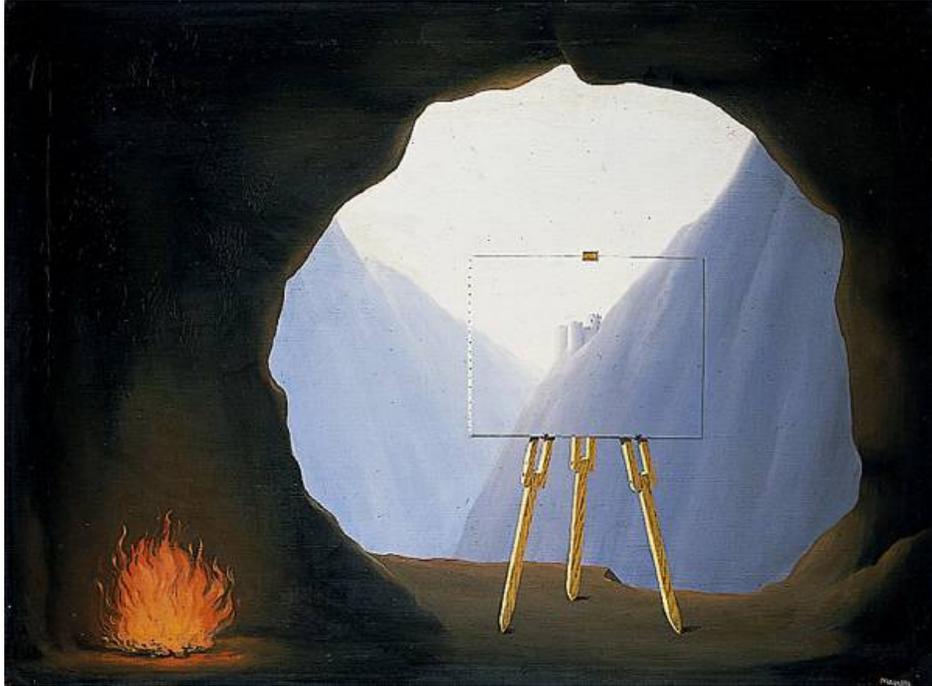


HiperOído¹, Invisible Sonic Debris and Continuity

by Christian Galarreta Pando (2006-2013)



Introduction

A painting of the series "La Condition Humaine" by René Magritte² portrays an easel at the entrance of a cave. In the image, this object holds a canvas that displays the external view as though it were part of the very same image (see image 1). By playing with the borders that lay amid a suggested reality and its representation, the picture appears to direct our attention to the limits of human perception and the possible effects that they may have on the abstractions that we make of the world through reasoning. Magritte's painting may be interpreted as a reflection on

¹ *Hiper* (Spanish prefix, meaning "superiority" or "excess") *Oído* (in Spanish, it means the organ of audition and the sense that allows the perception of sound). "HiperOído" (Galarreta, 2008) is the name that I have given to a workshop devoted to building the parts of a homemade interface bearing the same name. This interface is, at the same time, a multi-transducer, a spatiotemporal amplifier of audio capture formats, a signal observatory and a broadcaster. I propose this interface as an extension of the particular sensorium of each human being.

² "The Human Condition II" ("La Condition Humaine"), 1935, oil on canvas, 54 x 73 cm. The cave depicted on the painting can be understood as a reference to the "Myth of the Cave" of Plato, a Greek philosopher who was deeply admired by Magritte, especially for his questioning of the knowledge of the sensible world. The threshold portrayed on the painting works as a link between the outside and the inside, so that it can be inferred that the artist is situated within the cave and symbolically accompanied by a bonfire, while, on the outside, the easel is enlightened by natural light. Regarding this, Magritte suggested that, "when we observe reality, we include ourselves in it. The Subject is included within the Object". Magritte's work is a permanent invitation to reflection, which can arise even from the most common objects. For this reason, Magritte's work has sometimes been dubbed "magic realism". In "La Condition Humaine II" (1935), the canvas on the easel, hiding a portion of the landscape, is an example of the motives that serve to question the metaphor of painting as a window to the world or, even more, a mirror that reflects it.

human perception and the representation of reality and on how both often become limited by our means to register it and the skills of our own senses to capture it.

My own interpretation is that Magritte's canvas is composed of a triple-framed structure, which contains the frame of the canvas over the easel, the one suggested by the threshold of the cave, and the frame of the "real" canvas, which, in turn, contains the other two. This *mise en abyme* can alter our perception to the extent of making us see, albeit from the outside, the interior of the cave. The cave itself directs our senses to a threshold which can be perceived as the frame of an outside landscape, whose contained image represents and provides continuity to the one on the easel (the castle and the slope), as if it were a transparence of sorts to that suggestion of reality, which remains, nonetheless, yet another representation within the painting of Magritte. In the representation within the painting's representation does the artist make visible what is invisible: are or are not the slope and the castle parts of the pseudo-real landscape behind the easel?

Hence the artist invites us to observe our own human condition critically, even while remaining within the cave of our own perceptions. The reference to Plato's "Allegory of the Cave"³ is clear, as the structural game of the painting warns us about the relativity of our visions and the recurrent deceit that the sensible world forces upon us through them, while we tend to base our thoughts and representations on them. While capturing a piece of reality (through a glimpse, a picture, an audio recording, etc.), the representation of our surroundings passes through a window that we may assume all-encompassing, though it rather tends to focus, reduce or amplify its objects. Magritte's painting conveys that our sight as representation is but incomplete, since it is usually conditioned by formats, frames and habits of observation that result in rather partial glances of what we call reality, since it invariably extends beyond the limits of such conditioning.

Extensions of our hearing capabilities

Technological progress and its commercialization have produced a variety of residual physical phenomena that we accept as normal in our daily lives, regardless of the eventual consequences that these changes may pose on our physiology and the surroundings that we have decided to populate. For instance, with the development of electronic and mechanic technology in larger

³ "Book VII" of Plato's *Republic* begins with the exposition of the well-known "Allegory of the Cave", a narrative that the philosopher used as an allegoric explanation of the situation of man regarding knowledge: just like the prisoners of the cave can only see the shadows of things, according to Plato we live in ignorance when our concerns refer back to the world offered by the senses.

cities, a mutation has been forced upon the environment, and the environment, at the time, has enacted mutations on us, as its dwellers, in the shape of relations of interference, feedback, reciprocity and retro-action.⁴ Through the transduction to an aural range of the sound and electromagnetic waves⁵ that these phenomena generate, the magnitude of influence and the omnipresent quality of these energies within our daily lives can be explored. Here can be found some ideas related to those arisen from the analysis of Magritte's painting, through the exploration of the limits of what is audible and inaudible to human perception and the expansion of the time margins intrinsic to habitual audio formats of recording.

Going deeper into the sound and electromagnetic spheres of our environment and making evident the extent to which their presence is not consciously perceived can be ways to get to the heart of "La Condition Humaine", a work that—far from a Platonic or moral posturing—invites observers to an open-ended view of reality. For, indeed, it invites its viewers to observe the landscape that is outside the cave of usual or conscious perception, a landscape that lies far beyond the painting that obstructs the way out, that is, beyond the representations and certainties to which we are commonly able to come upon as a result of our education.

A macrocosmic and microcosmic approach can be added to our listening capacity by linking our human condition to an amplified sensorial scale and by exploring physical behaviors far detached from the habitual capabilities to apprehend of our physiologic—and therefore cognitive—machinery. This can be achieved by making audible signals that are either humanly imperceptible or unconsciously perceived: The process varies from the recording of audible sounds and their relations to diverse surroundings (e.g. the imperceptible underwater sounds of a dock and the reverberations of diverse spaces in the objects and the structures that compose them), to the transduction to an audible level of electromagnetic fields generated by atmospheric, astronomic and telluric phenomena, and consumer electronics, for instance.

⁴ In cybernetics, a system is called 'retro-active,' because one of its parts influences-back -- retro-acts-- on some of the causes of the effect, thereby transforming it. After having worked on a number of sound installations, I have adopted the term "retro-action" to describe a phenomenon that involves structural changes on a system (in algorithms, in physical interfaces, in the values of their parameters and not only on the output/input signal) as an alternative to the term feedback, which, according to my interpretation, can only affect the output/input signals, but not the structure of the intervening systems.

⁵ This refers to a combination of oscillating electric and magnetic fields. The magnetic field is produced by the movement of electrical charges, that is, electric current. The electromagnetic fields do not need a material means to propagate, they spread in the vacuum. To be able to study it, the electromagnetic spectrum has been divided in ranges: ELF (extremely low frequency), electric radio waves, microwaves, visible light, ultraviolet radiation, X-rays and Gamma rays.

Rural areas, rural cities and metropolis

Suitable sites for this type of practice can be artificial environments, virgin surroundings about to be radically changed by imminent urban development, or cities that border with rural areas. These are hybrid zones favorable to the recording of sound and visual environments because they have been reconfigured with new signals generated by human activity—even to sub-aquatic and electromagnetic levels— and represent intersections or tangents between the human world and what is called “nature”—a relation that by itself represents a figurative frontier that is blurry at best and incessantly exposed to mutual interference—.

In Marseille and the area of the Mediterranean—one of the sites in which I pretended to put these ideas to practice—, it is possible to locate bordering areas, to compare, for instance, the attributes of the sound waves captured in zones crowded with people (harbors, cities, etc.) with those recorded in environments with a lesser human influence (open sea, rural areas, etc.), and also to locate those hybrid zones in which the wave intersection and interference are manifested in a drastic way because of the collision of different environments. As part of the Aloardi collective⁶, I established similar comparisons in projects such as “Ruido al paso 2”⁷ (2006) and “El

⁶ Aloardi is an independent, self-managed association that dedicates to alternative research, the production of experimental performances in South American contexts. It is one of the very first platforms in the region to spread the sound exploration made within South and Central America through releases. Its current membership is Gabriel Castillo and Christian Galarreta. Website : www.aloardi.org

⁷ “Ruido al paso 2” (August, 2006) was one of the projects presented by the Aloardi collective in the International Festival of Electronic Art VAE10 (Peru, July-August, 2006). It consisted of a series of recordings made in sound spaces under radical environmental change in areas in the Tambopata-Candamo Reservation in Puerto Maldonado (Madre de Dios-Peru). We did not limit our recordings exclusively to dance and musical performances, but instead we also took samples of all kinds of sound manifestations occurring during our stay at these sites: sounds that bear a mobilizing or cultural-action component, natural sounds that have not been tampered with in any human way, sounds of electromagnetic fields generated by the artificial electricity of the area (whether generated by the locals or by us while producing electromagnetic waves with the electronic equipment that we used). In addition, a number of site-specific performances were done; in these, sound generators such as signals, structures and found objects were employed within the context of the visited place. The recordings were documented to be subsequently published online and distributed for free. Through this project, the Aloardi collective sought interchange with audiences that were not necessarily related to artistic contexts. The participants “in- situ” were Christian Galarreta, Dennis Pastor, Mauricio Delfin and the habitants of Puerto Maldonado.

grito de la Yacumama”⁸ (2007) in buffer zones between natural reserves and rural cities in the Peruvian Amazon.

Interface: the flow of the environment as raw material and formats that amplify our space-time perception

Were we to refer to these experiences as works of art, we would be exploring an interactivity level not entirely intentional neither on behalf of the artist nor of the observer, for the resulting piece shall emerge from the flow of sound and electromagnetic energy that is caused by the daily activity of the locality intervened, and will not find origin exclusively on the induction of interaction from the artist-observer, who might even be intrinsically foreign to the local context. The idea is to utilize and subsequently highlight the identity of the dynamics that flow around a locality (through processes of recording, broadcasting and amplification) as generating elements of the piece itself.

These thoughts arise from my experience in projects such as “Le Poulpe” (2004-2006) by the collective APO33⁹ and “Sajjra”¹⁰ (2008) by Colectivo Aloardi. In both projects the sound and electromagnetic flow of a variety of environments was highlighted. In the case of “Le Poulpe”, this

8 “El grito de la Yacumama” (August, 2007) was a project with which the Aloardi collective participated in the international encounter of eco-creation ECOS 2007 (Nantes, France). This event was also based on Puerto Maldonado and represented the result and continuation of the “Ruido al paso 2” project. On this occasion, the project—which is currently still under development—consisted of the broadcast through the Internet of a series of interviews, sound environments and field recordings of (humanly perceptible and imperceptible) signals that represent intersections and interactions between virgin and artificial environments. Through these broadcasts, the mutual interference effected by these environments was shown; furthermore, the relevance of the process of field-streaming as an alternative to field-recording was emphasized, offering a revaluation of audio transmitted live from the generative environment as an experience that is vivid, flowing and impossible to grasp, in opposition to recorded signals, which are therefore more prone to becoming abstracted and capitalized as information. The public use of the resulting sound archives was also promoted as a way to potentiate the open circulation of ideas. At the time, these experiences triggered some reflection regarding the management of files and the enactment of these practices by the locals, calling to question the private archiving of these sound recordings usually done to generate contents of an exclusively scientific character, becoming an intangible or material aural patrimony that has been managed from the outside and consequently removed from its contexts. In this project, Felipe del Águila, Gabriel Castillo and Christian Galarreta, along with the local community of Puerto Maldonado, participated *in situ*. Fabiola Vázquez and Dennis Pastor, together with the community of Aloardi’s friends from all over the world, participated online.

9 APO33 is an artistic association based on Nantes, France. It works in a multidisciplinary way on the media and their appropriations as they revolve around artistic exploration, free software, liberated hardware and alternative cultural creation. Currently, the members of APO33 are Julien Ottavi, Jenny Picket, Julien Poidevin, Tristan Boureau and Roman Papion, I collaborated with this association in many projects between the years of 2006 and 2011.

10 In Andean culture, music is “sajjra parte”; that is, it belongs to the *ukhu pacha*, (in Quechua “the world from beneath”) and it has strong bonds with divinities named Sajjra, Supay or, more rarely, Sereno (the Christian devil). In nature, Sajjra is manifested as the sound in the ravines, the waterfalls and the rivers, for instance, where the musicians from certain Andean communities go on the eves of the carnivals to listen. Later, after they go to their homes to sleep, they argue that they dream of music that the Supay has taught them in such places, which is to be played in future parties.

was effected by capturing the sound dynamics of different spaces, processing them with a controller and mixing them via the Internet, while in the case of “Sajjra”, the process contemplated establishing a sonic correspondence to the Andean concept of music: “Sajjra” (the sound that can be heard in natural waterfalls) though in urban environments; that is, the turbulence and chaotic flow generated by daily activity in intervened space. In both projects, the resulting emissions required the construction of speaker-like structures and the alteration of a number of objects, in order to use them as resonators. “The multiple realities that are done as a product of a daily process can be highlighted in every place, thereby can be highlighted the diverse sonic directions that an environment can take; an environment understood as a living being whose internal dynamics are in constant movement. This quality can be highlighted and the function of the place subverted.”¹¹

Up to February 2012, I collaborated with APO33 in the development of “The Bot”, an upgrade of “Le Poulpe” whose function would be to become an interface whose virtual and physical parts—the same ones that would capture, process and broadcast audiovisual signals and data—would be implemented, programmed and re-programmed by any person who would want to build a “Bot” in their locality under the influence of their own context, in order to eventually generate an invasion of such disseminating, collaborative and communitarian entities, which would in turn mingle while affecting each other mutually through devices connected to the Internet, such as microphones, a variety of sensors, hacked mobile communication equipment and computers. As part of Colectivo Aloardi, I applied similar concepts to the rhizomatic radio projects “Atataw!” (2005-2006) and “Suradio” (2006). The latter was produced collaboratively with Microbio Records (Venezuela), Radiofantasmas (Colombia) and the Latin American community of sound explorers active in those years.

I can also find a connection between these experiences and a peculiar example of the architectural works of the ancient cultures in South America: the Chavín de Huántar Temple¹². A well-known hypothesis suggests that the galleries of that temple were built in order to amplify the sound of water flowing beneath the temple through underground channels¹³. This could serve as

¹¹ “Sajjra” Colectivo Aloardi, Peru, 2008.

¹² Chavín de Huántar Temple, located in the region of Ancash in Peru, at the heart of Chavín culture (Pre-Incan culture, 1500 B.C. to 550 A.D.)

¹³ In the 1970's, the Peruvian archaeologist Luis Lumbreras suggested the acoustic functions of the underground channels of the temple, though not getting much attention from his contemporary colleagues. His hypothesis was not revealed until 2001, when a team of archeologists of Stanford University, led by John Rick, found an important number of pre-Incan musical instruments while some excavations were taking place. In 2008, the team returned to Chavín, but this time with researchers from the Center for Computer Research in Music and Acoustics of Stanford University, testing

an example of the enablement of interfaces that use the environment, along with its own natural flow as the fundamental basis of the piece and the sought effect, further than just using the environment as a platform to build or exhibit abstract pieces without a strong relation with the physical context.

Through this edification is emphasized a flow (the river) that carries on in the space-time even beyond the existence of the temple or, in our particular case, the recording format or the frame of an art piece. This phenomenon can be related to the way in which the external landscape follows beyond the canvas on the easel at the entrance of the cave in Magritte's painting. Similarly, this quality can be encountered in the piece "4'33'" (1952) by John Cage¹⁴, in which the composer created a formal time frame (four minutes and thirty three seconds) for a work fully composed of musical silences written on a score, which, at the same time, invite the listener to become aware of the ambience (including the coughs and noises that the attendants produce regardless of intention). Thus can be seen how Cage arranged an artistic and time frame to generate a contemplation of the flow of sound and how it shall prevail, even after the concert, or piece, is finished.

In order to put these ideas to practice, it would be necessary that we become emancipated from our perception of sound and electromagnetic waves as they relate to the space-time restrictions of the registering formats that we are used to. In this sense, it becomes essential that the contemplation of physical phenomena be continual (to a technologically possible extent) and that its registering be not restricted too much by time limits, as it would be in the case of the habitual commercial sound formats (CDs, tapes, mini-discs, hard-drives, etc.). Only by these means can the space-time frames be broken in the registered samples, taking us away from the idea of sound landscape as merely representational or recording. This can be achieved by the use of live audio streaming¹⁵ through the Internet or radio broadcasting via antenna as alternative

the acoustic qualities of the architectonic complex, attributing to it the functions of a sound oracle.

¹⁴ John Cage (Los Angeles, 1912 – New York, 1992) was an American composer, instrumentalist, philosopher, musical theorist, artist, painter, poet and a mycology aficionado and mushroom collector. His work is placed within the American avant-garde school of the 20th Century, which was very influential to the contemporary and subsequent trends of artistic experimentation for its approach to musical composition methods that included the use of noise, silence, randomness, and Zen philosophy. Influenced by Zen, Cage frequently utilized silences as musical elements, assigning sound an entity that depends intrinsically on time; thus searching logical development in his music. In "4'33'" (1952), the performers silently sit before their instruments during the entire piece, making the unrelated sounds of the environment constituents of the music.

¹⁵ "Streaming technology is used to lighten up the process of executing audio and video on the Net at the time they are being downloaded. If we chose not to use streaming to show multimedia content on the Internet, we would have to download it first and then play it to finally become able to watch and listen to whatever the file contained." Discover the technology that gets us closer to a radio and television Internet. (Miguel Ángel Álvarez, Desarrolloweb.com, 09/07, 2001)

formats of registering and transmission, attempting thus to alter our perception of the registered reality in the space-time ambit, though without reducing it a lot. Alternatively, this would allow the observation of space-time dynamics that surpass our own tendencies for representation, display or establishment of a finite frame for audio sampling.

Moreover, in this way it would become possible to extend compositional and representational formats while approaching artistic works, opening their scopes to new structures that might emerge from the observation of the continual flow of the waves received. As these will be neither compositions nor closed-recordings, they shall remain open to forms, rhythms and space-time limits that go beyond our control or habitual observations; furthermore, we can also adopt a mutable condition in which we make ourselves aware of alternative ways to understand reality, paying attention to what emerges from these aural dynamics by themselves, while neglecting the extreme fragmentation caused by an approach to time and space conditioned by the speed of work, artistic production and commercial consumption, among other situations.

My approach to these practices is not merely a technologic exercise; in my daily life, I place big importance to the observation of the physical phenomena that surround me and intend to place myself as yet another means to reinforce the contemplation of the flow of energies that these phenomena produce. Even beyond their commercial, aesthetic and conceptual correspondences, they may vary and stimulate our perception of different virgin or artificial systems and the relations that emerge with and between them, expanding our vision of daily life and our manner of interacting with it. As an immediate instance, it can be asserted that the superstructures generated by late capitalism modulate our sensorial and affective environment by configuring our own behavior and that of other species. We are capable to detect these superstructures, to touch their invisible membranes¹⁶, to modify the influence of their impositions on our immediate environment and our very bodies. By altering waves and control devices, we can reconfigure these membranes until we break the space-time representations to which we are induced, that is: questioning, formatting and hacking ourselves, receiving constant feedback and subverting even what we assume as legitimate vital functions.

The application of the concept of continuity and other of the ideas exposed in this text can be listened to on the live streaming of “The Borgot” (which is part of “The Bot” project, a

¹⁶ *Cfr.* Howard Slater. “Prisioneros de la tierra, ¡Salid! Notas para la guerra en la membrana”

permanent, currently broadcasting, installation that processes the sounds of daily activity within the APO33 laboratory). The live testing signal can be listened to in multimedia players (such as Winamp or VLC) in the following URL: <http://apo33.info:8000/borgbot.ogg>

Translation to english by Sergio Sanchez T. Assistance in the translation Darien Brito.

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