The power of the map has long been aligned with its presumed accuracy. REBECCA ROSS compares current and post-war planning models of New York with a fuzzy, digital map of Amsterdam collaboratively-created by its residents and asks: which is more accurate?

PERILS OF PRECISION

"what would happen if, when saying that some image is human-made, you were increasing instead of decreasing its claim to truth?"
— Bruno Latour, Iconoclash[1]

The Panorama of the City of New York, a 1 inch to 100 feet scale model of the five boroughs, built for the 1964 World's Fair, is possibly the most detailed physical map ever made. But what does it reveal? According to museum archives, the original vision of the fabricator, Lester B Associates, specified a "less than one percent margin of error between the model and reality." The idea was that passage through the Panorama would provide viewers equivalent to those from a helicopter ride through the city. A precise image of the city, it was assumed, would be the natural product of incorporating an extreme level of physical detail. Today, the Panorama stands as an elaborate object that humbly eludes the impossibility of this assumption.

Three years ago, I visited the Flushing Meadows fairgrounds for the first time. I had sped by the Unisphere on countless previous occasions. The historic New York City building, a structure built for the 1939 fair, houses the Queens Museum of Art and the World's Fair Ice Rink. Still on exhibition today at the Queens Museum of Art, the room housing the Panorama has the feel of a school gymnasium. The Empire State Building measures about twelve and a half inches high. The room features a 20-minute light/dark cycle that signifies a compression of day and time to correspond with the model's attempts to compress space. Beyond the lighting, the Panorama is static, as silent as the city is vast and unwieldy.

Robert Moses, the notorious "power broker" and New York state and municipal official, championed the creation of the Panorama by citing its potential as a tool for the future of city planning. He envisioned that the model would be kept up-to-date over time and referred to by city leaders as they thought through changes to the city's master plan. A Queens Museum booklet reveals that the gathering of the necessary data was a tremendous activity: block by block schematics were made of building footprints, over 500 aerial photographs were taken, contour maps of the land base were drawn up, pictures of

individual structures were culled from libraries and other institutions. This costly measuring phase aimed to achieve a mechanical accuracy that was quickly lost as the city carried on past 1964. Although the Panorama has been cleaned, repaired and supplemented with certain key buildings, The New York Post reported in 1989 that the model would need another 20,000 structures to be brought up to date.

I grew up in a development of split-levels set into the leftover speck on a map where the Long Island Expressway crosses the Northern State Parkway. Exit 43 is truly the artifact of a schematic. The most obvious qualities of the landscape are the hills formed by under- and over-passes and the frequent sprinkles of green signage. The forts of the medias running down the center of the Expressway restore its obedience to its diagrammatic origins. What value or meaning does this yield for, in Jane Jacobs' term, the needs of real people? Efforts like the Panorama make it possible for certain individuals — in the case of Moses, unelected officials — to act on a whole dimension of peoples' lives by assembling and re-arranging a collection of technical drawings or painted wooden blocks. The results are places dominated by artifacts that are merely representations

of the abstractions to which they are subservient. To achieve the level of detail prescribed for the Panorama required that one agency would gather and give form to data on behalf of the entire city, thereby necessitating a bottleneck that impedes the inter-relationship between the richness and diversity of a city and its representation. Today, the impulse to act on territory based purely on experience, with no sense of technical or symbolism, has been re-fueled by the potential of contemporary model-making. The significance of materials such as pixels and databases. The City of New York, for example, is assembling a many-layered high-resolution map of the city in the form of a GIS (Geographic Information System) database. The NYCMap project began with the difficult process of gathering and reconciling data from a wide range of city agencies. Many of the layers are incomplete and contradictory at this point, but the long-term ambition is to create a consistently accurate and up-to-date image of the city in as much detail as possible.

As might expect, the City's Department of Information Technology tightly controls access to most layers of NYCMap and goes to great expense to continually measure, collect and digitise.[1] However, the infrastructures and phenomena that the Department strives to summarise are available to me, in complete detail, every time I turn on my faucet or ride the Q train across the Manhattan Bridge. This paradox of representation — in which summary is valued more highly than the experience to which it refers — enables official maps to become information-spaces within which power is accumulated and maintained. Highly detailed maps are presented to culture as if they were flawless reflections of space. In fact they are more typically accumulations of the maker's own experience from a single point of view, subject to the limits of space and time.

I spent my childhood summers building sand castles on the beach at Robert Moses State Park. Today, I find myself interested in the tyranny and possibility of maps because I can sense that while maps are often used by individual entities to claim power, they can also serve a greater interest as tools for reclaiming agency over space. As the failures of the Panorama reveal, fine detail in mapping can be a signifier of false omniscience, a means of asserting power over territory by developing a semblance of wide-scale knowledge of what goes on there. But what kind of images, spaces and places would be enabled by infrastructure that supported true wide-scale participation in mapping activities? Maps and their territories have the potential to become serious reflections of the wishes and desires of the many

This idea took me to a meeting at the Waag Society for Old and New Media in Amsterdam. The Waag occupies a 500-year-old building, originally a gate through the walls of the city and, at another time, headquarters for several artisan guilds. Amsterdam RealTime, a project implemented by the Waag with artist Esther Polak in 2002, gestures toward a way of mapping the city that favors incorporating public participation over reproducing minute detail.

Participants in Amsterdam RealTime comprised a diverse sampling of Amsterdam experiences. A public call for volunteers requested details of each applicant's occupation, gender, age, travel habits, place of residence, place of work and week-by-week avail-ability. Forms were made available on the Waag's website and on posters hung throughout the city. Four-hundred people responded, motivated as much by curiosity as by a sense of community. Sixty were invited to participate. The only requirement was that for a few weeks during October and November 2002 they had to carry around a slightly bulky pack containing a trace-unit comprising Global Positioning System (GPS) sensors attached to networked personal digital assistants (PDA). Most of the packet could be carried inside a backpack or pocket but, in order to maintain a clear line of site with the GPS satellites, the antenna itself had to be worn on the outside of clothing or secured to a car roof.

To form a collective synchronous map referred to as "the most current map of Amsterdam," latitude and longitude coordinates collected by each partici-pant were transmitted to a Waag server via General Packet Radio Service (GPRS). The server compiled images based on accumulations of participants' points over specified periods time. Frequently trav-eled points became brighter over time, and the most densely traveled areas, such as Centraal Station, were noted in yellow and then red. Less frequented
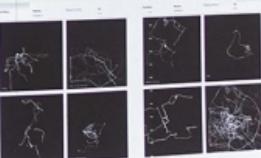
1   Bruno Latour and Peter Weibel. Iconoclash: Beyond the Image Wars in Science, Religion and Art. Cambridge, Mass. MIT Press, 2002.

2   In 2002 the cost of the NYCMap was estimated to be $5 million; see Miranda Esposito. "Street Furniture," The New York: November 4, 2000. pp 14-17. See also Lester Greaves. "NYCMap," March 2005. <www.gisfuturo>.com/articles/article20050505181527.html>.

3   See "Mapping the Homunculus," p 207.

Trails remained pale grey frames, with physical
features such as bodies of water made obvious
only by their tight-packed clusters of dense concentrations
of foot traffic over the occasioned bridge. Every
aspect of each brand was generated by recent and
current activity within the city. The names of particu-
points marked their current locations as they contin-
ued to turn the map while purveying their normal
daily activities.

The leisurely presented on this map corresponds
ontonically with life in the city as its residents
simultaneously create and experience it. One
participant, looking for the marathon, continuously
looped the same path, reinforcing his accumulated
miles by following the lines that define his route as
a piece on the map. Others wandered more freely
across lesser-known routes and alleyways, their
movements collected as more delicate lines. The
form of the map is reclaimed by the same basic
paradoxes and gestures that define the city. One
invisible absence from these images is the contribu-
tion of public officials themselves. Both police
officers and tram drivers were scared by their
employers not to participate.

The project ran in conjunction with an exhibition
mounted by the Amsterdam Municipal Archives of
a history of maps of Amsterdam, Kaarten van
Amsterdam 1866 - 2000. Maps presented us records
of the city as it once was were displayed side by side
with maps that served as proposals, alternative
diagrams of what Amsterdam might have become.
As a collection, they revealed a history of increasing
spatial, technological, and political detail. Amsterdam
RealTime images are a sparse inversion of this, more
akin to medieval T-maps than anatomical illustrations.
The pictures generated by Amsterdam RealTime are
fuzzy because that is the nature of summaries that
encompass many experiences simultaneously. Such
bluntness is a counter-intuitive expression of a new
potential for vitality in mapping, a new level of
honesty about its own limits and capabilities too.

According to Frank, the goal of Amsterdam RealTime
was to offer participants and spectators a new
awareness of their own experience within a city with
which they are already so familiar. She commented
that after seeing the project, or even just hearing
about it, people would become compelled to discuss
their daily routines. A participant named Chris
became so conscious of the relationship between his
movements and the form of the city map that he
chose to modify his trajectory in order to manifest the
shape of a pigeon. One could imagine that 'this did'
how Chris off his mind path, perhaps to sections of
Amsterdam he had never been through before. By

permitting us to play with the brilliant unraveling of
toeroing between map and explicability to channel
culture is accustomed, the Amsterdam RealTime
project encourages us to imagine a very different sort
of magic — to reclaim spatial meaning.

In Amsterdam, before visiting the Waag, I unknowing-
ly called De Fruit, which doesn't actually add up to
go. The party, held at a squat on an entire level of a
street at a distance from the city center. I was
strictly gay and lesbian crowd. To find the party,
volunteers and runner fun it that the various points on
bar and cover are denoted for AIDS research in the
Partygoers are advised to arrive, well before it got
dark because once it did not know what. As I moved
tunnel through, it immediately class, I recently
would not necessarily realize what is missing right.
inside hundreds of aids dancing to experimental
music. This event can be defined primarily of
as "off-the-map" and yet I noticed a hint of the
line of the Amsterdam RealTime environments I
was delighted to observe that an art as "leaving the
map" can become a means of defining a new sort of
map.

When asked whether this new kind of map could be
useful in city planning contexts, Frank commented
that reducing on volunteers might be a daunting
block. Participation requires a willingness to be
tracked through space but also necessitates having
one's own relationship to the city broadcast to the
map-viewing public at large; living and mapping
become dynamically linked. Embedded in the
Panorama of the City of New York was Robert Moses'
presumptuous about what kinds of knowledge is mean-
ingful for urban planning and policy, presented below
a facade of precision and expertise that enabled him
to concentrate in much civic authority. Amsterdam
RealTime, by contrast, demonstrates that it is possi-
ble for a map itself to take on dynamic qualities such
as diversity, multiplicity and an attitude of partici-
pation that also define a city. The use of positioning of
maps as spaces for public interaction could lead to
an improved flow of interaction from citizens to
decision-makers, and a strengthening of the form of
our built environment. But this would require a vital
shift in our attitude toward space and the creation
of meaning. To take up Lefour's idea of human-made
truth, what it would it mean for urban dwellers to be
more human-made because it incorporates the
participation of many people? Might it even increase
its claim to accuracy?
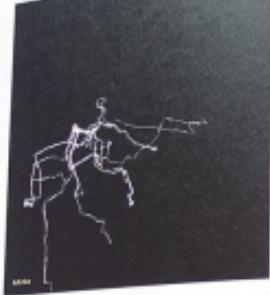
Esther Polak/Waag Society. Amsterdam RealTime, 2002 - cumulative maps of volunteers' journeys, shown in a user-
created at the Amsterdam Municipal Archives, during the exhibition of Kaarten van Amsterdam, 1866 - 2000 or late 2002
Image Esther Polak/Waag Society. from 'Merits of Precision,' pp. 186 - 189

Else/Where

Mapping
New Cartographies of
Networks and Territories

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