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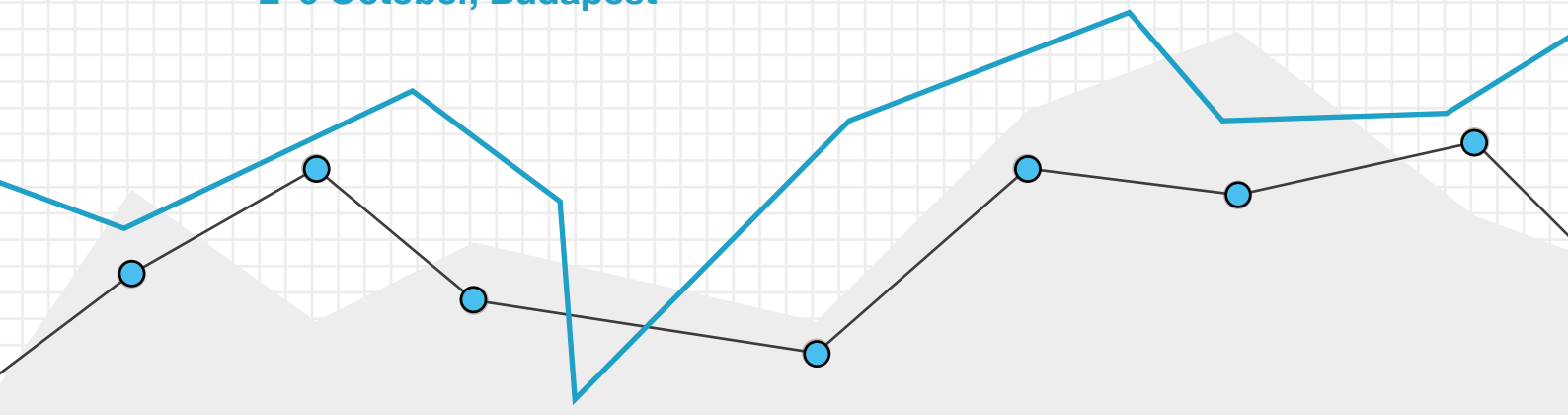

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The Aesthetics of Public Visualization

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The expansion of the mediated city produces a paradox in which a dazzling array of possibilities for new forms of creativity and experiences are offered while at the same time a surplus of fluid images threatens to dull the senses and eliminate the possibility of perceiving any difference between noise and signal. This has led me to think about how place, indexicality and site-specificity can potentially increase the apperception of complex issues, specifically as they are represented through visualization.

In order to explore this potential the following is a very brief survey of examples of visu-alization and art strategies that use public space in ways that augment our knowledge and connection to a specific issue. These examples include projects that may readily be recognized as information or data visualization but there are others where the definition of visualization is stretched considerably.

All the examples in this exploration engage in three distinct but related issues: aesthetics, visualization and public. Aesthetics, for instance, has a long history of philosophical investigation where the question of “what is beautiful” has been a core part of this trajectory. Implied in this question is the aspect of how our senses interact with image or object and space in order to determine beauty. Following this aspect we may also think about the affective dimension of aesthetics. How we feel also impacts on how we know something. The emotional, physiological and cognitive aspects of visualization, in particular with relation to participation, should be considered when thinking about how visualization makes information available to various publics.

A consideration of public with respect to the aesthetic of visualization invites us to imagine a number of visually-based associations. For instance, public can be explained as a space in which common and competing interests are presented and played out. It is a space in which things are meant to be made visible in contradistinction to private where things are meant to be made invisible. Public aspires to be transparent in order for anyone to clearly discern the structure of a particular thing. It is also viewable from many points of view since it promises to be accessible to everyone. The same goes for communication. It is imagined that everyone can make their message although not everyone has the same level of access — individuals can’t as easily address people as corporations or governments can. Finally, public is a space constituted by the communicative capacity of people.

Visualization supports the aims of public in that it attempts to make things visible and therefore understandable. The mantra of visualization is “to make the invisible visible”. It attempts to do this by way of augmenting visual cognition. This is often done through the simplification of complexity and the abstraction of phenomena. Necessarily, visualization implies the act of representation which, in turn, implies translation, reduction or expansion. Beyond representing data, visualization offers the elucidation of relations between variables.

An initial example that can be used to examine what is at play in public visualization could be the weather beacon. The weather beacon became popular in the middle of the last century and provided a public service through an advertising capacity. Many beacons of the era had the name of their corporate sponsor directly on or nearby the structure.

These pylon structures fitted with bands of lights became matrices on which animations ran indicating a variety of weather conditions such as rain, snow or clear skies and warmer, cooler or steady temperatures. This is not sophisticated by today’s standards but it does point to the simplification of complex phenomena, in this case meteorological phenomena, to an aesthetic experience that has a narrowly determined purpose for the user.

Environment and weather seems to be a popular choice for artists and designers because of our increasing ability to measure aspects of it, our common experience of it
and our pressing need to create a relationship with the complex links between what we see and feel and that which is actually far removed from our immediate experience.

For instance, Andrea Polli and Chuck Varga’s installation, Particle Falls (2010), monitors air quality in the immediate vicinity and displays a generative animation that responds to the number particulates in samples taken.

This installation literally makes the invisible visible. In effect, it amplifies the size of the particulate matter in the air so that the human visual apparatus can register a pattern and a movement.

In other words, this installation like many others of this kind, make data visible and by extension public. Something that was invisible because either the phenomena was un-detected or the data was unparsed or filtered was made visible and public. In the case of Particle Falls all this may not be the case but rather what was missing was the will or ability to assemble different variables onto one site for us to see and witness.

Phenomena is thus presented in such a way that is visible and then through some con-textualization we, as spectators, code this data as meaningful information. Implied in this process is that to see is to understand — we visualize in order to augment our cognitive capacity.

As mentioned above our cognition is aided by the arrangement of data such that we can spatially and/or temporally compare different variables. This is standard by which visual-izations are judged to be good and in aesthetic terms, beautiful. The bigger the data set, the more complex the phenomena and the more defined the question leads to the need for a better visualization.

Maybe the opposite is true for “effective” public visualizations? In other words, the simpler the data and the more open the question may lead to more successful visualizations. Take, for instance, Alfredo Jaar’s 1999 installation, Lights in the City. This light installation took the participation of clients of homeless shelters in the city of Montreal as a very simple data stream with which to animate a red light in the Cupola of the Marché Bonsecours. The cupola is a well-known landmark in the city with a well-known history which includes several fires that have destroyed the building. Jaar exploits the notion of crisis in the cupola’s history with the crisis of homeless in the city.

The data is simple and the visualization is even simpler in its formal aspects. At first glance, the question that this visualization answers is: how many people use the homeless shelters in Montreal? Although an important number, this measurement is too simple to sustain much interest. Instead, the question opens a network of issues and queries including our attitudes towards this constant crisis, the anonymity of homeless people and the physical proximity of the spectators to the homeless. Through the highlighting of these issues homelessness is made visible and public.

One of the ways in which Jaar’s installation opens the question up is by way of “mapping”. Mapping is a basic process in visualization. It occurs in cartography, in which different kinds of information are overlaid in order to compare two or more aspects of a geographic territory, e.g. boundaries and topography.

Donna Cox expands this notion by employing the term, visaphor or visual metaphor, which can help us understand the process of mapping data onto new contexts. Cox suggests that visualizations are particularly powerful in how they recontextualize data.
For instance, when demographic data is placed on a visual representation of the city, a source domain is mapped onto a target domain. Data, according to Cox, represents the source domain while its translation into a visual model, the target domain, produces the visaphor and thus recontextualizes the source data. In other words, meaning is borrowed from one in order to create new meaning.

While this mapping function occurs regularly in visualizations presented on paper and screens we may also think of ways this applies to mapping virtual data onto other physical spaces. Visualization that takes on an architectural scale often presents new data resting on a built structure where both components bring a network of meanings.
In order to employ the notion of Cox’s visaphor we need to adapt it to the way new meaning is created with physical structures. In this case, the visual model includes both the image (colour, animation, shape) and the physical structure (building, facade, area).

In Jaar’s project the flow of people entering the homeless shelters around the installation is mapped onto the cupola — the city’s invisible inhabitants are mapped onto a powerful symbol of the city — source domain and target domain are combined. The question that arises therefore is framed within homelessness and disaster. The baggage borrowed from one (cupola) complicates the reading of the other (homelessness). This is underlined by the fact that “bonsecours” means “good help” in French.

The presentation of information at this scale in an urban environment and with potentially hundreds or thousands of viewers leads us to also consider the visualization in public space in terms of spectacle. This term is particularly loaded as it emphasizes the act of looking in an environment dominated by images. Guy Debord took the term to indict capitalist society with a specifically visual form of alienation which further rendered a separation of humans from themselves and each other.

Spectacle has more recently been reclaimed to an extent through Jacques Ranciere's use of the term "spectator" which lifts the viewer from the lowly status of dupe to the ranks of co-producers of meaning. Visualization in the sense that we make the invisible visible conjures another notion of aesthetics — specifically what is "sensible". If we think of Ranciere's notion of the "distribution of the sensible" and the "emancipation of the spectator" we can begin to unpack how the politics of what is seen and what people can participate in relates to visualization on a fundamental level.

Spectator is also reimagined as "spect-actor", a term coined by Augusto Boal and elabo-rated in his theory of the "theatre of the oppressed", which emphasizes the participatory dimension of public theatre performance. Public visualization has the potential to borrow from these formulations, specifically through the participation of the public in order to gather data or through interaction by participants to uncover relationships among the data.

To understand this potential it may be necessary to look at some parallel practices that use similar frameworks while not operating as data visualization. These frameworks include participation and performance and mediate these two aspects through the use of projection, video and site-specifity.

Krzystof Wodiczko's Tijuana Projection (2001) is a good example of the incorporation of public, visibility and participation. In this installation Wodiczko invited women who work in the maquiladora factories in the area, which tend to provide very poor working conditions for a predominantly female workforce, to describe their experiences. Women's faces were projected onto a very large building, the main cultural centre in the city, while they individually recounted experiences of abuse, violence and family disintegration that often occurs to these women workers.

In another project, the St.Louis Projections (2004), Wodiczko orchestrates the commu-nication between convicted prisoners and victims of crime. Live video of a prisoner's hands are projected on the facade of the St. Louis Public Library while another participant, a crime victim, addresses the prisoner through a microphone place in front of the large projection. Like the Tijuana Projections project, this project stages a spectacle in which some participants provide the content and others act as recipients.

Using this example as an aligned practice to public visualization prompts me to consider the following: what if people looking at visualizations were not thought of simply as users or readers or viewers? What if public visualization had an audience composed of spectators, participants and most importantly witnesses? This would require us to consider public visualizations performances and not simply interactive installations.

The strength in these two examples is in that the image isn't naturalized as part of the media landscape. It is contingent and temporary as well as distorted, truncated and highly dramatic. Both Jaar and Wodiczko's installations are contingent because they work by mapping one meaning onto another physical context to create a critical awareness. In fact, Wodiczko's St. Louis projection had to move from the courthouse building to the library building because the mapping was too powerful.

The mapping of data onto a new or old context can also be seen in some of Peter Greenaway's latest projection work. Peter Greenaway's Wedding at Cana project high-lights an important aspect of this modality of spectating or witnessing. Greenaway's in-stallation is based on the re-staging of Paolo Veronese's Wedding at Cana painting. The original, appropriated by Napoleon in the late 18th century, is displayed in the Louvre in Paris. For the installation, a full scale facsimile of the original located at the original refectory in, San Giorgio Maggiore in Venice, was used as foundation of music and light projection performance.

The story of the painting and its projection/intervention gains meaning from its scale, its geographic location and its staging within the refectory. The site itself informs the reception of the story and the spectators watch the story unfold before them. Here time and place are specific and not easily reproducible granting the spectators the role of witness who can recall temperature, lighting, spatial arrangement, mood, silence, etc.

Place is also important the Nuage Vert project (started in 2008) by artist collective Hehe (Helen Evans & Heiko Hansen). The first installation took place in Helsinki, Finland and it has since moved to various venues. And although it moves, location for this project is extremely important. Each time the project is mounted the same kind of place is chosen — smokestacks near residential areas. Hehe's project literally highlights (with powerful green laser projectors) the plume of smoke exiting the tops of smokestacks. In the case of the Helsinki project, the projection is coordinated with an "unplug" event where local residents are encouraged to participate in a collective reduction of power consumption on a specified date and time for short period of time.

In addition to engaging in spectacle, visualization, site and participation, Nuage Vert also deploys another aspect of public. Bruno Latour, using John Dewey's conception of public, reminds us that publics are formed through the gathering of attention towards a common concern. Publics are assembled through controversies by virtue of the involvement of people in the generation, communication and incorporation of information.
The same is attempted by design collective, Realities United (Tim Edler and Jan Edler), with their projection project, Big Vortex, that will highlight the airborne carbon output of a waste-to-energy plant in Copenhagen, Denmark, designed by BIG Architects. Using similar technology to Hehe's Nuage Vert project, Big Vortex will aid Copenhagen citizens count the number and frequency of carbon, in the form of smoke-rings, expelled into the air directly above the city. Meant as a permanent installation, this project will presumably create a public around the issue of energy consumption.

On a practical level, making something public also entails using scale. Historically the realm of government and capital, scale ensures visibility by a wide audience. The Nuage Vert and the Big Vortex projects necessarily work with this aspect. In the case of Big Vortex, the smoke-rings are estimated to be 250 kilograms, 30 meters in diameter and 3 meters high. These projections acquire a scale normally reserved for architecture, advertising and monuments.

Scale also implies power. The lure of this platform must surely be that images can achieve a magnitude where there is a potential for multitudes of people to witness it. It must also be tempting due to the transgressive possibilities of temporarily re-writing the space and its surfaces. Since being public entails the notion of dominance the transgressive potential relies on the sudden and apparent off-script messaging and reversal of this power dynamic, e.g. Nuage Vert.

The E-Tower project I created with Dave Colangelo and exhibited in Toronto's Nuit Blanche event in 2010 works with this potential although to less subversive ends. The CN Tower, one of the world's tallest free-standing structure, and its external LED lighting array was used in an installation that visualized the "energy" of people attending Nuit Blanche throughout downtown Toronto. Over several hours (between 7pm and 7am) 5000 people sent SMS text messages to a specified number registering their participation in the installation. As more people participated the light emitting from the 1/2 kilometer tall structure cycled through progressions of colour and rhythm.

This project capitalized on the power of the large structure that dominates the urban landscape but was limited in communicative power due to the limited lighting array (most arrays on the tower were two "pixels" wide). Rather than use this platform to relay a concrete message we attempted to engender and represent connectedness by showing that many people were able to something at the same time throughout the evening. People contributed their "data" by participating and these same people, as well as many more, witnessed the results of their collective action.

Participation can create a relational space (a term coined by Scott McQuire) which em-phasizes a loose organization of spaces for play and interaction. Visualization's mantra of "making the invisible visible" implies, as discussed above, a revealing of hidden meaning. Relational space when created through visualization techniques may also manifest the act of spectating/participating. It comes into existence through the watching and not before it. It therefore may not so much aim to reveal but rather to engender participation.

It seems there is a voracious appetite for more data streams in order to make more vis-ualizations. If data is a material, we want more of it in order to construct bigger things revealing more complex arrangements that represent previously unexamined aspects of society, politics or the environment. Yet the projects I have explored above show a dif-ferent practice that takes relatively simple data streams and even simpler visual repre-sentations to open up complex questions and/or engender participation.

James Corner, through his use of the old German word "landschaft", suggests that there is a way of recovering what we may wish to highlight in images of landscape. The word, Corner explains, implies a deep and connected relationship between people, objects and space that is often organized through intervals of time. I would like to conclude this exploration by echoing Corner's emphasis on the process and unfolding of events, and therefore thinking of "program" rather than static description, as way of thinking about how visualization in public space may help manifest the dynamic ways in which we are all implicated in a complex network of social connections, material effects and spatial arrangements.