, I believe that composing takes place across all three stages of production, which is indicative of my belief that the framing of environments, spatially and temporally, is deeply compositional, and that transduction, both the capture and release of sound waves, is part of that process.

Recording denotes the stage where a composer selects, frames and records a sound environment. The intervention of the composer in the environment can be that of a 'silent observer', or in some cases, a composer may choose to announce their presence. In the majority of compositions with environmental materials, framing of the environment alone is the most prevalent kind of intervention.

Editing denotes the stage where a composer assembles the recordings into a piece, often in a studio setting. It is important to note that at this stage, the composer assumes the role of the audience to some degree. The ability for a composer to attend to recordings in a controlled studio environment, often for extended periods, can lead a composer to imagine how an audience might respond to their materials and manipulations. This collapsing of the distance between composer and audience in the electronic music studio, in my view, leads to the awkward misconception by many composers that a listener will share the same responses to environmental sound as they do. It follows then, that a composer may assume all listeners will share this same understanding. This attitude can be seen explicitly in the 4-point definition of soundscape composition mentioned earlier, but my belief is that this situation arises as much out of process as it does ideology, and hence this is not a condition exclusive to soundscape works.

Diffusing denotes the reproduction of materials in a new acousmatic environment. This setting can be anywhere where speakers are present (including headphone listening). The diffusion of compositions can range from highly controlled settings, to vastly differing contexts, thanks largely to the proliferation of digital media players, and the availability of works in digital formats.

Transcontexts

The three-phase production model described above can be understood as promoting a specific relationship between the listener, the materials of composition, and the composer. Denis Smalley describes this relationship with the term 'transcontexts':

In *transcontexts* the composer intends that the listener should be aware of the dual meanings of a source. The first meaning derives from the original, natural or cultural context of the event; the second meaning derives from the new, musical context of the composer. (Smalley 1996: 99)

It should be noted that such an understanding of acousmatic composition where environmental sound is involved requires a great deal of unpacking. Ideas regarding the nature of listening, the semiotic capacity of environmental sound, and the question of what constitutes *meaning*, require clarification. For the purposes of this paper, I will suggest that a transcontextual relationship does exist, but it does so on a listener's terms. In other words, a listener will seek a relationship with source materials and a composer's intentions (as Smalley suggests), but a composer has little or no control over what understandings a listener formulates.

This communicative dilemma is most easily perceived when examining soundscape composition, a practice, as we have seen, that requires a listener to be able to recognise source material, and be aware of what a composition is 'about'. In my view, to assume that a listener will understand a composer's message through the arrangement of environmental materials and their manipulations, suggests a lack of appreciation for the deeply personal and highly subjective nature of listening. I believe that Truax's definition of soundscape composition acknowledges that composers assume the role of the audience during the production of their pieces, without considering the vastly differing experiences of the actual audience.

In terms of phonography and more formalist-leaning practices, Smalley's transcontextual relationship persists regardless of how much a composer may wish to disguise either the source context or their own intervention. It is my belief that the three-phase production model, irrespective and often in spite of a composer's aims, elicits the same general response in listeners. That is, responses emerging from personal resonance with the source materials based on listener's experience of life, and leading to a question: why is the composer presenting these materials?

Live electronics and phonography as an alternative production model

In order to elicit new responses in listeners, I have developed a practice, which is a hybrid of many practices, namely, phonography, sound installation, live electronics, and improvisation. Additionally, my practice is experienced as acousmatic compositions, often in an octago-

nal speaker array. My desire is to change the role and displace the position of the composer. A listener is encouraged to retain their personal resonance with the source materials, but new questions arise, perhaps the most important of which: *what* is the nature of the composer's intervention?

Process

To begin with, I select a site for recording. This could be anywhere, though I have a preference for very quiet environments with interesting acoustic properties. Once a site is selected, I install a sound-system. This often includes four full-range powered speakers with wireless audio receivers, their positions determined by the environment itself. I then select a site to perform in. This involves a table, a multi-channel AD/DA converter and a laptop with audio processing software. Contact microphones, hydrophones and small diaphragm condenser microphones are placed in the environment for capturing sounds, which are then routed through the software for manipulation and diffusion back into the environment wirelessly. I also use a variety of pre-recorded material, often recordings of other environments, which can also be accessed and diffused in real time. The nature of my improvisation is responsive to the environment itself. As such, I often use a DAW with advanced routing capabilities in order to run a range of audio plugins and software. A single ambisonic microphone with pre amps and a recorder is used to record the performance, which is then played back to a listener in a new, acousmatic context. It is a single-take recording, with no editing after the performance.

While a single-take recording may seem to promote an understanding of the work as simply a document of an event, this is not the case. My belief is that editing can be more easily detected by the human ear where environmental sound is concerned, and such a recognition would complicate the position of the composer in a listener's experience. This stems from my desire not to present environments, but to perform them. In this way, I view my work as improvisation within composition, though the two are interrelated as the improvisation is at once unfolding within the context of the environment and within the new acousmatic *compositional* context.

Rationale

Roland Barthes suggests that unlike photography, film contains 'protensity' (Ashby 2010: 207). Protensity refers to the ability of a film to reach from the past, the remote context of its capture into the present. I believe that audio recording has a similar protensity to that of film, only much more compelling, due to the lack of visual cues.

Understanding this term and other of Barthes' ideas as they relate to phonography is the topic of yet another paper, but I simply wish to posit the idea that the editing of recordings, especially environmental recordings, amounts to a kind of broken protensity, or the juxtaposition of two (or more) different temporal episodes. When detected, a listener focuses on the potential reasons for this split, and not the materials at hand. If allowed to engage with the recording without this interruption, a listener will begin to question the nature of what is being attended to, without focusing on the manner in which it is presented.

Open interpretation is encouraged as a meaningful way to understand the acousmatic work. Ambiguity is often employed as a way to evoke this. For example, it may or may not be clear to a listener what kind of event is taking place; which sounds are created by the environment and which sounds are being diffused by the composer. This relates back to my desire to centralise the role of a listener's experiences in the appreciation of environmental works. Such a desire is informed by my own experience of environmental works, and also by the writings of Son-tag, Barthes, and Rancière.⁴

Hybridisation is used as a way to augment the existing models of production in order to create new listening experiences. Jacques Rancière wrote of hybridisation in his book *The Emancipated Spectator*, stating that many forms of hybridisation in modern art fail to address its own ideals. He wrote:

...there is the hybridization of artistic means appropriate to the post-modern reality of constant exchange of roles and identities, the real and the virtual, the organic and mechanical and information-technology prostheses...which uses the blurring of boundaries and the confusion of roles to enhance the effect of the performance without questioning its principles. (Rancière 2009: 21)

I believe that my own work, while encouraging a certain ambiguity between the materials of composition, does not aim to stultify; that is, there is not an instructional dimension to my work, neither do I assume that I can transfer knowledge of any sort to a listener. Rather, my work attempts to emancipate the listener from that of a passive receiver of the work by encouraging a reflexive response within the listener, between the materials of composition, and their own experience of life. My use of hybridisation strives not to blur or confuse the role of the composer. It attempts to relocate the composer and the site of production away from the studio and into the field, which in turn invites a listener to contemplate the intersection between technology, environment and artist in new ways.

Conclusion

My desire to engage a listener with my work in a way that is non-prescriptive, allowing for a listener's lived experience to fully participate in the acousmatic experience unhindered by an insistence on narrative/discourse or a quasi-pedagogical connection to the source contexts, has led me to develop this production model. The success of this model remains to be tested, although early compositional studies have revealed a great deal of promise. It is my hope that in reworking the production model, and facilitating new experiences of environmental sound in acousmatic settings, I will help to extend the realms of what is possible when working with environmental materials.

Acknowledgments. I would like to thank Dr. Dugal McKinnon, as always, for his thoughtful feedback on ideas raised in this paper.

References

- Ashby, A. (2010). *Absolute Music, Mechanical Reproduction*. Berkeley: University of California Press.
- Barthes, R. (1980). *Camera Lucida* [trans.: Richard Howard]. New York: Hill and Wang.
- Chion, M. (1983). *Guide de Objets Sonores. Pierre Schaeffer et la recherche musicale* [trans.: North and Dack]. Retrieved from http://www.ears.dmu.ac.uk/spip.php?page=articleEars&id_article=3597
- Drever, J. (2002). Soundscape composition: the convergence of ethnography and acousmatic music. *Organised Sound* 7/1: 21-27
- Dumiel, Y. (2008). *What is Phonography?* Retrieved from <http://www.phonography.org/whatis.htm>
- Ferrari, L and Warburton, D. (1998). Interview conducted 22 July 1998. Retrieved from <http://www.paristransatlantic.com/magazine/interviews/ferrari.html>
- Hamilton, A. (2007). *Aesthetics and Music*. London: Continuum
- Lopez, F. (1997). Schizophonia vs. l'objet sonore: soundscape and artistic freedom. Retrieved from <http://www.franciscolopez.net/schizo.html>
- Nattiez, J. (1987). *Music and Discourse: Toward a Semiology of Music* [trans.: Carolyn Abbate]. New Jersey: Princeton University Press.
- Rancière, J. (2009). *The Emancipated Spectator* [trans.: Gregory Elliot]. London: Verso.
- Smalley, D. (1996). The Listening Imagination: Listening in the Electroacoustic Era. *Contemporary Music Review* 13/2: 77-107.
- Smalley, D. (1986). Spectro-morphology and structuring processes. In: Emmerson, S. [ed.] *The Language of Electroacoustic Music*, London: Macmillan, 61-93.

Sontag, S. (1966). *Against Interpretation and Other Essays*. New York: Farrar, Straus and Giroux.

Voegelin, S. (2010). *Listening to Noise and Silence*. New York: Continuum.

¹ Andy Hamilton provides a very good account of the development of formalism in his book *Aesthetics and Music*. See Hamilton, A (2007).

² The World Soundscape Project (WSP) was founded by R. Murray Schafer in the late 1960s. Initial activities included the recording of sounds around Vancouver. These sounds were eventually released in 1973 on *The Vancouver Soundscape* double LP, which was intended as an educational resource.

³ Information regarding the growing practice of phonography and its particular aesthetic concerns and practical methodology can be found at www.phonography.org. See also Dumiel, Y. (2008).

⁴ Susan Sontag's work *Against Interpretation*, Roland Barthes' *Camera Lucida* and Jacques Rancière's *The Emancipated Spectator*, each view an interpretive relationship between artist and viewer as largely redundant, and these ideas can be easily translated to a composer/listener relationship. See Sontag, S (1966), Barthes, R (1980) and Rancière, J (2009) respectively.

[Abstract in Korean | 국문 요약]

환경 소리 작곡 재작업: 대체 생산 방식으로서의 라이브 일렉트로닉과 표음 기보법

토머스 보이스

어쿠스마틱acousmatic 작곡의 원천 재료로서 환경 음향을 사용하는 많은 작곡가와 방법들은 음악 작품을 창작할 때 특정한 생성 방식을 사용한다: 작곡가는 현장에서 소재를 녹음하고, 이 소재들은 후에 스튜디오에서 처리되고 스피커를 통해 청중에게 재현된다. 이러한 방식은 청중과 작품의 소재, 작곡가 사이에서 특징적이고 종종 문제가 되는 불확실한 관계를 조장하기도 한다. 작곡가는 음 소재를 다루고 배열하면서, 작곡가와 소재 사이의 관계가 성립하는 작품에서 서사나 담화의 개념을 만들어 낼 수 있다. 이러한 토대 위에 구성되는 음악적 '의미'는 원칙적으로 청중에게 전달될 수 있다. 전달의 성공 여부는 미지수이지만 작곡가의 표현을 이해하려는 시도는 청중이 작품에 참여할 때 주요한 초점이 되며, 진행 중에는 공간 형태적이고 스펙트럼 형태적인 평가(스몰리Smally 1986)와 한층 더 개인적인, 자아로부터 발현되는 참여와 같은 다른 형태의 참여가 부차적이 되거나 불필요하게 된다.

환경 음향 작곡의 다른 관점들은, 한 번 녹음한 상태 그대로의 소리가 청중의 청취 대상이 되는 '현장'에서의 라이브 전자음악 생성 방식과 함께, 작곡가와 청중 모두에 의해 탐구될 수 있다.