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Vocal and Instrumental Sound Dance

Establishing New Performance Practices with the Strophonion

Alex Nowitz

Ideas do not die. ... they retain something essential throughout the process, across the displacement, in the distribution of a new domain.

Deleuze and Guattari 1987, 235

Introduction

Charting the strophonion's pathway from solo vocal to collective instrumental practices, this presentation examines performance outcomes and their tacit conceptual framework. Initially developed as a wireless, gesture- and touch-controlled interface to extend vocal performance art, the strophonion has matured into a robust interactive DMI that enables the performer to instantaneously capture, mirror, and manipulate any sounds created onstage. Through a selection of video and audio documentation of live performances—featuring both improvisations and composed works for a vocal soloist and instrumental ensembles—this exposition sheds light on newly developed performance practices. Specifically, it explores the underlying concepts ranging from *vocal* to *instrumental sound dance*, each based on the choice of original sound material. Unveiling the complexity of a highly interdisciplinary practice intersecting vocal-bodily performance art and computer-based electronic music, this study accounts for the instrument's versatility across musical genres and approaches. In addition, drawing on an audio interview with long-time collaborator, musician, and instrument

developer Sukandar Kartadinata, the presentation provides insights into the current software architecture and future prospects, as well as the evolution of an instrument whose origins date back to 2010 at STEIM in Amsterdam.



Alex Nowitz's strophonion (black backup version, 2014) © PHOTO Janina Janke

What is the Strophonion?

Belonging to the instrument group of gesture- and touch-controlled live electronics, the system of the *strophonion* consists of a computer, two interfaces for wireless connectivity and analogue-to-digital transfer, a small mixing board, and—most significantly—two asymmetrical hand controllers accompanied by a hip belt to manage the cable of the ultrasonic distance sensor. The controllers communicate wirelessly with the onstage computer. All these components combined enable the performer to live-sample the voice, run audio processes in real time, and to move freely onstage.¹

As a performer manipulating sound material derived from a variety of sampling techniques, I command an intricate yet deeply inspiring toolkit to explore my voice's sonic potential during live performance. By doing so, the original sound source encounters its

¹ For an in-depth study on the musical conception and the development process of the *strophonion* see *Designing and Playing the Strophonion* in Nowitz (2016). For a rather quick overview and documentation on the two gesture- and touch-controlled live electronics that I have been applying in my performances during the past 28 years until the present day see “Gesture-Controlled Live Electronics” in Nowitz (2021a).

digitally synthesized clones, due to the immediacy of the record-and-playback process, going back and forth within milliseconds, virtually in real-time. The assemblage of the live voice and its mirrored counter parts results in abstract and yet—hopefully—witty outcomes. Hereby though, not only extended voice techniques and computer-induced manipulated sounds are exposed, but also a new and unique motion-based performance practice emerges that I previously proposed to name either “vocal sound dance”² or, to be more precise, “voice-induced sound dance”.³ The strophonion incorporates various sensors that continuously measure hand and arm movements, transmitting the data wirelessly to a computer on stage. By translating these physical gestures into musical parameters, I can steer and control the sonic output while acting simultaneously as both musician and dancer who utilises fine motor skills as well as whole-body movements. Through this methodology, this practice aims to expand the traditional approach to electronic music creation often characterised by turning knobs, moving faders, or performing behind a computer screen.⁴

To illustrate the highly interdisciplinary approach of performing with the strophonion, I frequently cite the solo live performance of *Untitled* that took place in Berlin in 2016, as it perfectly demonstrates the interdependencies between the disciplines involved.⁵ Both hand controllers are connected to the computer using wireless WIFI technology for data exchange and communication, i.e., XBee connectivity module from DIGI International. The sensor technology as applied and built into the controllers, on the other hand, continuously collects data based on the performer’s motions. Combining these two technological pathways the vocal performance artist is able to move about freely onstage, thus operating right at the

² For the notion of *vocal sound dance*, in German called *vokaler Klangtanz*, see “‘Intercourse with Ghosts’: ‘Haunted Territories’ revisited” in Nowitz (2019a, page 5). The first time I came up with the idea of implementing a concept of *Klangtanz* [sound dance] is retained within *Voice and Live-Electronics using Remotes as Gestural Controllers* in Nowitz (2008). This online article also provides insights into the controller system that, using two Wii remotes, I later called *stimmflieger* which was the precursor of the strophonion. The software setup of the *stimmflieger* was based on STEIM software *LiSa* and *junXion* and developed in close collaboration with former artistic director at STEIM, Daniel Schorno.

³ To offer deeper insight into this term see the paragraphe “2.3 Voice-induced sound dance” in *Assemblages of Multivocal and Schizophonic Practices: Unleashing the machined voice* in Nowitz (2021b, p.138-9).

⁴ To expand upon the aspect of enhancing the onstage-presence and the aspect of interaction between the applied disciplines of vocal, bodily and electronic sound art by incorporating both whole body movements, as a dancer does, and fine motor skills necessary to play a musical instrument, see “‘Intercourse with Ghosts’: ‘Haunted Territories’ revisited” in Nowitz (2019a, 24 et al.) as well as the related online documentation of *Haunted Territories*, a performance for vocal performer and dancer in two parts featuring voice, body and strophonion (Radialsystem Berlin, 2018), including video material of the duet performance with dancer Florencia Lamarca, <https://www.researchcatalogue.net/view/492687/495433>, also in Nowitz (2019a).

⁵ The solo performance was part of the duet show *Dr. D. meets Dr. V.* together with German dancer Susanne Martin within the frame of the Improvisation XChange Festival at the venue for contemporary dance DOCK 11, Berlin.

intersection of the application of gesture-controlled live electronics, bodily and vocal performance art.

Watch *Untitled*, for a voice, strophonion and a chair to be ignored, making reference to bird calls and alluding to the thinker's pose inspired by the sculpture *Le Penseur* by painter Auguste Rodin (03:29).

<https://vimeo.com/187541243>.

This example also highlights two other aspects that merit comment. First, it demonstrates the use of the black backup version of the strophonion's controller system, developed at STEIM in 2014—on the basis of Florian Goettke's original design of the wooden controller pair—by Italian designer Niccoló Merendino (also known as *Chi-ha-ucciso-Il-Conte?*) and by German engineer, instrument builder, luthier, and guitarist Sukandar Kartadinata.⁶ Second, it showcases the strophonion's initial software environment, based on the live-sampling application *LiSa* and the connectivity tool *junXion*, both implemented at that time by STEIM's principal software designer Frank Baldé—long-time collaborator of Michel Waisvisz, studio director, musician, and developer/performer of *The Hands*, which served as the role-model for the strophonion. Notably, the first software version of the strophonion produced STEIM-characteristic, crisp, gravelly, and vibrant soundscapes that had a pronounced aesthetic impact on performances, both because of the software's intended audio design and because of the limited computational power and resolution available at the time.⁷

Beginning and Etymology

From 2010 through to 2011, during a two-year artist residency at the studio for electro-instrumental music, STEIM, I was given the opportunity to develop a new musical interface in order to extend my vocal performances, i.e., the strophonion.⁸ The world premiere of the first finished version with regard to both hardware and software took place as part of a solo performance in November 2011 during the Sound Triangle Festival at the LIG Art Hall in Seoul, South Korea.

⁶ For more insights into the entire body of work by Kartadinata visit his website <https://www.glui.de/wp/> or follow him on instagram <https://www.instagram.com/sukandar.glui/>.

⁷ Note that STEIM ceased to exist in the year 2020. See the entry on Wikipedia, accessed 25 August 2026 <https://en.wikipedia.org/wiki/STEIM>.

⁸ At the beginning, during the development process, I called the hand controllers *Shells*.



Original version of the strophonion's controller system: 1.) right hand controller (top left) displaying twelve buttons representing all twelve tones of an octave 2.) left hand controller (top right) displaying a shift button to switch functionality, 2D-joy-stick and the receiver of the ultrasonic distance sensor 3.) hip belt with the transmitter of ultrasonic distance sensor (on the bottom). © photo Janina Janke, 2014.

In the section “The Idea Behind the Name” from the online article *Designing and Playing the Strophonion* (Nowitz 2016), I unpacked the linguistic composition of the instrument's name. Here, I wish to revisit this etymology to underscore the asymmetrical approach to music-making and sound control that is rooted in the interaction between vocal, bodily, and computer-based sound art.⁹

The name “Strophonion” is composed of three syllables derived from Greek to represent the three main components that define how I perform using the instrument: *strophé* + *phoné* + *ión*. [...] *strophé* designates a turn, bend or twist, which hints at the vocabulary of movement the right hand articulates: bending, rotating, turning, spinning and twisting. Parameters such as pitch, (attack) volume, frequency filter, sample length, sample position and many others are controlled by the right hand using the three-axis accelerometer. [...] *phoné*, meaning

⁹ Again, for a comprehensive overview of the “pathways of designing and performing a digital musical instrument (DMI) in the context of vocal art performance”, see Nowitz (2016). The article sheds light on the following subjects: “The first part discusses the musico-functional approach and the mapping of keys and sensors, the legacy of the predecessor instrument”, The Hands by Michel Waisvisz, “pitfalls along the way and possible approaches to notation for performance on the instrument. The second part addresses the practice of integrating the DMI in vocal art performance, aesthetics of vocal plurality, concepts of embodying and disembodiment of the voice, as well as choreographic aspects, each of which expands the field of vocal art performance.”

voice and/or sound, [...] refers to the fact that I sample my own voice while performing live with the instrument. [...] *ión*, the meaning of which is twofold. The literal translation is *going* or *wandering* and, in chemistry and physics fields, it designates an atom or molecule that gives an electrical charge. More importantly, however, it calls attention to how the left-hand controller is played, in a manner that recalls the left hand of the musician opening and closing the bellows of an *accordion*. The distance between the performer's hip and the Strophonion's left-hand controller is measured by the ultrasonic distance sensor—a combination of a transmitter on the hip together with a receiver on the left-hand controller.

The Second, Current Software Version of the Strophonion developed by S. Kartadinata

As already stated above, the long-time collaboration with Sukandar Kartadinata—an extraordinarily talented engineer, instrument builder, guitar player, luthier and former employee at STEIM in Amsterdam—began in 2014, when he assembled the electronics of the black back-up instrument and rebuilt the WIFI-station that, attached to the computer via USB, is responsible for picking up the data from the hand controllers and sending it wirelessly to the computer. Following this, we began to discuss the possibility of programming an entirely new software environment for the strophonion from the ground up. Notably, two key considerations guided the process and the definition of the objectives: ensuring technical reliability in musical and sonic control while, at the same time, meeting the professional standards of a fast-paced music industry, and, finally, enabling future maintenance and development by someone other than Kartadinata. After agreeing on the software environment based on the application Max, supplied by Cycling '74, we conducted regular meetings over a three-and-a-half-year period to evaluate and discuss the successive implementations. Thanks to the funding from my PhD studies at the Stockholm University of the Arts, I was able to commission Kartadinata for this extensive project. The world premiere of the completed—and thus second—software version of the strophonion, which at the time ran on Max 7, took place on 13 December 2018 at Reaktorhallen in Stockholm. The concert showcased “‘Untitled #3’ for voice and live electronics: the Strophonion” as part of my final PhD performance *Moving Tongues: Playing Space*, composed for voice, strophonion and video.¹⁰ Since the premiere,

¹⁰ For the video documentation of the live performance *Untitled #3* (28:35) see Nowitz (2019a). <https://www.researchcatalogue.net/view/492687/559744>. Note that the documentation begins with a presentation of a video recording made in 2017 on Lidingö, an island in the inner Stockholm archipelago in Sweden. Using a remote-controlled drone, Jimmy Svensson, sound engineer at the University of the Arts Stockholm at that time, documented my outdoor performance *Whistling in Lidingö*. During the indoor concert presentation, the live

until the present time, Kartadinata has been taking up responsibility for the maintenance of the strophonion and its further developments concerning both software and hardware.

To contextualise the development process, this presentation is accompanied by a three-part interview that I conducted with Kartadinata on 7 August 2026 at his apartment in Berlin-Kreuzberg. This discussion offers insight into the following subjects:

- (1) strophonion's current software architecture and its evolution, addressed in the first part;
- (2) its position within musical history from the perspective of a visionary engineer-musician formerly affiliated with STEIM, Amsterdam, discussed in the second;
- (3) the instrument's prospects regarding possible pathways for technological refinements, explored in the third part.

Listen to *Sukandar Kartadinata*, interview by the author, audio recording (part 1): software architecture and evolution, Berlin, Germany, 7 August 2026 (10:23).

<https://www.dropbox.com/scl/fi/...>

The Concept of the *Multivocal Voice*

As part of the article *Assemblages of Multivocal and Schizophonic Practices* (Nowitz 2021b), I submitted the core ideas of *multivocal performance art* to close scrutiny, drawing on various concepts by French philosophers Gilles Deleuze and Félix Guattari—such as *deterritorialisation and becoming, multiplicities and music, or machine and voice*—as well as by Canadian composer and music philosopher R. Murray Schafer regarding his theory of *schizophonia*:

I introduced the notion of the *multivocal voice* as part of my doctoral thesis “Monsters I Love: On Multivocal Arts” [...], in order to investigate the underlying premises and principles of contemporary vocal performance art. My practice as vocal performer is based on the desire to discover unknown vocal territories, which inevitably leads to intricate probing procedures and to the elaboration of idiosyncratic, interactive and intermedial techniques. [...] The characteristic trait of what I call the *multivocal voice* is to define the

performance for voice and strophonion unfolds gradually by intermingling with the sound of the outdoor video recording. By live sampling the sound material of the video, the live performer takes up the atmosphere of the video until it slowly fades out and only the live performance remains.

performance voice on the basis of continuous and mutual interaction of four categories: the *singing*, the *speaking*, the *extended voice*, and the *disembodied voice* (2021b, 129–30).

The concept of the multivocal voice is defined by many aspects which I elaborated on elsewhere (2018). Within the context of this presentation here, it is important to note three key aspects:

First, “[...] the concept of the multivocal voice still aims at the mutual and gradual pervasion of different vocal practices. In this way a diversity of voices is evoked and yielded by one vocal body. Permeable at the boundaries of different vocal territories, the multivocal voice comprises heterogeneous vocal multiplicities from different aesthetic backgrounds and a variety of techniques allowing and, at the same time, demanding a constant and continuous flow that alters and melds into one another. Vocal multiplicities are intentionally thrown, by the composer-performer, into an incessantly varying vocal continuum [...]” (2021b, 132).

Equally central to the concept is the second characterisation. A political dimension comes into play if extended vocal techniques are applied operating beyond the norm and beyond linguistic semantics. An “alinguistic voice-machine” emerges “belonging to the musical rather than” a language-based realm (132): “What the multivocal voice always strives for is a utopian quality deterritorialising the function that the voice usually takes on in the surrounding culture. Machining the voice by applying unapparent, concealed or remote strategies is a way to overcome cultural presuppositions and conventions” (135–6).

What misses, is to elucidate the integration of the fourth category—the disembodied voice—into the multivocal performance art practice. For this reason, I draw upon Murray Schafer’s concept of *schizophonia*, which he defines as “the split between an original sound and its electroacoustic reproduction” ([1977] 1994, 88–91). This is the case “if live-sampling techniques are applied or, in other words, if the live voice, copied during the live performance act, gets *re-played* through the application of technological means. [...] The techniques of instant aural mirroring of oneself are at the core of what can be called *schizophonic practices*. The schizophrenic aspect of the term *schizophonic* comes to the fore even more if the original and its reproduction are juxtaposed with little delay” (Nowitz 2021b, 136).

The Practice of *Vocal Sound Dance*

The multivocal voice concept forms the basis for a novel performance practice

involving interaction between voice, body, and gesture-controlled live electronics—a practice that I call *vocal sound dance* or, to be more precise, *voice-induced sound dance*. In this practice, the entirety of the sound material is derived exclusively from the repertoire of the live human voice, while the performer's physical movements are primarily driven by the sonic creation and/or music-making process.

During the process of recording, the live voice is extracted from the body and becomes disembodied. In a sense, when playing back the recorded material with the use of gesture-controlled live electronics, the voice gets inserted into the body again. A process of disembodiment and re-embodiment takes place. It is an act of reanimation, if the mere acousmatic, technically reproducible voice becomes *alive* again when the recorded vocal material is played back and manipulated through the application of gestures and movements. The corporeal extremities re-activate the inert, disembodied voice. One could say that, the performer is operating and communicating with his or her own *departed voice* (139).

In general, a primary objective of my work is to render the trajectory of sound transformation comprehensible to an audience, both audibly *and* visually. Central to the implementation of this concept is that the performer divides his or her roles into three distinct disciplines: generating vocal sounds (vocal performer), recording, playing back, controlling, and manipulating the input via both the utilisation of fine motor skills (electronic musician) and whole-body movements (dancer).

In conjunction with all the aforementioned categories, this approach becomes evident up to the 08:28 timecode of the video documentation of my solo work *In the Thicket of the Invisible Wires*, performed on 27 January 2024 at the museum Fluxus+ in Potsdam as part of the interdisciplinary festival *Made in Potsdam: Festival aktueller Kunst* [Festival of Contemporary Arts].

Watch *In the Thicket of the Invisible Wires*, for voice and strophonion (23:26; recommended excerpt: 03:17 – 07:58).

<https://vimeo.com/924306822>.

Emerging Soundscapes through an Improvisational Approach

The video documentation also reveals that, within the realm of improvisation, “in playing gesture-controlled, wireless instruments in vocal performance art, the main challenge is to discover how to mediate, in a performative, elegant and thus convincing manner, between, on the one hand, the technologically driven practice generating *abstract* soundscapes and, on the other hand, the mere presence of the multifaceted nature of the live human voice that in contrast produces *concrete*, emotion-bound material” (2021b, 137). Based on an alinguistic voice-machine “operating beyond linguistic semantics” the vocal sounds are “identified by consonantal and percussive, noisy and opposing, iterative and pointillistic forms of vocal expression” (132). Ensuing from this kind of material, the soundscape emerges through a variety of manipulations provided by the strophonion: pitch shifting, varying the sample length, changing playback position in the sample buffer, modulating frequencies, applying sequencing patterns as well as various effect modes—such as delay, reverb, distortion, et al.—and layering the sounds from four different sample buffers. The sonic structures obtained through the live-sampling process—be it additive and non-destructive (re-sampling) or subtractive and destructive (over-sampling)—are crucial for convincingly elaborating upon these sounds by electronic means. Therefore, even if it may sound trivial, the performer must ensure he or she receives the best possible signal from the sound engineer to cogently manipulate the sampled material. In this respect, as I have argued elsewhere, the schizophonic practice of self-sampling entails two key aspects which the vocal performer should be aware of: first, “the notion of enjoyment” regarding potentially surprising sonic outcomes related to the Deleuzian notion of *becoming*—such as *becoming-child*, *becoming-bird*, *becoming-machine*, et al.—and second, “risk-taking” (138). Ultimately, securing a high-quality audio feed is a vital technical prerequisite for successful real-time sampling and subsequent processing.

Emerging Soundscapes through Pre-Recorded Material

Certainly, a more secure alternative for sound management is to integrate pre-recorded audio instead of relying entirely on real-time sampling. This methodology allows specific, intended aesthetics to be consistently replicated from one performance to the next. By prioritising reproducibility, the performance practice shifts from a mere act of real-time sonic discovery towards the execution of a deterministic, pre-structured composition. To highlight

this difference in sonic quality and aesthetic output, I refer again to the solo performance *In the Thicket of the Invisible Wires*. From 08:28 onward, after introducing an additional sample buffer into which I loaded pre-recorded audio—specifically, a sequence of drum rolls—I manipulated the new sample and merged it with the previously accumulated sound material. Notably, a comparison between the sonic outcome of the live-sampling practice and that integrating pre-recorded drum rolls reveals a significant difference with respect to the resulting aesthetics, stemming primarily from the crisp, sharp, attack-based sound source that the audio with drum rolls provides.

Watch *In the Thicket of the Invisible Wires*, for voice and strophonion (23:26; recommended excerpt: 08:00 – 12:00).

<https://vimeo.com/924306822>.

Additionally, this example not only showcases the strophonion's capabilities as a dynamic instrument for sound manipulation, but also reveals the physical and mental effort—and eventual struggle—required by the performer to control the sound- and music-making process. In fact, the electronic parameters of the performance can become so demanding and intense that the vocalist is occasionally forced to pause. Consequently, at this point, the practice shifts from voice-induced to a mere electronic sound dance performance.

Emerging Soundscapes based on Live and Pre-Recorded Sounds: Towards a Compositional Approach

Another example illustrating a similar constellation of performance practices is *The bird that did not return*, a composition for whistling voice and strophonion that I premiered in 2020 at the annual New Music Festival *intersonanzen* in Potsdam. In this work, as with the previous example, live-sampled vocal sounds intermingle and merge with pre-recorded audio. However, the choice of sonic material here is different insofar as the audio documentation showcases sounds stemming from the live whistled voice contrasted by recordings of a nightingale, captured by Potsdam-based flautist and sound artist Sabine Vogel. The composition *The bird that did not return* aims to denounce the destructive 'cultural' practice of hunting migratory birds travelling between Europe and North Africa. Conceptually, the piece is built on a poignant reality: the samples of the nightingale belong to a bird that, for

many years, returned to one specific spot in the garden—until, one year, it did not. Within the tension between the live whistling, its sampled aural clones, and the bird *in absentia*, a fictitious sound dialogue evolves.

Listen to *The bird that did not return* for voice and live electronics (strophonion) (08:59):

<https://soundcloud.com/alexnowitz/the-bird-that-did-not-return>.

The Strophonion as Ensemble Instrument

Following the premiere of the strophonion at the STEIM festival in the LIG Arts Hall, Seoul, in 2011, I focused on solo performances to develop technical and artistic proficiency in this live performance practice, which, in turn, is a prerequisite for collaborating with other musicians at a professional level. Nonetheless, as early as 2012, I undertook my first attempt at integrating the strophonion into an ensemble context with *A Few Euphemisms*—a composition for voice with live electronics and chamber ensemble. The work was premiered at the annual New Music festival *intersonanzen* in Potsdam by the Stockholm-based Curious Chamber Players, conducted by Rei Munakata, with myself performing the vocal and electronic components.

Watch *A Few Euphemisms*, for voice, strophonion, sound objects, flute, violin, violoncello, piano and conductor (14:24).

<https://youtu.be/gACD-b4z1FU?si=CKXZGrpiVKU9QfwJ>.

Revisiting the score reveals that the strophonion was primarily utilised in conjunction with pre-recorded sounds, rather than for live sampling other ensemble members.¹¹ In fact, the composition *A Few Euphemisms* demonstrates the integration of the strophonion purely as an electronic instrument focusing on the application of prepared samples within the context of a seven-piece ensemble.

Excursion: A STEIM Retrospective by S. Kartadinata

A Few Euphemisms further illustrates the deployment of the strophonion alongside its

¹¹ As noted above, such a configuration demands a laborious sound check to obtain viable input signals suitable for live sampling—an undertaking that frequently proves unfeasible within the compressed timeline of a music festival.

original software configuration, comprising the *LiSa* and *junXion* applications, both developed at STEIM. As a highly influential institution with a profound global impact on the development of new musical interfaces, STEIM's fifty-year legacy provides a critical backdrop for understanding the historical embeddedness of the strophonion and prompts a broader re-evaluation of its institutional heritage. Having been affiliated with the studio in the 1990s, Kartadinata offers unique insights into this lineage. From the perspective of a visionary engineer-musician, he elucidates his personal approach to developing the strophonion and other custom electronic instruments in relation to the historical design philosophies of STEIM.

Listen to *Sukandar Kartadinata*, interview by the author, audio recording (part 2): a STEIM retrospective, Berlin, Germany, 7 August 2026 (14:35).

<https://www.dropbox.com/scl/fi/1v...>

Instrumental Sound Dance within the Context of Composition

As a tacit ambition, I sought to determine whether it would be feasible to transfer the concept of the intricate practice of vocal sound dance to an instrumental context or, in other words, to shift from a self-sampling to an other-sampling practice. It is important to recognise that the act of sampling ensemble members raises substantive ethical considerations. Particularly within the domain of musical improvisation, questions of authorship inevitably arise. A collaborator may harbour reservations regarding the live appropriation and manipulation of their distinctive acoustic output, and some musicians may articulate legitimate concerns pertaining intellectual property and digital copyright. Consequently, explicit performance consent must be secured prior to the initiation of such collaborative practices. Within the framework of a formal composition, however, the terms of collaboration alter significantly, as the parameters of live processing are already delineated within the musical notation.

From a technical standpoint, the transfer from a solo vocal practice entails that all techniques previously applied are now directed towards the instruments of the co-players in the ensemble. As noted above, the input signals received from these instruments must be of excellent quality in order to facilitate the creative handling of the resulting sound samples, in a manner comparable to the voice-induced sound dance practice. Having secured this premise,

the practice of *instrumental sound dance* can unfold productively within the relational dynamics of an ensemble. This conceptual extension finds its concrete realisation in the composition *Die erweiterte Kammer* (The Extended Chamber) for voices, live electronics (strophonion) and chamber ensemble, premiered in 2024 by the ensemble *Klangpakt* (sound pact)—founded for this reason—as part of the same-titled concert at the St. Matthäus-Kirche, Berlin. In total, so far, the composition was performed three times. The last performance took place in October 2025 at the International Festival for Vocal Performance Art, Sound & Music *Designing Voices* in Potsdam, both Germany.

Watch *Die erweiterte Kammer*, performed in Potsdam (13:48).

<https://vimeo.com/1189655289?fl=pl&fe=sh#end=13m48s>.

It is important to note that the composition is systematically structured. Nevertheless, there are several passages in which all musicians, including the performer of the strophonion, are invited to engage in a more improvisational mode of performance within defined temporal frameworks. The performer of the strophonion is granted comparatively greater freedom, as his part involves sampling and immediate re-articulation of the captured material. As a result, the compositional fabric remains continually renewed, and each rendering of the work exhibits subtle yet distinct variations.

See the score of *Die erweiterte Kammer* for voice and strophonion, clarinet, accordion, and double bass (15 pages).

<https://nowitz.de/die-erweiterte-kammer-score>.

Vocal-Instrumental Sound Dance as Improvisational Practice

Live sampling sounds from the co-players in the ensemble is both a collective and highly interactive practice. The ensemble members receive immediate audible feedback, which is based on their specific output, in an artistic, musical way. During the ongoing process of recording-and-playing back while working on and manipulating the sound, an intriguing and complex musical dialogue unfolds among all participating musicians. The process is steered or, in other words, *directed* through the sound dance practice. The thus obtained sounding result is grounded on an intricate sonic network emerging from fragments of original and its replicated sounds, all of which are interweaving into one another. As a

whole, the evolving and consistently alternating outcome of such an interplay is even intensified within the setting of improvisation and experimentation, unfolding unexpected and highly stimulating musical content. The more the interplay between live generating and live processing takes place, the stronger will be the momentum of surprise. If, then, on top of that, the individual practice of vocal sound dance intermingles with the collective one, and if the thus obtained samples are kept short within the span of milliseconds, then it becomes more and more harder for the listener to decipher or to decode the actual originator. However, the interwoven fragments create a sonic imagery which, exactly because of the interpenetration, becomes coherent.

Even though it seems obvious, the fusion of vocal and instrumental sound dance practices yields what I propose to term *vocal-instrumental sound dance*. An example of this kind can be found in *spinors*, a CD by Berlin-based trio ensemble MASUAL, published in 2026 on Evil Rabbit Records, a label specialising in experimental and improvisational music and operating from both Berlin and Amsterdam. The CD documents a live concert that took place at the Morphine Raum in Berlin in 2023. Interweaving with the soundscapes of Sukandar Kartadinata's guitar playing with electronics and the raw double bass playing by Matthias Bauer, I apply all possible nuances of sound dance practices as mentioned above. In so doing, the solo-focused vocal sound dance practice joins and overlaps with the practice of playing with the live-recorded sounds of the co-players, shifting back and forth between vocal and instrumental sound dance techniques while, here and then, incorporating pre-recorded sounds. As an elaborated technique, it requires not only skills in how to apply the diverse record-and-play and manipulation techniques, but also the necessity to intensely listen to the trio outcome next to the sounds each individual musician of the ensemble affords.

Listen to *MASUAL*. 1. *superfluid* (11:05) and 3. *peripheral* (02:20).

<https://masual.bandcamp.com/album/spinors>.

Technical Perspectives and Outlook

Instrument development is, in each case, a long-term project. Everyone embarking on this journey needs the resilience to endure this process—which must be fueled by a vision, in this case, a new form of expression in the performing arts bridging different disciplines. While the objective may seem clear and well within sight, both the developer and the performing

artist can lose track along the way, realising that the project is not solely about the final result, but rather about the process of moving forward from one achievement to the next, while acknowledging the setbacks encountered at various junctures in the course of its unfolding. Therefore, instead of a traditional conclusion—recognising that instrument development never truly ends but merely reflects a temporary status quo—I refer to the third part of the interview with Kartadinata, who provides an account of possible pathways for improving and further developing the strophonion system. It appears we have come full circle and things are getting technical once again, asking ourselves: how can we improve the existing system and, thus, replace the technologies currently in use with even more stable and more recent alternatives?

Listen to *Sukandar Kartadinata*, interview by the author, audio recording (part 3): technical perspectives and outlook, Berlin, Germany, 7 August 2026 (12:53).

<https://www.dropbox.com/scl/fi/cmy5...>

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