



Eric La Casa



I'improbable horizontal

a sound environment, 2003

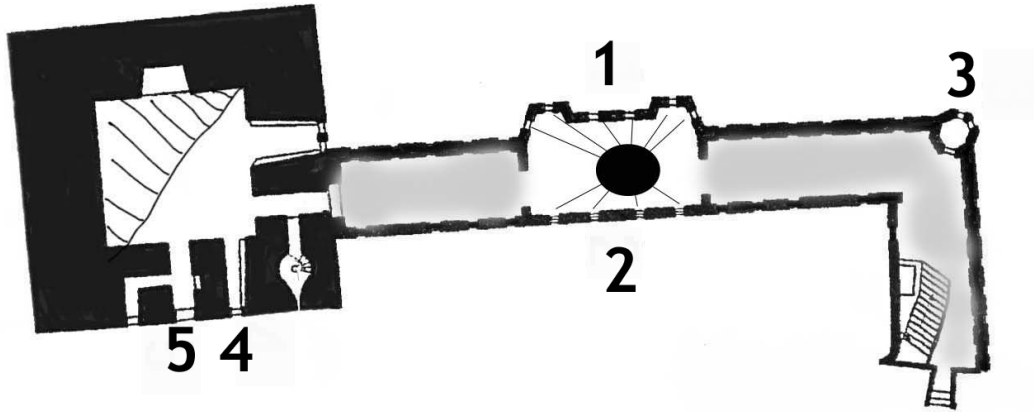
*"If the map is an artistic measurement of the world,
symmetrically the artistic measurement of the world can be regarded as a kind of map"*

Jean-marc Besse

Description of site and places

The project took place on the second floor of the castle in Annecy (the Collection of Contemporary Art), in southeastern France at the foothills of the Alps, on the edge of Annecy Lake in November 2003. A long, ten-windowed gallery leads to a square tower known as "The Queen's Tower". The space is given over to observation, either contemplation or surveillance of the exterior. Each window offers a new perspective to the visitor - an invitation to survey the landscape anew. And yet the view is interfered with by the opacity of windowpanes, the colour of their translucent material. The exterior is thus set at a distance by a variety of filters. Only one large pane, the East window of the Tower (opposite the portcullis) is made of clear glass. Finally, in terms of sound, the thickness of the walls and the topographical situation of the Gallery (in the city) make it a place of retreat: the city is hardly perceptible, reduced to a very low background noise.





plan of the castle

Presentation: "to organize visibility"

Installed in the Gallery and the Queen's Tower of the museum-castle, the installation is initially defined as a sound observatory of the landscape, specifically of its water. It raises the question of representation (of landscape) through sound - how can sound teach us of absent realities from a 'visible landscape? How does this listening proceed from and concern measurement ? (i.e. a sonic survey of the surface of the visible.) The installation involves a pointillistic dematerialization of the landscape, tracing from it a derived map. In this observed landscape, the ear thwarts its perspective, connecting the listener to sonic singularities. In contact with these new territories, it creates another awareness of what confronts and often submerges the listener.

1. THE SOUND GALLERY

Light is limited to the Penone room. All the other windows on this floor have their shutters closed. Only the windows of the Penone room offer a view to the outside and daylight. The "darkening" of the unused parts of the Gallery allows the creation of "rest zones", but also functions as a kind of margin, maintaining and emphasizing the page itself while focusing vision and leaving room for reflection. The light in these zones is exclusively artificial as opposed to the viewing and listening places (in accordance with the castle opening times, from 10am to 5pm). The Gallery lighting is reduced to an absolute minimum (on the exposed works) in order to optimize light from outside.

Diffusion is through headphones descending from the ceiling around the central Penone sculpture, in front of each window in a radiating structure. The sound system is suspended at the level of the rafters and supports two CD players and two pre-amplifiers.

The number of headsets (9) takes into account the number of windows: 4 to the east, 5 to the west.



Classification

On each window, numbers are stuck on translucent panes. A game of correspondence arises between what the listener is looking at (both on and through the window) and what s/he is listening to. It becomes a question of listening (then one of time, along with one of real time: what I am listening to ?).

Sound

For each window (those that can be opened outwards) there is a corresponding pair of headphones and thus a possible viewing. A succession of site-specific recordings of water are interspersed with a voice intoning the number of each sound before it is heard on a headset (e.g. 24402 - sound - 13047 - sound - 1785 - sound ...). These sounds are given to listen through headphones (listeners not then being able to perceive it as a recording) so that the listener may hear recordings of the principal sources that flow into the lake, along with the Fier, into which the Thiou flows, not forgetting the Chéran. The listener thus has access to all the sound points determined by the orientation (eastwards or westwards) of the Gallery and the Tower, as if listening to a calibration.

The recordings are always close or microscopic, made in the surrounding landscape using a pair of condenser microphones and sensors - contact microphone type, accelerometer - placed at or near the selected source, or against adjacent rock cavities. The microphones trace in the immediate landscape the flow of water from east to west through selected listening points, *"returning in their presence the absent realities"*.

The points and numbers (inscribed on the window panes) clearly indicate the distance separating the observer/listener and the place being listened to. The sound does not make it possible for the listener to locate it precisely (in the landscape), thereby calling into question the perception (visual, aural) of the landscape itself. It is as if the correlation between hearing and vision no longer produces an effect of immediacy, of obvious reality. What the listener hears is neither determined by his/her visual capacity nor a justification of reality but rather a representation of it. The sounds of the headphones murmur in the space, interfering with the "interstices" of the Penone sculptures: a dialogue on size (of landscape).

"How to convert the external world to accommodate it inside ?" Jean-marc Besse



2. "LISTENING CELLS"

In bartizan 3 of the northeastern angle and in the opening of the angle of room 4 next to the portcullis, are two special listening spaces. These spaces, whose windowpanes are identical to those in the Gallery, become stopping-off places in the installation. They synthesize all the sounds perceptible under each window: for bartizan 3, all the sounds from the west side (the entrance of the castle, towards the Fier) and for opening 4, all the sounds from the east (lake) side. In both cases, what is presented is a composition of all the sounds, heard in a new approach. Digital composition processes are set up to structure materials like objects of research. Sound material is sifted digitally - each sound becomes a number, the number being the distance separating the listener from the place of recording. From this new assignment of sound, each side finds a different process of composition.

(Details on these processes follow below)

By thus multiplying such relationships with sound, the listener sinks into the materiality of the landscape, in its musical density. Here no numbers and figures are stuck to the panes. There is no more point of reference: reality is offered to the freedom of listening.

3. THE LAKE OBSERVATORY : A READING OF THE LANDSCAPE

"A geometrical problem, that of mastering proportion, but also an exercise in thought and perception, which consists of knowing how to judge the real size of the things, their true size. " Jean-marc Besse

This is the place of observation: where the subject releases the desire to see. In all other spaces, vision is interfered with by the colour or material of panes of glass. Here, nothing can be seen or heard from without, from afar. However, a voice traces in the landscape as seen - a reading, an understanding and therefore a representation. Fernand Berthier, a specialist in the geology and hydrology of the region, initiates the observer into an awareness of what s/he is seeing, what is surveyed by ear during the installation, and what remains unseen: a history of the valley over the past 16,000 years with its questions of transport, erosion and sedimentation, its signature, measurement and mapping. This is the memory, a relation between man and landscape. The voice of the scientist resounds throughout the space, summoning the visitor upon his/her arrival in the Gallery.

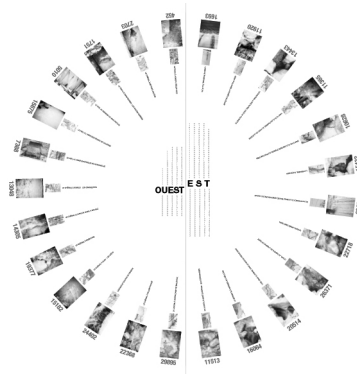
The portcullis has toppled against a wall. Visually it no longer holds the attention, no longer locks the subject inside. The portcullis free view is delicately filtered through the numbers (those on the east side) attached to the panes. These remind the listener of what s/he has gone through, while recalling their scientific function. One must also continue learning the representation that underlines a desire to read, oriented towards a new cartography of reality.

4. THE RESOURCE CENTRE: THE ORIENTATION TABLE

The double window, with translucent stained glass (like those in the Gallery) of the square room, with stone seats close to the external entrance of the museum, becomes a documentation space. This documentation takes the form of a circular orientation table, on which a selection of recording sites is presented in the following way :

the number (in red, as on the window panes), a topographical map fragment (enlargement of an IGN (national geographic institut) map, series TOP 25), a photograph (tightly framed)*, and the name of the place.

* After each recording, a photograph, tightly framed (aiming at the perimeter, sometimes a part of the microphone, on the east side only) is taken, as a significant counterpoint.



Additional notes on the sound

The recordings multiply the relations between the ear and the material and spaces of water in the observed landscape. The MACRO geography of the map is put to the test of the MICRO sound. Sounds are selected for their acoustic quality and situation in the landscape, not as realistic or objective toponymic statements. The idea is to confront the macroscopic cartographic representation with a microscopic reality of sound where it occurs. It is as if the "surface" of the landscape has exploded into a myriad of points, leading to its physical dematerialization - hence the title of the installation.

Any sound image that allows a place to be recognized is excluded. The diversity of the sound recordings (linked to the places themselves or to the use of various sensors) must leave the ear to construct its own landscape. One could say that any "situationism" is illusory - looking and listening diverge. Listening plunges the observer (holding his/her breath) into an abstract reality. The listener no longer knows what is here or there now or yesterday. The sound renders toponymic diagnosis impossible. Nevertheless, it reveals a geophonic course - territories of water - to such a degree that the listener can question the existence of the places visited. The question of reality induces a proof, a signature. Sound reveals and qualifies (signifies) more than it authenticates and justifies.

This *sound environment* also works towards a multiplicity of listening proposals: sound exhibition, sound observatory, acoustic test/analysis, conference... Similarly the listening situation is clearly differentiated. Each space defines a specific relation to sound: the Gallery (wandering), the "listening cells" (seated and standing), the observation post, the "zone of silence" (in the darkness), the analysis laboratory the center of orientation (and of documentation)

interview with Fernand Berthier, geologist

- excerpts played during the installation

1 - geological history of the valley

When we understand that the massifs, the mountains, and the summits are, in the end, nothing but a rapport of force between rock (the earth's crust) and the atmosphere (with its climate), one looking to erode the other, we can see that there is no form of landscape without an explanation. If one looks at Mount Veyrier, one sees an extremely hard limestone cliff that looms over a softer morphology which, up to and under the lake, offers an increasingly soft terrain. It is in these

terrains that the glacial tongues were able to deeply erode and wear away all the materials that were susceptible. This is a long story Geologists, in studying the sediments deposited on the bottom of the lake at the time of its creation, have deduced that it required 16,000 years to arrive at the situation of today. 16,000 years ago the Northern Alps were encased in ice. It is the last cold period the Alps have known.

Let's imagine Veyrier and Tournette at this time, probably higher still than they are today, deprived of any soil, of all vegetation, in a glacial landscape, a tundra. There were also neves, and glacial tongues. The Annecy valley ran in the opposite direction to that of today, which is to say that the immense tear of ice that descended from the massif of Mont Blanc ran towards what is now Ugine/Albertville. At the end of the glacial period and the beginning of the reheatil, when the glaciers began to recede, they left the valleys deeply cut, with moraines on their sides (deposited materials). These mountain streams resulted from the thawing of the glaciers running towards Albertville.

Around 7 to 8000 years ago, we have observed that an important change in the organization of the network of bodies of water occurred in the valley. It is at this moment that the Fier cut itself into the valley of Dingy and began to run along the axis we know today. Simultaneously we may notice that the entire system has continued to replenish itself. So on one side the Fier has cut this plain that it had itself deposited there. And bit by bit, from the ascents of the massifs, the Fier sank.

The Lake of Annecy like its counterpart Lake Bourget, or Lake Lemman, is in the end nothing but the remains of the filling of a valley that was extremely important (the Northern Alps). It took 5 to 6000 years for these valleys to thaw completely. The vegetation (lichens, mugwort) was the first thing to conquer the slopes. With the thaw the ground developed, allowing the vegetation to grow. And the climatic conditions were such that humans came and settled.

2-erosion / sedimentation

The landscape that we see is constantly submitting to erosion. There is the erosion that we see: produced by storms that carry blocks and grains and dissolved elements. And there is the invisible subterranean erosion that speleologists know well, for example in the sector of the Sermoz massif. It is a slow but permanent force that, over the millennia, represents a considerable capacity for transport and wear. This flow of material joins the lake at its lowest point at the cone of Laudon, forming a delta (for the largest sediments) with brown-beige deposits. And thus with the passing of the seasons and of events, we have an alternation between extremely violent contributions and extremely weak ones (in periods of drought). Nothing but subterranean waters arrive at the lake. So the lake experiences another life that of sediment, including the plankton that, once dead, become sediment as well. In this way the lake accumulates a memory of climatic rhythm, the memory of the erosion of our landscape, the memory of all that we do with this landscape.

All this happens according to the rhythms that scientists call climatic (ties to phases of solar eruption, or to phases crossed with the moon).

But this is but the tip of the iceberg. The less visible part is everything that happens just below the surface. Here there are very important events. For example, when it rains, obviously the streams swell, but we also have the underground which swells much more slowly and with a delayed effect. The drops will penetrate everywhere that there are small empty spaces between the grains of sand, the fissures in rocks. The speed of this circulation is therefore 10, 100 or 1000 times slower than surface circulation. According to the nature of the rocks that we have, the giant limestone of Veyrier, of the Tournette and of Semnoz, in which water enters and exits quickly we will also find weaker terrains of impermeability (piles of little sources on all the slopes). And then

we have still deeper circulations, where nature has accumulated layers of gravel and sand in the bottoms of the valleys, sometimes 100m deep (like in the Epagny Plain), under important layers of clay. And as nature doesn't like emptiness, these deep little levels are full of water. They can be very ancient. In the Epagny Valley we found water that has been there for 500 years. It remained trapped, flowing very slowly. These waters also, therefore, bear witness to what was happening at that moment, to the state of the environment. For example, to the same extent that much of the water today has traces of the radioactive isotope of hydrogen (used in 1957 during atmospheric nuclear testing), the waters of the Epagny Plain, this remarkable marker for scientists, do not. It is not the water that is the memory, it is what it carries, what it drags along.

3 - mapping

In the natural environment nothing can replace a map. It is the method of representation of shared information via a common language. The first map made of the bottom of the lake was by an engineer from Ponts-et-Chaussées named Delebecque. When we see this document we assess the work and obstinacy that it required. To identify the depth of the lake at each point, at the end of the 19th century from the middle of a small boat, he followed lines established from one point of the bank to the other, to measure the depth to which a long chain descended, all the while keeping track of where he was in relation to the bank (with an alidade). For months on end, 3 people (2 on the banks and one on the boat) reported the depth of the lake like this from all the marked points. Then one century later, we used the means of the great oceanographic campaigns: a boat with a sonar. All the same, we required 8 days to make all our roundtrips from bank to bank. The boat's route represented about 400 km, every second stopping to start the calculations of depth here, there... let's say around 4 to 5000 measuring points. This map is about 15 years old. Note that the technique has massively evolved since then. In the 90's, it was a major problem to correctly position the boat. There weren't enough satellites. The valley being so narrow they also had to use radios. The boat sent waves towards the reception markers, which people moved bit by bit along the boat's trajectory.

What's the purpose in making a map? For one, we can compare the two maps from 1890 and 1990 in relation to the depositing of sediments or even other events. From this we can see that over the course of the century there were many earthquakes.

Details on the Compositions : Calculation Technique

Western side

The "millefeuille" (in French this word implies both a geographical and a superpositional concept analogous to the pastry of the same name): In the bartizan, each number (34 in all), arranged along a 13-level vertical axis (in so far as there are 13 recording sites) is randomly selected in order to obtain a square of 13 X 13. Each sound is then cut into one-minute fragments, i.e. 13 one-minute sounds at the same time. This operation is repeated 13 times (according to the preset diagram) resulting in 13 one-minute sounds, like 13 different materials (only the volume balance remains a compositional parameter between the layers of the millefeuille). Between each sound, there is a minute of silence. The total structure then is a 26-minute long composition whose sections are played in random shuffle mode by the CD player.

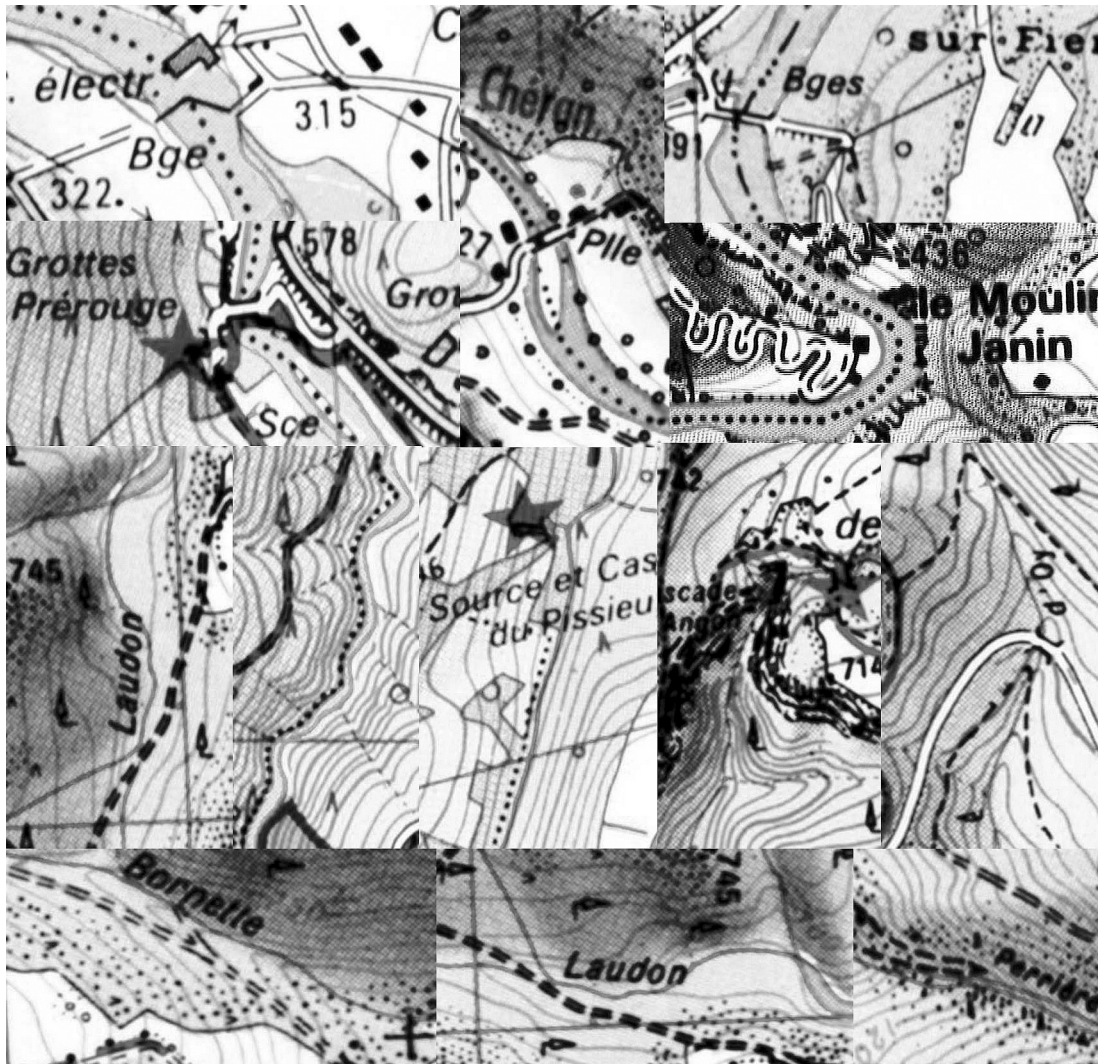
Eastern side

A. In space 4 of the Tower, the structure consists of 60 recorded sounds that become themselves numbers. Each number determines a cutting in thousandths of second (for example: 20493 gives 20 and 493 thousandths seconds). Therefore the further a sound is recorded from the castle the longer its duration (of fragmentation). Each sound thus divided is randomly selected and laid out

on a 12-point horizontal axis (in relation to the number of recording sites). 5 lines of 12 fragments are obtained. The operation is repeated 12 times (taking care that the cutting process uses all the material). A long horizontal mass is thus obtained by an irregular tiling (structure) of the fragments, which appear and disappear in cuts (without fading). Every third cycle the amplitude is reduced by half to emphasize nuances and reveal the sharpness of sonority at low volume.

B. With the interview with Fernand Berthier (geologist) :microsounds

1. With the only recording of the lake itself (6947 - recorded in Saint-Jorioz), a cut every 100 thousandth of second of $1/20$ of thousandths of second is applied. The result is to produce 1 thousandth of second (made up 20 samples) as a standard that will generate by repetition 10, 100 ms then higher durations. The sound obtained becomes a sinusoidal synthesis which is heard at the beginning and the end like a calibration, and in the middle in conjunction with the themes of the map.
2. The sound of synthesis is then slowed down 100 semitones (1s becomes 36s) to reveal a pulsation and a background noise that ends the interview
3. In the middle of the interview on the question of the signature, a cut in sections of 200 thousandths of second carves each sound of the face EAST, i.e. 5 sounds per second. Without drawing of lots, cutting is applied in the order of classification. The 60 sounds produce 12 seconds per cycle and the cutting operation repeated 5 times (at different sections of each sound) to reach 1 minute. With each cycle, the selected 200ms cut out each fragment in order not to repeat the preceding sample. This work defines a will to sift more finely the landscape with all the micro-sounds that now define it.



Details of the selected sites

E A S T

16053 to 16167 Bornette brook at Grange du Pré Long 16064

11513 to 11526 Laudon brook in Saint Eustaphe-les Basses Côtes

6947 The Annecy Lake at La vieille église, the mouth of the Laudon

20451 to 20486 The Ire, in the Bois de Pré Bouvard

15951 small brook at Montgellaz

13419 to 15443 Montmin brook at Pré Ronds, under la Toumette mountain

15415 and 15432 Pérrière brook at Montmin

26542 to 26375 Bar brook, near Tamié Abbey

22701 to 22718 Saint Ruph torrent, after Saint Ruph

11565 and 11376 Nant of OY, in Frasses, at the sawmill bridge

10620 to 10649 Nant of OY at the Angon Falls, the Fairy Bridge

11920 Nant of OY in the forest of Côte

1693 and 1716 Water purification station at La Puya

W E S T

19374 to 19378 the Chéran at Pré ouge 19377
29902 to 29915 Lanche brook at Notre-Dame de Bellevaux
(church in the mountains)
24389 to 24413 Waterfall and source of the Pissieux
5010 to 5016 Le Fier stream at the Bois des Îles dam
7388 The Fier stream, at Chavaroche power station
15875 The Fier, at Vallières power station
13047 and 13048 the Chéran stream in Rumilly at les Grangettes
22368 to 22375 the Chéran at Villaret Rouge
15182 the Chéran at Cusy-les-Crêts
14305 the Chéran at the Janin mill, Molnaz
2703 the Chéran in Meythet (islands)
1751 to 1794 the Thiou brook at Cran-Gevrier-les Quatre-Chemins
429 to 452 the Thiou, in the old town of Annecy

Notes

Citations : Besse, Jean-Marc. Face Au Monde, Ed. Desclée de Brouwer, 2003

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