

TOWARDS A NOTATION OF SCENO-ELECTROACOUSTIC WORKS

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ABSTRACT

This article addresses theatricalized musical performances within contemporary artistic practices. It examines how these works can expand beyond instrumental execution to incorporate staging and scenography as integral components of performance. The study proposes an analysis of the score of a *sceno-electroacoustic* work, a mode of musical practice in which sound emerges from transformations of the scenic space itself. This article contributes to reflections on notation, performance, and the role of scenography in electroacoustic music.

1. INTRODUCTION

From the second half of the twentieth century onward, contemporary musical performances have undergone a process of theatricalization [1, 2, 3, 4]. A few notable examples can be found in the work of Mauricio Kagel, *Match* (1964), *Zwei-Mann-Orchester* (1971–1973); John Cage, *Untitled Event* (1952), *9 Evenings: Theatre & Engineering* (1966); artists associated with the Fluxus movement, including Nam June Paik and his *Concerto for TV Cello and Videotapes* (1971); Karlheinz Stockhausen, *Gruppen* (1955), *Licht* (1977–2003); or, more recently, works by Alexander Schubert, *Terminal Infinity* (2025), *Eternal Dawn* (2025); Martin Messier, *1 Drop 1000 Years* (2023); Amy Chan, *Electromagnetic River* (2024); and Alexis Langevin-Tétrault, *Replika* (2025), *Interférences (String Network)* (2016).

The interpretation of such works extends far beyond the instrumental domain as staging and scenography are integral parts of the performance. This text proposes an analysis of the score of the *sceno-electroacoustic* work *Sémiographie*. Sceno-electroacoustic being a term introduced here to designate multimedia and interdisciplinary performances that foreground electroacoustic musical play as articulated through scenography.

Scenography is understood as an artistic practice that organizes space, gestures, movement, light, and video,

arranges objects and sets on stage, and transforms the stage into a sensorial space [5, 6, 7].

Sceno-electroacoustic performances can thus be conceived as works in which music is played through transformations of the scenic space, in much the same way that certain audiovisual performances use video or light to modulate sound. In this case, scenography becomes a vector of musical control.

2. PROBLEM STATEMENT

In current scientific literature, there are few examples of musical scores for sceno-electroacoustic works. The music world seems to have taken little advantage of developments in movement or dance notation, particularly the types of notations derived from the Labanotation, or ways of notating scenography like the work of stage director Robert Wilson. In sceno-electroacoustic performances, many artists or artist-researchers have techniques for remembering their performances, but the idea of a score rarely appears. The interdisciplinary nature of this type of performance raises issues of graphic representation, which makes notation complex and scores polymorphic.

3. SÉMIOGRAPHIE

3.1. A Sceno-electroacoustic Performance

The work under consideration in this text is entitled *Sémiographie*. This sceno-electroacoustic performance uses live electroacoustic performance techniques —e.g. real-time sampling and triggering—, while integrating several scenographic elements, such as objects, movements in space, and gestures as vectors for musical play. In this work, music is primarily generated by triggering samples, loops, and live sound recordings. These recordings are then processed by FX chains whose parameters change according to scenic actions made by the performer. To enable this type of control, an electronic device was developed based on principles derived from *Digital Music Instruments* (DMI), as theorized by Miranda & Wanderley (2006) and Marier & Piché (2009, 2017) [8, 9, 10]. Unlike the classic principle of DMIs, which consists of capturing the musician's gestures and transforming them into sounds via sensors,

the device developed for the work *Sémiographie* captures changes in the scenography and transforms them into sound events. This sceno-electroacoustic work extends the instrumental paradigm of DMIs to the use of the stage.

The work consists of three main elements. The first is a position and gesture capture system, made with pressure sensors (FSR), a piezoelectric microphone, and switches. To collect positions in space, the pressure sensors are installed on the floor and are activated when the performer walks on them. These are used to trigger audio and/or light events during the performance. The piezoelectric sensor is used to track the performer's gestures. The switches scattered throughout the space trigger audio loops when activated by a performative action. Therefore, the music can only be developed through a precise interpretation of scenic displacement by the performer.

The second element is a roll of paper, several hundred meters long, that will gradually be unrolled by the performer during the performance. It is a central element of the performance, occupying multiple positions: both scenographic, since it inhabits the space on stage, and as a generator of sound material, since it also acts as a musical instrument. Manipulated by crumpling, tearing, and unrolling, the roll of paper generates acoustic sounds and triggers sound events. Moreover, this roll of paper is the incarnation of the conceptual idea of the piece, which is based on linguistic theories on the origin of language. The piece uses the paper as a symbol, linking writing, archiving, and the trace of language.

The third main element is a dynamic microphone that captures the sound of the paper, the performer's voice, and their breathing. It is also used to trigger samples and control FX chains with envelope following.

4. THE SCORE

A notation system for gestures, movements, and interactions with stage props was developed to create a score for the performance and archiving of the work. The symbols and text on the score serve primarily as markers that guide the performer's musical intentions, describe the sound material used, and provide a corpus of gestures and movements to be performed (Fig. 1). This method still leaves room for some freedom of performative actions. For instance, while the score indicates when and where the paper globally needs to be deployed, the precise gestures, modulations and intensities leading to this deployment are left to the performer's discretions. In the text *La partition en arts vivants : regard(s) sur l'utilisation du mot « partition » chez des artistes québécois-es*, it is stated that “the performer is no longer simply an executor but is integrated into the creative project.” The idea of the “well-crafted piece” and the “authoritative score” is rejected [11]. This quote sums up the intentions behind the score of *Sémiographie* that does not dictate, but rather accompanies, inspires, and guides

the performer without freezing the work of interpretation, allowing the performer to make the work its own.

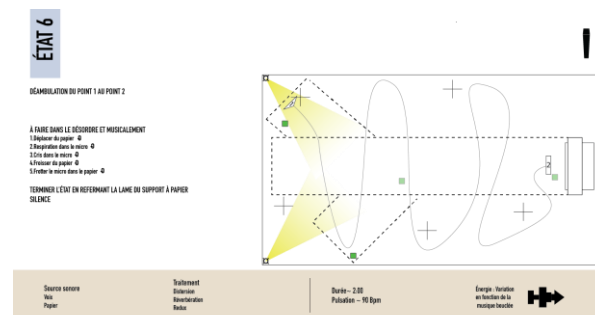


Figure 1. Excerpt from the score for *Sémiographie*.

3.2. Influences

In this sense, the score can be compared to Cléo Palacios-Quintin's notation work for her *Aléas* series. For example, for her piece *Aléas : Tableaux involontaires de la nature somnambule* (2020), the composer wrote a score combining the Western notation system, excerpts from poems by Thierry Dimanche, and drawings. When reading the score, there are indications that direct the musical action—at the top there are staves with notes—but a combination of expressions such as “éclats: mouvement vif” or “fleur jaune: délicat et aérien” placed under images of flowers and abstract shapes leave plenty of room for interpretation.

The score for *Sémiographie* is also in line with the work of artist-researcher Nicolas Bernier, who has been working for decades on the notation of performative works. The scores for his work *Transfert* 2017 (Fig. 2) combine text, symbols, and drawings indicating scenographic actions. On this score, Bernier drew the orientation of the lighting device that serves as a scenographic object during the performance. This way of noting the position of objects helped me develop this notation system.

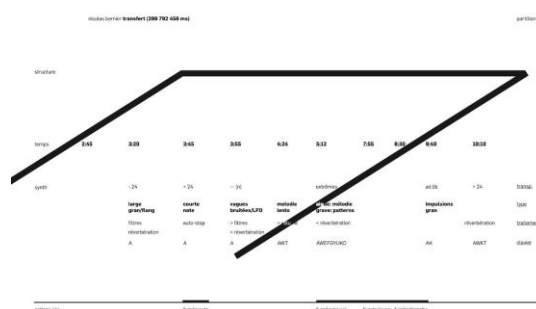


Figure 2. Excerpt from the score for Transfert (2017).
With the authorization of Nicolas Bernier.

4.2 Labanotation

The interdisciplinary nature of the work *Sémiographie* required the development of a type of notation that provides information on the music, scenography, lighting,

and movements. To achieve this, different forms of notation were used.

The form of writing that informed the notation of movement and positioning in space was Jacqueline Challet-Haas' *Symbolisation du mouvement* (Symbolization of Movement) [12]. This offers “a set of symbols drawn from Rudolf Laban's movement notation, facilitating observation, reflection, and experimentation with physical, spatial, and temporal factors.” [12] Challet-Haas's system has the particularity of “inducing movement proposals” [12], without dwelling on describing the gesture with the precision of Rudolf Laban's system. Although she uses signs from Labanotation, the dance notator proposes a system that leaves room for interpretation. It acts as a frame of reference for “describing the motivation behind a series of movements, their pattern [and] their structure” [12]. This feature makes it possible to write down movements and changes of position on stage while allowing the performer to improvise their gestures.

Challet-Haas uses lines and arrows to illustrate possible movements to be performed (Fig. 3). This way of representing movements in space has been taken up and adapted in the score for *Sémiographie* (Fig. 4). To indicate a suggested path on stage, thin lines are drawn. These are sometimes straight or curved and are used as a guide. The path may be different; the important thing is to move from one position to another.

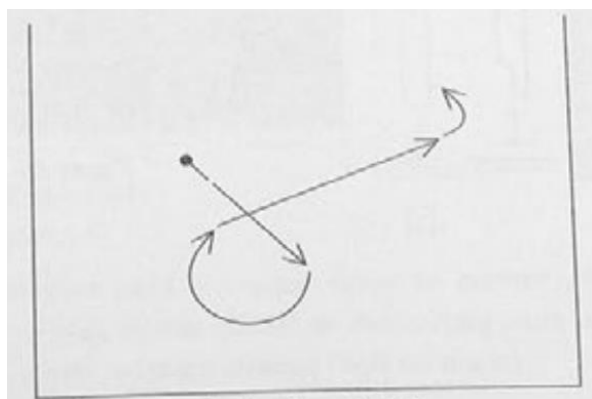


Figure 3. Excerpt from *La symbolisation du mouvement* issue de la *Cinétographie Laban* by J. Challet-Haas, p17.

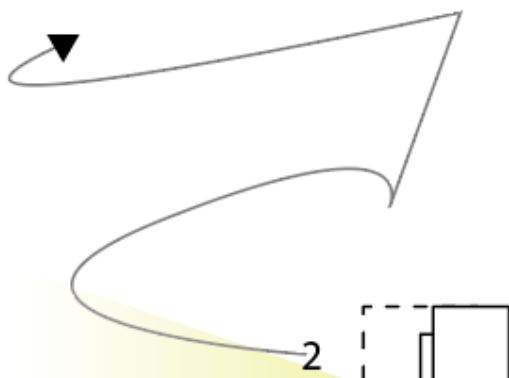


Figure 4. Excerpt from the score for *Sémiographie*.

Continuing with the idea of noting the interpreter's movements, Challet-Haas's method of noting the direction of travel is adopted and adapted (Fig. 5). Similar symbols are used to indicate the direction to be taken in space. For example, the stationary performer is represented by a rectangle (Fig. 1), while the moving performer is represented by a triangle (Fig. 1).

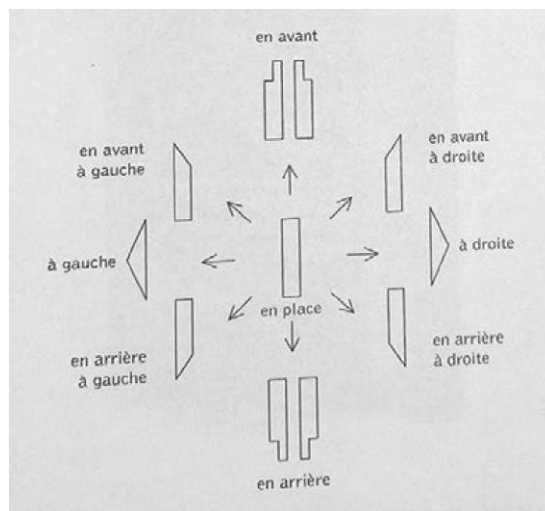


Figure 5. Excerpt from *La symbolisation du mouvement* issue de la *Cinétographie Laban* by J. Challet-Haas, p17.

Here, a distinction must be made between the two types of movement notation. Challet-Haas uses spatial reference symbols differently from those used in the score under study. The author uses an egocentric orientation. She indicates movements by referring to the position of the person dancing. In the case of *Sémiographie*, the movements are conceived in an allocentric manner. The position of objects on stage provides starting points and spatial references for movements. For performance purposes, the scenography is malleable; the stage can be reconfigured according to the space available during the performance. Movement indications are therefore relative to objects.

5. NOTATION STRATEGIES

5.1 States

The score of the work *Sémiographie* is divided into states (états), which are fragmented representations of the evolution of the stage space during the performance. These are important stages to be reached or moments of transition. This way of notating the sceno-electroacoustic performance allows it to be reproduced on a macroscopic and structural level, which in this context is a more faithful rendering than a microscopic representation. The interpretation is done through gestures, movements, and interaction with the device to interpolate between the different states. This way of structuring the performance creates a framework that allows for freedom of interpretation. The states serve as reference points, like anchor points that fix key moments, while what unfolds between them is more flexible and malleable. Each state

then contains stage-musical instructions. These instructions must be played in an improvised duration, but in an order that is indicated as follows:

Certain symbols will indicate certain types of musical actions. For example, a symbol representing a black microphone indicates that the microphone should be used by the performer, while a grayed-out symbol indicates that the microphone is not in use (Fig. 6).



Figure 6. Excerpt from the score for *Sémiographie*

There are also text-based instructions that provide context for the state while presenting a set of gestures to be performed. Figure 7 indicates that this is a state of wandering between points 1 and 2. The performer then moves across the stage through various scenographic objects. On the line below (Fig. 7), a clarification is made about the gestures. They must be performed “in a disorderly and musical manner.” This deliberately vague instruction serves to encourage a musical approach on stage. The small circular arrow accompanying each instruction suggests that the gesture can be repeated several times—the exact number being left to the performer's discretion—before moving on to the next one. The use of the term “musically” allows the performer to determine the order, intensity, and frequency of repetition of the gestures.

DÉAMBULATION DU POINT 1 AU POINT 2

À FAIRE DANS LE DÉSORDRE ET MUSICALEMENT

1. Déplacer du papier 🌀
2. Respiration dans le micro 🌀
3. Cris dans le micro 🌀
4. Froisser du papier 🌀
5. Frotter le micro dans le papier 🌀

TERMINER L'ÉTAT EN REFERMANT LA LAME DU SUPPORT À PAPIER SILENCE

Figure 7. Excerpt from the score for *Sémiographie*

The center right shows the stage layout as seen from above (Fig. 8). This section is the core of the score's scenographic representation. It shows where objects are placed, where the light comes from, where the performer should stand, where they should move, and their position in space. This representation contains several pieces of information about the stage layout. On the right, two superimposed rectangles represent the roll of paper. The four green squares correspond to the FSR sensors placed

on the floor: when they are pale, they are deactivated; when they are dark, they are activated. The long-dotted rectangles indicate where the paper should be. The five crosses mark the location of the switches. The Fig. 7 also shows a triangle with a “1” and a rectangle with a “2.” The triangle indicates the starting point of a movement, while the rectangle indicates the final position. Finally, the wavy line that crosses the entire representation shows that this movement can take place throughout the scene.

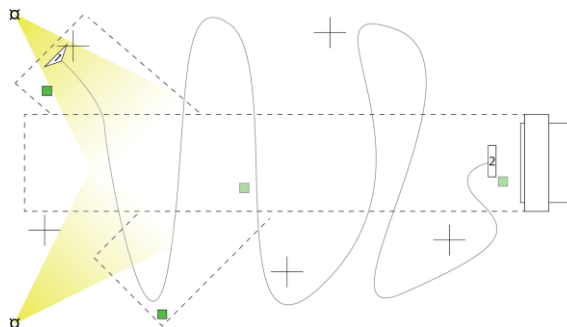


Figure 8. Excerpt from the score for *Sémiographie*

At the bottom of the score, on the horizontal beige band, information about the music is provided. On the left-hand side, you will find the type of sound source and the different treatments used during the state. On the right-hand side, an approximation of the state's duration in minutes and seconds is provided, along with the musical tempo, the energy form, and the musical intention. (Fig. 9). Each state has a symbol and a short phrase that suggests a musical energetic development. In Figure 9, several black lines are layered on top of one another to form a sideways triangle. This triangular shape suggests the idea of a crescendo, while the black lines imply a layering of sound textures. Other symbols are also used, for example a rectangle indicating an energetically stable state, or a triangle pointing to the right signifying a decrescendo.

Source sonore Voix Éclairage Synthèse	Traitement Brouillard Interne Électroacoustique	Durée - 2:00 Publication - 90 bpm	Énergie - Niveau et suppression de craques sonores, l'ensemble suggère
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Figure 9. Bottom part from the score for *Sémiographie* which indicates global information of a state

6. CONCLUSION

This multimodal form of notation is a first attempt in my research-creation practice for writing scores for sceno-electroacoustic works. It allows me to record the articulation between movement, gestures, scenography, and sound, which is fundamental when the performance is no longer based solely on sound production.

However, the notation technique developed has its limitations, particularly in terms of its ability to provide precise information about artistic intention in different states. This raises questions about the issues of representativeness for this type of work.

As it is often the case in modern dance and theatre, video recording proved to be an effective way of filling these gaps. Where notation provides information on the structural aspects of the performance, video shows what the score can only suggest: the musical intention, the emotion conveyed, the way the body moves, or its posture. Video would thus complement the score, allowing the performance of the work to be reconstructed with greater fidelity.

In the context of the work *Sémiographie*, there is no video accompanying the score, to leave more room for improvisation and interpretation embodied by the performer (knowing that the work is meant to be performed solely by the composer himself). It is not important to have precise instructions; the performer is free to embody the performance as they wish.

The proposal developed here shall contribute to nourish the diversity of performative notation, while not conceived as an attempt towards standardized writing, since the diversity and specificity of the works make it very difficult for a common language to emerge. There is not yet a truly standardized performative notation system, since practices oscillate between graphic, textual, video, and even tablature forms [13]. It seems more relevant to imagine a link between shared principles and the specific characteristics of each creation, where different modes of notation complement each other to convey the information relevant to the reinterpretation of these works.

7. ACKNOWLEDGEMENT

This article is part of the Performative Notation project directed by Nicolas Bernier and funded by Fonds de recherche du Québec – Société et culture (FRQSC), a research project held at Laboratoire formes • ondes (LFO) at Université de Montréal.

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