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Thomas Munz (de)Independent Curator & Editor
tm@nordsued.org

The Laboratory Garden

The Laboratory Garden is a research project and events series in development that focuses on the emerging artistic practice of incorporating plants, or more generally organic systems, into contemporary artworks using current technology and media. The project investigates this practice against the background of a larger conceptual framework in which these artworks play not only a solitary role, but are part of a proposed living heterotopian laboratory; a *garden realm* creating relationships between the artwork, its surroundings and its viewers. Major focus points are art and artists working with living systems as a paradigm of unfinished interaction in the context of electronic arts, where experimental practice between human and nature is marked by its character of real-time slowness and its fragile and temporal products. The emphasis on the garden as a laboratory primarily focuses on the aspects of interaction between living and organic systems, as well as technical and technological ones, that enable a shift into augmented incidents and environments.

Garden as a Laboratory for Artistic Experimentation: The larger aspect of the garden as field of experimentation – cultural, political and artistic – lays the groundwork for looking at it as a heterotopia, as (after Foucault) an *other* or *counter* space. At the same time, it can also be a testing ground for individual and societal conditions, a place where economic and ecological circumstances can proxy new paradigms of interbreeding innovation and tradition. The project seeks to go beyond the question of artistic human-plant interaction. It brings its subject into the realm of an expanding electronic and digital framework and its underlying currents – and the imagination of the garden as a microcosmic reference space in contemporary artistic practice.

Garden Art and Collective Memory: The idea of the garden may serve both as a blueprint for collective memory, as well as a space for individual artistic positioning. For the collective memory (after Halbwachs) the garden opens up a space to develop common ground on the basis of group-specific behav-

ious. The original distinction between communicative and cultural memory thus finds its common expression in the garden itself: It is both a manifest document of an oral history of experience and tradition as well as a universally comprehensible monument.

Garden as Counter Space: “The garden is the smallest parcel of the world and then it is the totality of the world.” According to Michel Foucault, gardens are heterotopias; they are part of society, are situated in its middle, yet, they are places that reflect, question and challenge other places and turn them into their opposite, into *counter spaces*. Foucault therefore describes the garden as the “oldest example of these heterotopias that take the form of contradictory sites.” These heterotopias have a tendency to appear in times of crisis and change, in which hitherto existing rules need to be reconsidered. What are the connections between garden art and the modern sciences? For a number of very different scientific disciplines the garden has become a field for experimentation with “nature” and a model for an ideal order, whereby the innovative connections between science and art as well as the intermix of imagination and recollection have played a significant role.

Garden as a Medium in Artistic Practice: The garden and its variation of the suggested heterotopic laboratory connect to the arts in general and the electronic arts in particular in various ways. It is a place for the presentation of works of art, as an artwork in and by itself, and a medium for artistic practice. Questions arising in this context are, among others: What is the function of gardens in the media and the arts, such as visual arts, media art, bio art and interactive art? What are the traditions of artistic practice in this field today? And what are the new qualities, opportunities and challenges of working with nature and organic systems against the backdrop of technological developments and ever increasing potentials of mediated cross-systemic connectivity?

Trains, Cars and Trees

Peter Veenstra ^(nl)

Lola Landscape Architects
Director, Landscape Architect
peter@lolaweb.nl

Geert-Jan Hobijn ^(nl)

Staalplaat Soundsystem
geert-jan@staalplaat.org

Composed City

In 2008, Staalplaat Soundsystem and Lola landscape architects started to collaborate on projects that are at the interface of public space design and sound art under the name of Composed City. Sound art as a piece of landscape, and sound design of public space in order to create local identity, evoke play or contemplation, form the main subject of this collaboration. From an architectural point of view, there are very few good examples of permanent art in public space, let alone permanent sound art in public space. Therefore, these projects feel as artistic experiments rather than works of art. And no experiment can stand without a critical review. In this article, two projects are described and reviewed. Although they are very different, the projects share the love for the sound of trains, cars and trees.

Project 1: Sound barrier and Aural Garden

In Dordrecht (NL), a new residential area is planned next to a busy rail- and highway. Due to regulations a large area of buffer space is reserved in between infrastructure and neighbourhood, partly filled with a sound barrier. In the design of this area we dealt with sound both by changing the physical circumstances that affect the existing traffic sounds and by adding a new layer of sound, produced by trees.

In the design of the sound barrier, a playful approach was used by converting the homogeneously sound blocking landform into a more complex form that creates a variety in sound passages and insulated areas. This primarily acoustic approach of the sound barrier has great visual consequence: instead of a monotonous dike, a series of pyramid-shaped hills is created, varying in height between 5 and 12 meters. In order to amplify this pronounced shape, every hill is coated in a different vegetation mix and planted

with a different tree species, each with its own specific leaf sound. These trees create a rustling layer on top of the sonic play of passing through and insulating train sounds.

North of this sound barrier, on a 4 hectare island in between railway and highway, we have asked Max Neuhaus (1939-2009) to make a design based on his ideas of the Aural Garden: a garden to listen to, that is purely designed on its aural qualities. Different than the sound barrier, Neuhaus' idea was to make the park look as unnoticeable and normal as possible, in order to bring a 'pure' sonic experience. Unfortunately, he hasn't been able to finish it. With the help of his close colleagues, Pidu Russek and Andres Bosshard, we are busy developing a garden that is in line with his ideas. The main ingredients of the garden will be water, (parabolic shaped) walls, local depressions and vegetation, all used as instruments to reflect, absorb and block the sound of cars and trains. Gravel paths and trees are used to add sounds that make the visitor feel comfortable to open up to the play of traffic sounds.

Project 2: Train station concert and car horn concert

For the Today's Art festival in The Hague we applied the idea to use architectural elements as sound devices to the The Hague Central Station, in collaboration with Mike Reinirse, Erik Hobijn and Mark Bain. To explore the train station as a sound source, we transformed it into an instrument, using the train movement in the station as faders for the mixing of 10 train horns and station sounds. This resulted in an intense 30 minute concert, that even led to hysteria of an unaware train passenger.

The same concept was translated to a totally different situation: the car traffic system of New Delhi, India. One prominent user of the city's road structure has forced himself as a main player: a small three wheel green and yellow Tuk tuk taxi, that fills the city streets by the thousands. Thanks to a special electronic device we were able to control their horns at distance, and play a huge Tuk tuk orchestra in free movement, in contrast and together with the overall city symphony.

Conclusions

When looking at these experiments, some conclusions can be made. First of all, when working with sound, it's very hard to control the dynamics of public space. During the Tuk tuk concert, much of the car horn concert was drowned by city noise. It appears to be almost impossible to calculate the sound effects of the parabolic shaped walls of the Aural Garden due to wind and temperature dynamics and with each frequency behaving differently.

Within the experiments we can discern two approaches that face different challenges. When using existing sound sources and bending or changing the effects of the physical space around it, the dependency on these sound sources is the most important issue to overcome. When adding new sounds to the existing soundscape of the city, the hardest part is to control the acoustic characteristics of the surroundings space.

Secondly, we believe that permanent sound art can add a special layer in the experience of public space, but is modest in its impact. In fact, the length in time of the artwork seems to be inversely proportional to the intensity of the experience, with the train concert leading to personal hysteria at the one end and the enjoyment of rustling tree leaves at the other end of the spectrum. For both short and long pieces, the visual, performative or narrative aspects seem to have an equal or even bigger impact on the experience than the sonic aspects themselves.

Special thanks to Stimuleringsfonds voor de Architectuur and CBK Dordrecht.

Sofian Audry (ca)Perte de Signal
Artist
info@sofianaudry.com

Absences

Public Art Interventions in Natural
Spaces using Autonomous
Electronic Devices

Over the past two years, I have developed several autonomous devices meant to act within natural spaces as part of the electronic art intervention project *Absences*. This paper gives an overview of the challenges brought by this project. It gives actual and potential solutions as well as lessons learned through the research-creation process and opens up to the importance of *adaptivity* in future work.

Acting within nature

Electronic and natural systems have inherent differences. It is thus not surprising that introducing artificial autonomous devices in a naturally stabilized ecosystem is not as simple as it looks.

The first challenge of artistic electronic intervention in nature is the mere “survival” of the device. Weather conditions such as extreme temperature, humidity and sunlight can harm components. In the context of using solar cells, such as was the case for all interventions so far, other factors need to be considered. Snow, dust and falling leaves can block the cells, while the shortening of days during Winter and the presence of clouds will reduce energy supplies.

The mere fact that the device is able to maintain its integrity doesn't guarantee that it can do anything aesthetically interesting. The second important challenge is: How can it interact within its environment in a meaningful way? This raises questions about sensors, data analysis and actuators. First, it is important to have sensors that give simple, yet meaningful information about what needs to be measured. For instance, if we attempt to record frogs, using a microphone with the right spectrum range is mandatory.



Fig. 1: Fourth Absence. Autonomous electronic hibernating object. Sofian Audry, Dawson City, Yukon, Canada, 2009. Photo: Picture by the artist.

But having the right tools doesn't guarantee you can do the job: it's all about the way you handle it. My experience with the outdoor has shown that the main difficulty in getting significant data is that natural environments change quickly, in ways that are often hard to measure. As an example, I had a problem with a device that detected sunsets using heat and light sensors. I adjusted the thresholds in December by trials and errors. By February, the system wasn't detecting sunsets anymore because the conditions of enlightenment and temperature had changed. Robust methods of processing and analyzing data are thus crucial.

Finally, the choice of actuators (motors, speakers, etc) and their behavior is equally important if one wishes to induce a reaction in natural phenomena. This aspect is still largely unexplored and will require more observations and adjustments in real-life situations.

Energy management: an example of autonomous behavior

Energy management is a concrete example of acting within nature and a recurring issue in the project. I will here focus on a kind of device that have insufficient access to resources and thus needs to alternate between periods of activity and dormancy, such as is the case for most real-life organisms. How can such a device reach its specific goals in balance with the available energy resources?

A solution to that problem was developed during my stay near the Arctic (Yukon, 2009). I built a device that produced a sound at a specific pace.

Between each sound emission, it would switch to a sleep mode, consuming almost zero power. The massive changes in day length in the region throughout the year requires it to adapt its frequency accordingly. The right frequency cannot be computed analytically since it depends on many unknown factors (such as the temperature and the precision of the sensors).

I addressed this issue by relying on a very simple *adaptive algorithm* that updates the frequency of appearance of the action (in this case, emitting the sound) based on the measured batteries power (voltage). If too much power is available, the frequency is slightly increased, rising the energy consumption. If there is not enough, it is reduced in a similar fashion.

Simulations have shown that this allows the device to properly adjust its “biorythm” throughout the year. It also seems robust to daily variations. However, the device was difficult to monitor since I had to leave after its installation and it apparently did not survive Winter (although this might be related to environmental factors such as extreme cold). I thus yet have to produce and monitor a real-life example at this point.

Conclusion

Electronic art intervention in natural sites offers many challenges that range from keeping the devices alive to getting them to interact meaningfully with their surrounding. An important issue is that of power management which can be addressed by adapting the activity of the device to its available resources. More research needs to be carried in order to introduce adaptivity into other perceptual and behavioral components of the devices.

The author would like to thank the Conseil des Arts et des Lettres du Québec, the Canada Council for the Arts, ComPeung (Thailand), Avatar and Perte de Signal.

References

- <http://absences.sofianaudry.com/en/isea2010-extended>
- <http://absences.sofianaudry.com>
- <http://www.sofianaudry.com>

**Shannon C.
McMullen** (us)

Purdue University
Assistant Professor, Dept. of Art & Design

Machines as Gardens: Visual Culture and Post-Steel Sensibilities in the Ruhr District

The visual culture that defined the industrial era Ruhr District has in recent decades given way to a post-steel visual culture that represents a new resolution to the tension between nature and technology through cultivation of what I term landscape value based on an extension of Alois Riegl's work on monuments (Riegl, 1928). From 1989 to 1999, the *International Building Exhibition, Emscher Park (IBA)* became a catalyst for discursive and material changes integral to new images and relations in the Ruhr District. During the decade long tenure of IBA Emscher Park, coal mining and steel production brownfields became important sites for understanding how the post-industrial order materialized in the Ruhr District. Astonishingly, decaying industrial structures were rededicated as architectural and technological masterpieces, and 'weeds' were designated as natural growth worthy of protection.

The IBA years reveal an idea of nature and culture in urban space that is a distinct departure from that of modern industrialization. Since the late 19th century, the Ruhr District had been equated with industry, not "nature." The subordination of all forms of nature to the demands of industrial production had a tremendous impact on the environment – from thick sunlight-filtering smogs to sudden swamps that drowned stands of trees. Emblematic of this relationship to nature is the Emscher River. Once considered picturesque, the meandering river was straightened and canalized to form an open sewer system for the northern Ruhr District. While this was a welcomed improvement in sanitation for humans, the reengineered waterway became too toxic to sustain fish or other forms of wildlife. Incorporating the name of the

Emscher into the title of the building exhibition is indicative of the magnitude of change.

The question then that interests me is: How was it possible to so thoroughly alter the modern industrial relationship between nature and culture in the post-steel Ruhr District? How could their separation be replaced by what I will define as landscape value on some of the most polluted sites with some of the most mundane buildings in the region? The answer is: such a social transformation happened because new forms of visual representation and sensory reevaluations of the tangible landscape took root. By repositioning subjects, enabling middle-class cultural practices and challenging industrial iconic images, alterations to the landscape and attendant alternative ways of viewing and representing it were as much interventions that questioned existing interpretations, as they were the result of reluctantly abandoning the dominance of heavy industrial production.

Landscape culture offers a privileged site from which to observe the intersection of elites and the general public and to understand how both contribute to the invention of new cultural forms. In this case, discursive strategies and material practices drove the innovative process forward. Conflicts between economic and symbolic value were discursively worked out through the politics of the public realm. Material strategies developed through the practices of re-constructing the landscape were also critically important to the whole process. As recent work in art history and science studies has shown, ways of representing, designing and experiencing material culture reveal things about subjects' relations to the world that words alone cannot (Mukerji, 1997; van Alphen, 2005). The Ruhr District as a case study reveals how existing visual and material strategies can be recycled to produce new meanings and practices. Forms of non-discursive thinking like the creation of a system of landmark art, panoramic viewing and collections of colored photographs significantly contributed to a post-steel sensory system in which machines are gardens.

References

- Mukerji, Chandra (1997) *Territorial Ambitions and the Gardens of Versailles*. Cambridge: Cambridge University Press.
- Riegl, Alois (1982) *The Modern Cult of Monuments: Its Character and Its Origin [1903]*. In K. Michael Hays, ed., *Oppositions Reader: Selected Essays 1973 -1984*. New York: Princeton Architectural Press, 621-653.
- van Alphen, Ernst (2005). *Art in Mind: How Contemporary Images Shape Thought*. Chicago: University of Chicago Press.