# SEAM PROJECT - SUSTAINED STEREOPHONY

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## ABSTRACT

After decades of sound and music technology development, the everyday practice reveals one of the first walking dead: the stereophony. In less than a hundred years from its birth, the stereophony is not only at the end of its comprehension but also at the end of its necessity. The electroacoustic literature has constant focus, through history, to the listening. Listening as a starting point of thinking, as a background of composing, as a long-distance perspective. Actually today we know better than Blumlein how people listen, how ears and brain do what they do. What we lose versus Blumlein, is the necessity of listening, of reproduction, of listening of reproduction.

When the words no longer point themselves we lose, with the meaning, also the reality we used to refer, using them. The transition from the age of mechanical reproduction of reality, through the history of attempts to reproduce it up to the virtual reality, must pass through, preserving and sustaining, that concepts which have defined the necessity of reproduction. Sustaining the electroacoustic literature, the repertoire, means to sustain the necessity of some concepts, like stereophony, and their related consolidated practice, to the perspective of development or, at least, the surviving of comprehension.

## 1. INTRODUCTION

*Sustained Electro-Acoustic Music* is a project inspired by Alvise Vidolin and Nicola Bernardini's article [**?**] on *live electroacoustic music sustainability*. In their text, they point at multiple technical faces of the sustainability problem such as technological, notational or general conception issues. Even if the article aforementioned focuses only on *live* electroacoustic music, the concept of sustainability is applicable to any kind of documented music that uses electroacoustic environments including therefore the acousmatic works, instruments mixed with tape and structured amplified works.

The main ambition of this project is to grow the interpretation and the electroacoustic musical practice with the consciousness of the electronic and informatics problems that had made arduous to approach this music and prevented the growth of interpretative thinking. It is possible, with a community structure, to determine, build and stratify interpretation of musical core, the repertoire, concealing the environment-related technological issues. They are instruments, not the music itself, after all.



## 2. THE SEAM COMMUNITY

From seam meaning:

> *A line where two pieces of fabric are sewn together...*
> *An underground layer of a mineral such as coal or gold: the buried forests became seams of coal...*
> *Join with a seam.*

We have to study Vidolin's gestures to understand Nono, to have a clear sight on our music through an era and join literature and practice with a seam. Vidolin is for Nono what Karajan was for Beethoven: time, consciousness and thinking. We need his work to know what was happening, what we have to do, what is necessary and what doesn't matter. And that is we have to do, seam it just one time, forever. Refine it, maintain it, and again realise it, through practice, forever. Neatly layering people's knowledge and thinking is the only way to hold back and preserve what we are loosing, preventing music from being a boxset of objects without the consciousness of music that they represent.

To prevent catastrophic regression of musical thinking we must consider that there are few dogmatic concepts to build, re-build and sustain an *electroacoustic repertoire*:

1. Open and Be Open
2. Don't Repeat Yourself
3. Think and Act as Community

**SEAM is an Open, DRY, Community.** People inside SEAM will share their knowledge to weld words, papers and literature with meaning.

These are the SEAM organisation coordinates:

- `http://s-e-a-m.github.io`
- `http://seam-world.slack.com`

There are notably predecessors of this kind of initiative, with a more personal oriented use, some of them has inspired this project, like the Miller Puckette's repository [1] .

[1] `http://msp.ucsd.edu/pdrp/latest/files/`

We hope the public domain community profile of SEAM can include some of those precious wizards contributes, in a more community sense, to avoid the misunderstanding of literature. An only-tech reading can bring to wrong interpretations even for great tech minds. That's how Puckette [**?**] resolve a crucial description of the *Dialogue*:

> This piece in its published form is performed by one clarinetist accompanied by a tape of the same clarinetist.

It is not accompanied, it is a dialogue.

### 2.1 SEAM Instruments

Developing the concepts of the instrument and instrumentalist to the combined form of those into interpretation, [**?**, **?**, **?**] requires the overcoming of obsolete parallelism: the computer music performer as an artisan of *new-luthiery*. There is not a sustainability conception under the deception of that wrong and obsolete metaphor. Each *luthiery* is new, it evolve with musical needs. Each instrument has his inventor and his virtuoso, but in musical history, those people never coincided. The best instruments were conceived from men entirely devoted to the conception of something unique. The best virtuoso took those instruments to unveil their prospective.

During the lessons in Rome Conservatory in which *SEAM* was born and its related problems were shared with classes to sensitize students to community work, the core software used to explode issues was *Faust*[2]. This wasn't a restriction, it was a preference. Text-based DSP offers the deepest learning experience and great expressivity and readability. *Faust* code could be written to educate a musician at the same time with computation versatility and efficiency. The *Faust libraries* concept is useful to focus on write once, and read forever, code. We think *Faust* itself represents a rather concept of electroacoustic sustainability. Thinking, for example, at the *filters.lib* and at the names that contributed the enrichment of speculation around each object, make us wish to a musical interest capable to do community more than with the adoption of other software.

Instruments carved by musical ideas on readable text (code) becomes a sub-literature in which each brick maintain the power of the source code, the clarity of an equation, the efficiency of the continuous development, the reusability of a word in different contexts.

```
import("stdfaust.lib");
import("../faust-libraries/seam.lib");
```

The *SEAM library* local importing points to other libraries catalogued by arguments, like in *Standard Faust Libraries*.

Actually there are five different libraries:

**seam.lib** contains general functions and the pointers to each specific library. It may also comprehend the custom performative environment definition, as it could be for the inputs and the outputs, the setup parameters and the performative controls.

**gerzon.lib** contains early Michael Gerzon works, his core concepts of spatialization and stereophony, that conducted him to conceive the Ambisonic technology. In a sustained environment, the role of this library is to avoid misunderstanding of what *stereo* is [**?**] and what we are loosing in the electroacoustic staging perception.

**hardware.lib** contains hardware-related functions like MIDI mapping and I/O assignment to an audio interface, with a routing strategy to connect instruments to real-world hardware with a graphical user interface to map routing.

**measurement.lib** contains some audio analysis strategy to define musical display feature for audio inspection, such as integrated measurement and loudness monitoring, that are indispensable tools for today staging of public addressed music.

**nono.lib** is the first author-related library that points to contain *Live Electronics Instruments*. The idea is to collect instruments into the library and use them, work by work, in a hardware-like approach. The *nono.lib* should contain reusable instruments typical of his literature like the Harmonizer, the Halaphon, and so on, directly called back into the performance environment of each work, to enforce the reusability and the sustainability of those instruments.

Faust is a great tool and we are proud users of it, nevertheless, a studied choose of the proper tool is required for each specific case. Sustaining of proper choosing is most important than the comfort of the preferred tools. As proposed to *max*-addicted students during lessons, a *library* approach, like the *Faust* one, must be ever incentivized.

### 2.2 SEAM Topology

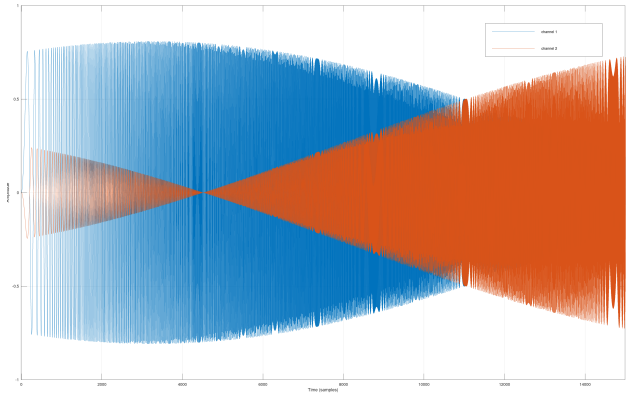
Referring to the electroacoustic music literature, where the substantial difference with the acoustical one is an inevitable continuously changing of the environment, we prefer to use the topology classification in place of typology one. A typology classification is, according to general type, used where characteristics of something are fixed and produce a catalogue of things. A topology classification considers instead the time-space characteristics of shape and permits the time variance of the environments. We classify three topologies of the electroacoustic music in literature:

**The undocumented** where composers use only word description to generate environment and circumstances;

**The *words-hole*** where the score has deep technical documentation but listing names of undocumented instruments. Without musicological methodologies, frequently with names without a specific meaning;

**The porting** where informatics translations between languages or informatics technologies are based on literature and shared knowledge.

[2] https://faust.grame.fr



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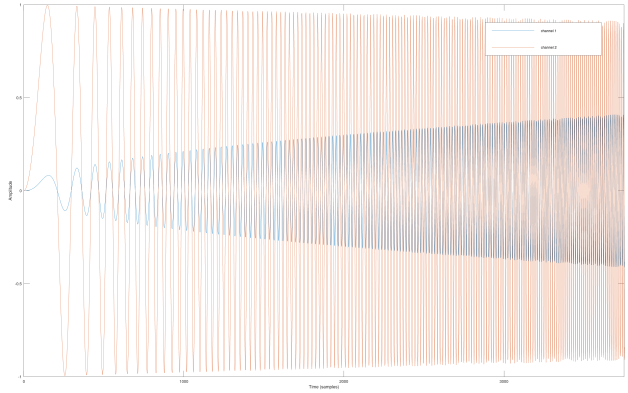

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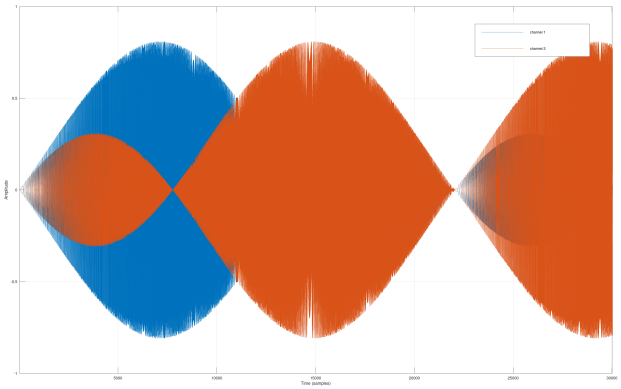
The identification of topological classes in place of typological forms is necessary to subordinate technology-matter to the musical practice and poetics.

## 3. REFERENCES


[1] A. Someone, B. Someone, and C. Someone, "The title of the conf. paper," in *Proc. Int. Conf. Sound and Music Computing*, Porto, 2009, pp. 213–218.

[2] X. Someone and Y. Someone, *The Title of the Book*. Springer-Verlag, 2010.

[3] A. Someone, B. Someone, and C. Someone, "The title of the journal paper," in *J. New Music Research*, 2008, pp. 111–222.

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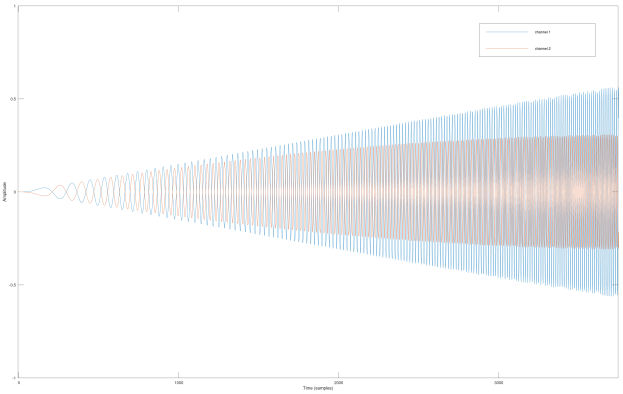

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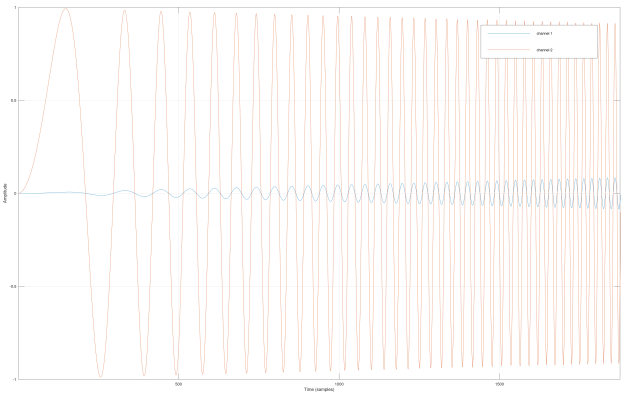

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