

THE PERFORMATIVE PRACTICE OF ELECTROACOUSTIC IMPROVISATION: TWO POSSIBLE PARAMETERS FOR ITS CRITICAL ANALYSIS

LA PRATICA PERFORMATIVA DELL'IMPROVVISAZIONE ELETTROACUSTICA: DUE POSSIBILI PARAMETRI PER LA SUA ANALISI CRITICA

ALESSANDRO GAMBATO

Abstract (IT): Il seguente articolo cerca di definire due cornici concettuali utili per descrivere le dimensioni fisico-strumentali e performativo-teatrali della produzione sonora nella pratica recente dell'improvvisazione elettroacustica. A tal fine, utilizzerò una serie di casi studio che saranno analizzati secondo i quadri concettuali teorizzati, cercando di descrivere un arco cangiante di tendenze recenti nel panorama in esame. Partendo da una definizione operativa di improvvisazione elettroacustica, volta a definirne i confini utili ai fini della trattazione, procederò quindi ad articolare il concetto di distanza tra l'origine corporea e fisica del suono e a definire un continuum performativo che va dalla performance al teatro. In entrambi i casi, attingerò da concetti sviluppati da altri studiosi del settore, utilizzando alcune loro argomentazioni come base per stabilire quadri analitici applicabili alle pratiche in esame. L'articolo si concluderà con alcune valutazioni personali, basate sulle tendenze analizzate, riguardanti i possibili futuri della pratica dell'improvvisazione elettroacustica.

Parole chiave: Improvvisazione, elettroacustica, performance, pratica, teatro.

Abstract (EN): The following paper tries to define two conceptual frameworks useful for describing the physical-instrumental and performative-theatrical dimensions of sound production in the practice of contemporary electroacoustic improvisation. To this end, I will draw on a series of case studies that will be analyzed within the theoretical frameworks outlined, seeking to describe a shifting spectrum of recent trends in the field under examination. Moving on from a non-exhaustive definition of contemporary electroacoustic improvisation, aimed at defining its boundaries for the purposes of discussion, I will then proceed into articulating the concept of distance between the bodily and physical origin of sound and into defining a performativity continuum between performance and theater. In both cases, I will draw on studies and concepts developed by other scholars in the field, using their discussions as a basis for establishing analytical frameworks applicable to the practices under consideration. The article will conclude with some personal assessments, based on the trends analyzed, concerning the possible futures of the practice of electroacoustic improvisation.

Keywords: Electroacoustic, improvisation, performance, practice, theater.

**THE PERFORMATIVE PRACTICE OF CONTEMPORARY
ELECTROACOUSTIC IMPROVISATION: TWO POSSIBLE
CONCEPTUAL FRAMEWORKS FOR ITS CRITICAL ANALYSIS**

ALESSANDRO GAMBATO

1. A non-exhaustive definition of contemporary electroacoustic improvisation

The aim of this article is to examine two conceptual frameworks describing the physical-instrumental and performative-theatrical dimensions of sound production, and apply them to musical practices hereafter defined as electroacoustic improvisation. The definition of what electroacoustic improvisation is goes beyond the scope of this paper, and in fact, music as an abstract concept is an inevitably fluid phenomenon, inextricably linked to the time and culture in which it is expressed, and its discretization into fixed categories is therefore in itself a failure. Yet human beings are inclined to categorize and conceptualize the phenomena of reality, and music is no exception to this flattening. The practice of electroacoustic improvisation today refers to a multifaceted trend that has, over time, broken away from the tradition of western classical music (especially academic), leaving it and returning to it several times, crossing over into other genres such as jazz, sound art, pop, and commercial electronic music. For these reasons categorizing it into a rigid genre is harmful to the purposes of this article. Electroacoustic improvisation will be viewed therefore as a working category adopted for the purposes of the discussion, rather than the genre it could refer to, allowing for the analysis of different experiences and the formulation of certain cross-cutting frameworks. Moreover, the term “electroacoustic” is adopted in order to allow the analysis of improvisational performance experiences that encompasses everything (including the extremes) that falls between amplified acoustic instruments

and fully electronic/digital instruments (thus including electro-acoustic instruments¹, non-traditional amplified instruments, traditional amplified instruments played in a non-idiomatic manner, and augmented instruments, all the way up to fully electronic or digital systems used for musical expression). In this case then the non-exhaustive definition of electroacoustic improvisation consists any music produced using instruments that fall under the definition of “electroacoustic”², and that is not written/notated in a prescriptive manner. What will not be discussed in this paper is the definition of improvisation and its specific manifestations, which will be understood here, in a perhaps superficial way, as different experiences of unwritten (with prescriptive scores) musical practices, based on choices made in real time. It follows that the case studies discussed below cannot be considered exhaustive in describing the current scene of electroacoustic improvisation; rather, they serve to outline and expand the discussion of potential analytical frameworks that could be applied more broadly to other experiences.

2. Conceptual Frameworks

The critical analysis of the following improvisation experiences will be conducted using two conceptual frameworks, conceived as analytical tools to describe characteristics that are common across the case studies.

¹ “Electro-Acoustic Instrument,” *OnMusic Dictionary*, accessed April 27, 2026, https://dictionary.onmusic.org/terms/1295-electro-acoustic_instrument

² In the previously outlined definition.

2.1 The distance between the corporeal origin and the physical origin of sound

To define the first framework, it is useful to start with what Cathy Van Eck refers to as the ‘origins of sounds’³:

The corporeal origins can be defined as the movements by the musician causing the musical instrument to sound. With acoustic instruments this is obvious: a musician has to make movements to produce any sounds at all. These might be big movements, such as needed when playing the cello, or smaller movements, such as when playing the clarinet. Non-electronic instruments each demand a specific physical effort from the player. Controllers and instruments used to control electronic sounds also demand a physical effort, albeit often with less constraints. In electronic music one can push a button or move a fader to trigger a complex sound. Additionally, the relationship between physical effort and resulting sound is not as linear⁴ (or even not linear at all) as is the case for acoustic instruments. Especially when using digital means, the same movement on the same controller could trigger a different sound, depending on how a computer or synthesizer is programmed.

[...] *the physical origins*. These are the movements through which the sound itself is produced. For acoustic instruments these are, for example, vibration by strings, pieces of wood, columns of air, etc. With electronic means these movements are nearly always executed by the diaphragms of loudspeakers. For acoustic instruments these physical

³ Cathy VAN ECK, *Creaking Apples and Singing Chairs: on composing with objects, actions and sounds*, in Enrique Tomás e Thomas Gorbach e Hilda Tellioglu e Martin Kaltenbrunner, *Embodied Gestures*, TU Wien Academic, Wien, 2022, pp. 3-4.

⁴ “Linear” is used here (and throughout the paper) in the context of the relationship between physical effort and resulting sound, its usage is to be intended in a non-strictly mathematical way (see FLETCHER, 1999) to define an incorporated effort-resulting sound relationship, typical of acoustic traditional instruments, that can’t be freely (re)programmed from scratch as it happens in electronic-digital set-up.

origins are often firmly coupled to corporeal origins⁵. The physical origins are defined by the design of the instrument. To bring the instrument into vibration, and thus to produce sounds, is achieved by specific movements of the body of the performer. The corporeal origins are merely predefined by the instrument itself, and thus by the physical origins. It is hard to produce sound by blowing on a violin, and not easy to bring out many sounds by hitting a clarinet either. This is different for instruments using loudspeakers for producing sound: the corporeal origins are not prescribed by the physical origins, but can be designed in many different ways. The physical origins are always the same in electronic music: loudspeaker diaphragms vibrating according to an electric signal. [...] *the imaginary origins*. Especially in electronic music this category is of much importance. As mentioned above, the physical origins will always be the same loudspeaker vibrations, but the imaginary origins of these sounds can be manifold. [...] As Michel Chion (2010) describes, these imaginary sound sources replace the real sound sources, which are the ways in which a sound has been produced. [...] The recognition of imaginary origins is of course partly dependent on the perception of the listener. Whereas one person might identify different sounds as being from the same imaginary source, another person might identify several different imaginary sources⁶.

I will focus on the first two categories described by Van Eck, physical origin and bodily origin, and in particular on the distance between the two. There is, in fact, a measurable distance between the performer (bodily origin) and the vibrating object responsible for the actual production of sound (physical origin). In the case of acoustic instruments (figure 1, first row), this distance is in the order of centimeters: a guitarist has the interface/instrument/physical origin of sound very close to the body, and the bodily origin of sound is precisely the plucking of the strings, while the physical origin of sound is the fluctuations in air pressure (in the form of waves) transmitted by the

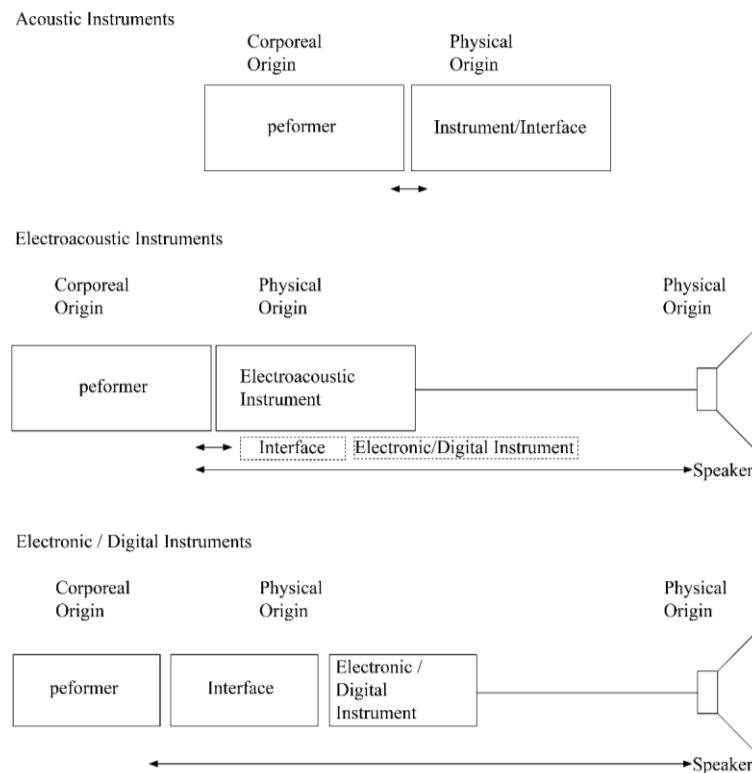
⁵ This coupling is also part of the aforementioned “linear” relationship, often suspended in electroacoustic instruments.

⁶ *Ibidem*.

strings once they are plucked. This distance, albeit with slight differences, is comparable in any other instrumentalist with their acoustic instrument, regardless of the family to which it belongs. With electronic or electroacoustic instruments, the issue becomes more complex. As Thor Magnusson states:«[...] the digital instrument has an interface, whereas the acoustic instrument is an interface »⁷. At this point, it is already clear that those who use an electroacoustic instrument (figure 1, second row), especially one with pronounced electronic or digital characteristics (figure 1. third row), must deal with an additional distance compared to those who play an acoustic (mechanical) instrument. A performer who, for example, uses a computer to generate (figure 1. third row) and/or process (figure 1, second row) sound will place an interface between themselves and their instrument. As we will see in one of the case studies, this can be the laptop's keyboard itself, or a controller of any kind, or even a biometric sensor apparatus. In all these cases, however, does the distance really end there? If the distance I am talking about in the case of a traditional instrumentalist is measured from the bodily origin to the physical origin, from the human body (or the generating physical action) to the physical body responsible for producing air pressure perturbations, then this distance must be measured in the same way in the case of electroacoustic performers. It must therefore be considered as the distance between the body and the speaker, which is almost always responsible (or co-responsible) for the air pressure perturbations that reach our ears. It immediately becomes clear that this distance is no longer in the order of centimeters but rather meters. This characteristic inevitably influences the linearity in the effort-resulting sound relationship, its perceived causality relationships and therefore its performativity. The consequences of this influence will be explored in more depth later in this article. The

⁷ Thor MAGNUSSON, *Sonic Writing: Technologies of Material, Symbolic, and Signal In-scriptions*. New York, Bloomsbury Academic, 2019, p. 44.

distance between the bodily origin and the physical origin of sound is therefore the first framework which I will use to examine the various case studies presented below.



[Fig. 1 - Comparison of bodily and physical origins' distances:

In the first row the distance in acoustic instruments is schematized;

The second row shows the increased distance with electroacoustic. As already mentioned an amplified acoustic instrument is considered electroacoustic here. Similarly, this category includes the use of, for example, an acoustic instrument that is amplified and processed using analog equipment (interface + electronic instrument) or processed by digital equipment (interface + digital instrument); in both cases, a distinction is made between the instrument and the interface because the latter does not produce sound but serves solely to control parameters.

The third row assumes the absence of an acoustic source (other than the speaker) and solely the presence of a digital instrument controlled by an interface, emphasizing the distance between bodily and physical origins. Diagram by the author]

2.2 A continuum between performance and theater(?)

When applied to the analysis of electroacoustic improvisation, the conceptual framework of the distance between the physical and corporeal origins of sound does not in itself imply any critical issues; it simply identifies the speakers as the origins (or co-origins) of sound at a distance that is usually greater than that measurable in traditional mechanical instruments. However, if this reasoning is combined with a conceptual framework concerning the performativity and theatricality expressed in these practices, one can observe how the tendency toward fiction emerges naturally coupled with the increasing of this same distance. For this reason, the second conceptual framework will be introduced, and the discussion will take as a basis the article *Towards an Aesthetic of Electronic Music Performance Practice*⁸, in which Marko Ciciliani divides (electroacoustic) performance practices into two tendencies, which he describes as the centripetal model and the centrifugal model. These are outlined as follows:

The centripetal-model is characterized by:

- a centripetal disposition, meaning that the performer is at the center of attention;
- visibility of performer;
- high transparency of bodily action and sonic reactions;
- events that can be related to the physical actions of the performer;
- sound sources in the direction of the performer;
- correspondence of body and sound;

The centrifugal-model is characterized by:

- a centrifugal disposition; the performer functions as a controlling rather than enacting entity;

⁸ Marko CICILIANI, *Towards an Aesthetic of Electronic-Music Performance Practice*, in *Proceedings ICMC | SMC | 2014*, The National and Kapodistrian University of Athens, 2014, pp. 262-263.

- performer is in a rather hidden position;
- little or no correspondence between actions and sonic results;
- there is no causal connections between the performer's actions and the occurring events;
- sound sources are decentralized and/or spread out;
- independence between the performer's body and sound;

For the purposes of this article, it is useful to start from this categorization, but it is equally useful to critically examine it. The analysis of the case studies under consideration (section 3) is based on their mixed nature with reference to Ciciliani's categorization. In these cases, for example, the performer is always visible and in almost all cases is the center of attention. Yet not in all cases are the other characteristics of the centripetal model so clearly evident, and indeed the discussion about their presence becomes the real focus for the analysis of the performative practices under examination. Furthermore, Ciciliani makes it clear already in the abstract that in his conception of performance, at least for the purposes of the analysis carried out in his article, there is no differentiation between the fictitious and authentic levels:

The discussion will deliberately refrain from reflecting upon technical issues. The focus lies in the investigation how a performer stages a sonic event. Whether actions on behalf of the performer that suggest to have an influence on the sonic result are merely pretended or actually happening is not considered to be of any relevance. This is contrary to some theories on performance that argue that performativity can only emerge as a specific quality when the actions of the performer are authentic⁹.

Continuing in the footnote: «In other words, from the perspective of performance practice it is not considered to be relevant whether i.e. a laptop performer is actually

⁹ *Ibidem*.

performing a work during a concert or doing his/her tax return[...]»¹⁰. One of the purposes of this article, however, is to focus on analyzing the amount of fiction in the performative gesture, placing it within a continuum that can describe the practices analyzed with a less superficial standpoint. For this very reason, in order to introduce the second framework of analysis, I intend to start from a reflection on Michael Kirby's article on acting¹¹, in which he defines a continuum between non-acting and acting (figure 2).

NON-ACTING

ACTING

[Fig. 2 - acting/not-acting continuum, Michael Kirby]

At one end of this continuum is what Kirby defines as Non-matrixed Performance, in which the performer «[...] is merely himself and is not imbedded, [...], in matrices of pretended or represented character, situation, place and time [...]»¹². The other end of the continuum is described as Complex Acting, in which more than one « element or dimension of acting »¹³ is included in the representation. Kirby's concept of continuum becomes very useful for critically analyzing the performative practices that I will discuss later on. However, with respect to the American scholar's analysis, it is necessary to differentiate the concept of non-matrixed performance in more detail, precisely because the context of musical performance is also based on parameters

¹⁰ *Ibidem*.

¹¹ Michael KIRBY, *On Acting and Not-Acting*, in *The Drama Review*, Vol. 16, No. 1, The MIT Press, 1972, p. 3.

¹² *Ivi*, p. 4.

¹³ *Ivi*, p. 8.

distinct from those of theater. The performativity of an acoustic instrument is inherent in its physical and structural construction and in the mechanical method by which it is played, as well as in the historical conventions of instrumental practice inherited with the instrument itself. We could therefore define a ‘performativity continuum’ (figure 3) with, at one extreme (left in fig.3), instrumental practice, the set of actions and techniques necessary to play the instrument (correctly, according to the tradition that the instrument historically embodies), and at the opposing extreme (right in fig.3), theater, the actions that a performer can add to instrumental technique to accentuate its dramatic nature, leading to extra-musical territories, in some cases approaching a level of fiction.



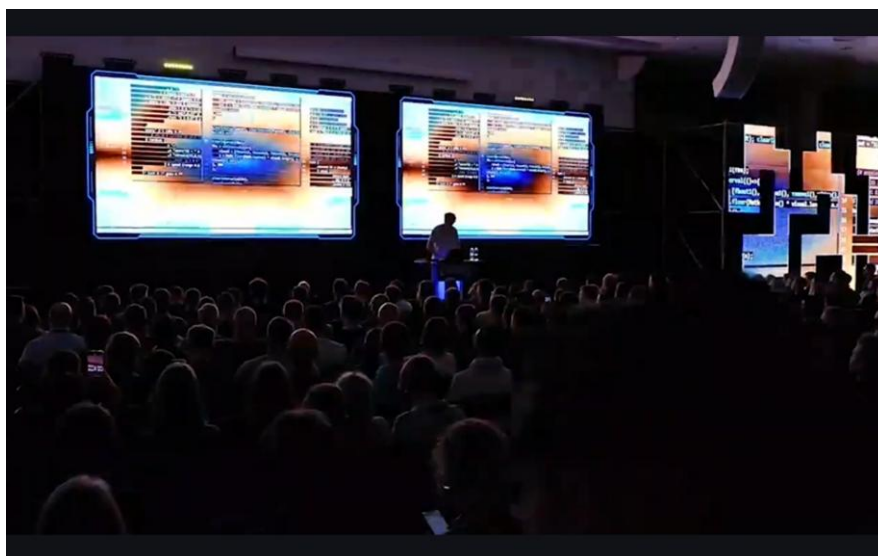
[Fig. 3 - performativity continuum, with instrumental practice at the far left of the continuum and what is referred to as “theatrical performance”(a performance with an augmented layer of theatricality) on the right, before reaching the level where fiction prevails, acting, on the far right of the continuum. Diagram by the author.]

However, the extremes of this range become decidedly uncertain in the instrumental practice of electroacoustic improvisation: in these cases, the instruments used often do not come with a long-established instrumental practice and technique, and sometimes they need it to be invented or reinvented from scratch. Furthermore, as already noted in the first category described by Van Eck in electronic music (and also in electroacoustic improvisation), the relationship between physical effort and the resulting sound is not always linear. This factor has significant repercussions on the performative level: when the linearity between gesture and sound produced is eliminated or suspended, the range of performative possibilities is also altered. On the one hand, as often happens in contemporary practices, the continuum tends to shift

towards a level of fiction similar to that already described by Ciciliani. On the other hand, with the reference to instrumental technique no longer present, the continuum can extend towards a more distant opposite pole, where the breakdown of the gesture/result relationship leads, in extreme cases, to a total flattening of the performative presence. To sum up, I will use these two frameworks for analysis: the distance between bodily and physical origin and the ‘performativity continuum’ to describe some more or less recent experiences of improvised electroacoustic performance, highlighting their peculiarities and common characteristics.

3. Case studies

3.1 A/V Performance - Nesso (Francesco Corvi)



[Case study n. 1 - Nesso (Francesco Corvi), A/V Performance 2024-25, available at: <https://www.youtube.com/watch?v=2H6-VZGzP-I>]

Francesco Corvi is a Roman artist now based in Berlin who is very active in the field of live coding. His performances are openly a mixture of writing and improvisation. Corvi's work, as is often the case with exponents of this movement¹⁴, is inextricably multimedia. In fact, a fundamental component of live coding is showing the audience the code written in real time. This aspect therefore becomes part of the performance, but precisely for this reason, its analysis using the 'performativity continuum' described above is decidedly problematic. The visual component generated by the projection (or multiple projections) is elevated to the sole performative element, the only one capable of catalysing the audience's visual attention, as the performer is almost motionless on stage. The distance between the bodily origin and the physical origin in this case is identifiable in the order of meters. In this example, it coincides with the distance between Corvi's fingers and the speakers that reproduce the material generated by the artist through the writing of the code. In this way, wide space is left to the audience to interpret the imaginary origins of the sounds, because the bodily origin is almost completely absent. Moreover, this focus on the visual component generated by Corvi's laptop and projected onto one or more screens exists because, in this example more than any other, its position within the 'performativity continuum' is difficult to define: the physical origin of the sound is always and only the movement required to press the keys on the computer keyboard, a minimal movement that cannot be associated with the resulting sound. The fact that this movement cannot be linked to any instrumental technique, together with the fact that such gestures cannot in any way result in any form of theatrical presence, makes it necessary to broaden the

¹⁴ Nick COLLINS, Alex MCLEAN, Julian ROHRHUBER, Adrian WARD, *Live Coding in Laptop Performance*, in *Organised Sound* 8, 2003, pp. 321-330, <https://doi.org/10.1017/S135577180300030X> and Alex MCLEAN, *Live Coding for Free*, in *Floss+Art*, ed. Aymeric Mansoux and Marloes de Valk, London, OpenMute, 2008, pp. 228-29.

continuum described above. The spectacular nature of the performance is ensured by the live visual component, yet Francesco Corvi stands at the center of the stage, practically motionless, leaning over his laptop. This example therefore describes the maximum distance between the bodily and physical origin of sound and broadens the limits of the ‘performativity continuum’, setting a point beyond instrumental practice, defining almost a bodily non-performativity¹⁵ (fig. 5) executed on stage, characterized by a total decoupling between body and sound.

NON-PERFORMING	PERFORMING		ACTING
Body/sound	Instrumental	Theatrical	Fiction
Decoupling	Practice/Technique	Performance	

[Fig. 4 - performative continuum with body/sound decoupling placement. Diagram by the author]

3.2 Radioscape n.1 - Francesco Giomi



[Case study n. 2 - Radioscape n.1, Francesco Giomi, Tempo Reale StudioVox, 2021, available at: <https://www.youtube.com/watch?v=IboBEmaUFT8>]

¹⁵ noted as "NON-PERFORMING" in figure 4 to follow Kirby's nomenclature.

Francesco Giomi is a Florentine musician, theorist, and teacher who directs Tempo Reale, the research center founded by Luciano Berio. In *Radioscape n.1*, he uses two radios and two synthesizers to construct a totally improvised electroacoustic performance that confronts the unpredictability of the radios used in a live context. Here too, the distance between the bodily and physical origin of sound can be identified with the (double) distance between Giomi, the radios (and synthesizers), and the loudspeakers. The imaginary origin of sound in this performance, from an executive point of view, is practically absent: we are in the presence of all the physical generators of sound and we can have no doubt about how the signals are produced. While in the case of Corvi positioning within the continuum of performativity was difficult to discretize, in this example it might seem that the nature of some of the instruments used facilitates identification: the synthesizers used by Giomi are all equipped with a small 2-octave keyboard, yet it is the improviser's use of these instruments that determines their position within the 'performativity continuum'. While a keyboard of this type inevitably refers to the instrumental technique of the piano, from which its functionality is derived, Giomi's use of this instrument remains very far from that technique. In this case, the performer does not use any of the instrumental techniques (hand position, articulation of notes, body movements, and posture) derived from the piano, but simply presses a few keys as triggers, effectively relegating the white or black keys to the function of a button. Both the computer keyboard and the potentiometers and buttons can be seen as generic input interfaces, not designed for any specific (especially musical) purpose other than to interface with something. The use of such interfaces can therefore be differentiated from instrumental practice within the 'performativity continuum' (figure 6, in between non-performing and performing). If we were to place Giomi within this continuum, it would not be possible to identify in his performance an instrumental technique derived from a deeply rooted tradition that is physically always linear with the result, yet in this case the performer is not motionless, typing on a laptop keyboard. The use of

generic interfaces could therefore be seen as a middle ground between Corvi's absolute non-corporeality and a traditionally understood instrumental technique.

NON-PERFORMING		PERFORMING		ACTING	
Body/sound Decoupling	Generic Interfaces	Instrumental Practice/Technique		Theatrical Performance	Fiction

[Fig. 5 - performative continuum with generic interfaces placement, this element is placed “before” instrumental practice but not at the level of the previously treated body/sound decoupling. Diagram by the author]

Watching Giomi, it is possible to notice both movements aimed at modifying the parameters of radios and synthesizers and other movements whose impact on the sound is highly uncertain. In the first case, the movements that actually give the sound result its changing form are minimal, comparable to those of Corvi on his laptop, namely pressing buttons and manipulating potentiometers and switches. That’s why this approach with generic interfaces is placed before performing in fig.6. In the second case, the body movements could be placed more towards theater, a dimension absent in Corvi's performance, leading, according to my analysis, to fiction. The (non-instrumental) gestures and the very position that the performer assumes are not only distant from the physical origin of the sound but are also not always linearly related to its production and articulation, adding a level of theatrical fiction to the performance that becomes the focus of the audience's attention. During the performance, Giomi does not maintain a fixed position on the continuum, but this could instead be seen as variable depending on the level analyzed: in one case tending towards non-performativity, limiting himself to the activation/manipulation of generic interfaces, and in the other approaching the theatrical level. Finally, where previously the visual component (generated by Corvi's laptop) served as a catalyst for attention, here we once again have a body, as in the performance of an acoustic (mechanical) instrument,

with the difference that the majority of the performative apparatus tends towards fiction, and in doing so does not rely on a technique incorporated into a traditional musical instrument but only on the actions necessary to interact with certain generic interfaces.

3.3 Snare-drum solo - Ryosuke Kiyasu



[Case study n. 3 - Ryosuke Kiyasu, snare drum solo live in Glasgow UK, 17/08/2024, available at: <https://www.youtube.com/watch?v=Kyug-WhZ1vA>]

Ryosuke Kiyasu is a Japanese percussionist who has gained fame for his improvised performances on the snare drum. His performance practice is included in this list of case studies solely because of his use of a microphone and speakers; otherwise, his work would be based exclusively on his acoustic instrument. His inclusion in this analysis may seem out of place or misleading, yet Kiyasu's practice is, to all intents and purposes, an electroacoustic practice. It goes without saying that the percussionist's work does not involve complex sound synthesis or processing algorithms (as in the case of Corvi) or digital/analog synthesizers that generate or

process signals (as in the case of Giomi), but in fact, the Japanese artist uses a microphone and speakers, thus electroacoustically expanding the possibilities of his instrument. It should also be noted that Kiyasu does not use conventional miking techniques, but instead uses a simple dynamic microphone placed directly on the table at his disposal, the same one on which he also places the snare drum. In doing so, the sound of the snare drum is inevitably characterized by imprecise and unfocused amplification, which inevitably also picks up the table when it is included in the performance gestures. It is clear that this case study has been selected to (im)pose a sense of rupture with the previous ones. However, the afore-theorized frameworks of analysis also work when applied to the Japanese percussionist's performance: in the case of the distance between the bodily and physical origin of sound, the issue is once again twofold. In fact, while it would be natural to think that, since Kiyasu's practice is developed on a traditional acoustic instrument such as the snare drum, the distance between the bodily and physical origin lies in the distance between his body and the snare drum, this simplification could be inaccurate when considering the aforementioned microphone. This element introduces another physical origin into the equation, the amplified sound, which contributes to the sound result from a distance greater than that between the performer and the speakers, comparable once again to the previous examples. As already mentioned, amplification cannot be considered transparent in this case, assuming that it is ever possible in others, and indeed Kiyasu consciously uses every choice he makes to achieve a specific sound and performative result. Using the sounds of the table, the microphone falling, or his voice filtered through the snare drum as dramatic elements. While analyzing this example in terms of distance between corporeal-physical origins does not reveal any particular differences from the others, it is in the performative sphere that broad possibilities for further examination emerge. Although the Japanese percussionist uses an acoustic traditional instrument, and therefore all the characteristics of its traditional instrumental technique are inherently included in the performance, it is still possible

to note a decidedly physical and dramatic use of the amplification. This type of practices remains within the sphere of “the useful”, as some gestures, like of rubbing the snare drum with the microphone, dropping it, or using it to amplify noises from the table do not reach the extreme end of the performative continuum that leads to fiction, and, unlike the previous example, these gestures could not be avoided while maintaining the same sound result. Even though looking at Kiyasu's marked physicality, it is possible to note how some of his movements are effectively deliberately exaggerated and absolutely theatrical, it is still possible to identify some choices aimed at obtaining the sound result that would be altered if deprived of such extreme physicality.

3.4 *AION* - Andrea Fabris



[Case study n. 4 - Andrea Fabris, Aion, studio version recorded live at DAS, Bolgona, 05/10/2025, available at: https://www.youtube.com/watch?v=rF_HBSU2j4g]

AION is a solo performance in which percussionist Andrea Fabris severely limits his instrument, focusing on the relationship between gesture, electronics, and the human body. The work reconciles the characteristics analyzed in the previous examples, and in this case too, applying the theorized frameworks of analysis proves fruitful. In *AION*, the range within which Fabris moves within the ‘performativity continuum’ has very diverse characteristics: it involves the use of an instrument (or rather part of it, only the skins and a cymbal of a drum kit) whose traditional instrumental technique is completely removed from the discourse. In doing so, the instrument is freed from the burden of historicized technique, but the performance practice is still positioned at a clear point on the continuum already described. The result is a style of movement that is both linked to sound production and completely devoted to theatrical dramaturgy, and therefore to the sphere of fiction. If at first, particularly in the first section, Fabris uses brutal bodily movements to produce the desired sound with his hands and feet on the skins laid out on the floor, this type of approach is then abandoned in one of the subsequent sections, which is almost completely written and therefore acted out, in which the performer appears terrified, sheltering and covering himself with the same skins he previously used as a (non-idiomatically-approached) musical instrument. During the work, this dichotomy is emphasized several times, so much so that in some sections Fabris plays one of the skins on a snare drum stand, using mallets and bringing the initially denied instrumental technique back to the center of the discourse. Fabris also uses a generic interface (an iPad) on which he acts in a totally non-performative manner, limiting himself to operating switches, without adding any level of fiction to the actions on the interface. In this case, unlike Kiyasu, electronic sound processing is a determining factor in the construction of the work. The performance uses a quadraphonic sound system positioned a few meters away from the corners of the square drawn by the LEDs on the floor. The instrumental signals are picked up by four condenser microphones positioned on the floor (inside the LED square, placed at the

four corners and directed towards the center) and by two other PCC microphones¹⁶ used to reinforce the acoustic sound. The microphones inside the LED square are used to capture the performer's movements, and the resulting sounds are analyzed by a Max-MSP patch that uses machine learning (specifically the FLUCOMA¹⁷ library) to associate descriptors with the incoming sound. These are then compared with a database of previously analyzed samples, and an algorithm responds to each sound playing the most similar sound in the database. The performance also includes some elements of digital synthesis and voice samples reproduced both clean and processed by a polyphonic granulation algorithm. Precisely because of the level of complexity, and despite the machine learning used in a fairly linear way (or rather to create correspondences), it is often the imaginary origin of the sounds that prevails in the judgment of the audience that has attended the shows so far. This can be explained by the distance between the bodily and physical origin of the sounds that make up the performance: in this case, the sounds are primarily produced by Fabris' movement on the drum skins, but they are picked up by the two side microphones and amplified by the four speakers, adding distance between the two origins. Furthermore, all the processing carried out by machine-learning algorithms, aimed at creating a correspondence between instrumental gestures (albeit limited and stripped of historical conventions) and electronic gestures, is reified at the same distance between bodily and physical origin, that is, the one between real gestures and the reproduction of the associated sound through loudspeakers. Once again in the order of metres. At this point,

¹⁶ AKG. AKG PCC160 Boundary Layer Microphones: Cutsheet. AKG. Accessed February 13, 2026. https://www.ake.com/on/demandware.static/-/Sites-masterCatalog_Harman/default/dwd805cff0/pdfs/AKG_PCC160_Cutsheet.pdf

¹⁷ FluCoMa, *Fluid Corpus Manipulation Toolkit*, FluCoMa. Accessed February 13, 2026. <https://www.flucoma.org>.

one might think that this distance cannot be reduced. One might hypothesise that in electroacoustic improvisation performances the bodily and physical origin of sound are incontrovertibly distant, even regardless of the possible positioning on the ‘performativity continuum’.

3.5 *Why So Serious?_Analog* - Tobia Bondesan

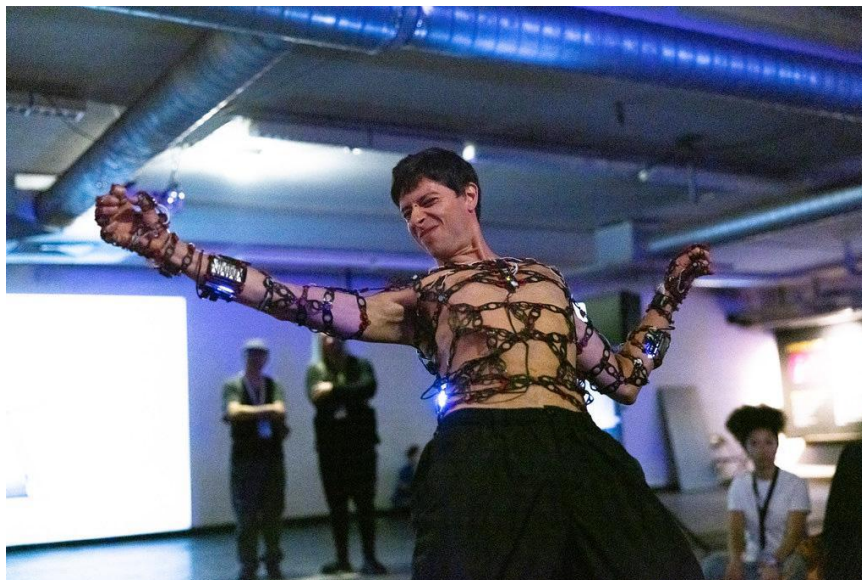


[Case study n. 5 - Tobia Bondesan, *Why So Serious?_Analog*, live at Nadir, Padova (IT), 25/01/2025, available at: <https://www.youtube.com/watch?v=ZRtz2PLfFyw>]

With this solo performance, Tobia Bondesan stands out as an example of a rupture (at least within this article) in the paradigm of the distance between the bodily and physical origin of sound. In the complex improvisational set developed by the Tuscan jazz musician, among the various objects borrowed from a wide range of fields, there are also some speakers, or rather, among others, some free cones placed on the floor. During the improvisation, Bondesan first interacts with his electroacoustic instrument, the amplified saxophone, establishing a feedback system with the speakers in the

seemingly disordered arrangement of his set. This type of interaction is certainly not new to electroacoustic music, and the paradigm shown in the initial diagram (fig. 1) is still applicable. His (traditional) instrument is in fact miked and then amplified by the aforementioned speakers to produce feedback. The situation changes when Bondesan begins to physically interact with the speakers on the floor, intervening on the preparations, made with various materials including aluminum foil and small metal containers (probably equipped with piezoelectric microphones inside). These interventions are aimed at mechanically modifying the speakers' output, limiting or “dirtying” the movements of the membranes. In this case, the distance between the bodily and physical origin becomes comparable to that found in instrumental practice. The object that physically produces the sound is approached mechanically by the performer, not metaphorically or indirectly, and not mediated by one or more interfaces. This type of approach is an example of a close distance between bodily and physical origin in an electroacoustic improvisation context. With regard to the ‘performativity continuum’, it can be noted that the Tuscan saxophonist interacts with his traditional instrument in a manner that is entirely consistent with instrumental technique, rarely resorting to theatrical movements, which are in any case part of widespread instrumental practice. When interacting with various objects (whether analog or digital), he always maintains a certain rigor, a form of exploratory gestuality that never tends toward fiction or forced theatricality. Even in physical-mechanical interactions with the speakers on the floor, his gestures are not artificial nor do they include elements of fiction, but are simply aimed at obtaining the desired sound result. The positioning within the continuum never reaches pure fiction, in many cases remaining firmly anchored to instrumental practice but seeing the distance between bodily and physical origin reduced for the first time from the beginning of the present study.

3.6 Multi-Node Shell [v2] and Rhizomatic Shell - Luca Pagan



[Case study n. 6 - Luca Pagan, Multi-Node Shell [v2], available at:

https://www.lucapagan.info/proj/multi-node_shell_v2.html]

Luca Pagan's practice represents an extreme example for various reasons when compared to the other case studies discussed so far. In *Multi-Node Shell [v2]*, the artist designed a « bodily architecture »¹⁸ that he wears and uses as an interface during his performances. In it, various types of biosensors detect the level of muscle activity and motor dynamics and translate them into data, which is then processed through neural networks. The latter associate the performer's motor tendencies with the modification of certain parameters or parameter interpolations, which in turn generate or modify the sound result. The performer then moves freely, while the sensors he wears capture his

¹⁸ Multi-Node Shell [v2] - Luca Pagan's website: https://www.lucapagan.info/proj/multi-node_shell_v2.html

movements and send the data via wireless connection to a laptop, on which the MAX/MSP sound generation/processing patch runs. The catalyst for the audience's attention in this case is the performer's body, dressed in the interface used for algorithmic sound control. The bodily origin is given by the sum of the performer's movements, while once again the physical origin remains the speakers, often used in a quadraphonic configuration. In this case, however, there is a type of non-manifest linearity, an unclear causal relationship, and an opaque coupling between movement and sound output. The sensors, or rather the neural networks that manage the data, are in fact trained on the same movements that Pagan performs during the performance, but the relationship between these and the sound generated is neither explicit nor transparent. What the audience can only imagine are more or less precise relationships between certain movements and certain more easily recognizable timbres/pitches, whose coupling during the performance remains fairly constant. The positioning on the 'performativity continuum' is enriched by a new point (fig.7): the use of this specific type of interface distances itself even further from instrumental technique and also differs from the use of generic interfaces, with a shift towards a theatricality even more disconnected from the first two types of performances. In this case, there is no need to interact with control interfaces (such as potentiometers or faders); it is sufficient to move in order to exercise control over the algorithms. The type of movement is therefore decided from a totally theatrical perspective, because the relationship with the sound result is created ad hoc on that movement.

NON-PERFORMING	PERFORMING			ACTING
Body/sound Decoupling	Generic Interfaces	Instrumental Practice/Technique	Specific Interfaces	Theatrical Fiction Performance

[Fig. 6 - performative continuum with specific interfaces placement. Diagram by the author]

While in *Multi-Node Shell [v2]* the distance between the bodily origin and the physical origin is comparable to that found in other performances already analyzed, in *Rhizomatic Shell* this distance is reduced in a completely different way than in Tobia Bondesan's work: the performer wears speakers that reproduce algorithmically processed material through the analysis of bodily interactions carried out by sensors, similar to what was described above.

Although extensive documentation on Pagan's latest project is not yet available, it is still possible to intuit the similarities and differences with the first work described here. In a context that is this time totally unrelated to instrumental practice, there is a significantly reduced distance between bodily and physical origin, in which the speakers are practically worn to restore a more physical correspondence between action and perceived sound, that is often sacrificed in electroacoustic improvisation. It is interesting to note that although this distance has decreased, the causal decoupling between the two origins still exists in movements that are linearly connected (albeit in an opaque way) to the sound result, but which are chosen solely from a theatrical perspective.



[Luca Pagan, Rhizomatic Shell, available at:

https://www.lucapagan.info/proj/rhizomatic_shell_v1.html]

Conclusions

As mentioned the case studies discussed above cannot be considered exhaustive in describing the current panorama of electroacoustic improvisation, but they are useful in highlighting the contamination of this practice with other disciplines, such as performance art and theater. The two conceptual frameworks described above prove useful for a cross-cutting analysis and for an approach that places performative practice at the center of the discussion. The concept of ‘performativity continuum’, originally introduced by Kirby for theater and adapted here, has been expanded and refined throughout this discussion to better describe the practices under consideration; starting from traditional instrumental performance (using acoustic and mechanical instruments), the discussion has progressed to the point where it can now describe some of the most contemporary forms of electroacoustic improvisation. While it is not out of the question to apply both of these frameworks to the analysis of practices entirely unrelated to electroacoustic music, they are nonetheless structured around certain fundamental differences that the advent of new technologies has introduced into live musical practice. While tendencies toward disembodiment are easily noticeable in the contemporary scene, accelerated by the latest technological advances, it is also possible to discern in the practices analyzed a need for the return to performance, understood as an expression of the body in the presence of an audience. In some cases, there seems to be a need to shorten the distance between the bodily origin and the physical origin of sound, towards a music that regains the instrumental stage presence lost with the broadening of the concept of musical instrument inevitably brought by digital technology and its mass diffusion. This issue is even more pressing in the field of digital instruments, where the linear relationship between gesture and result can now be completely suspended. If today, with the simple press of a button, it is possible to develop a wall of sound capable of knocking out the front row, it is vitally important, for performance presence sake, that that same wall of sound is caused in a (hopefully) bodily, physical, and justifiably theatrical manner. In a

(post)post-digital perspective, where artificial intelligence can generate convincing replicas of virtually any medium-based artistic expression with a single (yet polluting) click, presence once again becomes fundamental. It is a physical, material presence that technology still seems unable to replicate, and one that we, as audiences, appear unwilling to relinquish.

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