

Case studies in the invention of some Experimental Musical Instruments (EMIs) by an improviser.

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to be seen with pictures and sound here:

<https://youtu.be/gmclxBMUH3c?t=2h23m48s>

How do you invent something?

There is no "total invention" just as there is no "total improvisation", in the sense that it comes from pure inspiration or out of the blue. I think originality is causal and determined, there is no free will or supernatural forces. I can always trace every instrument I made to something, if I only remember. I'll give you some examples.

My first still remaining instrument is the **Butter Bass** – a one-string instrument that I saw in a dream. Also very physically involving since I was supposed to stand on one leg, holding the resonator in the air by the other foot. I compromised when I constructed it so I have used it sitting since. I found a butter box (at least that's what I imagined) on a flea market, and it became the resonator. The instrument has no neck, the bridge consists of a loop of piano string, **berimbau** style, and the string is stretched by my neck, with a collar.

During my education as a piano builder, I used the school workshop to create instruments. Inspired by the strength of piano strings, I realized that a person could hang in one string without it breaking. I constructed the **Stringed Stirrups**, where I would hang in two strings with different gauges and play them at the same time. I think **Jules Verne** and my interest in aquariums might have something to do with it too.

A friend of mine had a dream about her lying inside a coffin with strings, that would start sounding by themselves from her singing voice. It became the **Singing Coffin**. I use a microphone for the voice and multiply the signal to tiny speakers resting on the strings, where they also make feedback. This idea comes from a misunderstanding of a colleague's sound installation.

At the school I also had the chance to use ceramic and metal workshops and made different wind- and bowed instruments. I was inspired by **Hal Rammel's** bowed spinning instruments, the nail violin and the waterphone, and made my own variations in metal and ceramic. The **Metal Harp** was meant for bowing with a spinning motion but could also be played trumpet-style, or as a flute.

String instruments with no neck and no fret board interested me because I was never good at playing guitars or violins, and I wanted to make one that had a string on each finger. When I made it, I looked for materials and thought about the shape of the resonators. Only in the last minute, as a joke to myself, I decided to make them in violin shape. It turned out that a good playing position was actually to hold the resonator under the chin just like an ordinary violin, but that wasn't the original plan. The **Finger Violin** has a very unique sound, also because I used piano strings which are very stiff and usually not "meant" to be that loose.

On the street I found an empty pair of goggles, and immediately thought they should become an instrument: the **Brillolin**. In this case, the visual idea came in the beginning.

When my bicycle broke down, I used the remaining good wheel to make an instrument as an homage to **Marcel Duchamp's** bicycle wheel. The **Veloncell Marcel** used the light generator as an oscillator, and it had light effects.

I decided to make a one-man band with different playing methods, and also make it possible to play electronics, saw, didjeridu and use the voice at the same time. After several **sketches**, calculations and a cardboard model, I created, around the base from an old piano's sound board, the **Whalefish**.

I discovered that using a contact mike glued on a soundboard turned the soundboard itself into a big contact microphone. Any object that is in contact with it becomes part of the instrument. So the Whalefish became the base for an increasing

collection of objects, materials and tools. The amplified object aspect of the instrument gradually took over, and after many years I made a pair of new instruments that took this idea further, the **Platforms**. This neutral name states that it might not be an instrument but a stage, or an extended, prepared microphone. In the different versions, the fixed elements are different and can be changed at any time. The collection of objects change with new discoveries, things breaking, disappearing, being stolen and replaced because of lack of space in my bag, or that my interests fluctuate. It's an evolutionary instrument, or considered as a composition it's flexible, like a game.

My school asked me if I wanted to do something with some unfinished instruments that they would otherwise throw away. I saved a harpsichord keyboard, from which I built, during many years, an interactive exhibition piece that children can play as violent as they wish. For every exhibition, it needs repair and adjustments so it's in constant development. It's called **The Kaleidochord**.

A former interest in being a sword-swallower came up again when I heard of an easy way to make hydrophones: to simply cover a contact mike with waterproof material. I made one that I could swallow. I'm not sure it counts as an instrument. In the stomach, you can hear my heart beat, the carbon dioxide of soft drinks and the popping exploding candy. I call this piece **I Have Been In You, You Have Been In Me** (title stolen from Frank Zappa).

In contact with an organizer that has a venue which is a former aeroplane washing hall, I was interested in using the great space for a **long string** installation, and thought about my experience with metal sheets as resonators, so I asked for scrap metal. He proposed a collaboration with a sculptor who works with bending metal sheet, and it became a collaboration. The sound and playing possibilities are quite unpredictable in spite of any experience.

My current project is to do my own version of **The Hell Harp of Hieronymos Bosch** as seen in the painting The Garden of Earthly Delights. I am designing a costume so it will look like the strings go through my body.

With more time I would give you more examples where the sources of inspiration include:

- Interest in **dance** and bodily expression
- A **revenge**
- **Visual** and security concerns working on a big height
- A text about **fishermen**
- A **feedback** mistake during a rehearsal
- The need for having a **portable** instrument on a tour
- The decision to use found materials on the **mongolian** countryside
- The task to work with stones, and finding a cracked one which reminded me of the myth of the **Androgyne**
- The task to work with stones, and finding an old beautiful **yoke**
- The availability of a **lighthouse** or a bridge with long metal wires

What is an **instrument**? When I look at the way I make and use my instruments, they are not instruments unless in musical use. It becomes obvious with my sound objects, hundreds of things that were never intended to be played as instruments. The making of EMIs are part of the compositional process. This is true regardless of how the idea develops, where it comes from, what it consists of. The idea for me never came from creating a specific type of sound.

The construction of an EMI can be seen as an improvisation, with its back-and-forth dialectics. There is a close relation between improvisation and EMI design: whoever has invented a new instrument, if it's not basically modelled on an existing one, can never know completely

- how it's going to be played, or
- how it's going to sound.

In order to know that, there is only one choice: to improvise. You invent the specific ways to play through

- physical feedback from your body
- sound feedback while playing
- surprises or chance occurrences.

So even if you have created the instrument yourself, you still have to learn how to play it. It teaches you, even during a performance. This process can be defined as a compositional one.