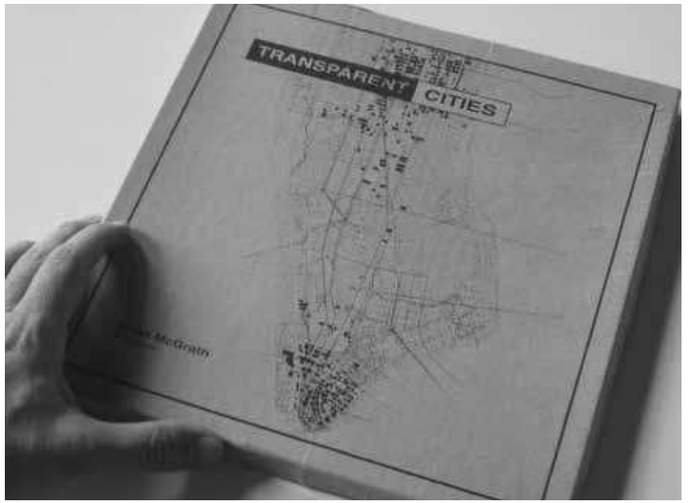
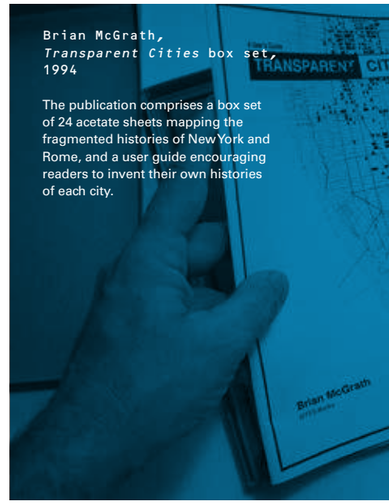
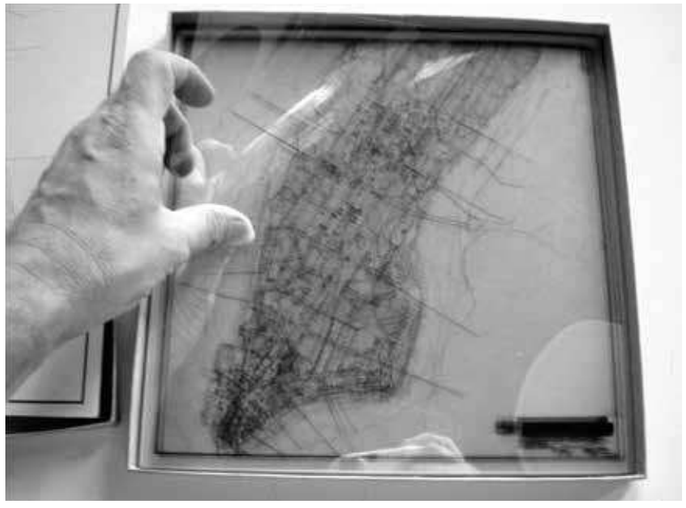

TRANSPARENT CITIES

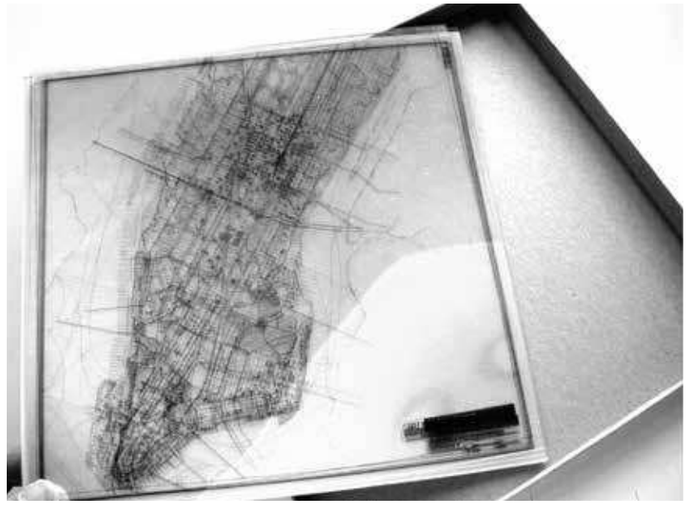

TRANSPARENT CITIES
Brian McGrath

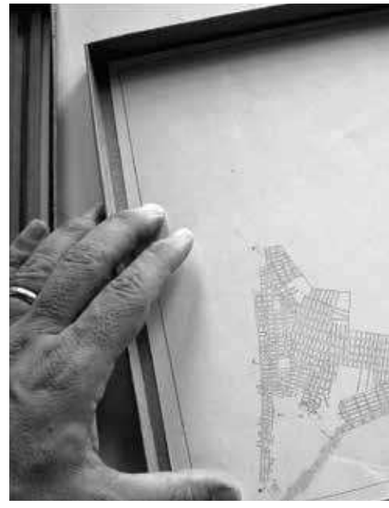

TRANSPARENT CITIES
Brian McGrath


Brian McGrath,
Transparent Cities box set,
1994
The publication comprises a box set of 24 acetate sheets mapping the fragmented histories of New York and Rome, and a user guide encouraging readers to invent their own histories of each city.
TRANSPARENT CITIES
Brian McGrath

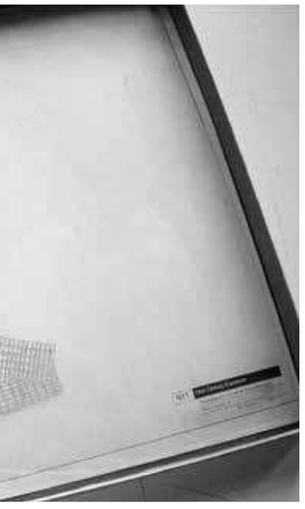

Drawing








Time



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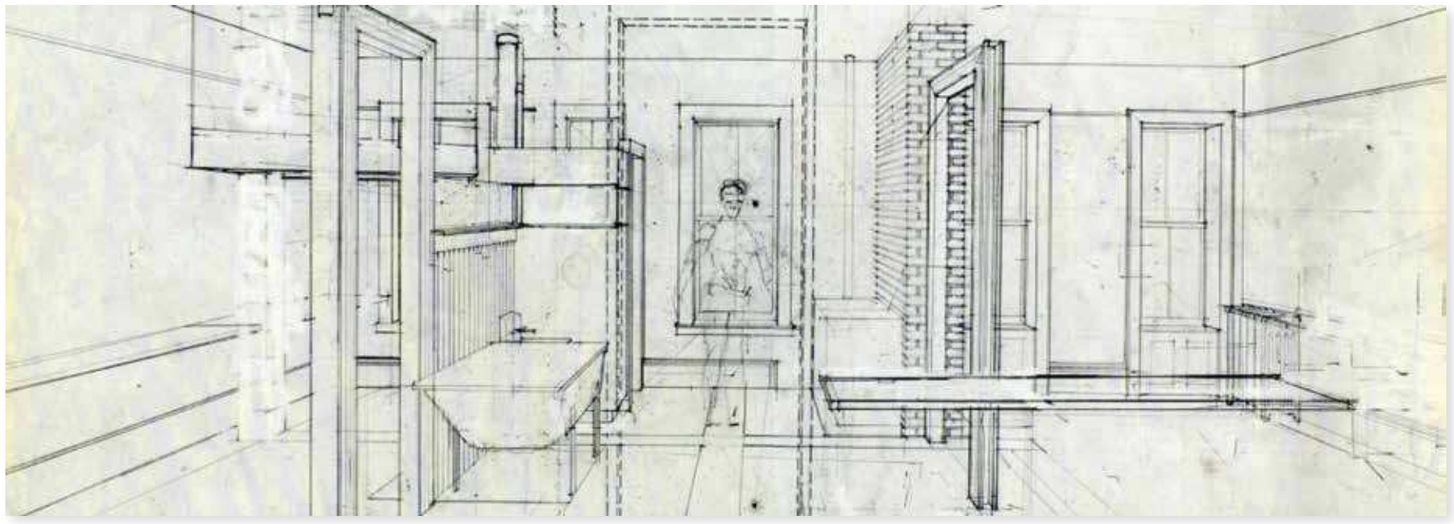
The importance today of drawing time in architecture cannot be overstated. Time has become a scarce commodity in our rushed, mediated lives, and architectural representation may aid in revaluing the experiences of duration and being in time. Architectural drawing includes orthographic, axonometric and perspective projection and the new tools of digital modelling and animation. To draw – *designare* in Italian; *dessiner* in French – is the fundamental act of design, and its expansion to a wider public through digital media offers various opportunities for drawing an architecture of time. Gilles Deleuze makes a distinction between time in cinema as understood indirectly from movement in space, and as directly experienced in pure optical and sound images.[1] Architectural environments collectively structure an immanent future, within memories and traces of the past, and present in an immersive and embodied experience of the here and now. Drawing time in architecture refers to past time, everyday movement and actions, and the reflective attention that comes when action stops.

This essay examines three decades of experiments in drawing time that progressively explore architecture not as a stage set for known sets of behaviours, but as producing pure optical and sound images and experiences emerging from deep personal and collective memory.. These include hand maps of time as planes of historical construction; three-dimensional computer-generated representations that model time as layers; animations that reposition complex multidimensional information; interfaces that introduce interactivity rather than passive viewing; measured scenes of the micro-moments of daily life; and augmented physical scenes embedded with digital gathering and representation systems. In all of these explorations, the public is engaged as readers and potential co-producers of architectural drawings and co-creators of the built environment.

These examples coincide with the emergence of the personal computer, new modelling and animation software, and the widespread distribution of digital images via the Internet. While technologically enhanced architectural representations of highly realistic rendered walk-through visualisations have become ubiquitous, these images hypnotise the viewer, erase time and mask the embodied and material nature of architectural history, drawing and labour. Drawing time is much more than the spectacular visualisation of movement across space; it can explore how architecture constructs duration in the thickness of being.

Drawing Time as Sheets of the Past

According to the French philosopher Henri Bergson (1859–1941), memory is not stored randomly, but preserved within specific sheets of the past that we search for from peaks of the present.[2] The past occupies regions that must be explored in order for specific events to be remembered. Cultural memory is stored through the collective act of building architecture and the city. Buildings from particular periods form blocks, districts, neighbourhoods and cities as distinct regions of the past. A walk around Lower Manhattan In the 1980s presented fragments of an early federalist period in town houses and squares, remnants of an industrial era of crowded tenement houses, and large swathes of public housing projects from the time of slum clearance programmes, interspersed with hundreds of abandoned structures and vacant lots. *Transparent Cites*, my box set publication of 1994, was inspired the by the ruins of an economically restructuring of New York in the 1980s. The project was devised as a way to collectively understand the capitalist city where so much is lost through the process of creative destruction.[3]



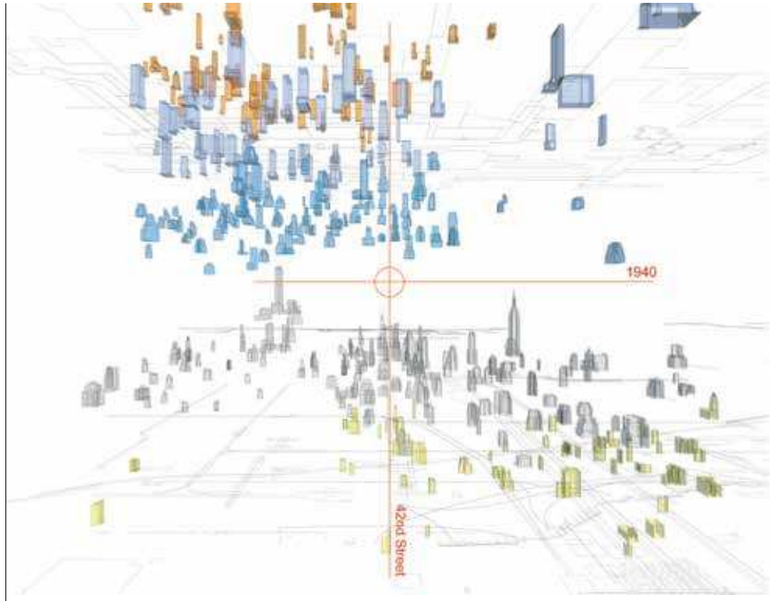
Brian McGrath,
Renovation of East 4th Street,
New York,
1988

Several architectural design-and-build projects from the 1980s explored the social reality of new residents in the post-industrial context of Lower Manhattan. Renovations of 19th-century row houses and tenements provided a way for artists, performers and the new symbolic workers of the creative class to locate themselves within the history of the city.

Informed by my immersion into the troves of historical materials available in libraries, museums and archives, *Transparent Cities* analytically traces the history of New York. Various maps were reproduced, all at the same scale, and selected information from different time periods redrawn by hand as separate layers. The drawings were reproduced on acetate plates in order to allow readers themselves to construct multiple images by juxtaposing architectural elements from different eras. The project was a critique of the scenographic, postmodern urbanism of the time, and opened architecture to the more conflictual process and temporal orientation of contemporary participatory urbanism.

Modelling Time for Interactive Drawing

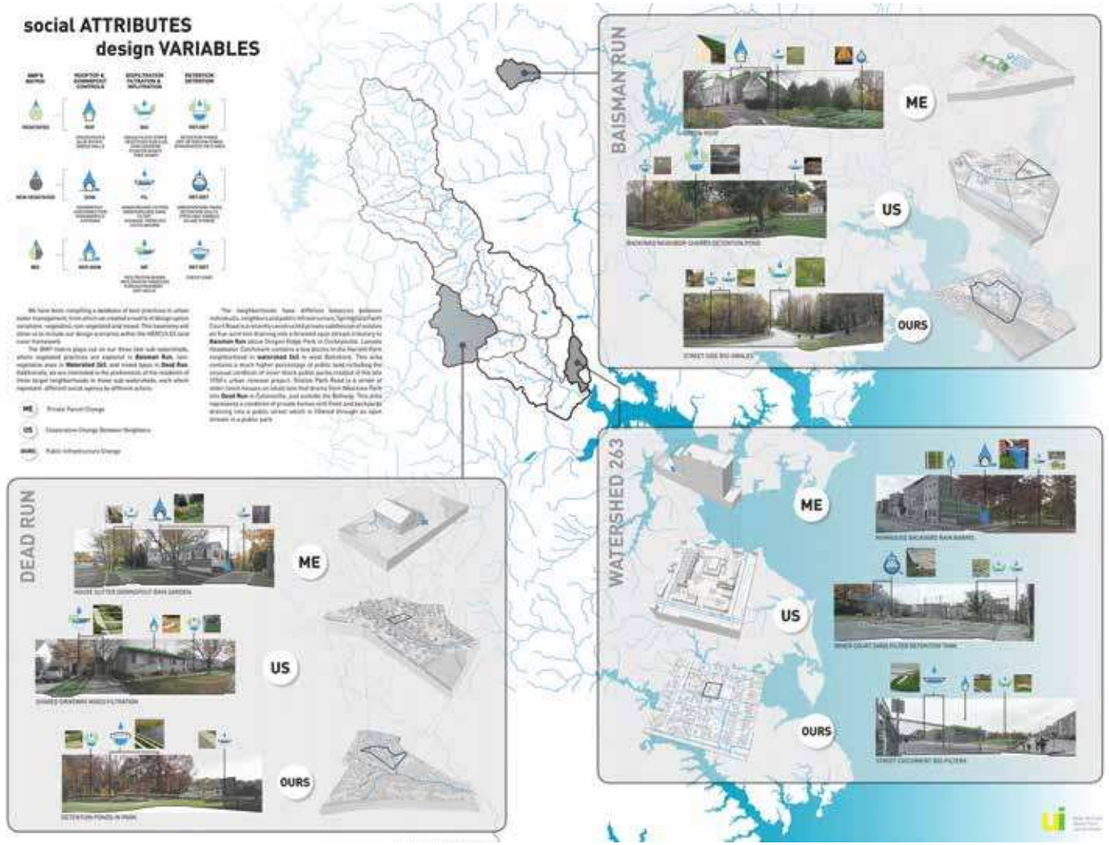
Digital modelling is an ideal medium for collecting and exploring archives of temporal information as it stores three-dimensional form as layers. The act of digital drawing is a time-consuming process of inputting data, requiring the input of measured points and lines in one plane and projecting them in a second and third dimension, while toggling between top, side and front views. The labour of drawing is erased in computer-generated hyper-real renderings. Like the contemporary English artist David Hockney has shown in his critique of photography, normative computer-generated images are like camera snapshots, depicting a single moment frozen in time.[4] In contrast, my Manhattan Timeformations interactive website uses 3D modelling and animation software to communicate the contingent nature of architecture and the laborious process of digital drawing itself. As a publicly funded project, it continues to bring temporal information about Lower Manhattan's skyscraper history to a wide audience via the Internet. The Web interface invites viewers not only to turn various three-dimensional time layers on and off, but to reorient the model from top to side and front views.[5]



Brian McGrath,
Manhattan Timeformations,
Skyscraper Museum,
New York City,
1999

In the years following the destruction of the World Trade Center, the Manhattan Timeformations interactive website became a memorial as well as an archive of New York's skyline at the end of the 20th century. Reaching a vast unseen audience, this permanent online public art project had a global impact, made possible by digital drawing disseminated via the Internet.

Manhattan Timeformations literally gives time a dimension through 3D software. On the Z-axis of the model, digital reproductions of all the high-rise office buildings in Manhattan are placed on a vertical time plane designating the year of their completion, where one year equals 30 metres (100 feet). The Seagram Building skyscraper built on Park Avenue in the 1950s is placed 600 metres (2,000 feet) above the Rockefeller Center, built in the 1930s on 6th Avenue. A viewer toggles from the towers located within the *x*–*y* grid from above, to a view of their position on a vertical time line from a front or side view. The result is an interactive architectural drawing, dense with information that can be turned on and off and viewed from various angles, simulating the act of digital drawing itself. The project resonated with a wide variety of audiences, and its depiction of architecture as a form of ecological succession formed the basis of my long-term collaboration with scientists in the Baltimore Ecosystem Study (BES). As part of the US National Science Foundation's Long Term Ecological Research Network, TES seeks to understand how urban ecosystems change over time.



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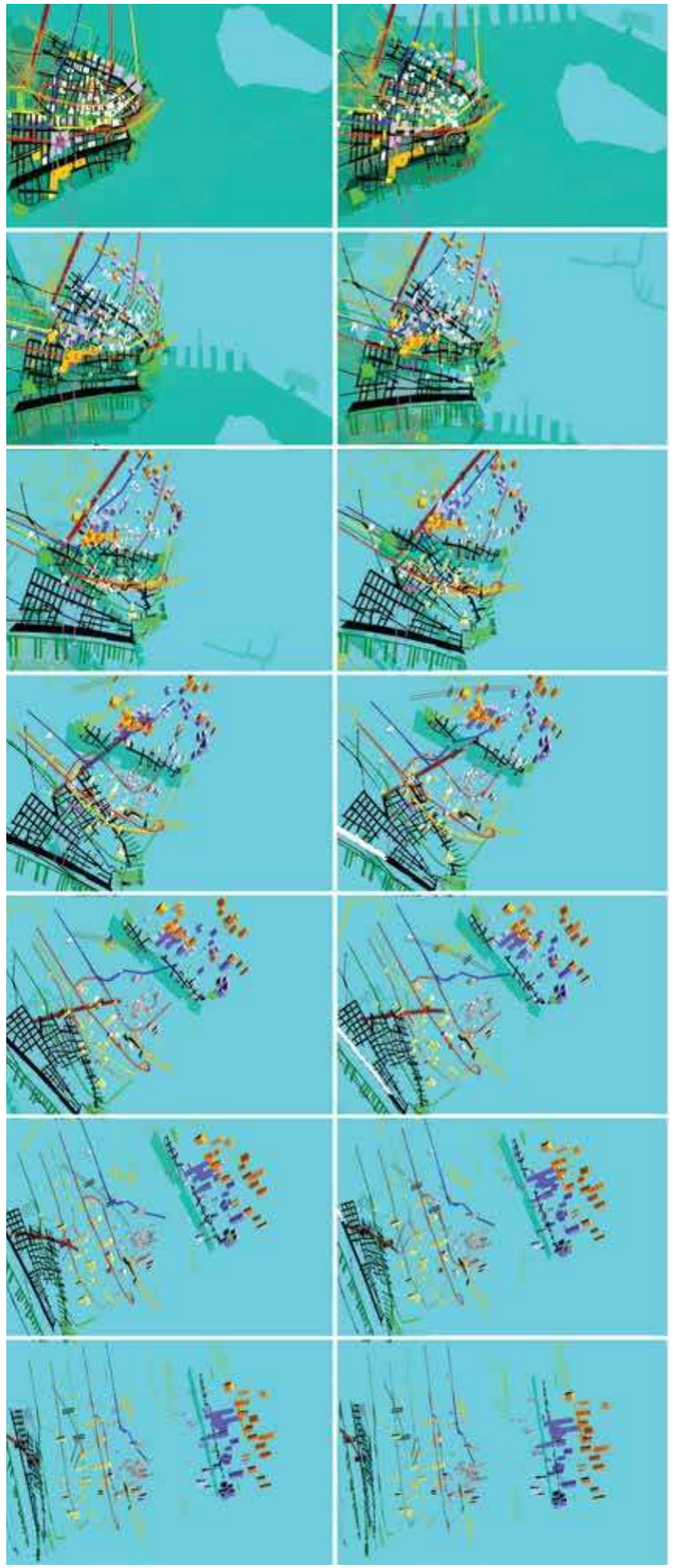
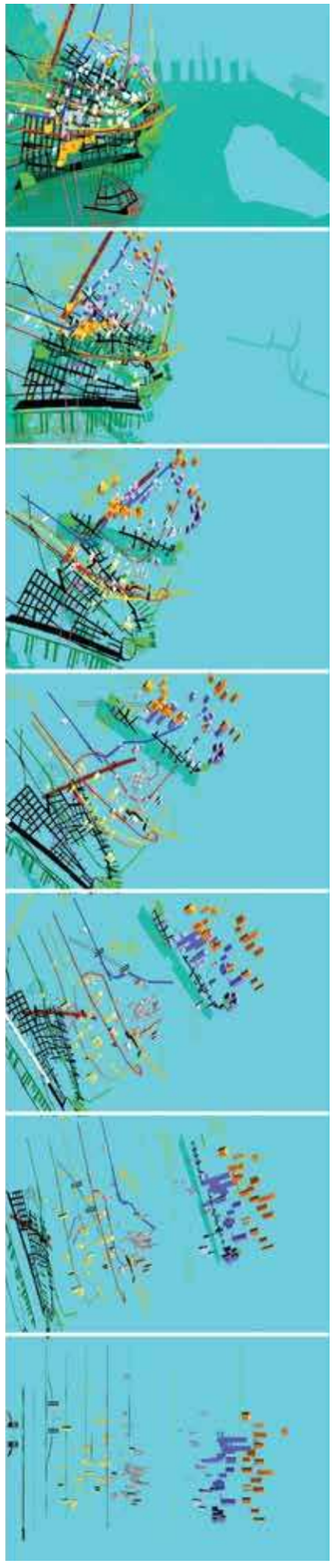
Brian McGrath and Mateo Pinto,
Baltimore Ecosystem Study,
2010

This Urban Design Working Group, a research unit within the Baltimore Ecosystem Study, collaborates with biophysical and social scientists to develop scenarios of social attributes and design variables for land cover change in order to achieve positive social ecological succession over time.

Installing Drawing in Public Space
From May 2002 to January 2003, my *New York Here and Now*, a digital drawing installation at the Winter Garden overlooking Ground Zero, was part of an exhibition that celebrated the reopening of the World Financial Center, which had been closed since the collapse of the World Trade Center. The installation depicted the physical history of Lower Manhattan, generating new ways of physically interacting with a moving drawing, emphasising the viewer's moving body in relation to the actual excavation of Ground Zero. It suggested the possibility of architects drawing time not as scenographic filmmakers, but as the makers of architectural drawings that move as part of, and within, public space. The moving drawing, displayed horizontally within an elliptical frame, captured moving bodies in its orbit in order to bring public attention and reflection to the reconstruction of the city.

The streets and public spaces around the 9/11 Memorial at Ground Zero in Lower Manhattan have recently reopened. On a sunny day the leaves on the rows of trees rustle gently, the giant fountains gush, and the surrounding glass office buildings reflect the bright sun. The experiences are so close to the visualisations produced as part of the public process of the design competitions for the site that one has the feeling of being inside a computer-rendered animation rather than a physical space here and now. The evidence of life, death, struggle and conflict embedded in the site has been muted by the faithful replication of ideal architectural representations. The spectacular perspectival gaze extends through the power of photography, cinema and digital visualizations, mesmerising and recirculating a known repertoire of clichés. These visualisations were generated as part of a process to persuade and seduce a conflicted public through the spectacle of architectural media, while *New York Here and Now* informed its audience about the histories and possibilities of the site.





Brian McGrath,
New York Here and Now,
Winter Garden,
World Financial Center,
New York,
2002

In this installation, the layered model appears orthographically in plan as a 300-year chronological time lapse of the history of Lower Manhattan. The animation then tips to a frontal elevation to display a 3D model of all the high-rise office buildings in the Wall Street business district placed on a vertical time line.

The installation depicted the physical history of Lower Manhattan, generating new ways of physically interacting with a moving drawing, emphasising the viewer's moving body in relation to the actual excavation of Ground Zero.

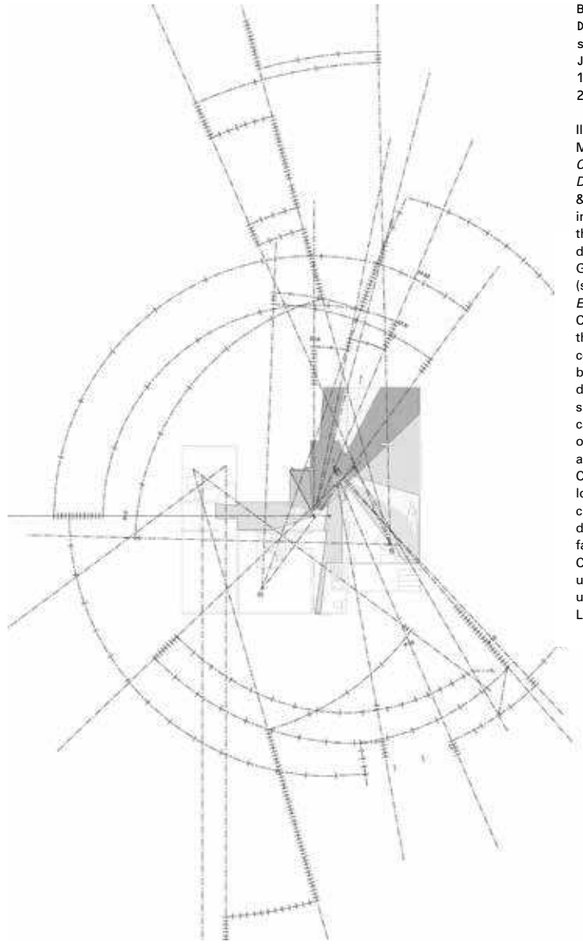
Greenwich Street,
New York,
2015

A view from the recently reopened Greenwich Street looking north from the 9/11 Memorial closely matches public presentation renderings prepared more than a decade earlier. On the left is the Memorial with the One World Trade Center building behind; Three World Trade Center is under construction on the right, with Santiago Calatrava's PATH train terminal beyond.

Enacting Architecture as a Sensory Motor System

The Cinemetrics publication by myself and Jean Gardner includes a time-based drawing system I developed as a critique of the normative spectacle of walk-through computer-generated visualisations.[6] The system employs a second-by-second measurement of the complexity of the movements of the camera and the actors in three short film scenes. Drawings document when the characters perceive, feel, act, reflect and relate in quick cycles in a state of distraction, retracing their steps in the familiar behavioural patterns of life. Cinemetric drawing slows down, stops and takes measure of the movement of bodies in space in order to explore time as a transformative quality in itself. Drawing time in architecture is a break from sensational representations of the mechanical continuity of the known. Drawing time as measured intervals of movement in space produces a way of understanding the newness of each moment of existence that realistic walk-through animations mask.

In numerous workshops around the world, the cinemetric drawing system has been explored performatively in institutional and urban spaces as a way of minutely surveying not just space, but movement and time. It forms a basis for analysing architectural scenes, whether interior or urban. In social theory, the scene provides a way to enhance a cultural analysis of architecture where leisure and consumption have come to dominate modern society.[7] Cinemetrics offers a method for enacting social scenes in relation to architectural and urban space, employing synthetic videography, mapping and diagramming techniques to develop a sense of architecture's potential as a medium for creating an imagined community as well as for constructing new forms of public life.[8]



Brian McGrath, Drawing mapping a short scene from Jean-Luc Godard's 1963 film *Contempt*, 2007

Illustration from Brian McGrath and Jean Gardner, *Cinemetrics: Architectural Drawing Today* (John Wiley & Sons, 2007). The book included drawing sets of three short scenes from three different films: Jean-Luc Godard's *Contempt* (1963) (shown here), Yasujirō Ozu's *Early Spring* (1956) and John Cassavetes's *Faces* (1968). All three scenes depict a married couple in a domestic situation, but each with a radically different filming style and specific gestural routines: the carefully matched montage of still shots of slow-moving actors in Ozu's Tokyo, the Cartesian rigour of Godard's long takes with a panning cinemascope camera depicting his actors like fashion models in Rome, and Cassavetes's handheld camera unable to follow the erratic unpredictable actions of his Los Angeles characters.

Brian McGrath, Jose DeJesus and Hsueh Chen-Leung, 'Measuring the Sensory Motor City', Parsons School of Design, New York, 2012

For this exhibition, students staged a performance of the same three short sequences from the three films illustrated by Brian McGrath in his and Jean Gardner's *Cinemetrics* book of 2007 – see image above) as a way to survey and draw the human sensory motor system and its breakdown.

Collectively Drawing Public Life

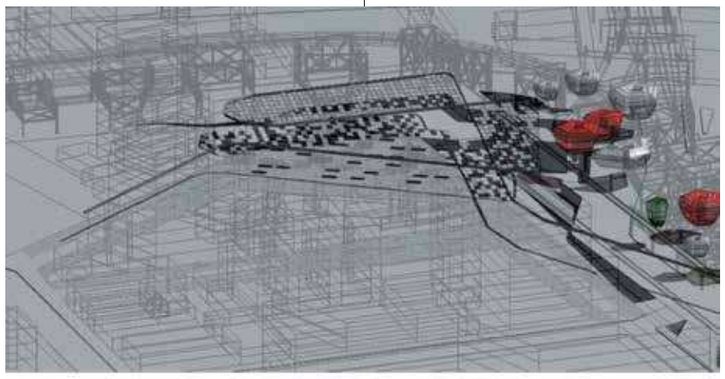
In 2002, my competition proposal, with José Echevarria, for Queens Plaza in New York examined how the act of drawing time can be collectively embraced through engagement with embedded sensors now installed in public space via handheld devices. Mobile smart phones have diverted our attention away from the face-to-face and the physical. Instead, the project explored how new digital tools could enhance public life through the augmentation of physical space and the extension of our senses through digital means. Our proposal for Queens Plaza utilised digital sensing in public urban space, shortly following the terrorist attack on the World Trade Center. It suggested connecting existing digital sensors for security and environmental monitoring in subway stations, on bridge crossings and within traffic lanes, providing data, news and cultural events on electronic display devices.

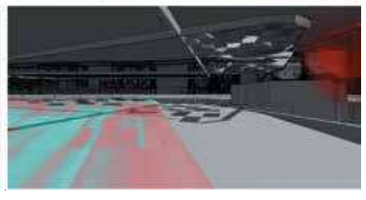
Today, our smart phones input geolocation data, and we post photos and texts continually. How can this information connect to the data gathered by surveillance cameras and sensing monitors embedded in space? Instead of mapping this data on Google Earth, what if the information is publicly displayed to help us to collectively explore architecture not simply within a spatial context, but within complex temporal social dynamics? Architecture can only regain its ethical position and creative immanence through a deep engagement with drawing time as enacted in public life. An architecture of immanent time creates places for the continual and total process of becoming, producing experiences that push us out of known habits and behaviours and into creative situations, from spectators to actors where established identities are no longer viable, where truth is put into crisis.

Drawing time differs from normative scenographic representation in several ways. It is both descriptive and analytical; it is open-ended, offering possibilities for unanticipated discoveries by others rather than presenting only what is already known or predicted. It recognises time as sheets of the past that can be actively searched in the present moment; it presents architecture as a process of change, not as a frozen moment; it acknowledges space as socially produced and contested as opposed to the idealised purity of architectural renderings; and it actively engages the public as participants, not as passive spectators. Historically, architectural drawing developed slowly as a craft of imaging and projecting three-dimensional space on a two-dimensional surface. This slow craft has accelerated and proliferated through the means of modelling software and online mediation, yet it continues to depict space through rudimentary camera movement instead of exploring the possibilities of drawing time. Releasing the process and production rather than the end products of architectural drawing to a wider public is essential in addressing the self-destructive spectacularisation of architecture outside of time. ⍙

Notes

1. For a more detailed description of how time is understood here, see Gilles Deleuze, *Cinema 2: The Time Image*, trans Hugh Tomlinson, University of Minnesota Press (Minneapolis, MN), 1989.
2. Henri Bergson, *Matter and Memory*, trans NM Paul and WB Palmer, Zone Books (New York), 1990. First published in French in 1896.
3. Brian McGrath, *Transparent Cities*, SITES Books (New York), 1994.
4. David Hockney, Hockney on Photography: Conversations With Paul Joyce, Harmony Books (New York), 1988.
5. See www.skyscraper.org/timeformations.
6. Brian McGrath and Jean Gardner, *Cinemetrics: Architectural Drawing Today*, John Wiley & Sons (London), 2007.
7. Daniel Silver, Terry Nichols Clark and Clemente Jesús Navarro Yáñez, 'Scenes: Social Context in an Age of Contingency', *Social Forces*, 88 (5), July 2010, pp 2293-2324.
8. Alan Blum, 'Scenes', *Public*, 22/23, Fall 2001, pp 7–35.





Brian McGrath and José Echevarria, Competition entry for Queens Plaza, New York, 2002

for New York City Department of City Planning and the Van Alen Institute, The proposal links multiple environmental, security and public sensing and surveillance devices to digital displays, public surfaces and landscape responses. For example, the faces of subway passengers and artworks from nearby museums and galleries are randomly projected on an overhead screen; news kiosks glow in a spectral range from red to green in response to the security level coding of the time; and a bamboo garden is watered more intensively the lower the air quality index measured from the entry of the Queensborough Bridge.