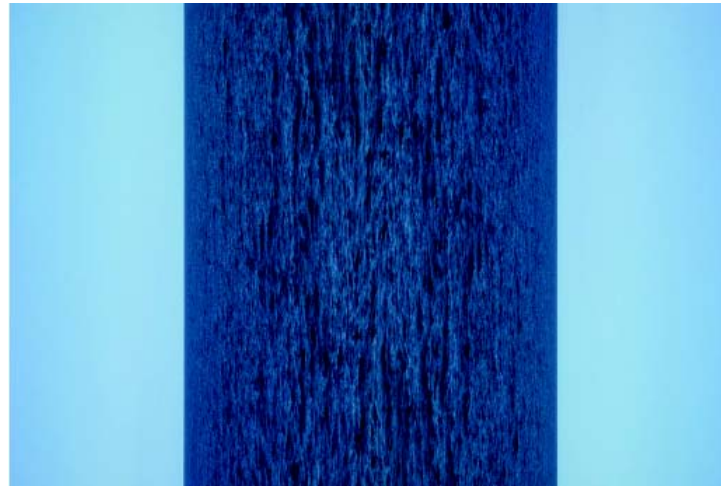


## Account of a Perceptual Inquiry in the Realm of Broken Symmetry

In 2005, Katherine Bash became the Principal Investigator of *The Itinerant Laboratory for Perceptual Inquiry (ILPI)*, an institution established to facilitate her project of observation, analysis and dissemination of unnamed phenomena, and to foster cross-disciplinary collaborations with other professionals. The Laboratory's mission is to encourage inquiry as a process of creating new methods and new meanings.<sup>1</sup> As the historiographer of the ILPI, my role is to keep records of all its activities and to conduct regular interviews with its Principal Investigator (PI).<sup>2</sup> The information I compile differs from the ILPI Archives as mine are intended to be shared with the larger public on occasions such as the present exhibition, in which the PI presents her latest project, *Broken Symmetries*.



For those unfamiliar with the term, things are said to be symmetric when they remain invariant with respect to an operation. For instance, a cube is described as symmetric, because when you rotate it, it still looks identical. But, if you cut off one of its corners and rotate it, it will look different – its symmetry will be broken. In the field of science, Broken Symmetry is a pervasive concept. Katherine became gradually aware of its importance while observing nearly symmetrical landscapes. She photographed horizon lines, doubled them and submitted them to multiple operations in order to study the breaking of their symmetry. These *Horizon Studies* marked the beginning of a new phase in Katherine's work, in which Broken Symmetry is used as a tool for observation and organizing principle.

Faithful to the concept of the Itinerant Laboratory, Katherine asked physicist Ole Peters and writer William L. Fox, to collaborate on *Broken Symmetries*. Peters wrote an eight part piece that raises questions regarding the pervasiveness of symmetry and symmetry breaking within and beyond the realm of physics,<sup>3</sup> and Fox contributed a poem written after the “echo” poetic technique.<sup>4</sup> Both texts were published by the ILPI Press and are available in the Library of *Broken Symmetries*. I invite you to read them as they demonstrate the relevance of Katherine’s research, and the diversity of its implications.

One corpus of works you will encounter entering the exhibition space is *Phenomena of Partial Illusion*, a project started in April 2006, when Katherine was in residency at the *Center for Land Use Interpretation* in Wendover, Utah. On a day of a spring snowstorm, Katherine drove out to the Bonneville Salt Flats to observe the storm. There she was surrounded by snow and clouds to the point of having nothing to focus on when she took a panoramic photograph of the uniform landscape. Fifteen minutes later, the fog had lifted and as it did, the familiar landscape partially reappeared. One of the mountains was now standing above her, and the body of water on the salt flat emerged from the snow. Katherine created a second panorama to witness the landscape’s transformation.



The first photograph, *Nuveando*, shows an almost homogenous landscape, while the second, *Nuveado*, is heterogeneous. Undifferentiated, *Nuveando* could be described as symmetric. However, if we look closely at the landscape, we can see a series of details that break its homogeneity/symmetry. We will thus say that *Nuveando* is an instance of Broken Symmetry. As for *Nuveado*, we may think at first glance that it is symmetric because of the reflection of the mountain in the water. But, at closer look, we will see some small details in the upper part of the picture that are not in its lower part. The mirror symmetry of the second panorama is broken. Furthermore, exhibited next to each other, *Nuveando* and *Nuveado* present another form of Broken Symmetry. It is the same landscape but the weather conditions have transformed their details so that they look different. Between the two pictures, there is a break of the space symmetry.

Another element from her archives Katherine used in the *Phenomena of Partial Illusion* project is a quotation of João Guimarães Rosa, in which the Brazilian writer evoked the unpredictability of nature's transformation, in a manner that perfectly echoed the atmosphere of her snow panoramas.<sup>5</sup> Because of the ambiguity inherent in the poetry of Guimarães Rosa, the text was particularly difficult to translate into English. To extract the poetic ambiguity of the Brazilian text, Katherine decided to create a collection of translations for which she enrolled the collaboration of several Brazilian friends. This collective enterprise revealed the impossibility of a one-to-one translation between languages and, as such, constituted an instance of linguistic Broken Symmetry. Moreover, the slight differences between the translations showed how words mean something different to each of us. This in turn could be described as a cognitive Broken Symmetry. Displayed together, the photographs, the poem and its translations assert the forces at work in nature and language. Whereas we tend to see them as immutable and finished, nature and language are always transforming and becoming. Or, to use the Broken Symmetry terminology, their apparent symmetry is always breaking.



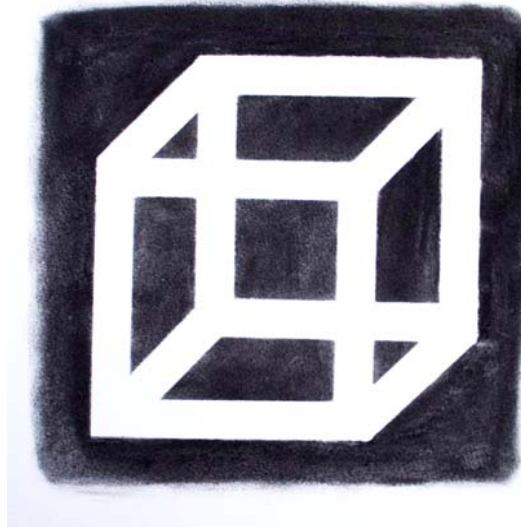
The idea of continual transformation is also important to *Perceptual Rivalry*, another corpus of works presented in *Broken Symmetries*. One origin of this project can be traced to 2005 when Katherine was staying with her grandmother in Houston. One day, Katherine drew her grandmother's attention to a few circles of light on the floor. As Katherine explained, they were sun pictures: the result of the light filtering through the trees and of the leaves acting as camera obscuras projecting images of the sun multiple times. Katherine's grandmother became mesmerized by these dancing circles of light, and waited anxiously each day for them to appear on the floors and walls of her home. Yet, the sun pictures puzzled her because looking at the shape of light as the positive shape did not fit her habit of observing shadow and light. Trained as a painter, she used light as the negative shape and shadows as the positive shape. Katherine started to film their daily observation sessions: the sun pictures dancing on the floor and, in the background, the voice of her grandmother commenting on what she was observing happening with the light.

This recording became part of the ILPI Archives and became incorporated into a new project, the *Field Guide to Observable Phenomena, Pamphlet Series*.<sup>6</sup> Volume One of the series is devoted mainly to the issue of perceptual rivalry as experienced in the observation of shade and shadow. Perceptual rivalry describes the moment when our brain is presented a visually ambiguous image and continues to test the different options. Working with this, Katherine used the recording of her grandmother as a perfect example of the way observation and naming can affect what we see and how we understand what we see. Before Katherine's explanations, her grandmother saw the dark spots as the positive shape but after she could also see light as the as the positive shape: a change in the habit of observation. In the recording, she notes the flipping back and forth between the two possible understandings of the sun pictures.



Leading from the *Perceptual Rivalry Pamphlet* were further observations of shadows. In March 2007, for instance, Katherine photographed the shadow of a window cast on a wall in a stairwell in London. The dozen photographs she took were all different because between the shots, the wind had blown and the clouds had moved in front of the sun. These movements had then disturbed the rays of the sun, which in turn had altered the sharpness of the shadow. On another occasion, she filmed the shadow of a window cast on the floor, and successive transformations of sun pictures. During the recording, wind blew continuously through the trees thereby flickering the shadow of the window frame. The earth's rotation during the duration of the recording had also changed the direction of the sun's rays. The series of photographs, titled *In Homage to Richard Hamblyn, an 18th century Inventor of Clouds*, and the *Deslumbramento* video reveals the relationship between duration and perception.

The connection between perceptual rivalry and duration of seeing is also exemplified by the Necker Cube, since it is in the process of looking at it that its form becomes visually ambiguous. For this exhibition, Katherine has realized a series of charcoal drawings, *Pattern: Perceptual Rivalry*, which plays with the break of the Necker Cube's symmetry with respect to time. If you look attentively at these cubes, your mind will soon present to you the different possibilities of what they are. Soon you will be victim of a perceptual rivalry. I find this drawing even more perplexing since each of us will experience a different symmetry break according to our habits of seeing.



Presented together under the umbrella of *Perceptual Rivalry*, the recording of Katherine's grandmother, the photographs of clouds and shadow, the video of the sun pictures and the drawing of Necker Cubes create a complex environment in which we become vividly aware of the ambiguous relationships between observation and cognition.

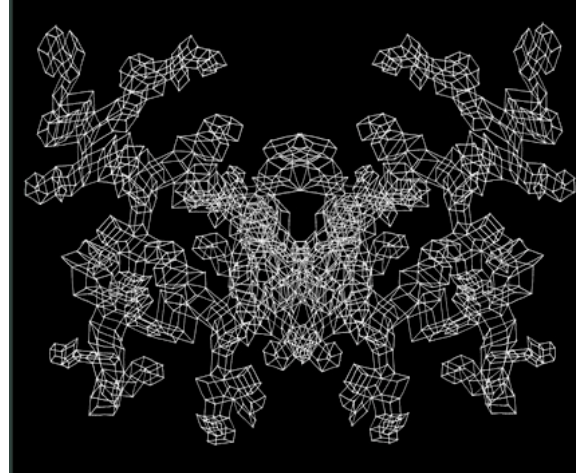
Another corpus of works exhibited at *Women & Their Work* is the *Perforation Series*. This project started in September 2004 on a beach of the Island of Santa Caterina in Brazil. To begin a new project with a fresh approach, Katherine used a method she had often used and still uses, that is, to open a book and use whichever text she will be presented with as a springboard. The text to which she opened was William L. Fox's *Perforated Object*, a poem in which Fox uses a perforated horn pendant discovered by the archeologist Robert Heitzer as a metaphorical tool to investigate a landscape.<sup>7</sup>

After several attempts at resolving the equation between space and perforation the poem had set, Katherine resolved to make a performance using the material of the place. For this, she drew on the quote of Michael Heitzer (son of Robert Heitzer): “Place is material; material is place,” meaning that to know a place, we have to know its material and to know a material we have to observe it and work with it. According to this understanding, by using sand and clay found at or near the site, Katherine would be appropriating the place by working with it. The performance consisted of physically projecting this material into the air and photographing these perforations of space with place – place understood as material.



The place she had chosen to appropriate was once a whaling beach. Katherine was particularly interested in the visual ambiguity of the beach: it appeared beautiful and serene but had in fact a complicated history. In conjunction with the photographs, Katherine created a collage-poem composed of quotations and notes, which echoed Fox’s *Perforated Object* poem. Each chapter of this poem considers different aspects of the space, such as “Perforating Space with Place,” “Whale Songs,” and “The Space (open) Between.” The project had started with a poem and continued as a poem. Yet, it did not finish there. A question was left open, namely the relation between space and place. We could say that a differentiated space is a place and that an undifferentiated place is a space. So when we invest an undifferentiated space with time and energy, as Katherine did, we transform it into a place. Applying Broken Symmetry, we can add that an undifferentiated space is symmetrical, while a differentiated space is asymmetrical. The transformation from space to place could consequently be described as breaking a symmetry. By performing over the landscape and writing about it, Katherine had broken its symmetry.

In addition to the four corpuses of works I have introduced, *Horizon Studies*, *Phenomena of Partial Illusion*, *Perceptual Rivalry* and the *Perforation Series*, there are black and white compositions disseminated throughout the exhibition space. These complex constructions started as ink drawings of multiple Necker Cubes that were then transformed and connected to one another to form dense webs of lines. Katherine classifies these drawings as “studio investigations” and distinguishes them from her site-base projects. In the framework of *Broken Symmetries*, they act as “echoes” of the other projects. To me, these drawings are a metaphor of Katherine’s work. Like them, it is at the crossroads of science and poetry. Like them, it is a web in which each idea and project is connected to the others. Like them, it can be seen at close range as a series of individual entries, or from a distance as an encyclopedic project. Like them, it starts with the simplest observations to reach the most complex discussions.



Catherine Dossin  
Historiographer of the ILPI



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<sup>1</sup> For more information on the *Itinerant Laboratory for Perceptual Inquiry*, see: [www.itinerantlaboratory.org](http://www.itinerantlaboratory.org)

<sup>2</sup> The results of these interviews were recently published in Catherine Dossin, *Portrait of an Itinerant Investigator as Told by a French Historiographer*, (London: ILPI Press, 2007).

<sup>3</sup> Dr. Ole Peters, *Fragments of Symmetry*, (London: ILPI Press, 2007)

<sup>4</sup> William L. Fox, *echoes (for robert creeley)*, (London: ILPI Press, 2007)

<sup>5</sup> João Guimarães Rosa, *Grande Sertão: Veredas* (Rio de Janeiro: J. Olympio, 1958)

<sup>6</sup> *Field Guide to Observable Phenomena, Pamphlet Series* is available in the Library of Broken Symmetries.

<sup>7</sup> William L. Fox, “Perforated Object,” *Reading Sand: Selected Desert Poems, 1976-2000* (Reno: University of Nevada Press, 2002)