

OBSERVATION INSTRUMENTS FOR IMAGINARY GEOGRAPHIES

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ABSTRACT

Observation Instruments is the title of a series of interactive time-lapsed video installations that investigate our perception and re-imagination of Canada's Northern landscape. The work is derived from a database containing images captured by a found webcam located in Kimmirut, Nunavut, as well as weather statistics. Started on June 21st, 2010 (the longest day of the year) the database, which grows according to an automated process developed by the author, now contains over 150,000 images. The installation consists of time-lapsed projections of this image archive, in which the visual compositions can be filtered and altered according to time, weather data or geometric parameters accessible via tangible electronic control panels (the instruments). These devices provide the viewer an opportunity to examine, contemplate and re-imagine the Northern landscape, taking them on a virtual journey to a distant and unfamiliar place. Through the multiplicity of a single image, the viewer is given a narrow perspective on this remote land, while at the same time exposed to a variety of ways of seeing.

BACKGROUND

Before diving into a discussion of the project itself, a bit of background story is necessary. The works described in this paper first started taking shape in the context of a working group created amongst colleagues and centered on developing a project using the theme of light as a point of departure. More specifically, we became interested in the idea of northern light – the Aurora Borealis comes to mind, of course, but also simply the daylight itself, which takes on unique qualities when one is located far enough north, particularly during the long summer days.

While we, Canadians, pride ourselves to be a Northern people, we mostly live huddled along our southern border and as a result not quite North enough to experience the light we were looking for. Thus, we turned our attention to online webcams, performing a kind of virtual tourism (and avoiding rather extensive travels in the process). [1] We looked at dozens webcams located in the northern reaches of the hemisphere for inspiration. One in particular, discovered serendipitously by my colleague Pierre Tremblay, caught our attention.

Hosted at kimmirutweather.com, the webcam frames a street in the small village of Kimmirut, Nunavut, with the Hudson Strait and mountains as backdrop. The scene is picturesque, reminiscent of the long tradition of Canadian landscape painting. It is possibly accidentally framed that way, but the resulting composition is nonetheless rather compelling. The website itself appears to be run by a local resident and provides a plethora of regional weather conditions data, a primary concern in this part of the world where roads connecting villages are scarce, sometimes non-existent and often only way in or out is by plane or boat.

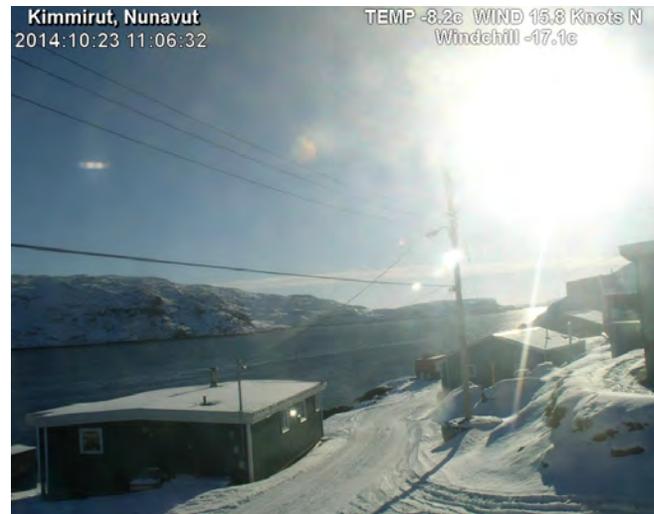


Fig. 1. The webcam image (hosted by kimmirutweather.com).

THE DATABASE

The webcam image became somewhat of an obsession. Seeking exemplary displays of the northern lighting, we started to tune in at all hours of the day. While the image only updates every 15 minutes, over time, many small details begin to emerge: a small window on a house, opening and closing throughout the day; a car, vanishing down the street; a boy riding his bike; a silhouette's shadow, lurking into the frame; a boat coming into the harbor; the tide, dramatically rising and falling (nearby Ungava Bay has the second highest tides in the world). An imaginary narrative begins to unfold from these seemingly insignificant occurrences, a fictional rendition of the place, experienced through the narrow lens of the webcam.

At first, small discoveries made by observing the webcam were collected haphazardly using manual screenshots and annotations. The process quickly became impractical and as a New Media practitioner working primarily with computation, I became intrigued with the possibility of capturing every moment available. A program was written to scrape the webcam image and archive it in a database, alongside the detailed weather data that was available on the site at the time and as well as image metrics such as brightness and color descriptors. The automated script was launched on June 21st, the summer solstice and longest day of the year and has been archiving images and data ever since. As of writing, the database contains over 150,000 entries. The works presented in this paper examines the role of the webcam as an unbiased and unrelenting image collector, unimpeded by aesthetic judgment, as well as the use of natural data to define structure in time-based media. On some level, the data itself could be interpreted as a continuation of the idea of *found object* as developed by Marcel Duchamp amongst others.



Fig. 2. *Constructed Land* exhibition, photograph by Brenda Liu.

CONSTRUCTED LAND

The image database became the focal point for an multi-format exhibition entitled *Constructed Land*, featuring works of the collective Pierre Tremblay, David Bouchard, Bruno Lessard and Alex Geddie. Each artwork in the exhibition proposed various experiences of reading this database. The Kimmirut scene remained a constant throughout each piece, but it was transformed, re-imagined and presented under a different light by each artist's process. My contribution to the exhibition consisted of a pair of time-lapse interactive video works entitled *Observation Instruments*, as well as a series of time-lapsed prints.

Observation Instruments

The Instruments were designed to provide the user with an opportunity to experience the image data in its entirety, while given the tools to re-imagine the remote site and shape their own narratives. The work aims to echo my own process of exploration and discovery of the location. Each Instrument consists of a video projection and a podium with a custom electronic interface placed atop. Using the analog knobs and switches on the interface, users can control video projection in real-time.



Fig. 3. *Observation Instrument #1*, podium detail, photograph by Brenda Liu.

The first Instrument generates a time-lapse centered around observing a specific time of day, showing the light, motion and events at that moment varies through the weeks, months and even seasons. The projected image is built of strips sampled from consecutive images pulled from the database at the time dialed in by the user using the Time knob. An LCD display shows the time selected, as well as the date of the currently being image sampled. Knobs controlling the Width of each strip (effectively controlling the time spent on each day) and the sample offset Position are provided for additional control. A Repeat switch toggles between sweep across the images or repeating the same section each day. A white line moves across the projection from left to right as the image constantly rebuilds itself according to the parameters entered by the user.



Fig. 4. *Observation Instrument #2*, podium detail, photograph by Brenda Liu.

The second Instrument explores combining and manipulating multiple times within the same frame. Successive images in time are combined in a concentric pattern and customizable using two analog joysticks on the podium which allows for geometric configurations ranging from the full image to rows, columns or a grid of varying dimensions. Other controls include a filter for the image selection according to the temperature at the time of capture, a dial to change the speed of the time-lapse and a switch which triggers different grid layout methods, such as mirrored or repeated portions of the original image. Like in the first Instrument, an LCD displays shows the date and time of the center image.

In both projections, the unrelenting progress of time is completely out of the user's control. The software moves forward in time through the database, cycling back to the beginning when images run out in an infinite cycle, with no option to pause. As a such, the images on the walls are the product of both the current position within the overall time-lapse as well as the particular combination of controls determined by the user at that point in time. The resulting compositions are highly unpredictable, almost generative in nature, producing fleeting displays of beauty that can only be experienced being in the room, at the specific moment. In addition, the Instrument projections are accompanied by a multi-channel generative soundscape work by Alex Geddie.

Each podium broadcasts weather information as it pulls images from the database, mapping the data to parameters in the sound engine. The result is a subtle, but audible change in the room's atmosphere, creating a links between the visuals unfolding on the walls and the ambient sound.

The types of controls given to the viewer over each projection enable a variety of compositions ranging along an axis from the representational (i.e. a movie-like time-lapse) to the abstract where the original location is almost unrecognizable. These viewer-defined compositions also set the stage in a different way each time for subsequent visitors, as the podiums are discovered in the state left by the previous users.



Fig. 5. *Observation Instrument*, exhibition view, photograph by Brenda Liu.



Fig. 6. *One Year in Kimmirut*, photograph by Brenda Liu.

ONE YEAR IN KIMMIRUT

As a companion piece to the Instruments, a series of prints was also produced to visualize one year of daily webcam images, archived at a 15 minutes interval during 2011. A time-lapse of sorts as well, the prints are reminiscent of the photographic works of Eadward Muybridge. [2] Rather than illustrating movement, however, the image grid aims to illustrate the passage of time. Each panel in the series represents one month of the year, from

January to December. Each column of images represents a single day. The resulting shape is the product of the amount of daylight through the year that is unique to that particular location. Seen from afar, the panels evoke a landscape; one can imagine a mountain range, reflected in a lake, much like the one seen in the original image. Up close, however, at about 1 inch wide each, the individual frames become recognizable and take the focus, allowing for a methodical observation of the everyday life details throughout the year at that location.

RELATED WORK

The inspiration for this work comes from a rich history of works using time-lapsed video. Recent experiments such as *Teehan + Lax Lab's Hyperlapse* experiment, have shown the ongoing relevance and potential of the technique. [3] Also, for reference, Golan Levin maintains a very comprehensive list of innovative projects in their approach to time lapse and temporal video recombination. [4] However, two contemporary works stand out as having particularly influenced my process and acted as points of departure for the work described in this paper.

The first is a piece entitled *Machine for Taking Time* by the Canadian new media artist David Rokeby. [5] Several works by Rokeby involve time-lapse and visual compositions combining images in the space/time domain. However, this work deals more specifically with the themes of the archive and light. In *Machine for Taking Time*, a surveillance camera mounted on a motorized mechanism takes pictures of the space outside of the gallery and archives them in a database. During the day, a software program wanders through this archive, selecting images algorithmically, maintaining the continuity of slow camera movements but leaping randomly in time and creating a play of contrasts where time passes both quickly and very slowly.

The second work is the *Khronos Projector* by Alvaros Casselini, developed at the University of Tokyo. [6] This is an interactive installation in which the pre-recorded video content can be viewed in a completely new way. Besides the traditional time controls such as start, stop, forward, backward and shifting of the video, the *Khronos Projector* allows the user to send parts of the image forward or backward in time by touching the projection surface, creating an untying of space and time. The result is similar to a sculpture through which the user can manipulate and experience the substance of space and time with their own hands.

CONCLUSION

The remote location revealed via the Observation Instruments paint a picture of isolation; yet it provides a sense of connectedness via the narrow lens of the webcam. In *Reconstructions and Digital Landscapes*, an essay about the *Constructed Land* exhibition, Steven Loft writes: "The continuity of imagery in all the works acts as a channel of communication, a conduit to the remoteness of Kimmirut. The artists bridge this conceptual and physical gap by creating complex information systems woven into the fabric of

place and time, of past and present. It is a sublimation of time encapsulating concepts of home, landscape and climate through the bridge of electronic communication. Like messages sent to or from space, the originating images gives a glimpse, a snapshot to be interpreted and translated through the eyes and lens of the artist and then the viewer." [7]

As such, the works discussed in this paper proposed a mediated experience of a locale from the constrained lens and perspective of a distant outsider. Evoking notions of solitude and encroachment, the fragility of "settlement" and the powerful forces of nature, the work introduces us to a region of the country few of us have ever experienced. The North or at least the Idea of it as developed by Canadian writer and composer Glenn Gould in his *Solitude Trilogy*, is indeed a "convenient place to dream about." [8] The *Observation Instrument* series provide viewers with the means engage with to this utopian notion of the North, generating landscapes which lies in between real and imagined territory.

REFERENCES

1. Cassidy, Margaret. "Virtual voyeurism." *Eureka Street* 16, no. 8 (2006), 22.
2. Muybridge, Eadweard. *Animals in motion*. Courier Dover Publications, 1957.
3. <http://hyperlapse.tllabs.io/>
4. Levin, Golan, "An Informal Catalog of Slit-scan artworks," http://www.flong.com/texts/lists/slit_scan/
5. Rokeby, David, Sara Diamond and Su Ditta. *David Rokeby*. Oakvillegalleries, 2004.
6. Cassinelli, Alvaro and Masatoshi Ishikawa. "Khronos projector." In *ACM SIGGRAPH*. 2005.
7. Loft, Steven. *Reconstruction and Digital Landscape*, essay on *Constructed Land*, InterAccess Electronic Media Arts Centre, 2012.
8. Glenn Gould in the documentary introduction of "The Idea of North," quote accessed at <http://www.hermitary.com/solitude/gould.html>, May 2012.