

# Christian Calon's *Continental Divide*: Chronography of a Continent

## *Continental Divide* de Christian Calon : chronographie d'un continent

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Résumé de l'article

Le film-installation *Continental Divide* (2013) de Christian Calon nous pose cette question : « Quel est le temps d'un très grand espace ? » L'objectif ici sera de retourner cette question vers l'oeuvre pour voir comment elle formule ses pistes de réponse. En faisant se rencontrer le discours de Calon à propos de son oeuvre, une description des matériaux et une restitution descriptive de ma propre expérience de l'oeuvre, l'article cherche à comprendre comment 1) un travail spécifique des images et des sons, 2) un dispositif de diffusion singulier et 3) leur rencontre avec un sujet écoutant peuvent permettre de faire l'expérience audiovisuelle « du temps d'un très grand espace ».

# Christian Calon's *Continental Divide*: Chronography of a Continent

Ariel Harrod

“What is the time of a very large space?” That is the question, in white letters on a black screen, that Christian Calon’s<sup>1</sup> audiovisual composition *Continental Divide*<sup>2</sup> directly asks its spectator. Presented for the first time from September to November 2013 at the Cinémathèque québécoise, this complex audiovisual work explores the tensions between direct and mediated experience. In this simple question, “what is the time of a very large space,” Calon packs, like the strata of the continent, all the intensity of the terms he chooses. “The time,” historical time, geological time, social and political time: all the degrees of time that qualify a place leading up to the moment that we experience it; but also the time of that experience, dilating as space deploys itself before us. And “space” itself, that of the continent, of its expanses and its horizons; but also the “space” of its divisions, both natural (mountain ranges, rifts, watersheds) and socio-political (countries, provinces, counties, cities). In the installation, this first question is immediately followed by a second: “And that of an image?”, suggesting that the time of an image could be more than the that of its measured duration. But if so, then what could it also be? The time of the image’s subject, the continent? Or the time of the person taking the image? Or the time of the person watching it? Or all this? And more? Calon finally adds a third question: “What is the sound of a continent?” Again, the simplicity of this formula hides the complexity of its terms. “The sound,” meaning the sound produced by the continent: its natural sources (wind caressing or hitting various shapes and matter; water—rain, lakes, rivers, oceans; fauna—from the smallest mosquito to the prairie bison), its human sources (all social activities, individual or collective) or mechanical sources (transportation and industry). But the “sound of a continent”

1. Christian Calon is a Montreal-based, French born composer and sound artist. His body of work includes acousmatic composition and performance, radio art, collective improvisation and audiovisual installation. Works of note include: *Ligne de vie: récits électriques* (1985-90), *Les corps éblouis* (1995), *Le projet Ulysse* (1998-2002), *radio roadmovies* (2001), *Atlas* (2008) and *Continental Divide* (2009-2013).

2. Excerpts from *Continental Divide* and information about other works can be found on the artist’s website: <[www.klong.ca](http://www.klong.ca)> (accessed September 29, 2016).

is also all this modulated by aural experience: the aural experience of the artist travelling the territory, or that of the spectator experiencing the installation. In the hands of the composer, by means of audiovisual composition, it becomes the sound—the selection, organization and spatial distribution of sounds—that can make audible the descriptive traits of the continent that are otherwise inaudible: its topography, river systems, flora, agricultural exploitation and urbanisation.

My objective here is to turn these questions (“What is the time of a very large space?”, “And that of an image?”, “What is the sound of a continent?”) back at the installation. I want to question the work itself to see how it tries to answer its own questions. By putting into resonance Calon’s discourse regarding his work, a description of the materials comprising the work and a descriptive restitution of my own experience of the work, I want to try to understand how 1) a singular composing of sound and image, 2) a specific mode of diffusion and 3) their encounter with a listening subject can render possible the audiovisual experience of “the time of a very large space.” By putting forward certain technical and stylistic traits, and by trying to understand how these traits structure our experience of the work, we can better understand what Calon means when he describes *Continental Divide* as a “chronography” of the continent.

### **The Apparatus**

In its first instalment, which is the one I will focus on for this study, the piece was presented in the Norman McLaren Hall of the Cinémathèque québécoise (Montreal). The space is 39 feet wide and 67 feet long, with 25-foot high ceilings. The video projection (1080p HD) covered the entire far wall in front of which were randomly placed a number of Adirondack chairs, favouring fixed, frontal viewing. Pairs of high quality studio monitors, suspended approximately 10 feet from the ground, were placed at the rear, on the sides and at the front of the room, above the image. Four speakers, forming two stereo pairs, were showering from the ceiling, and two sub-woofers were placed on the floor, against the walls on each side of the screen. The installation had a running time of 90 minutes and played in a continuous loop from noon to closing time. The sidewalls and rear were draped in black velvet curtains. The completely dark space seemed illuminated only by the glow of the projection. When the screen went black, one could notice four very dimly lit zones, making the room navigable even when the screen was dark.

## Inside *Continental Divide* [1]

[...] Silence. Black screen. Abrupt: a swarm of mosquitoes swirling in a van's headlights at night. In front: crackling, rubbing, humming. Title: [ARCTIQUE]. The crackling fades, the rubbing moves to the sides and the humming fills the entire space. TEXTE<sup>3</sup> scrolls down the image. The crackling in front comes and goes. A pulsing tonal low-mid drone on the sides. The pulsing and the humming fade. The crackling remains alone in front. Fade to black/silence [...].

### Procedure: Reading the Title

The full title of the piece is *Continental Divide: An Essay on the Shape of a Continent According to the Sound Transcription of its Watersheds*.<sup>4</sup> Beforehand, the title can inform us on what we are about to witness. In hindsight, it can help us better understand it. So what does this title tell us about the piece? And how does it help us better understand the piece's functioning? For starters, it presents the piece as an essay; that is, as a "thought piece" that will reflect a certain point of view, or point of audition:<sup>5</sup> what does Calon want to make us see or hear? Also, since the work presents itself as a "thought piece," this somehow implies that it is possible to "reflect" on the "shape of a continent" by paying closer attention to its "watersheds:" what is particular about watersheds that make them central to a reflection on the shape of a continent? Finally, the title tells us that it is not by retransmitting tabulated raw data, or by the textual description of such data, nor by an audiovisual representation of the places, people and objects from which that data was compiled that Calon can use watersheds to think about the shape of a continent, but rather by their "sound transcription:" by what means can recorded, manipulated and broadcasted sound become generative of a "thought system of time and space?"

### Protocol: Creating *Continental Divide*

Calon hints at an answer to the first of these questions in the presentation cards placed at the entrance of the installation. He writes:

This project stems from utopia and documentary; very little from fiction. It imagines an ideal observer whose gaze could both encompass the entire continent and observe its every detail. To achieve this, it uses the means of art: video art and sound art. However, its aim being knowledge, it could stake claim in a form of intuitive insight...<sup>6</sup>

Calon starts with an opposition between utopia and documentary that lets him distinguish his work from fiction. But in this opposition, he hides the key that lets us reconcile his method of gathering materials, which resembles

3. "Le bassin de l'Arctique occupe le centre et le nord du continent. Traversant des formations géologiques majeures, les rivières qui le drainent coulent vers l'océan Arctique et la Baie d'Hudson. Depuis la Cordillère montagnarde des Rocheuses, elles irriguent la vaste étendue des Prairies puis se fraient un lit vers le nord, au travers d'une des plus anciennes formations rocheuses de la Terre, le Bouclier canadien. "Kisiskatchewan" la rivière au flot rapide. Ses branches nord et sud prennent source dans le champ de glace Columbia à 50 km l'une de l'autre. Elles s'écoulent vers l'est, irriguant les Prairies, et se rejoignent à Saskatchewan River Forks, avant de se répandre en delta dans les grands lacs du Manitoba. Le fleuve Nelson draine ensuite leurs eaux à travers les Basses Terres subarctiques vers la Baie d'Hudson."

4. The term "watershed" refers here to the region or area bounded peripherally by a divide and draining ultimately to a body of water (in this case the oceans that border the Canadian part of the North American continent) as described in the original French expression "*bassins versants*."

5. The point of audition, aural counterpoint to the point of view, describes the spatial information in a sound or a sound composition that reflects the relative position from which the sound is seemingly perceived. See Chion, 1990, p. 79-82; Altman, 1992, p. 251.

6. Calon, 2013, online. The presentation notes from the installation are published on the artist's website in the section dedicated to *Continental Divide*. All quotes from Calon are from this source: <[www.klong.ca/proj/cdiv1.html](http://www.klong.ca/proj/cdiv1.html)>. In some instances, Calon's English translation betrays the original French; I will therefore use my own translation.

that of a documentary (Calon worked with a “huge amount of images [film and stills] captured along the 41,000 km journey [... and an] equally impressive amount of research material produced by various government offices or independent institutions”) and his method of restitution of these materials in the form of a utopian essay by means of sound transcription. Then, by referring to the “conceptual character” of the “ideal observer,” Calon presents his own creative posture: that of both a double and simultaneous consciousness of the immensity of his object of study (the North American continent) and the minute details that compose it (relief, water, forests, cultures, urbanism). However, this posture is not attained by objective distancing, but rather by subjective involvement. The magnitude is not measured by stepping back but by embarking on the trails; details come not from analysis, but from direct contact:

*Continental Divide* is also a road movie. It has the vantage point of an observer that is not limited by functional (land use) or scientific (Earth Sciences) constraints, but who can benefit none the less from this knowledge. The project benefits from the fact that it relies solely on a desire for knowledge, relative to its point of view and its scale; that is to say on the relationship of an observer directly included in the landscape.<sup>7</sup>

7. Calon, 2013, online.

It is this posture of an “ideal observer,” having access to a proliferation of “objective data,” but equipped with a knowledge or understanding of this data that does not exceed the experience of initial contact, that lets Calon question his perceptions by confronting them with each other: What temporal sensation does a vast expanse produce? What is the duration of a still image? And above all, what is the sound of a continent?

### **Natural Divisions: Writing the Score**

Of course, when Calon asks himself “what is the sound of a continent,” he does not mean “what is the sound *produced* by a continent” He is not talking of seismic rumblings, or of acoustic phenomena produced by natural, human, mechanical activity. This is made evident by the fact that the piece contains no field recordings or natural sound and is exclusively composed using electronically generated sound. In asking “what is the sound of a continent?” Calon rather seems to be asking how, using sound, can one convey the experience of the continent and its varied traits. To answer this, Calon must first be able to define the continent qualitatively. Calon, in a truly “documentary” manner, turns to a known natural and social organisation of the continent: the continental divides.

In geology, the continental divides describe the territorial limits where streams and rivers flow in different directions towards the oceans that border

a continent. The exploration and development of the territory, as well as its most ancient divisions, have all been conditioned by these natural constraints. The Canadian territory is divided into three river systems: the Arctic, Atlantic and Pacific watersheds. Calon writes:

Each watershed has highly contrasted characters and landscapes. New fields of study in Earth Sciences, that rethink the analysis of a territory in perceptual terms, provided the tools to translate these concepts and find common ground between the analysis of a landscape and its possible representation through sound.<sup>8</sup>

8. Calon, 2013, online.

Using the materials he collected—video and photographic images, sound recordings and the all documents produced by various organisations—Calon extracted numerical data and compiled quantitatively measurable characteristics of each ecozone to sketch out a score that contains and describes the major events of each watershed. In doing so, Calon tried to

think of the visible surface of the continent as organized matter, an expanse on which time has sketched, scribbled, written, embedded and erased signs that tell a story of matter and beings. A landscape is a History that may not allow its form to be directly revealed (buried under the proliferation of images), but it can possibly be made manifest in other ways<sup>9</sup>.

9. *Ibid.*

For Calon, that “other way” is sound transcription.

### Sound Transcription

For *Continental Divide*'s score, Calon used the continent's tripartite structure that is defined by its three watersheds: Arctic, Atlantic and Pacific. Within each section, the natural divisions (ecozones) form movements of variable lengths. Each ecozone is defined by a combination of five categories: Relief, Water, Forests, Cultures and Urbanisation. Each category is then described using a number of parameters whose notation is used as a frame for the transcription towards the individual sound layers.

Chantal Dumas, Mario Gauthier and Calon performed and recorded the sound transcription at studio PRIM prior the completion of the visual voice. The descriptive categories of each ecozone were performed as individual trios, each performer playing one of the three parameters (except for Forest which, only having descriptive parameters, was performed as a duo). Before recording, the performers were provided still photos of the ecozones that were used to determine, based on the material traits of the categories they were performing (grains, textures, densities, profiles), which electronic sounds they would play. The sounds were generated and performed using a customized sound generator in Reaktor.<sup>10</sup> Once the sound for each category was settled on,

10. Reaktor is a graphic modular music software that lets musicians design and build their own instruments, samplers, effects and sound design tools.

the trios were performed following the performance indications on the score: a system of plus and minuses to guide the quantity and variations of a given voice. The visual images provided material traits; the score dictated its shape. Each descriptive category was performed without listening to the previously recorded ones. The trios and duo of each ecozone were only subsequently assembled to form the 14 layers of the full transcription. It is only after the full transcription was completed that these dynamic traits were resituated geographically in the space of the continent presented in the image. Calon explains:

The singular nature of *Continental Divide* comes from the functions that sound and image occupy in relation to one another. They are organized like a six-voiced polyphony. The audio portion, consisting of five layers, is a faithful transcription of the traits and dynamic profiles. The sound reveals the shape of the landscape. The image, the sixth voice of this polyphony, anchors these forms in the landscape's matter.<sup>11</sup>

11. Calon, 2013, online.

But in truth, the sound element of *Continental Divide* is much more than simple acoustic material that has been given the form of a mountain chain, a Boreal forest, or a torrential waterfall. The sound lets us feel the magnitude of a long mountain traverse, the pace of existence of a forest, the sheer intensity of the falls. This unique audiovisual dynamic can only be attained through a specific mode of listening, which is induced by the installation itself.

FIGURE 1 Christian Calon, *Continental Divide*, 2013, score for Arctic watershed.

CONTINENTAL DIVIDE	Baie d' Hudson	Lacs MB	Prairies	Rochesuses	nord BC	Notes
<b>BASSIN VERDANT DE L'ARCTIQUE- BAIE d' HUDSON</b>						
- densité	0 ---	- / +	—	— → —	— — —	La partition est accompagnée d'échantillons visuels (images fixes), montrant les écozones et leurs caractères construits. Les indications de jeu ne sont pas des valeurs absolues, mais des variables à interpréter en fonction des échantillons visuels.
URBANISATION - habité - industrie → facteur de perturbation des milieux - transport	0 → ---	—	++	— —	— — —	
- hauteur (des constructions)	0 ---	—	—	— —	— —	
- densité (masse globale, dimension de la mosaïque)	0	++	+++	0 → —	++ 0	Chaque catégorie est interprétée en trio afin de favoriser la cohérence de groupe des paramètres (météorologique et temporelle). La partition ne comporte pas d'indications de durée. Envisager des séquences de 4-7mn
CULTURES - type (contrastes de matière et couleur)	0	++	+++	0	++ → 0	
- alternance des taches (discontinuité)	0	+++	+++	0 → —	++ 0	
FORÊT - densité, masses - alternance (contrastes de matières, couleurs, hauteurs)	— — + → —	+ → ++ + +	0 → — 0	— / +++ +++	— → ++ ++ → —	
EAU - densité → né de taches - dimension → grandeur des taches - vitesse, comportement → V <sub>e</sub> + V <sub>a</sub> - V <sub>l</sub> + V <sub>h</sub> + V <sub>l</sub> + V <sub>h</sub> + V <sub>l</sub> + V <sub>h</sub> + V <sub>l</sub> + V <sub>h</sub>	++ → — — → +++ + + → —	+ + + + +	— / + — —	++ ++ +++	+ + + → ++ — → ++	
DÉNIVÈLE (RELIEF) - perspective, horizon - hauteur (relative au pt de vue)	+ + / — —	+ —	+ + + — —	— / ++ +++	— — ++ — → ++	
- transition (vitesse, angle du dénivelé)	— —	— —	— — —	+++	— ++	
ÉCOZONES	plains Hudsoniennes et bouclier canadien	plaine bordale	prairie	cordillère montagneuse	plaine, étagé et cordillère bordale	
Partition typomorphologique du paysage © Christian CALON partition du 5.01.2013						

**FIGURE 2** Christian Calon, *Continental Divide*, 2011, Thomson-Okanagan Plateau sequence.



#### Inside *Continental Divide* [2]

[...] Black screen. In front: an electronic tonal bleep with a rapidly ascending tessitura. A deep tonal drone to the rear; a high tonal ring in front; an even higher one to the right. Rapid accentuation and attenuation of all sounds. A light pulsating oscillation between a greater presence of the highs (to the right) and the lows (to the rear). Title: [THOMPSON]. A mountain range: static sky, immobile clouds, river flowing in a valley. Pan to the left. A mountain ridge: a train is rolling along the river at the bottom of the frame, in the opposite direction from that of the moving frame.<sup>12</sup> High pitched electronic ring pulsing in front. Drones accumulate and increase in volume. Front left: a tonal rubbing with ascending tessitura. Black screen (the sound continues uninterrupted). Crackling static in front. Lateral traveling: valleys, mountains, rivers, roads, clouds, cars, and trucks. The sound environment is evolving through the addition and subtraction of continuous tonal sounds in the various speakers, punctuated by presence/absence of the crackling in the front. A strong accentuation; sudden interruption by an abrupt crack in front. Still landscape: hills scattered with trees, near horizon, grey tones across the sky. A nodal oscillation on the sides and in the back; a tonal crackling in front. Fade to black (the sound continues uninterrupted). Still image: a cliff with trees. Black screen. Still image: railway bridge. Still image: railway bridge offset to the right, mountains, blue sky. Black screen. Still image: valley with an agglomeration of houses. Black screen. The nodal oscillations are slightly attenuated under an electronic glitch that continues over a series of still images [...].

12. In a red box to the bottom left of the image: "Localisation: 50°N 121°O." In a black band below the image: "Agglomération: Ashcroft, Cache Creek, Kamloops, BC. Écozone: Cordillère Montagnarde. Région: Plateau Thompson-Okanagan."



13. For example, certain recognizable sounds occupying different zones at different times, or a same sound moving from one zone to another.

14. For example, the alternating accentuation and attenuation of certain sound groups from different zones or the abrupt shift in the sound construct from one zone affecting evolution and outcome of other zones.

15. For example, call and response effects from sound groups from different zones or pitch movement moving and continuing from one zone to another.

16. See Chion, 1990 and 2003.

17. The term diegesis describes here the world of the film's action. "The diegesis includes events that are presumed to have occurred and actions and spaces not shown on screen." See Bordwell and Thompson, 2008, p. 70-71, 502.

18. See Calon, 2013, online.

## Spatial Perception

When listening to *Continental Divide*, one immediately becomes aware of sound in space. This awareness is activated by the circulation of sound—its passage or alternation—between the multiple speakers suspended around the room. The space the listener is aware of is not the space that the sound carries with it in the recording, but rather the space that surrounds him. The listener therefore finds himself positioning sound, not with respect to the screen or image, but with respect to his body, facing the image. All sounds, their movements<sup>13</sup>, their interplay<sup>14</sup> and their compositional relations<sup>15</sup> are situated in space with respect to the listener's position in the room and not with respect to the screen. This mode of spatial perception and distribution, though not uncommon in sound art and installation, clearly breaks from the traditional understandings of how sound is perceived with respect to image in an audiovisual context. For example, Michel Chion,<sup>16</sup> among others, has argued that sound is always perceived in a causal relation to the action depicted on screen and that, in effect, individual sounds will always be associated with a confirmed or a probable source from the visual environment.

By diverting the listener from this causal reflex, Calon succeeds in making the image participate as an equal voice in his composition. Thus, the piece's organisation and hierarchy are not perceived in a direct relation to the image—to its field or its diegesis<sup>17</sup>—but in a direct relation to the environment of which the listener is a part. It is "in" and "in function" of this environment, or rather "in function of the space his body occupies" in this space, that he organizes and positions the sound.

## Analytical Perception

### a) *L'écoute réduite*/Sound Morphology

In elaborating the sound score for *Continental Divide* through improvisation sessions, Calon, Dumas and Gauthier used mainly synthetic and electronic sounds rather than field recordings. The objective was to reduce to a minimum the referential nature of the sound. According to Calon,<sup>18</sup> the use of such non-referential sounds forces two levels of listening: in a first instance, the sound is heard for itself; only after can it be heard in relation to the image. By using sounds with weak-to-no referential value, Calon invites us first to appreciate the brute materiality of the sound, inducing what Pierre Schaeffer calls *l'écoute réduite*. This signifies a mode of listening where one separates aural perception from any cause or meaning: "[une écoute] détachée des renvoie à la cause du son (le son comme indice) ou à son sens (le son comme

signe).”<sup>19</sup> Listening in this way, we become sensitive to the weight, the timbre, the grain, the harmonic and dynamic profiles of the sound. I do not hear the sound of the image; I hear the shape and movement of the sound with the image.

If we go back and listen to the bleeps and drones described above in the Thompson sequence, this becomes evident. At no point in the sequence is the listener ever tempted to find the source for what he is hearing in the image. These otherworldly sounds are deployed around the listener, sculpting the soundscape around him. Evolving pitch, volume and frequency density in the various zones are heard for themselves, not so much to inform the content of the image, but to convey its qualities. Knowing that each acoustic zone refers to one of the five categories that describe each ecozone (relief, water, forests, agriculture and urbanisation), the listener can feel these traits evolving over time as the image progresses through space.

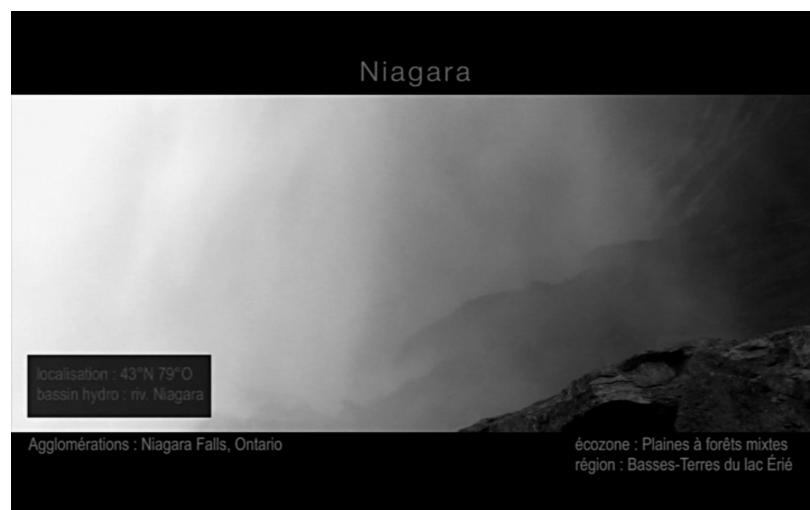
### b) Spatialization/Equalization

Despite this intention (of inducing the appreciation of sounds “for themselves” in an audiovisual context) and the method employed to achieve this (the use of synthetic rather than natural sounds), I, the listener, am nonetheless periodically caught up in the natural reflex of causal listening, an attitude that consists of listening to a sound to identify its source or cause.<sup>20</sup> A salient example of this in *Continental Divide* is during the Niagara Falls sequence.

19. Schaeffer, 1976, p. 36.

20. Chion, 1990, p. 25.

**FIGURE 3** Chistian Calon, *Continental Divide*, 2011, Niagara Falls sequence.



On screen, Calon decomposes the falls with tight framing that extracts the unfurling water from its environment. Furthermore, each shot is slowed down to increasingly extreme levels (the last shot of the sequence is so slowed down that we can actually see the pulsating succession of frames). These visual processes convey to our senses the brute force of the falls.

Paradoxically, in this moment of visual abstraction, the sound score unfolds a complex arrangement of white noises whose acoustic qualities are easily equated to the sounds of the falls. I find myself confronted, for one of the rare times during the piece, with the possibility of locating the source (or, least the possible source) of the sound I hear. But this causal possibility is short lived. In a front to back movement, the sound is literally torn from the screen and the illusion of causality is erased. I no longer hear the sound of the image; I hear sounds, I see images. This process of audiovisual disjunction is exacerbated by a variation in the harmonic qualities of the acoustic fabric where, by subtraction of sounds or high frequency filters, the score becomes muffled, deadened. These frequency variations follow the movement of the sound through space and not the changes in visual perspective on the screen. We see, by this, that it is not solely the synthetic nature of the sounds that dissociate them from the visual element and make possible the appreciation of their singular acoustic qualities. The acoustic variations (both spatial and morphological) participate fully in this effect, contributing to truly *audio-visual* composition.

### Synthetic Perception

The dynamic relation between time and space and the tension that articulates these two dimensions is at the heart of *Continental Divide* (“What is the time of a very large space”). An awareness of these processes only arises through the act of listening: “listening to sound art and the sonic environment engages in the playful tensions of spatio-temporal productions and highlights the critical equivalence between spatial and temporal processes.”<sup>21</sup> In this way, *Continental Divide* does not invite us to hear, in the acoustic matter, the forms that are visible on the screen; it invites us to *watch* and *listen* as a means of experiencing the multiple visible traits of a single object: the continent. Through listening, Calon draws to our senses the traits of the continent that cannot be accounted for by traditional cartography: the traits of “an expanse on which time has traced, scribbled and scratched signs that write the story of matter and beings.” On this, Voegelin points out: “sound maps the world not as borders and nations but as dynamic trajectories of individuals moving, being moved and remaining in place.”<sup>22</sup> Sound incar-

21. Voegelin, 2010, p. 124.

22. *Ibid.*

nates the dynamics of temporal perception: “sound dances timefully within experience. Sound embodies the sense of time.”<sup>23</sup> And this, for *Continental Divide*, as the image unfolds space.

That being said, spatial and temporal perceptions are not differentiated at the moment of perception. It is the synthetic nature of our perception that gives us the *unity* of the perceived form. Mauro Carbone, referring to Merleau-Ponty, describes synthetic perception in this way:

*Notre perception spontanée n'est pas analytique, mais synthétique et c'est précisément pour cela qu'on peut la considérer comme cinématographique. En effet, dans son caractère synthétique sont à l'œuvre des dynamiques qui sont essentielles pour nous donner l'unité d'une forme perçue ainsi que celle d'une séquence cinématographique.*<sup>24</sup>

In the same way we experience cinema, perceptual synthesis of the spatial processes of the image and the temporal processes of sound at work in *Continental Divide* permit the sensory reconciliation of these two dimensions.

Calon's aim, with *Continental Divide*, is to transmit a concrete experience of the forms of nature that are not transmittable by means of cartography or graphic representation. Using an inherently temporal (chrono-) medium to inscribe (-graphic) the evolving traits of the continent through time and space, he conveys an understanding of what it means to experience the continent. It is in this way that his work is “chronographic.” Through artistic expression, specifically audiovisual composition, Calon provokes an experience capable of showing how things come to signify, not by alluding to preformed ideas, but by the temporal and spatial arrangement of its elements.<sup>25</sup>

## Conclusions

When listening to *Continental Divide*, the sound that we hear does not find its source in the image. The absence of natural, referential, sounds replaced by less connoted electronic sounds imposes two tiered listening: to the sound for itself, and to the sound with the image. Furthermore, the radical spatialization contributes to effacement of any causality between visible sources and perceived sound. And if ever any causal relation between what is seen and what is heard becomes perceivable (by accumulation and intensification of white noises in the Niagara Falls sequence, for example), it is only to better tear the sound away through a violent displacement of sound through space, or by a just as violent disjunction between our expectations and what our senses are telling us. This makes us aware of the act of listening in itself—to its double nature: to the listening body and to the product of its encounter

23. Ihde, 2007, p. 85.

24. Carbone, 2011, p. 94.

25. “[Une expérience capable de] montrer comment quelque chose se met à signifier, non par allusion à des idées déjà formées et acquises, mais par l'arrangement temporel ou spatial des éléments” (Merleau-Ponty, 1966, p. 103).

with the acoustic environment—as well as all the operations that this listening implies.

*Continental Divide* does not solicit causal listening that pushes the listener to find the source of what is being heard in the image; it makes us conscious of this cognitive reflex and of its impossibility within the context of the piece. It does not solicit an analogous listening that invites us to hear, in the materiality of sound, the forms that are visible on the screen. Nor does it solicit a specialized musical form of listening that, as Schaeffer would describe, seeks to identify new phenomena and innovative qualities of sound objects.<sup>26</sup> Listening to *Continental Divide* implies engaging in the analytical network of spatio-temporal dynamics that lets one experience “the time” of a “very large space.” How does this operate?

26. See Chion, 1983, p. 41.

First of all, Calon displaces the site of the piece. Though it is an audiovisual composition, the work does not evolve on and around the screen as it does with film; the piece evolves in the space of its diffusion. Sound and image occupy the space surrounding the spectator. And unlike surround sound systems commonly used in cinema that aim for total transparency, the installation includes the subject in the productive and retroactive process of listening. Furthermore, through a series of stylistic and technical operations (material composition of sounds, spatialization, sound frequency modulation), Calon provokes a dissociative mode of listening that makes us aware of the cognitive reflex of causal listening with respect to visual perception. Finally, the perceptual synthesis induced in the spectator, and the implied consciousness of the synthetic nature of perception, bring us nonetheless to grasp the formal unity in the perceived object. The signification and meaning that are produced—the “chronography” of the continent—are the correlate of its sensory manifestation.

Through his “chronographic” approach, Calon is not trying to represent existing forms of nature; he is trying to make perceivable, through audiovisual means, the dimensions of the continent that cannot be represented with image or sound. This becomes clear when Calon says:

[O]ne of the objectives with *Continental Divide* was to transmit the concrete experience of the form and nature of this continent (its northern part) that cannot be conveyed by the abstract representations of cartography. [...] It is not so much a question of space, as one of time. Nor is it about sound or image, but rather listening and sight.<sup>27</sup>

27. Calon, 2013, online.

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Steve Roden, *Symbol/Cymbal (Vinyl Version)*, 2013. Quatre dessins (encadrés), quatre étiquettes dessinées à la main, quatre disques vinyle (d'une durée de 15 min), quatre platines, quatre amplificateurs, quatre tablettes, huit haut-parleurs, 29 × 138 × 17 po. Avec l'aimable autorisation de Susanne Vielmetter Los Angeles Projects.  
Photo : Robert Wedemeyer.