New Approaches to Transcodification

Transcodification: Arts, Languages and Media

Edited by
Simone Gozzano

Volume 7

New Approaches to Transcodification

Literature, Arts, and Media

Edited by
Massimo Fusillo, Doriana Legge, Mirko Lino,
Mattia Petricola and Gianluigi Rossini

DE GRUYTER

The series is funded with the grant of the Department of Excellence (2018–2022) awarded to the Department of Human Studies of the University of L'Aquila by the Italian Ministry of Education, University and Research (MIUR).

ISBN 978-3-11-162405-1
e-ISBN (PDF) 978-3-11-163612-2
e-ISBN (EPUB) 978-3-11-163611-5
ISSN 2702-7732
DOI https://doi.org/10.1515/9783111636122

Library of Congress Control Number: 2025933538

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at http://dnb.dnb.de.

Printing and binding: CPI books GmbH, Leck

www.degruyterbrill.com
Questions about General Product Safety Regulation:
productsafety@degruyterbrill.com

Table of Contents

Doriana Legge

A Performance Of Sound for an Immersive Theatre

Abstract: This essay delves into the liminal and unpredictable realm of sound and acoustic perception in contemporary works, with a focus on the theatrical sphere. Through the analysis of Ryoji Ikeda's works, including *Dataverse*, *Superposition*, and *Music for Percussion*, this study examines the role of sound composition as a directorial practice. By exploring the intersection of sound, technology, and the human experience, this research aims to uncover the ways in which sound can influence the stage setting, its processes of creation and reception, and the audience's perception of space and time. Drawing on philosophical debates on sound and perception, this essay argues that sound is a powerful tool that can immerse the listener, engage their sensory sphere, and create a "weather world" of dynamic and polymorphous experience. Ultimately, this study seeks to contribute to the ongoing discussion on the ontology of sound and its implications for theatrical practices, encouraging a deeper understanding of the intricate relationships between sound, body, and space in 21st-century theatre.

Keywords: Sound, contemporary theatre, immersivity, acoustic perception, performance

In this essay I shall try to explore a liminal and partly unpredictable area. Here we are dealing with the question of sound and acoustic perception in some directorial works of the twenty-first century. Sound Studies consist in the study of sound, and research into sound and listening. When we extend some of the issues to the specific field of theatrical studies and performance the questions start to multiply.

In recent decades, those of the twenty-first century, the daily soundscape has undoubtedly changed. The manipulation of sound materials and technological-digital progress have allowed the creation of impressive sound formations in the stage setting. In this sense, technological progress in sound spatialization or the use of complex microphone systems has created unexpected experimental zones.

The nature of auditory perception, widely discussed in analytical philosophy, has undermined the centrality of vision and triggered questions about the interaction between subject and environment. By listening to sounds, our perception of space and time changes; in everyday life a lot of behavior is guided by sound cues so familiar that consciousness no longer perceives them, and if this happens in the theatre the issue ends up being amplified.

 https://doi.org/10.1515/9783111636122-021

Clearly, the auditory process, the way our auditory system perceives sounds, always works in the same way, whether in an everyday situation or when attending a show or concert. However, it is legitimate to ask how, and how much, auditory perception can influence the stage setting, its processes of creation and reception. Thus, contemporary stage practices become the terrain in which many artists, sound designers and directors use sound as a tool to arouse the aesthetic sensitivity of the listener, with a joint reflection on the phenomenological nature of sound itself.

There is a heated debate around this issue in the field of the philosophy of perception, which I will try to explain briefly. We might refer to the studies by Roberto Casati and Jérôme Dokic (1994) on the auditory experience in relation to space, where three bodies of theory are highlighted: *distal* theories, whereby sound *is* the very vibration of the object that produced it (and therefore the object is said *to have* sound); *medial* theories, which localize sound as a sound wave and place it in the air (or in another medium of propagation, water for example), resonating with the fact that one often asks of a sound, not "where is it" but "where does it come from?"; *proximal* theories, whereby sound is in the auditory system of the listener, or rather is considered as an internal manifestation occurring in the auditory system and in our brain. In the latter case, the sound might be described as a *sensation.*

Thus, we might say that the most experimental artistic practices entail a conception of sound that oscillates between these different theories regarding the ontological nature of sound itself (distal, medial, proximal theories).

Over the last decade, especially in sound art, this aspect has become more and more evident, whereas, in the theatrical sphere, it seems that there is still a need for it to be traced out in detail, certainly by those who perform theatre, and even more so by those who study its practices.

Therefore, through some of these suggestions we might reflect on certain works that we will take as *case studies.* The works I have chosen are all by a Japanese composer and visual artist, Ryoji Ikeda: *Dataverse*, *Superposition*, *Music for Percussion.*

With these works we shall try to analyze the role of sound composition as a directorial practice.

However, it has to be assumed that sound is a type of mechanical (or kinematic) energy that, starting from a vibrating source, expands in the form of waves through the medium of propagation (water or air) until it reaches the listener. The human ear can hear sounds within a limited range of frequencies and sound pressure. Audible frequencies are generally between 20 Hz and 20000 Hz. Waves below 20 Hz are called infrasound, those above 20kHz, ultrasound. The

human ear is normally unable to hear ultrasound and infrasound, but the body is capable of perceiving vibrations below the common hearing threshold.

The human ear receives the waves and functions as a pressure sensor, but the acoustic pressure is audible according to the frequency of the sounds, that is, the number of oscillations per second: the greater the number of waves, the sharper the sound. A frequency (Hertz) corresponds to a complete oscillation in the time of one second. For example, a sound of 1,000 Hertz is audible at 0 dB (decibels), but if we go down to 30 Hertz the sound is audible at a sound pressure level of at least 60 dB.

While it is indeed true that the human ear is conventionally unable to hear ultrasound and infrasound, the sensory system is capable, despite itself, of perceiving vibrations below the common hearing threshold.

We know, for example, the effects of certain frequencies: infrasound produces a sense of nausea and confusional state, and infrasound of lightheadedness and dizziness. Sound, even when inaudible, is thus a physical phenomenon that acts on our bodies with sometimes unimagined possibilities. So it is evident what a powerful tool it might be in the hands of artists working with sound.

It would be more appropriate to clarify that by the term "sound" we want to refer to what Bregman calls "auditory stream"[1] – expression later replaced with auditory object. In fact, it certainly convinces more, with reference to the particular type of theatrical listening, to think of sound as a stream not related to the simple physical cause that produced it.

Ryoji Ikeda: geography of data, visual and aural

Ryoji Ikeda is one of the few international artists working convincingly on both visual and sound aspects. A recurring theme in his research is the universe of data. In the trilogy *data-verse*, the main electronic composer and visual artist of Japan, processes, transcribes, converts, transforms, and organizes massive scientific data sets to visualize and sonify the different dimensions that coexist in our world, from elementary particles to the universe. The trilogy will present three variations of this journey from the microscopic to the human and the macroscopic, inviting visitors to experience the massive flow of data in which we live. *data-verse* captures hidden facets of nature that have been processed, transcribed, converted and transformed through a massive set of open source scientific data obtained from various institutions such as CERN, NASA and the Human Genome Project,

1 See Bregman 1990.

thanks to which it is possible to visualize and sonify the different dimensions that coexist in our world, from the microscopic to the human, to the macroscopic. What Ikeda says is very interesting: "When I set out making this work, my approach was always, first and foremost, that of a composer. Rather than creating a traditional musical composition, I used data as my source material, applying a system and structure as you would with any score".

The installation *data-verse* consists, in its first part, of a large-scale screen accompanied by a music created through the obtained data, which harmonizes the high-definition video projections. Generated by an extremely precise computer programming, the work comprises a minimalist electronic soundtrack and high-definition video projections of scientific data. Ikeda's research allows us to see the world differently and to understand the many layers that make up the universe, particularly the intersections between arts and sciences. The idea is that technology allows us to see what is real and to dig inside things, to see the infinitely large and the infinitely small (just like a microscope or telescope). What Ikeda creates is a geography of data, visual and aural, which recurs in many of his works.

Let's look at another of his works: *Superposition.*[2] The initial sequence begins by interrupting the silence with a very low frequency sound, not audible to the human ear, which gradually becomes more and more distinct. As I said before, therefore, many of these sounds are perceived by the spectators' bodies rather than by the auditory system.

In this work there is an evident presence of two performers, a rare element in Ikeda's work; in this case the two, Amelie Grould and Stephane Garin, in the role of data-coder and decoder, are there to show us the interaction between human and machine, generating words and messages through Morse code. However, the letters and text projected on the screen only appear intermittently, so it is difficult to grasp their meaning.

In *Superposition*, as in Ikeda's other works, it is clear that the creation of sounds and video emerges via a process of editing, sampling, cut & loop and remix. These modes are not simply techniques, but a way of rethinking the aesthetics of multiplicity. The electronic musician creates a bricolage of music from distant universes, manipulates sounds, mixes fragments and stratifies them; thus, composition itself is linked to an operation of active and creative listening.

Another work from 2018, *Music for Percussion,*[3] would seem to go in a different direction. On this occasion, Ikeda worked with pure acoustic sounds produced

2 This is an extract from the work: https://vimeo.com/49873167 (last accessed 07/12/2024).

3 This is an extract from the work: https://www.youtube.com/watch?v=8az0JBOW_0g (last accessed 07/12/2024).

by a group of four percussionists. However, the interesting thing is that these instruments sound different from what we would actually expect. Let's look at the case of the last two compositions from this performance. They are compositions for triangles and cymbals and the sounds are produced by a simple triangle. So, it is clear that even the most conventional instruments can produce sound textures similar to those of electronic music. In this way, although this performance is a long way from Ikeda's previous works, it actually displays unexpected continuity. In another track, Ikeda uses cymbals and other percussive instruments, and he abandons the acoustic energy of his previous works and invites the listener to take part in a liturgy in which there is a shift from silence to an acoustic, and surprisingly fluid, magma.

The performance explores the liminal zones of darkness and silence which precede the beginning of the performance and announce its end. Therefore, the sound emerges gradually as if from a chrysalis.

Here is the idea of a world born from sound (and here we should mention all those creation myths that claim the world was born from sound – Marcus Schneider discusses all this in his very well-known book *Primitive Music*).

A few concluding remarks. Ikeda's work invites us to think that the actual perception of a performance does not take place at a distance but fully involves the sensory sphere and the "virtual body". In fact, sound has the capacity to immerse the listener without any supporting physical presence on stage. In the words of Merleau-Ponty: "Ce qui importe pour l'orientation du spectacle, c'est ne pas mon corpos tel qu'il est en fait, comme chose dans l'espace objectif, mains mon corps comme système d'actions possibles, un corpos virtuel don't le "lieu" phenomenal est défini par sa tâche et par sa situation."[4]

In the theater, imaginary worlds are inhabited by our bodies, "virtually" in action, but here I do not want to mean those performance practices that have to do with the active participation of the spectator and break the more classical separation between the actors' space and the public space, the distinction seems to me almost incidental in a discourse that wants to focus on the acoustic matter of the performance.

Indeed, sound has the power to immerse the viewer without the support of his or her physical presence on the scene.

Even when listening in the theater is mostly frontal, that is, the loudspeakers are placed in front of the audience and there is no specific surround design, the sound expands and envelops.

4 Merleau-Ponty 1945, 289

Thus, the most basic difference lies between interaction and immersion. Immersion is a complex phenomenon that requires different levels of neuro-psychological involvement, such as perception, attention, and emotion. George Home-Cook refers to sound immersion as a sum of acts of attention, and together something to do with the movement of sound itself: "sound *moves* and we move in sound. The experience of being immersed in sound is thus not only dynamic but *polymorphous.*"[5]

We can investigate this extra-quotidian experience – as Home-Cook suggests – both as a concept and as a phenomenon: ""observation" therefore, is not separate from the state of being immersed, but a necessary aspect of its dynamism: participation (or immersion) is not only a "condition" for "observation" but is itself characterized by dynamic acts of embodied attending."[6] Then he adds: "Whilst we may find ourselves seemingly "immersed" *in* sound, this immersion necessarily motivates us to participate in acts of *sounding.*"[7]

Tim Ingold refers, for example, to the "weather world", an expression that seems to him preferable to the abused "sound landscape", coined by Raymond Murray Schafer, or to the more recent "sound-as-scenography" coined by Ross Brown, who seems to forget that auditory attention does not have the same characteristics as visual attention, is multidirectional, and never has to do with detachment.

What I find successful about Ingold's formula instead, and particularly valid for those theater studies that want to focus on the acoustic dimension of a certain work, lies in the absence of references to spatiality and objective reality, then: "As the visual is to light, and the aural to sound, so the landscape is to the weather-world."[8]

It will be necessary to pay attention to the movements that lie at the origin of things and not to the objective form of the things themselves: this is the field in which many artists and sound designers move, using sound as a tool that activates the aesthetic sensibility of the spectator, but reflecting together on the phenomenological nature of sound itself. As we have seen, the acoustic texture, in the theater, while coming from elsewhere (the voice of the actors on stage or the speakers placed near the stage itself) is perceived more proximately than the things we see, and in fact it is often said that "the actor's voice comes in" or that "the sound fills the room".

5 Home-Cook 2015, 142.
6 Home-Cook 2015, 149 – 150.
7 Home-Cook 2015, 150.
8 Ingold 2011, 97.

For some philosophers of perception these expressions are not quite correct, so – as I have argued elsewhere[9] – it seems to me preferable to use Bregman's formula and consider sound as an "auditory stream". According to the American philosopher Don Ihde "Sound comes in two primary spatial dimensions [...] Sound is directional and sound is encompassing"; he then adds "neither dimension is lacking in any given experience of sound."[10] George Home-Cook talks about sound immersion as something to do with the movement of sound itself: "sound *moves* and we move in sound. The experience of being immersed in sound is thus not only dynamic but *polymorphous.*"[11]

Ikeda manipulates the sensory experience of listening and focuses the listener's attention on the progression of the auditory flow; in this sense that one can create a directorial design with sound.

I would like to close with the words of anthropologist Tim Ingold:

> In short, looking out to sea we saw a world in movement, in flux and becoming, a world of ocean and sky, a weather-world. We saw a *world without objects.* [...] The breaking waves were their sound, not objects that make a sound; the wind was its feel, not an object touched; the sky was light, not something seen in the light.[12]

Ikeda's work for *Music for Percussion* can be traced back to this observation by Ingold, and, in general, to allusions of a creative energy, not linked to objects but closer to an atmospheric world, in which sound, light and air are mediums of an immersive and dynamic perception, far beyond the three known dimensions.

References

Altman, R. (ed) (1992), *Sound Theory/Sound Practice*, London.
Bennet, S. (2019) *Theory for theatre studies. Sounds*, Bloomsbury.
Böhme, G. (1993) *Atmosphere as the fundamental concept of a new aesthetics*, in: *Thesis Eleven*, 36, 113 – 126.
Bregman, A.S. (1990), *Auditory Scene Analysis. The Perceptual Organization of Sound*, Cambridge.
Brown, R. (2010) *Sound: A reader in Theatre Practice*, Basingstoke.
Casati, R./Dokic, J. (1994), *La philosophie du Son*, Nîmes.
Cox, C./Warner, D. (eds) (2004), *Audio Culture: Reading in Modern Music*, New York.
Di Bona, E./ Santarcangelo, V. (2018), *Il suono. L'esperienza uditiva e i suoi oggetti*, Milan.
Garner, S. (2019), *Bodied Spaces: Phenomenology and Performance in Contemporary Drama*, Ithaca.

9 See Legge 2019.
10 Ihde 1970, 17.
11 Home-Cook 2015, 142.
12 Ingold 2011, 131.

Gaver, W.W. (1993), *What in the World Do We Hear? An Ecological Approach to Auditory Event Perception*, in: *Ecological Psychology*, 5(1), 1 – 29.
Gibson, J. (1979), *The ecological approach to visual perception*, Boston.
Home-Cook, G. (2015), *Theatre and Aural Attention: Stretching Ourselves*, London.
Ihde, D. (1970) "Parmenidean meditations", in: *Journal of the British Society for Phenomenology*, 1(3), 16 – 23.
Ihde, D. (2007), *Listening and Voice: Phenomenologies of Sound*, New York.
Ingold, T. (2011), *Being Alive, Essays on Movement, Knowledge and Description*, London.
Kane, B. (2014), *Sound Unseen: Acousmatic Sound in Theory and Practice*, Oxford.
Kaye, D./Lebrecht, J. (eds.) (1992), *Sound and Music for the Theatre: The Art and Technique of Design*, Burlington.
Kendrick, L. (2017) *Theatre Aurality*, London.
Legge, D. (2019), *Forme del silenzio, tracce del suono. Appunti per un ascolto teatrale*, in: *Arabeschi*, 14, 86 – 97.
Merleau-Ponty, M. (1945) *Phénoménologie de la perception*, Paris.
Nudds, M./ O'Callaghan, C. (eds.) (2009). *Sounds and Perception: New Philosophical Essays*, Oxford.
Pasnau, R. (1999). *What Is Sound?* In: *The Philosophical Quarterly*, 49(196), 309 – 324.