Three years of fragments: music, sound design, and sketching
Andrea Cera

1 Introduction

The interference between different, or even incompatible, cultural paradigms is a central question for my activity. This text describes a series of projects where scientific research, free artistic investigation, tool development, and cooperation between various entities, institutional and non-institutional, had to live side by side.

The process was occasioned by a collaboration within the European project SkAT-VG, started in 2014 and coordinated by Davide Rocchesso. The SkAT-VG project explored the use of voice and gesture, as tools for sketching in sound design.

In the same year, I started to work on an online experiment called *Pink Squirrels*, hosted by the Swiss platform Plakart directed by Steve Paterson: a study in writing, sound design, image and video.

Three years later, in 2017, for the closing day of the SkAT-VG project, I presented a series of fragments made with sound, texts and videos, called *The Brown Lipstick Sketches*. These are a growing collection of text-audio-video fragments made with SkAT-VG tools, articulated as a sketching activity, and linked by a family resemblance to a series of ideas presented in the *Pink Squirrels* project.

I will introduce the discussion with a short presentation of my main aesthetic concerns, and of the way these concerns have evolved over the years.

2 Starting point: The Problem of Pop and Art

At the very core of my way of working there is a crucial problem, which I call the problem of Pop and Art.

In the past, I wrote that my musical aim was to create hybrids between popular music materials and contemporary classical music techniques (Cera 2000), in order to use popular music as a tool to free contemporary classical composition from the ghosts of the aesthetics of the 19th century (Cera 2004), or to transcend popular music using bad imitation strategies (Cera 2009). At the origin of these texts, there was the belief

that the classical contemporary music world was dying because it had lost its popular roots. At the time, I was looking for ways to consolidate new roots.

This problem was very pressing to me, because of my erratic background. In the past, I had experienced different ways of making music: working in a studio with DJs, writing Italodance tunes; assisting a TV music producer; playing blues in smoky bars of some hidden places of Northern Italy; studying Berio and Ligeti; learning MaxMSP and Open Music; preparing music to be played in the Espace de Projection of IRCAM and other important venues. Working in these different domains made me realize how incomplete each musical world seemed to be, as compared with any of the others. I dreamed of bridges between those differences.

2.1 Evolution of a problem

After twenty years of attempts I still have this dream, but I also came to agree with Richard Middleton's statement about the complexity of the definition of 'popular music' (Middleton 1990). This definition includes so many musical, sociological, aesthetic, political and technological aspects, that I see it as a problem impossible to solve.

Therefore, in recent years, I moved my reflection to certain operative keywords ('entertainment', 'distraction', 'boredom', 'stupidity'), which seem to embody the contradictions of the musical worlds I experienced.

My idea of 'entertainment' refers to the concentric process of keeping someone close with someone else (keeping together, creating a community, creating a culture), but also to the process of keeping someone inside somewhere (capture, restrain, trap). 'Entertainment' works using 'distraction', which I interpret as the eccentric process of pulling someone away from 'boredom' (the name I give to the realization of the passing of time, and hence of our mortality). 'Stupidity' is the astonishment, amazement, dullness of someone caught in this circuit.

In music, there are numerous techniques to create 'entertainment' through 'distraction' (an example for all, the breaks used in Techno, which create micro spikes in the attention processes, in order to hide the passing of time). And there are also many examples of music and Sound Art which contradict the laws of entertainment, by allowing someone to observe him/herself in the act of listening (an example for all, La Monte Young's *Dream House*).

I consider my early attempts to mix Pop and Art as ways to use 'entertainment' and 'distraction' to create new forms of 'stupidity', without looking away from 'boredom'.

In practice, it meant creating a clash between my musical instincts (from my background in 'entertainment' music-making) and the analytical/theoretical attitude (from my studies). The latter tends to destroy the power of 'distraction' and wake up the listener to discover the act of listening.

My compositions *Deliverance* (1998) for soprano saxophone and real time electronics, and *Murder in the MIDIfreaks Farm* (2001) for big band and soloists, are examples of this entire process: to confuse the listener between states of distracted stupidity and states of awareness.

2.2 Other than music

In the following years, I discovered other ways to create confusion between the forces of 'entertainment' and the forces of 'boredom': to push myself into non-musical territories, where I did not have techniques at hand, but only instinct. This pressed my analytical/theoretical attitude to find new ways of counteracting.

This is a strategy I explored partially in *Dilution Fango* (an installation I made in 2005 for the *Nuit Blanche* in Versailles), *Nigth Run* (an installation I realized in 2003 for Le Fresnoy), and more extensively in a CD entitled *Kevi and Deni,* published by TauKay in 2010.

In these works, I invented narrative universes, with fictional characters, places, events, and stories. The finished works are a partial exploration of such universes; their musical dimension is serving the scheme of a larger narrative journey. The *Pink Squirrels* project and *The Brown Lipstick Sketches* represent my most recent adventures in this field.

3 The Pink Squirrels project

At the basis of the *Pink Squirrels* project, there is a simple (and surely question-able) hypothesis: starting from the 1980s, the world of 'entertainment' has begun to metabolize the real world. Under the spell of movies, magazines, songs, self-help books, advertisements, news, etc., our brains have started to build a new reality that is slowly replacing the one presented by our sensory/anticipatory system. This idea – a paradoxical exaggeration of the dynamics of adoption, as analysed for cinema by Bernard Stiegler (Stiegler 2001) – turns into a form of science-fiction storytelling: in a near future, the influence of 'entertainment' becomes so powerful that the human race develops a number of mental disorders, more and more severe, eventually leading to the suicide of mankind itself.

I have developed this storytelling in an online project, hosted by the Swiss editor Plakart (http://www.plakart.org/pink-squirrels.html). *Pink Squirrels* is a website based on a gigantic image, too big to be read on a single screen (Figure 1).

The image, a relic from the future, includes a text which brings together fragments of the fiction described above, reflections of fluctuating theoretic coherence, descriptions of future social horrors, etc. (Figure 2).

The image is populated with links to other pages, where it is possible to decipher the text, but also to visualize images, listen to sound files, or watch videos (Figure 3).

3.1 Sound design in Pink Squirrels

A small stream of sound files allows a surrealistic reflection on the decadence of to-day's and tomorrow's soundscapes: in the future, the soundscape will be polluted not only by involuntary noise-emitting machines, but also by conscious and autonomous audio technology escaped from the producers' control.
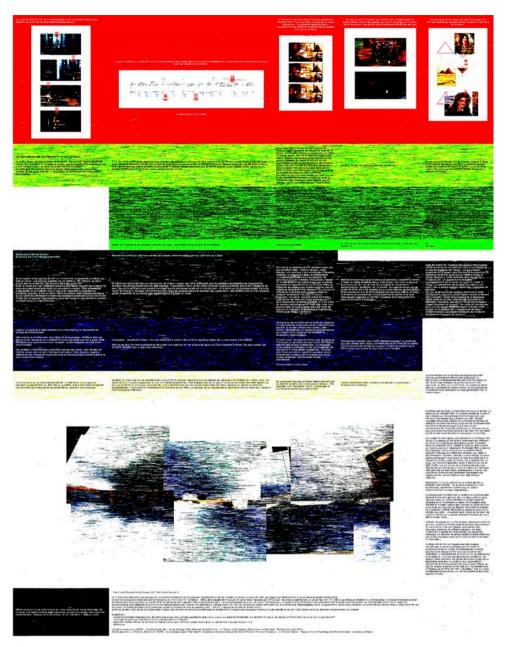
Figure 1. The image in the Plakart website.

The source sound files are recordings of real soundscapes (captured in the sur-roundings of Vicenza, Italy, which are characterized by a ubiquitous mixture of indus-trial and natural sounds), using either a Zoom H4 or a smartphone. To these record-ings I added layers of sounds which are almost inaudible, and occasionally emerge for a brief moment.

Figure 2. A detail of the image from the Plakart website.

Figure 3. One of the links in the Plakart site.

The added sounds are created with MaxMSP patches, using the emergent behaviour of an audio agents' chain. The audio agents are small and simple sub-patches which accept a numeric input, and use it to elaborate sound (sample playback, or some very simple synthesis technique) and a value sent to the numeric output. A great number of these agents is connected serially, with the last one connected in loop to the first. Once the loop is activated, the agents start creating autonomous behaviour, whose continuity, complexity, and interest depend on the way the numeric value is calculated and used inside the agents (figures 4, 5, 6).
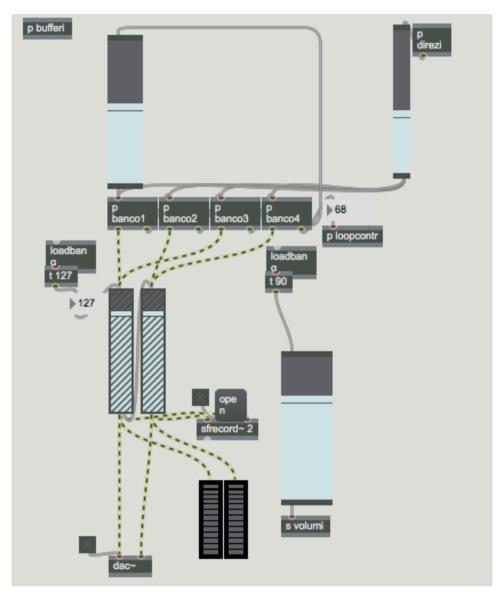
Figure 4. The agents main patch. This version has 48 audio agents.

3.2 Music in Pink Squirrels

A short music video (less than two minutes, directed by Dimitrjie Roggero) is a second reflection on the damages that 'entertainment' provokes on the personality. It is a parody of a video-clip, and of a TV car advertisement, representing a failing delusional mind, wrapped in screens. The tale is a reference to one of the fictional sections of *Pink Squirrels*, where a fugitive man in a Subaru Impreza is trying to physically escape from the madness slowly developing in his brain (a disease I call Tom Cruise Enacting Script
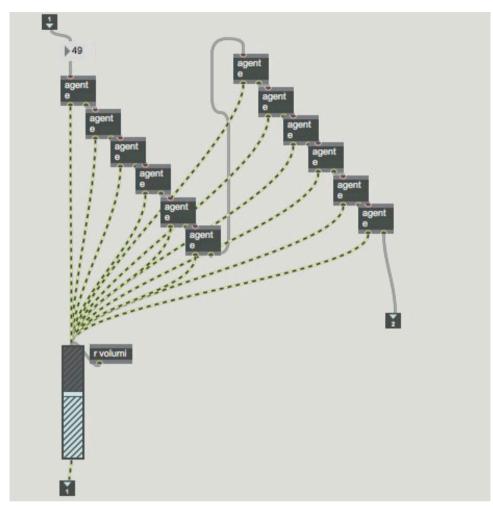
Figure 5. Content of one of the 4 subpatches.

Disorder, a sort of schizophrenia caused by the confusion between movies and real life), which will drive him to fall off a balcony (figure 7).

The proliferation of music genres inside the song (a Farfisa organ playing a 1960s beat garage riff; some acid bass synths, reminiscent of the techno breakbeat scene of the early 1990s; riffs inspired by the Trance genre; synth stabs coming directly out of the most commercial 1980s pop; drums sounds more suitable for a power ballad, etc.) represents the sonic experience of the man, just before his suicide. The phrase «I see Pink Squirrels» is interpolated from the movie *Cocktail* (R. Donaldson, 1988), and namely from the sequence where Tom Cruise improvises a poem entitled *I see America drinking*. I use this movie and this actor as an emblem of the contemporary (and future) tendency to deny reality and retreat into a fictional world (made by movies, social networks, fictions, etc.) that, little by little, creates mental illness.
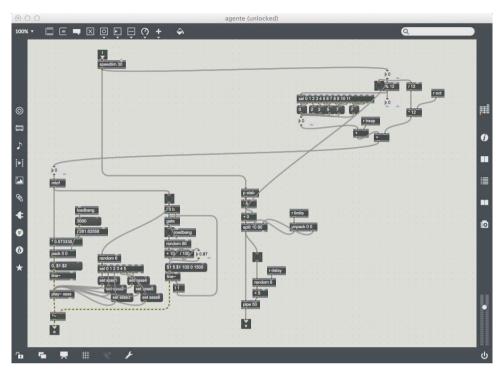
Figure 6. An audio agent.

The song was composed in three phases:

A) manual creation of a series of MIDI riffs in the different genres described above;

B) a series of operations in IRCAM's Open Music CAO software: swapping pitches, onsets, durations and dynamics between different files; performing interpolations between pitch, onset, duration and dynamics profiles (Figure 8);

C) assembly of the Open Music MIDI files within a DAW (Ableton Live), and synthesis with different VSTis and two hardware synthesizers (a Roland D70 and a Yamaha TX 802).

4 The SkAT-VG project

In the midst of this experimentation, an opportunity arose to cooperate in the SkAT-VG project. This project aimed at enabling designers to use their voice and hands, directly, to sketch the auditory aspects of an object, thereby making it easier to exploit the functional and aesthetic possibilities of sound. The SkAT-VG technology allows the vocal control of physical modelling and concatenative synthesis modules, conceived as a tool to assist sound designers in the delicate task of sharing sketches with clients (Rocchesso *et al.* 2015).

Beyond my specific interest towards industrial sound design, I saw this project as an opportunity to work on the idea of the sketch as a form in itself.
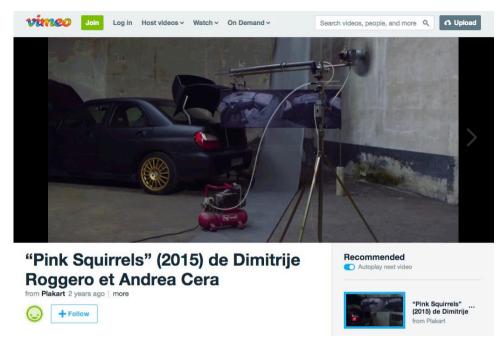
Figure 7. Screenshot of Dimitrije Roggero's video.
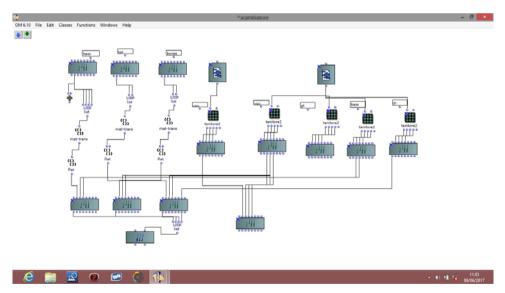

Figure 8. Swapping dimensions between several MIDI files: using pitches from a file, and onsets and durations from another file.

A sketch can be intended as an act of resistance to the forces of 'entertainment', because of its ambiguity. Working by short, unfinished, shifty sketches may be the only way to nurture creativity in an historical moment where the work practices have

been atomized, measured and quantified (see such work-management strategies as Scrum or Kanban).

At the same time, short forms are ubiquitous in the world of social media, in a way reminiscent of the loops and animated gifs used in the era of the Web 1.0 – an historical parallelism similar to the ones described by Lev Manovich in *The Language of New Media* (Manovich 2001).

Short forms are familiar to me thanks to my activities as a product sound designer (such as the work for Renault Zoé's electric car sound signature). In these cases, the final result is a collection of many short snippets of sound (Misdariis-Cera 2017), whose formal coherence is not realized on a temporal timeline, but more on a spatial continuum (using, instead of a score, 2D or 3D graphs where different kind of control dimensions are represented; and then populating this space with different specimens until a coherence is found).

4.1 First episode: S'i' fosse Suono

The first chance to work on this idea turned up in conjunction with a request from the SkAT-VG project: creating prototypes of sonifications of vocal sketches. The prototypes were to be used as models for the SkAT-VG team, for future implementation in real-time software.

To get me started, I decided to tap into the world I was developing with the *Pink Squirrels* project. I had a vision of future people unable to utter words, deprived of ways of communicating, fried by excessive exposure to social media, TV series, texting, etc.

I proposed to create short videos where people tried to communicate their identity using vocal gestures, like sonic selfies. My idea of a 'sonic selfie' was inspired by the analysis of the 'selfie' culture developed in Manovich and Tifentale (2015).

The team based at the IUAV University of Venice contacted a group of people (students, University personnel, actors from the Cantiere Teatro Ca' Foscari) and taped a collection of videos showing, one by one, these persons vocalizing sonic self-portraits. I used the SkAT-VG tools to translate each vocal production into a synthesized version, as described in Cera, Mauro and Rocchesso (2016). The final work took the form of a matrix of clips showing the close-up of sixteen people, alternating their original vocalizations and the synthesized ones.

Hereafter I will give a more detailed example, extracted from the documentation I made for the project. To create these prototypes I used an Ableton Live session linked via MIDI CC to MaxMSP, where the SkAT-VG modules ran.

In the Ableton Live session, I loaded the sound file coming from the video (i.e. the recording of a vocal selfie). I manually drew curves of MIDI CC controls, representing what I perceived as pitch, loudness, brightness, etc. Then, I used these MIDI CC curves to control several SkAT-VG synthesis modules in the MaxMSP patch. This is an example of mapping, as described in the project's documentation.

[…] I used 2 data streams:
1) a hand-drawn CC controller representing what I perceived as "pitch" (even if the voice doesn't have a proper pitched content)
2) a hand-drawn CC controller representing what I perceived as "loudness"

MAPPING SDT (figure 9).

stream 1) drives the engine's RPM
stream 2) drives the engine's THROTTLE LEAD
NB: this is the core of this sonification: I created 4 different version of this sound, slightly changing the values of other parameters (n.cylinders, size, exhaust & muffler dimensions…) before each rendering (I didn't save presets) (figure 10).

[small variation of] stream 2) drives the EXTERNAL RUBBING FORCE and PRESSURE ON RUBBER (figure 11).

[small variation of] stream 2) drives the BUBBLE FREQUENCY (figure 12).

[small variation of] stream 2) drives the WIND SPEED
[small variation of] stream 1) drives LENGHT.

I finally wrote to disk the sound output from MaxMSP, imported it back in Ableton Live, and performed a few cosmetic operations, before the rendering of the
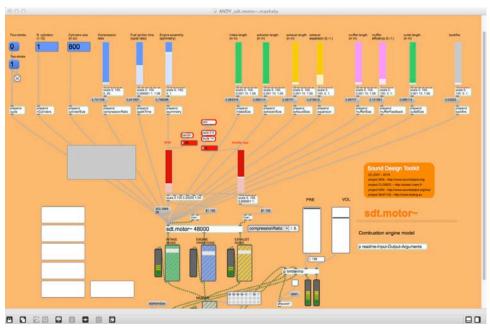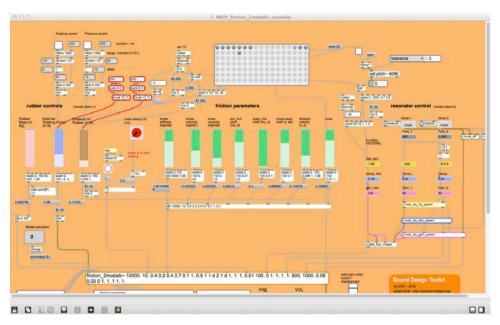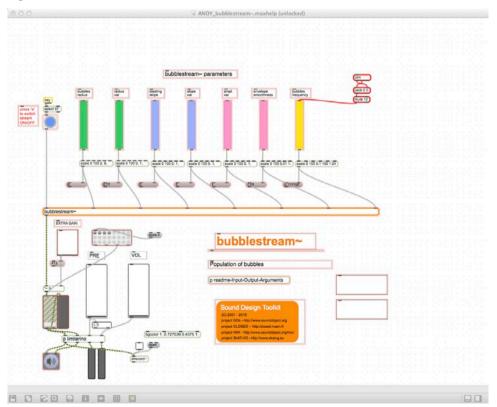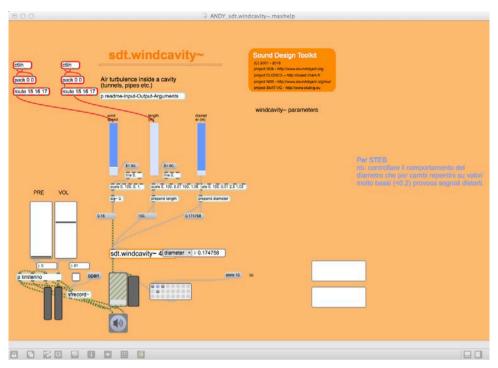

Figure 9.

Figure 10.

Figure 11.

Figure 12.

definitive sound file. Here is a brief description of these operations (from the SkAT-VG documentation):

> […] The 4 engine versions, and the other soundfiles are layered in different left/right positions. A small reverb is applied to every soundfile, in different doses. I applied a master bus section with 2 multiband compressors and 1 limiter.

The vision of people uttering synthesized sounds recalled one of the dimensions of the *Unheimlich* (uncanny), as Remo Ceserani described in *Il Fantastico* (Ceserani 1996): the apparition of the monster as a stranger, non-human entity. The scream of a lycanthrope reveals the intrusion of an animal in the soul of a man.

I developed this suggestion within the context of the science-fiction imagery of the *Pink Squirrels* project: these persons were attacked by swarms of nano audio agents, microcomputers that enter the respiratory system, settle in the vocal folds and finally descend in the lungs, killing the host. The swarms were initially created by advertising agencies to localize personalized audio messages around the head of a passer-by. They had escaped human control, self-proliferated massively and forever altered the world's soundscape.

4.2 Second episode: after the Gate-Machines

A further phase of the SkAT-VG project consisted in a two-day residency (April 2016) at the Chateau La Coste, an open-air contemporary art collection in Southern France. Inspired by the late works by J. G. Ballard, in particular *Super-Cannes* (Ballard 2000), I linked again the experimentation with sketching technologies and the dystopian themes of the *Pink Squirrels* project.

The residency consisted in an invitation to choose a work from the art collection, to create sounds inspired by it (using the SkAT-VG methodology and technology, i.e. sonifications of vocalizations), and to project these sounds in the work's proximity. Five other sound designers were invited.

I chose a work by Richard Serra (*Aix*, 2008), and I imagined a near future in which rogue swarms of nano audio agents roam around undisturbed, mimicking nature's sounds. The work of Serra (three gigantic blades of metal emerging from a hill) becomes the relic of a space-exploration construction abandoned in the forest, like in Ballard's short story *Myths of the Near Future* (Ballard 1981).

Using the SkAT-VG technology, I created a database of synthesized sounds based on my voice's input, then I layered them on a Ableton Live session. I created a counterpoint with the soundscape where the Serra's work is placed: a hill, close to a big vineyard, in a peaceful, windy rural area, far from busy roads, but still receiving some background noise (jets, small airplanes, helicopters).

The database was organized in abstract sounds (similar to wind, through leaves or grass), machine/industrial sounds, and three very loud 'calls' (kind of distorted fog-horn blasts, as if the three blades were calling out for help). The fog-horn sound alluded also to the shape of the blades, similar to boat hulls, revealing Serra's fascination with shipyards.

4.3 Third episode: The Brown Lipstick Sketches

The a*fter the Gate-Machines* project suggested another idea, which became one of the ingredients of *The Brown Lipstick Sketches*: short clips where urban and suburban landscapes are sonified with abstract, yet vaguely plausible sound materials, like mechanical doppelgangers. The author of the *Pink Squirrels* video, Dimitrije Roggero, provided me with video material, filmed in desolated landscapes in the suburbs of Torino. The sequences, shot in time-lapse with an extremely slowly moving dolly, create two contrasting time flows, the lazy trajectory of the camera, and the frantic time-lapse.

To produce sounds for these short videos I followed the same method used in *after the Gate-Machines*: vocal control of SkAT-VG modules, creation of a database, montage on Ableton Live, with the less possible amount of extra effects.
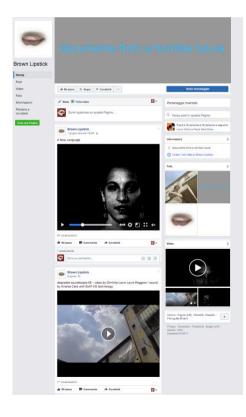
A second component in *The Brown Lipstick Sketches* is a series of clips from *S'i' fosse suono*. I recreated the sonifications from scratch using an update of the SkAT-VG tools, and transformed the image in order to give a sickly and disturbing quality to

the subjects' faces. I also processed the sonifications through an IR reverb (from Max for Live effects), where I loaded a recording of a percussive click from the inside of my mouth.

The third element of *The Brown Lipstick Sketches* is a series of videos showing only texts, with music. Inspired by certain works by Gary Hill, by the Young Hae Chang Heavy Industries, and by the whole world of visual poetry, these fragments are intended as a reference to the idea that behind advertisement (billboards, magazines, etc.) there are subliminal orders («Buy!», «Reproduce!», «Consume!», etc.), as suggested in John Carpenter's movie *They Live* (1988). The texts are assemblies of phrases taken from online advertisements, the Carpenter movie's subliminal orders, and words reminiscent of authoritarian propaganda. The soundtrack is made using the typical techniques I described in my papers (Cera 2000, 2004, 2009).

The sketches can be sequenced in a random order, without a sensation of break or discontinuity. This is made possible by a technique borrowed from cinema: the insertion of a very short sound, almost a click, at the end of each sketch (and sometimes at the beginning too). This small sound 'distracts' the viewer from the cut of the image flow and of the sound continuum, like the blink of an aural eyelid.

In this form, a montage of a number of sketches was shown at IRCAM, during the closing day of the SkAT-VG project which took place in January 2017 (figure 13).

Figure 13.

Nonetheless, the real nature of these sketches remains individual and isolated. In this regard, the web represents the ideal platform to host these experiments. I started opening accounts containing these sketches, in various channels, which will be slowly populated and updated with new materials.

5 Conclusions

In an historical moment where the division of labour and the consequent cult of specialization seem to penetrate all forms of human activity, I'm convinced that it is more and more necessary to break the boundaries between paradigms and human practices, to keep alive a spirit of research and adventure. I see the mixing of fiction, research, technological experimentation, and the shuffling of categories of 'entertainment', 'distraction', 'boredom' and 'stupidity' as attempts to search for such borderline experiences.

The *Pink Squirrels* project and *The Brown Lipstick Sketches* are visible only on the Internet: no other form of presentation (installation? concert?) is planned at the time of this writing.

As the narration of these creative efforts approaches the present day, focus on their initial grounds, their actual impact, and their future development gets inevitably lost. The dynamics of creativity are rooted in a constantly shifting present, wrapped in a cloud of fog. The fog will dissipate someday, allowing to see the risks that I was taking and the mistakes that I was making.

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