



LAURA KURGAN

# Close Up at a Distance

MAPPING,  
TECHNOLOGY  
& POLITICS

ZONE BOOKS





Astronaut photograph AS8-14-2383, December 24, 1968. NASA's original caption reads: "This view of the rising Earth greeted the Apollo 8 astronauts as they came from behind the Moon after the lunar orbit insertion burn. Earth is about five degrees above the horizon in the photo. The unnamed surface features in the foreground are near the eastern limb of the Moon as viewed from Earth. The lunar horizon is approximately 780 kilometers from the spacecraft. Width of the photographed area at the horizon is about 175 kilometers. On the Earth 240,000 miles away, the sunset terminator bisects Africa." This image has come to be known as *Earthrise*. PHOTO: NASA



Astronaut photograph AS17-148-22727, December 7, 1972. NASA's original caption reads: "View of the Earth as seen by the Apollo 17 crew traveling toward the moon. This translunar coast photograph extends from the Mediterranean Sea area to the Antarctica south polar ice cap. This is the first time the Apollo trajectory made it possible to photograph the south polar ice cap. Note the heavy cloud cover in the Southern Hemisphere. Almost the entire coastline of Africa is clearly visible. The Arabian Peninsula can be seen at the northeastern edge of Africa. The large island off the coast of Africa is the Malagasy Republic. The Asian mainland is on the horizon toward the northeast." This image has come to be known as *The Blue Marble*. PHOTO: NASA

## Mapping Considered as a Problem of Theory and Practice

Consider two similar images that have transcended mere publicity to become iconic. *Earthrise*, or image AS8-14-2383, is a color photograph taken by Apollo 8 astronaut William Anders in December 1968, showing the Earth in half shadow against the foreground of a lunar landscape. The second picture comes from the Apollo 17 astronauts in December 1972, a circular image of a shadowless globe. NASA labeled it image number AS17-148-22727, but it has come to be called *The Blue Marble*.

*Earthrise* is a photo of the Earth taken while orbiting the Moon. It is a perspectival view—the foreground offers a sort of ground and seems to suggest the position of a viewer, so that you can almost imagine being there, looking across the lunar surface. *The Blue Marble* is perhaps more unsettling, because it is without perspective, a floating globe, an abstracted sphere, something like a map.

Denis Cosgrove, in *Apollo's Eye*, calls our attention to these two images and to the role they played in producing “an altered image of the Earth.”<sup>1</sup> Each in its own way is credited with representing or even catalyzing a notion of global or planetary unity, whether in universalist terms, humanist ones, or precisely non-humanist environmental or natural ones. The view across the Moon’s surface, it seems, provoked thoughts of an Earth without borders. Cosgrove quotes Apollo 8 mission commander Frank Borman’s reading of the *Earthrise* image: “When you’re finally up at the moon looking back at the earth, all those differences and nationalistic traits are pretty well going to blend and you’re going to get a concept that maybe this is really one world and why the hell can’t we learn to live together like decent people?”<sup>2</sup> This “concept” of “one world” can be evaluated in many ways: as “the universal brotherhood of a common humanity” (Cosgrove paraphrasing Archibald MacLeish), as a gesture of imperial domination, as an abstract and artificially totalizing erasure of very real differences, as the basis of new global political



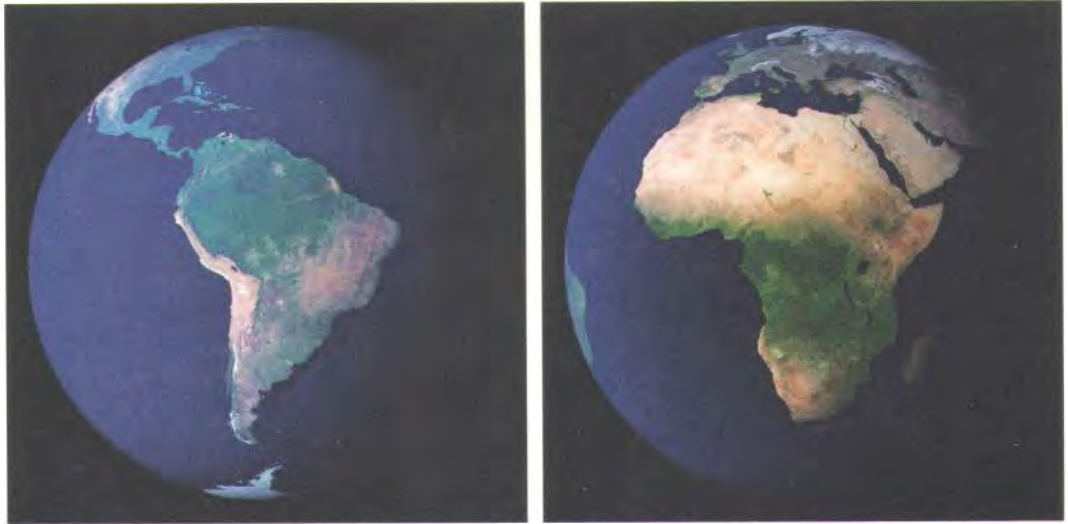
*The Blue Marble 2002* is a composite image stitching together quarterly observations, at a spatial resolution of 1 square kilometer per pixel, from the Moderate Resolution Imaging Spectroradiometer (MODIS) onboard NASA's Terra satellite.

NASA IMAGE BY RETO STÖCKLI WITH ENHANCEMENTS BY ROBERT SIMMON; ADDITIONAL DATA FROM USGS EROS DATA CENTER, USGS TERRESTRIAL REMOTE SENSING FLAGSTAFF FIELD CENTER (ANTARCTICA), AND DEFENSE METEOROLOGICAL SATELLITE PROGRAM

movements for human rights or planetary responsibility, or as what Martin Heidegger called “the uprooting of man”—“I was shocked when a short time ago I saw the pictures of the earth taken from the moon. We do not need atomic bombs at all—the uprooting of man is already here.... It is no longer upon an earth that man lives today,” he told an interviewer in 1966, just a month after an even earlier *Earthrise* image, taken from the Lunar Orbiter 1, had been released.<sup>3</sup> Whatever the evaluation, as Cosgrove underlines, these photographs “have become the image of the globe, simultaneously ‘true’ representations and virtual spaces.”<sup>4</sup> The 1972 photograph, no doubt because it both offered the viewer the whole Earth and seemed to remove any viewer from the picture, became perhaps even more of an icon, not only of totality and unity but likewise singularity and freestanding vulnerability.

But these two images are not the only examples of their type, and their afterlife is indicative of an important shift in the way we represent the planet—and the political stakes of those representations. The iconic status of the images, particularly the second one, is perhaps attested to by the fact that most people will not be able to notice a difference between the 1972 *Blue Marble* and a number of new ones. In 2002, NASA produced a pair of new images, together called once again



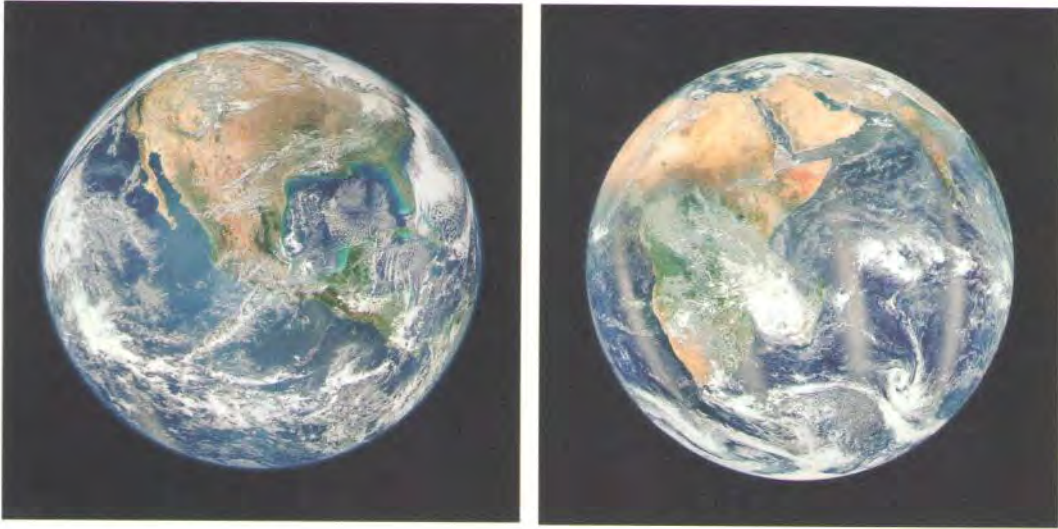


*The Blue Marble: The Next Generation*, 2005, is a composite image using twelve monthly cloud-free observations in 2004, at a spatial resolution of 500 square meters per pixel, from the MODIS onboard NASA's Terra satellite. IMAGE: RETO STÖCKLI, NASA EARTH OBSERVATORY

*The Blue Marble* (one of the Western Hemisphere, and one of the Eastern), put together out of four months' worth of satellite images assembled into what the space agency called a "seamless, photo-like mosaic of every square kilometer of our planet." The resolution of the images, collected by the Moderate Resolution Imaging Spectroradiometer, was one kilometer per pixel. Three years later, they did it again, at twice the resolution and based on twelve months' worth of remote sensing, and called the images *The Blue Marble: The Next Generation*.<sup>5</sup> And in 2012, there were two more, again one of the Western Hemisphere and the other of the Eastern, called *Blue Marble Next Generation 2012*, assembled from data collected by the Visible/Infrared Imager Radiometer Suite (VIIRS) on the Suomi NPP satellite in six orbits over eight hours.<sup>6</sup> These versions are not simply photographs taken by a person traveling in space with a camera. They are composites of massive quantities of remotely sensed data collected by satellite-borne sensors.<sup>7</sup>

The difference between the generations of *Blue Marbles* sums up a shift in ways of thinking about images, what they represent, and how we are to interpret them.

The new blue marbles now appear everywhere: in advertisements and as the ubiquitous default screen of the iPhone.<sup>8</sup> So where you might think you're looking at image number AS17-148-22727, handcrafted witness to earthly totality, in fact what you're seeing is a patchwork of satellite data, artificially assembled—albeit



*Blue Marble Next Generation*, 2012, is a composite image using a number of swaths of the Earth's surface taken on January 4, 2012, by the VIIRS instrument aboard NASA's Suomi NPP satellite. IMAGE: NASA/NOAA/GSFC/SUOMI NPP/VIIRS/NORMAN KURING

with great skill and an enormous amount of labor. This is not the integrating vision of a particular person standing in a particular place or even floating in space. It's an image of something no human could see with his or her own eye, not only because it's cloudless, but because it's a full 360-degree composite, made of data collected and assembled over time, wrapped around a wireframe sphere to produce a view of the Earth at a resolution of at least half a kilometer per pixel—and any continent can be chosen to be in the center of the image. As the story of the versions suggests, it can always be updated with new data. It bears with it a history that mixes, unstably, both precision and ambiguity and that raises a series of fundamental questions about the intersection between physical space and its representation, virtual space and its realization.

Cosgrove described the astronauts' photographs as "simultaneously 'true' representations and virtual spaces," and we can now begin to appreciate just how precise that description is for the sequence of satellite-generated images to which they gave rise. The photographs were true, at least in the trivial mechanical sense, and then provided a platform for something more abstract or virtual, the "concept" of "one world." Now it is the virtuality of the data-based constructions that seems self-evident. And their basis in remotely sensed data helps us understand what has become of truth in the era of the digital data stream: it is intimately related to



resolution, to measurability, to the construction of a reliable algorithm for translating between representation and reality. The fact that they are virtual images does not make them any less true, but it should make us pause and consider what we mean today by truth.

It is the intersection between the true and the virtual that is the subject of what follows. In it, I offer an account of the technologies that produce global imagery and that both necessitate and facilitate the interpretation of images at once measurable and digital, uncentered and ambiguous, yet comprehensive and authoritative. My account rests on and results from research conducted through practice, working with maps and images I have created, data I have acquired or generated, installations and projects I have undertaken.

### RESEARCH CONDUCTED THROUGH PRACTICE

Since the early 1990s—since the first Gulf War, to be precise—I have been thinking about and working with new technologies of location, remote sensing, and mapping. I understand this work as a form of research conducted through practice. The propositions and claims I offer here, however theoretical they are, only emerged for me through the process of experimenting with the technologies themselves, working with and through them to create images. That research has not simply been aimed at developing a theoretical framework for better understanding these new sorts of spatial representations, but has taken the form of a series of projects utilizing the technologies that have produced these images in order to investigate them. That work is presented here in terms of a series of projects that have formed the basis of my inquiry. They both exemplify the approach to understanding digital images articulated here and, I hope, suggest further lines of exploration.

The technologies of global positioning, imaging, and interpretation made available by the development of satellites tasked with surveillance and mapping first emerged to serve the needs of governments and their military and intelligence establishments. Subsequently, these technologies have been made available to the public for commercial and other ends. In the projects documented here, my aims were neither military nor commercial, but while many began as exhibitions in art galleries or museums and then were extended in print and online, they have been no less political than those of the governments and militaries that underwrote the technologies in the first place. This book gathers and reframes a number of these projects in order to make claims and arguments about what the technologies of spatial representation have to do with the spaces they represent, beyond simply representing them.

It offers a series of images created as the once-classified government and military digital technologies of mapping became publicly available, and with them the data on which they rely. In a certain sense, these images are nothing but maps, although not in the ordinary sense. Maps construct space—physical, propositional, discursive, political, archival, and memorial spaces. For many of us, maps now are as omnipresent as the more obvious utilities (such as electricity, water, gas, telephone, television, the Internet), functioning somehow like “extensions” of ourselves, to co-opt Marshall McLuhan’s famous definition of media. They have become infrastructures and systems, and we are located, however insecurely, within them. Drawn with satellites, assembled with pixels radioed from outer space, and constructed out of statistics joined to specific geographies, the maps presented here record situations of intense conflict and struggle, on the one hand, and fundamental transformations in our ways of seeing and of experiencing space, on the other.

Central to the ways these projects unfolded and to the fact that they do not simply analyze, but in fact employ, these technologies, is this claim: we do not stand at a distance from these technologies, but are addressed by and embedded within them. These projects explicitly reject the ideology, the stance, and the security of “critical distance” and reflect a basic operational commitment to a practice that explores spatial data and its processing from within. Only through a certain intimacy with these technologies—an encounter with their opacities, their assumptions, their intended aims—can we begin to assess their full ethical and political stakes.<sup>9</sup>

These projects were made possible by and unfolded in reaction to a series of events over the last two decades that amount to a cataclysmic shift in our ability to navigate, inhabit, and define the spatial realm. They were brought on by: the operationalizing of Global Positioning System (GPS) satellites for both military and civilian uses in 1991; the democratization and distribution of data and imagery on the World Wide Web in 1992; the proliferation of desktop computing and the use of geographic information systems for the management of data; the privatization of commercial high-resolution satellites later in the 1990s; and widespread mapping made possible by Google Earth in 2005. They are also conditioned by and explore a series of political, military, and social conflicts that have defined what is loosely called the “post-Cold War” period, a time in which war fighting became ever more deeply invested in image and information technologies and in which the borders between the civilian and the military, the domestic and the international, became more and more blurred. Each project captures a moment in time politically and, with the technical means possible at that moment, zooms in and expands that moment in space and time, with all the complexities entailed in the repurposing of any image from its intended functions to new ones.



## A THEORY MACHINE

Toward the end of *Einstein's Clocks, Poincaré's Maps*, Peter Galison insists on the ways in which, in the twentieth century, "machines tied clocks and maps ever closer together." He focuses on the systems constructed by "American defense planners" that "turned satellites into radio stations that would beam timed signals to earth." In that transmission, an extremely precise accounting of time can translate into an extremely accurate recording of location: "50 billionths of a second per day provide[s] a resolution on the earth's surface of fifty feet."<sup>10</sup>

But the accuracy is, Galison argues, *relative*—indeed, the entire operation is for him a sort of concrete, real-world exploration and realization of Einstein's theory of relativity. The desired accuracy comes, rather precisely, at the cost of fixed or absolute understandings of space and time.

Galison is of course talking about the Global Positioning System, the network of twenty-four military satellites that today helps everything from missiles to mobile phones know more or less exactly where they are on the face of the Earth: "The late twentieth-century GPS satellites provided precision timing (and therefore positioning) for both civilian and military users. Built into this orbiting machine were the software and hardware adjustments required by Einstein's theories of relativity. The result is a planet-encompassing, \$10 billion theory machine."<sup>11</sup>

GPS, Galison says, unhinges our sense of stable and fixed location: "so accurate had the system become that even 'fixed' parts of the earth's landmass revealed themselves to be in motion, an unending shuffle of continents drifting over the surface of the planet on backs of tectonic plates." This "relativization" is not only a result of the unprecedented accuracy of the new measuring technology, however. It is also embedded in the very way in which it works. The system functions only because it takes this relativity into account in its timekeeping: "According to relativity, satellites that were orbiting the earth at 12,500 miles per hour ran their clocks slow (relative to the earth) by 7 millionths of a second per day," and "eleven thousand miles in space, where the satellites orbited, general relativity predicted that the weaker gravitational field would leave the satellite clocks running fast (relative to the earth's surface) by 45 millionths of a second per day." When corrections for these relativistic errors were built into the system, it worked: "relativity—or rather relativities (special and general)—had joined an apparatus laying an invisible grid over the planet. Theory had become a machine."<sup>12</sup>

But what kind of theory? Galison limits his claims to Einstein's theory of relativity, but he draws radical conclusions nonetheless. Einstein's theory, he argues, "designed a machine that upended the very category of metaphysical centrality. Absolute time was dead. With time coordination now defined only by the exchange

of electromagnetic signals, Einstein could finish his description of the electromagnetic theory of moving bodies without spatial or temporal reference to any specially picked-out rest frame, whether in the ether or on earth. No center remained."<sup>13</sup>

In fact, GPS and a whole new set of technologies linked to it have introduced, or hyperbolized, a profound decentering or disorientation, and it is that loss of absolute reference points—and the political engagements and commitments that can be *enabled* by that loss—that are explored in the projects chronicled here.

## FROM THEORY TO PRACTICE

We constantly read maps. In print and on computers, mobile phones, PowerPoint presentations, and blogs, maps visualize everything from the movement of hurricanes and refugees to the patterns of traffic and shifting electoral landscapes. Maps and the sophisticated technologies that create them are not limited, of course, to the public domain—we can only imagine the complex maps housed in the nose cone of a cruise missile or those that detail the location of every phone call and email intercepted by the Department of Homeland Security. But we tend generally to reduce maps to the diagrams we hold in our hands. They show us where we are and how to get somewhere else, and in doing so, they can contribute to a sense of security and self-possession. The solidity and certainty of the phrase “You are here” would be the motto of that identity-reinforcing—and maybe even identity-constitutive—function of maps.

The more they become our everyday means of navigating simple and complex situations alike, the more we take maps for granted. Rather than the interpretations of information that they are, we too often see them simply as representations and descriptions of space. This makes the task of analyzing them even more critical.

Maps locate. We can read them because they come laden with conventions, ranging from their legend, scale, and codes of graphic representation to what counts as the information they represent. They depend on a system of notation or of coordinates that places things in relation to one another.

This holds for maps that claim to represent physical spaces as well as those that diagram or chart the relative location of nonphysical entities: maps of a family or kinship structure, for instance, or the flows of data through a network. The spaces that maps try to describe can be ideal, psychological, virtual, immaterial, or imaginary—and they are never *just* physical.

This drive to locate, to coordinate, however revelatory and even emancipatory it can be, also has its price. It seems as though in the end, maps—the successful ones, the ones that show us where we are and get us from here to there—risk offering only two alternatives. They let us see too much, and hence blind us to



what we cannot see, imposing a quiet tyranny of orientation that erases the possibility of disoriented discovery, or they lose sight of all the other things that we ought to see. They omit, according to their conventions, those invisible lines of people, places, and networks that create the most common spaces we live in today.

It is this comfortable sense of orientation, of there being a fixed point, a center from which we can determine with certainty where we are, who we are, or where we are going, that the projects in this book challenge. They put the project of orientation—visibility, location, use, action, and exploration—into question, and they do so without dispensing with maps.

The maps here are built with GPS, satellite images, databases, and geographic information systems (GIS) software: digital spatial technologies originally designed for military and governmental purposes such as reconnaissance, monitoring, ballistics, the census, and national security. Rather than shying away from the politics and complexities of their intended uses, these maps attempt to understand them. Poised at the intersection of art, architecture, activism, and geography, they intend to uncover the implicit biases of the new views, the means of recording information that they present, and the new spaces they have opened up. These projects expose the materials they work with in order to reclaim, repurpose, and discover their inadvertent, sometimes critical, often propositional, uses. They can be used to document, memorialize, preserve, interpret, and politicize, or simply as aesthetic devices, but as with all maps, the ones here—as well as the data sets and the technologies used to chart them—are not neutral.

#### **“WHAT IS CALLED REALITY IS CONSTITUTED IN A COMPLEX OF REPRESENTATIONS”**

Every spot on earth can be located, calculated, and represented in multiple descriptive systems. The digitization of the globe was prefigured by the ancient Greek system of latitudinal and longitudinal lines, translating the surface of the Earth into an abstract and universal grid. Irrespective of politics, place names, borders, or changing environments, places were fixed within the mathematical descriptions of their location.

A network of atomic clocks, cameras, and computers has built a virtual globe on which any point of physical space is easily coordinated with digital space. With this change comes the potential to move digital information very quickly from one place to another. We are familiar with the idea that new spaces are today being constructed—spaces different from the ones in which our bodies normally move—but we don't quite know what to think about them. They are the netherland spaces of electronic money, information warfare, and dataveillance, but they

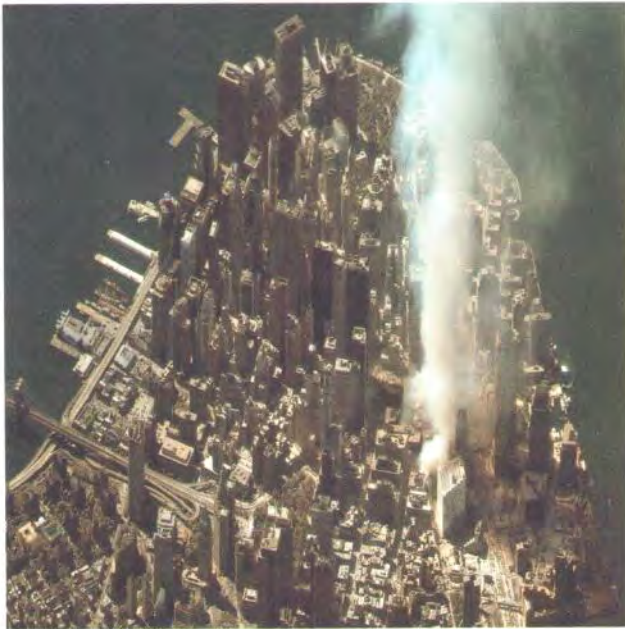
are also the spaces of the everyday, such as mobile phone calls, radio stations, navigation systems, and online social networks.

To call this the “coordination” of physical space with digital space, as I just did, perhaps understates things. The digital and the physical globes interact in profound ways, constituting in effect a question about which globe has the priority. In these days when virtual coordinates direct missiles to their targets and social networks have allowed phone companies and other collectors of our data trails to predict our next move in physical space, the shift has resulted in a radical transformation—we can never be sure which coordinate system takes priority in terms of representing our identity or our spatial movements.

Some years ago, Rosalyn Deutsche noted that “what is called reality—social meaning, relations, values, identities—is constituted in a complex of representations.” This book experiments with that claim, tests its bearing on our new digital spatial realm, and ends up confirming it in its most radical formulations:

Reality and representation mutually imply each other. This does not mean, as it is frequently held, that no reality exists or that it is unknowable, but only that no founding presence, no objective source, or privileged ground of meaning, ensures a truth lurking behind representations and independent of subjects. Nor is the stress on representation a desertion of the field of politics; rather, it expands and recasts our conception of the political to include the forms of discourse. We might even say that it is thanks to the deconstruction of a privileged ground and the recognized impossibility of exterior standpoints that politics becomes a necessity. For in the absence of given or nonrelational meanings, any claim to know directly a truth outside representation emerges as an authoritarian form of representation employed in battles to name reality. There can never be an unproblematic—simply given—“representation of politics,” but there is always a politics of representation.<sup>14</sup>





"This one-meter resolution satellite image of Manhattan, New York was collected at 11:43 a.m. EDT on September 12, 2001, by Space Imaging's Ikonos satellite. The image shows an area of white dust and smoke at the location where the 1,350-foot towers of the World Trade Center once stood. Ikonos travels 423 miles above the Earth's surface at a speed of 17,500 miles per hour." IMAGE AND CAPTION: GEOEYE, RELEASED SEPTEMBER 13, 2001



Lower Manhattan, September 15, 2001, as seen by Ikonos satellite. IMAGE: GEOEYE

## 5 New York, September 11, 2001

*In a sense, I went from one mass grave to another,  
but not intentionally*

*New York, 2012*—I had been commissioned to produce an image for an exhibition on surveillance called *CTRL [SPACE]* at the ZKM, the Zentrum für Kunst und Medientechnologie, in Karlsruhe, Germany, in 2001. Ikonos had been launched the year before, and I had planned to order a 1-meter-resolution image of the Cameroonian rain forest. I looked almost every day for much of the year, but as the deadline approached, there were no cloudless days over that part of Cameroon, making it impossible to fill the order.

Then, the World Trade Center was attacked. A 1-meter-resolution Ikonos image of the site appeared in newspapers shortly thereafter, and I knew then what I would display at ZKM. I wanted to show Ground Zero a few days later, in its urban context—the empty streets that so many people came to remember from that time period—so that, like *SPOT 083-264*, the image could serve as a marker of an event.

The ZKM show opened in October 2001. The image was blown up and displayed on the floor of the gallery for people to examine, seventeen meters long and six meters wide. No one wanted to walk on Ground Zero. It was very raw.

The satellite image, available almost immediately, seemed to signify the realization of the promise of immediate public access to global satellite images, which is to say, the notion of “global transparency,” that had been repeated with each new launch, but something different in fact happened. Access was denied.

The United States went to war very quickly in Afghanistan, and as CNN’s new anchorman Aaron Brown put it on October 8, 2001: “It is not obviously a television war.”<sup>41</sup> It was also not a transparent war. What was significant was the lack of imagery then—and the resolve of the Pentagon to enforce the lack. The Department of Defense purchased the exclusive rights to all Ikonos imagery over Afghanistan and its surroundings at the beginning of the war—for a month—and then renewed that contract for a second month. Even after that, though, things did not



entirely clear up. Some time after this project, I attempted to purchase a QuickBird image from the day that the National Museum of Iraq was looted, but DigitalGlobe refused to sell it to me on the grounds that its release might endanger U.S. troops.

The attack on the World Trade Center was a very important event for architecture, but not simply because thousands of people died in the destruction of two tall buildings, and a number of others, as well. These were not simply buildings, and they were not attacked simply as buildings: they were images.

The attack was an event that also has left us with a lot of images—it was an event composed of a multitude of images, as Gilles Peress and his colleagues made so clear in their *Here Is New York* exhibition and archive.<sup>42</sup> My interest was in looking very carefully, as closely as possible, at just one of them. It has an architecture of its own, and it teaches us something about the architecture of the event—and also about the asymmetry of the state of images between New York and Afghanistan at that time.



In October 2001, after U.S. and coalition airstrikes against al-Qaeda training camps north of Jalabad, Afghanistan, John Pike released December 1999 Ikonos imagery of the Darunta camp complex, including Osama bin Laden's Tora Bora base. Pike used earlier images, acquired shortly after the launch of Ikonos, for before-and-after comparisons with imagery released by the U.S. Department of Defense of the targeted sites.

IMAGE: IKONOS SATELLITE, COURTESY OF GEOEYE

Architects wanted to “respond” to the events of September 11 by building new memorials. For me, nothing was more superfluous. What we needed was to come to terms with the site itself, not to hide from it by building something else. When a reporter asked me about this a few months later, all I could do was point at the missing: “Memorials seem to be our instant answer to disaster, and that’s why no one ever calls it a mass grave.... And has anyone really asked what it means to build a memorial when you are still in the middle of the war? I think the site itself is the memorial. This is a mass grave—the site is what it is.”<sup>43</sup>

Having looked at a lot of imagery from Bosnia and Kosovo and then the scarred landscapes of apartheid South Africa, I guess I approached these images with a certain context in mind. In a sense, I went from one mass grave to another, but not intentionally. Graves simply need markers, and more than anything else, that’s what the image did for me: it did not reveal a lot, it did not fill us with awe, it just marked the spot, one of the spots, where something happened.

*New York, 2001*—Saturday, September 15, 2001, 11:54 a.m. Between a satellite and thousands of bodies, a cloud of smoke drifts.

Space Imaging's Ikonos satellite takes a high-resolution snapshot from outer space of a city in a state of emergency. The satellite monitors the Earth's surface, collecting data. That Saturday morning, the cloud of smoke slowly drifts away from the disaster.

There is a lot to see in this picture, too much in fact. The density of its detail demands that it be viewed close-up. But there is no single thing to look for and no particular piece of evidence that tells the whole story. And so the entire image is on view here, blown up, too large to see all at once. But the zoom offers no revelation, no instant of enlightenment, and no sublime incomprehension, either. It tells many stories. What has happened? The satellite's sensors capture a mass grave, a record of a crime or an act of war. Unfortunately or fortunately, the image itself offers no instructions about how to understand or respond to what it has recorded in memory.

For the record, this image should not exist, and neither should the events it has captured. It is an unacceptable image, but it is imperative that we look at it.

Here are two 1-meter-resolution satellite images of the aftermath of the event: detailed pictures of a disaster. The first image was collected at 11:43 a.m. on September 12, 2001, a bit more than twenty-four hours after the attack, released by Space Imaging and published worldwide almost immediately.<sup>44</sup> The second, from September 15, was purchased at a cost of several thousand dollars and arrived in the form of a 323-megabyte data file from Space Imaging. It forms the basis of the images in this chapter.

High-resolution satellite images are one of our most powerful metaphors for the new condition of universality: an all-seeing image, potentially of any point on Earth, available to almost anyone, rich in data that can be used for purposes we cannot even predict. It offers precision, time-stamped evidence from an authoritative eyewitness. But it wants to represent the magnitude of the event: with the sublimity appropriate to a catastrophe, it offers the view from above, from "overhead," in which the city is seen in the midst of an emergency. It tries to see everything at once, everything that cannot usually be seen with the human eye. If it fails, it should tell us—in just the manner proper to the sublime—about the limits of our understanding. In the end, though, the image is neither the definitive eyewitness nor the record of our incomprehension.

The buildings are missing, disintegrated into a vast zone of ruin. The city is quiet, except for intensive activity around the site. There are trucks along





Zoom on area of interest: emergency vehicles on the West Side Highway at West 12th Street, as seen by Ikonos satellite, September 15, 2001. Actual scale of pixels as displayed in the gallery: 1 pixel = 1 meter.

ominously empty highways, removing the debris. New York City's rigorous urban grids are broken up by the shadows of the buildings that remain, but also by the dust and smoke and the rubble of the very large buildings that have collapsed. At 11:54 in the morning, four days later, says the image, this is what it all looked like.

But the image offers only a certain kind of evidence. When the pixels finally reveal themselves as simply the pixels that make up the image, they are as silent as what they are picturing. This evidence tells little and is of little use, forensically. In their matter-of-factness, the pixels will stay, here on this image, even as the debris is removed, day by day, from the site. At least we will always be able to locate the rubble here.

So if in fact transparency is trivial, and nothing new is discovered about the event, we must rather say: here it is, the event is encoded right here, by the light that has travelled from the ground to the satellite, captured in an instant as the memory of this event. As data. Mutable, yes, but no less a memory, all the same.

What is missing from this image is what is missing from the city or the world, and it is always missing at the limits of 1-meter resolution, for all its detail. What is



missing are the missing, thousands of people missing, nearly three thousand ultimately confirmed dead. Beneath or beyond the limits of visibility, of data, are the dead. And yet they remain in the image, in the ruin of the image, and demand a certain care or respect.

In the image, four days later, the ruin is still on fire. Smoke hovers nearby, displaced from the site by the wind. It does not cast a shadow, the way a cloud farther to the south obscures the area near the rubble of the World Trade Centers. During the weeks following September 11, one could not always register directly what had happened in the city—until the wind changed directions and you smelled the smoke.

It is hard to isolate anything on this image. When one tries to isolate the disaster site by selecting similar pixels, the image-processing software tends to equate rubble with buildings. But it can isolate the smoke and what remains hazily below the smoke. So choose a pixel in the middle of the disaster site—it has a longitude and a latitude and a spectral signature. The software can then associate this pixel with similar pixels, and the area can grow to define the most changeable part of the site: the cloud of smoke that bears witness to the crime. Displaced, caught in motion, it records a particular moment of September 11, four days later.





Northeast Long/Lat: 73°59'25.11"W/40°45'29.98"N | Northwest Long/Lat: 74°01'08.26"W/40°45'29.98"N East 14th St & Broadway | Scale: 1 pixel = 1 meter | Scene ID: 2000010901500THC | Canal St & B





WTC site

Time: 15:54 GMT | Acquisition Date: 2001-09-15 | IKONOS Satellite | Southeast Long/Lat: 73°59'25.11"W/40°40'15.52"N | Southwest Long/Lat: 74°01'08.26"W/40°40'15.52"N



"New York, September 11, 2001, Four Days Later," digital print from Ikonos satellite data of September 15, 2001 by Space Imaging. Scale: 1 pixel = 1 meter. Full printed image measured 17 by 6 meters of floor space.





Zoom on area of interest: World Trade Center site,  
as seen by Ikonos satellite, September 15, 2001.  
Scale: 1 pixel = 1 meter.

Zoom on area of interest: downtown Manhattan,  
parts of Brooklyn and Queens, the eastern edge  
of New Jersey, and the New York Harbor, including  
Governors Island and the Statue of Liberty,  
as seen by Ikonos satellite, September 15, 2001.  
Scale: 1 pixel = 1 meter.









The changing perimeter of Ground Zero from September to December 2001. Top row: September 11, 14, and 19; bottom row: September 27, October 24, and December 5.

## 6 Around Ground Zero

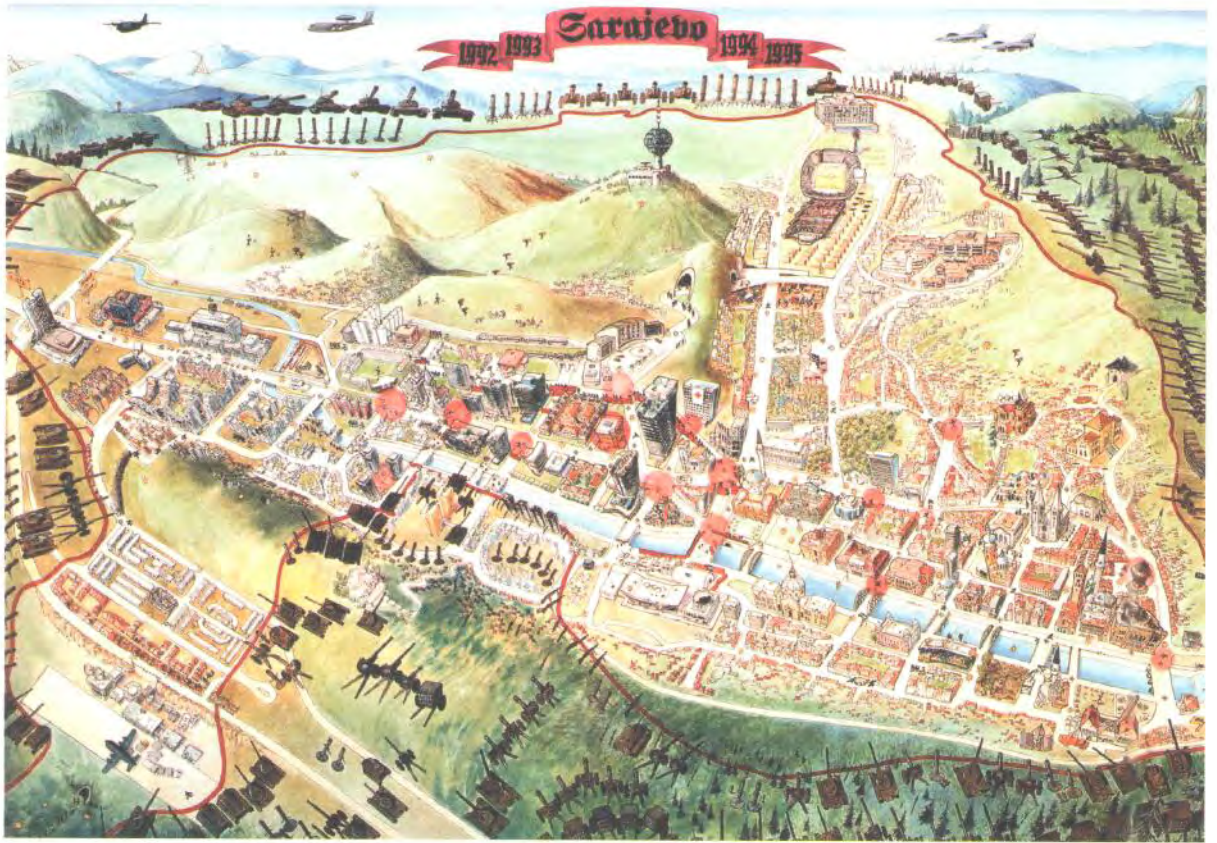
*We needed not only to make a claim for a right to look,  
but also to help realize it*

*New York, 2012*—In the year following the attacks on New York and Washington, there was a lot of critical commentary in the American press about the lurid voyeurism of gawkers at Ground Zero. The message seemed to be that people should not visit the site. City authorities wanted to erect a forty-foot opaque fence around it to keep the unauthorized out. I was part of a group of architects called New York New Visions that fought for a transparent fence, a permeable border through which people could view the scene (we called it “bearing witness”) and pay respect to the dead. In a city where nothing of this scale had happened before, it seemed important that people did look and that looking become a sanctioned activity. I thought that we needed not only to make a claim for a right to look, but also to help realize it.

One of our strategies was to make it easier for people to get to and around the site. *Around Ground Zero* was a series of fold-out maps of the Ground Zero site. Working with others at New York New Visions and a team of volunteers, we printed three versions, updating them as the site changed, first in December 2001, then in March and again in June 2002. We distributed them on the streets around Ground Zero for free.

I was inspired in this by the work of a group in Bosnia called FAMA. In the 1990s, during the war and the siege of their city, they created hand-drawn and mass-reproduced tourist maps of Sarajevo. They charted buildings that were destroyed, sniper locations, and the sites of significant events in the war—partly as an ironic critique of the way the war in Sarajevo had become a matter of spectacle and fly-in, fly-out tourism, but also seriously, as a record of and a guide to a place that could often seem rather confusing or disorienting. I had visited Sarajevo in 1999, after the war, and used the map to navigate that city.





FAMA, "Survival Map, 1992-1996," Sarajevo, 1996.

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## THE MAP

*New York, 2001–2002* — **GROUND ZERO** (also referred to as the inner zone, the pile, the pit, the site, the zone) is where the twin towers and the neighboring buildings of the World Trade Center collapsed, leaving a 16-story pile of debris and fragments of the exterior structural walls. The pile, now removed, consisted primarily of dust made up of the pulverized contents of the towers, extending deep into the underground base of the complex. As this foundation is excavated, “the bathtub,” a 70 foot-deep slurry wall holding back the Hudson River and dating from the construction of the towers, has been exposed at the western side of the site.

The site is accessible to construction and rescue workers, firefighters and police involved in these efforts, public officials and the press, and others with special authorization. Recovery and removal operations go on 24 hours a day.

As of early March 2002, some 3,000 people are thought to have died at Ground Zero, including the 147 passengers aboard the two planes that struck the towers. The debris is removed carefully to allow for the identification of the missing. Ambulances bearing the remains of the victims are increasingly rare; a police escort may indicate that they are carrying the body of a firefighter, police officer, or emergency worker.

Very large **CRANES**, typically used in mining operations, were used to remove most of the debris, and in the process became a new landmark for downtown Manhattan.

**TRUCKS** carrying debris from the site leave it frequently. The rubble is taken to Piers 6 and 25 and loaded onto **BARGES** for shipment across New York Harbor to the Fresh Kills landfill on Staten Island, where it is reexamined by investigators and engineers. What remains of the steel structure is transported to Brooklyn for examination and then to scrapyards in New Jersey for recycling. The debris is estimated to weigh 1.35 million tons, about two thirds of which had been removed by March.

There is no **PUBLIC ACCESS** to Ground Zero beyond the “red line.” Although it runs through buildings and other obstacles, it is visible as a chain-link fence covered in green fabric. Several construction access gates at major streets are guarded by police or National Guard troops. Between the fence and inner zone are areas used for staging, storage, construction and emergency vehicles. The **GREEN FENCE** prevents visitors from interfering with recovery and demolition work and ensures the safety of the public. The temporary barriers can be moved to allow for different conditions on a daily basis. Though segments of the fence obstruct the view, visitors have appropriated them as sites of memory and witness.



The openings afforded by cross streets and avenues often allow **VIEWS** of the site. As the demolition progresses, these locations change. There are two official **VIEWING PLATFORMS**. Just inside the site at the southwest corner, the Port Authority platform has been used by dignitaries, celebrities, officials, and by the victims' families, many of whom have written messages on the handrails. A public viewing platform has been built on Fulton Street, near Broadway. It too has become a repository of messages left by visitors. Tickets to the viewing platform are distributed daily at the South Street Seaport Museum's ticket booth at Fulton and South Street on Pier 16.

In addition to the collapsed WTC buildings there were some 45 seriously damaged buildings around the site. Many of these have been repaired and reopened. Some of these structures have been temporarily covered by construction **CURTAINS** to prevent injury and damage from falling debris.

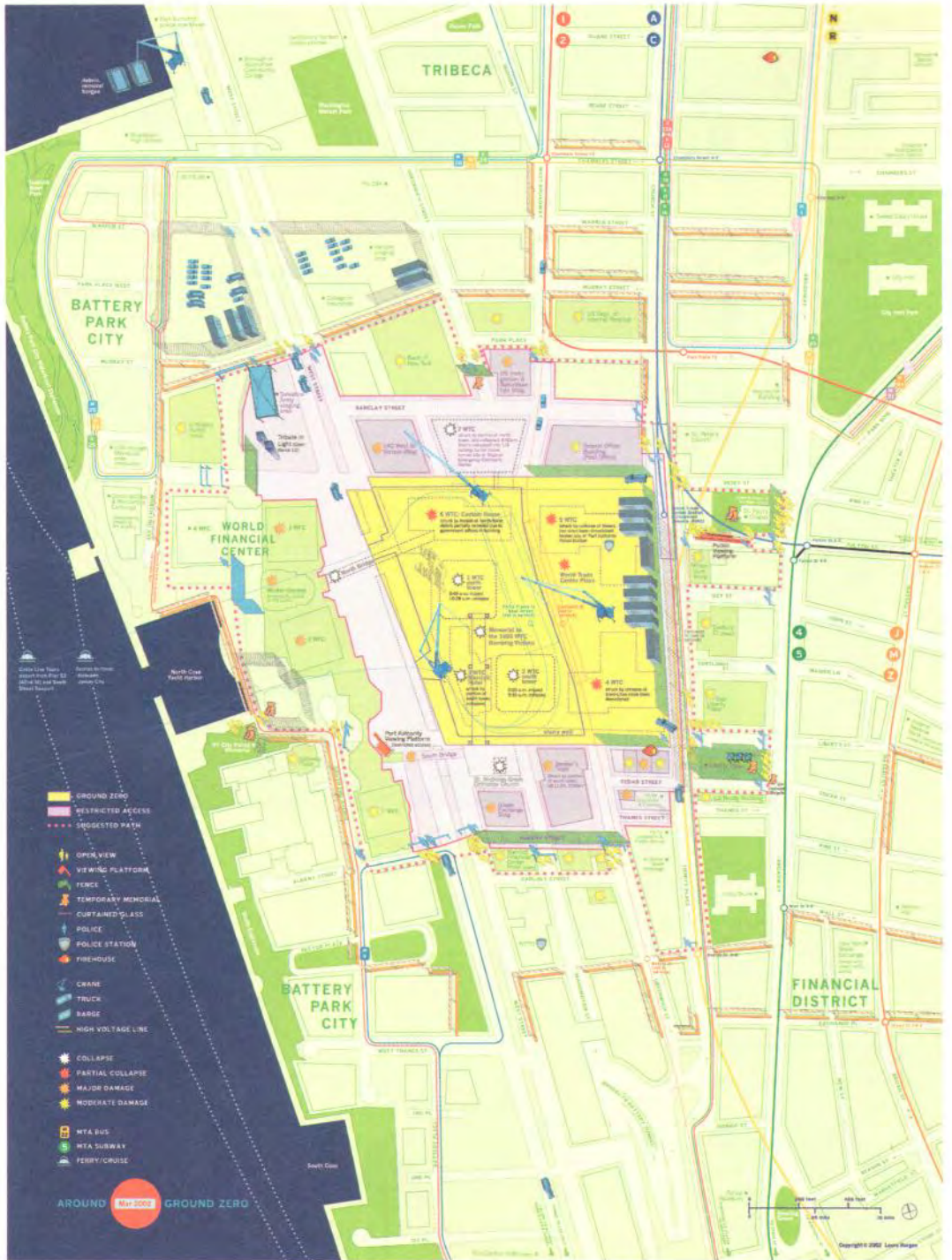
Within and around the site, many spontaneous **MEMORIALS** to the dead and missing have been constructed, disassembled, lost, removed, moved, or rebuilt since September 11. At Ground Zero, large pieces of the building, notably the remnants of the walls and fragments of its steel structure, served as markers of the catastrophe until mid-December. At the fence, the viewings platforms and elsewhere, memorials have included candles, photographs, flowers, flags, messages, and teddy bears, which have become the most prominent symbols of mourning and memory. Two memorials were created along the Battery Park Esplanade, one for uniformed officers and the other (a wall of hundreds of teddy bears, now largely removed) for civilian victims. The fence along St. Paul's Chapel on Broadway at Fulton Street has been a constant, if changing, memorial site. An unclaimed bicycle on Broadway at Cedar Street serves as a memorial to the unknown number of undocumented immigrant workers who died on September 11. Thousands of flyers with the photographs of the missing, their names and descriptions, were posted at hospitals, rescue centers, bus stops, and phone booths around the City. They first appeared as signs of hope, and later became markers of loss and memory.

The "Tribute in Light," a projection of two beams of light into the night sky over Battery Park City, is scheduled to run from March 11 through April 13. Another temporary memorial, composed of the remnants of a destroyed sculpture from the WTC plaza, is planned for Battery Park.









"Around Ground Zero," March 2002 (front)



## Around Ground Zero

**Ground Zero** (also referred to as the lower site, the pit, the site, the zone) is where the Twin Towers and the neighboring buildings of the World Trade Center collapsed, leaving a 16-story pile of debris and fragments of the exterior structural walls. The site now remains, composed primarily of dust made up of the pulverized contents of the towers, extending deep into the underground base of the complex. As the foundation is excavated, the bathtub—a 70-foot-deep slurry wall holding back the Hudson River and slating from the deterioration of the towers, has been exposed at the western side of the site.

The site is accessible to construction and rescue workers, firefighters and police involved in these efforts, public officials and the press, and others with special authorization. Recovery and reinsertion operations go on 24 hours a day. As of early March 2002, some 3,000 people are thought to have died at Ground Zero, including the 147 passengers aboard the two planes that struck the towers. The debris is removed carefully to allow for the identification of the missing. Antennas, bearing no remnants of the victims are increasingly rare; a police escort may indicate that they are carrying the body of a firefighter, police officer, or emergency worker.

Very large cranes, typically used in parking operations, were used to remove most of the debris and in the process became a new landmark for downtown Manhattan.

**Trucks** carrying debris from the site have a frequency. The rubble is taken to Piers 6 and 25 and loaded onto barges for shipment across New York Harbor to the Fresh Kills landfill on Staten Island, where it is reconstructed by investigators and engineers. What remains of the steel structure is transported to Brooklyn for reuse and then to scrapyard in New Jersey for recycling. The debris is estimated to weigh 1.25 million tons, about two-thirds of which had been removed by March.

There is no public access to Ground Zero beyond the yellow fence. Although it runs through buildings and other obstacles, it is visible as a chain-link fence covered in green fabric. Several distribution access gates at major streets are guarded by police or National Guard troops. Between the fence and the inner zone are areas used for staging, storage, construction and emergency vehicles. The green fence prevents visitors from interfering with recovery and demolition work and ensures the safety of the public. The temporary barriers are in place to allow for future construction on a daily basis. Though segments of the fence obstruct the view, visitors have appropriated them as sites of memory and access.

The overnight afforded by green streets and avenues often allow views of the site. As the demolition progresses, these locations change. There are two official viewing platforms: one inside the site at the Port Authority platform has been used by dignitaries, journalists, officials, and by the victims' families, many of whom have written messages on the platform. A public viewing platform has been built on Fulton Street, near Broadway. It has been becoming a repository of messages left by visitors. The viewing platforms are distributed daily and are subject to change and are subject to the whims of the site. A viewing platform has been built on Fulton and South Street on Pier 16.

Viewing and listening are also important. The site remains a hub of activity, and the public is invited to come and see the site. The site remains a hub of activity, and the public is invited to come and see the site. The site remains a hub of activity, and the public is invited to come and see the site.



Copyright © 2002, Jacki Kugler

In addition to the bulldozers that dug them there were some 45 seriously damaged buildings around the site. Many of these have been repaired and reoccupied. Some of these structures have been temporarily covered by construction materials. In present injury and damage from being debris. Within and around the pit, many spots around memorials to the dead and missing have been constructed. Unsanitized, not removed, or rebuilt since September 11. At Ground Zero, large pieces of the building, notably the remnants of the walls and fragments of its steel structure, served as markers of the catastrophe until mid-December. As the fence, the viewing platforms and easements, some of them have included candles, photographs, flowers, flags, messages, and teddy bears, which have become the most common symbols of mourning.

and memory, the two main tasks of the site. Along the Battery Park Esplanade, one for unclaimed officers and the other (a wall of hundreds of teddy bears, now largely removed for sanitation reasons). The fence along St. Paul's Chapel on Broadway at Fulton Street has been a constant. A changing memorial site. An unclaimed bicyclist on Broadway at Cedar Street serves as a memorial to the unknown number of unclaimed immigrant workers who died on September 11. These kinds of hopes with the photographs of the missing, their names and descriptions, were posted at hospitals, rescue centers, bus stops, and phone booths around the City. They first appeared as signs of hope, and later became markers of loss and memory.

The "Tribute in Light" a projection of two beams of light into the night lit up the site at Battery Park City, scheduled to run from March 1 through April 13. An

Copyright © 2002, Jacki Kugler  
The photograph shows the site of the World Trade Center towers and the surrounding area. The image is a composite of several smaller images, showing different views of the site and the surrounding city. The main image is a large, dark, and somewhat blurry photograph of the site, with a smaller, clearer image of the towers in the background. The text is overlaid on the bottom right of the image.

On September 11, 2001, the twin towers of the World Trade Center were struck by two hijacked planes. The towers fell, and the site became a scene of devastation. The towers were a symbol of the city, and their fall was a tragedy for the world. The site was a place of mourning and reflection for many people. The towers were a reminder of the city's strength and resilience, and their fall was a reminder of the city's vulnerability. The site was a place of hope and renewal, and it was a place where people could find comfort and solace.

"It is a burial ground. It is a cemetery, where the men and women we loved are buried. Where they rest is now buried ground."

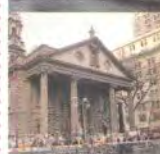
Copyright © 2002, Jacki Kugler  
The photograph shows a large pile of teddy bears, which were placed at the site of the World Trade Center towers as a memorial to the victims of the September 11 attacks. The bears are of various colors and sizes, and they are piled up in a large, rectangular area. The background shows the site of the towers, which is now a construction site. The text is overlaid on the bottom right of the image.

A report of the February Memorial Committee at the New York State Capitol for dedicating the site.

**Concept and Design: Louis Berger**  
Project team: Jimmie Kemp and Jeffrey Lee with Maria Kagan and Daniel Friedberg. Photographs: Joseph Kagan, Jeffrey Kagan (photography). The map is printed on paper recycled 65%.

Support from the following organizations and supporters of publicly acknowledged memorial methods of architecture: The New York State Capitol, The New York City Planning Board, The New York Foundation for the Arts, The Open Society Institute, National Geographic, TRCA (Great Lakes), The Arts and Architecture Center, and the American Institute of Architects.

**For information:** <http://www.aroundground.net>  
Site map: <http://www.aroundground.net>  
Site map: <http://www.aroundground.net>



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## INTERVIEW WITH ALICE TWEMLOW

*New York, 2002*—

AT: What was the stimulus for your mapping project?

LK: The project grew out of discussions in New York New Visions, a temporary coalition of architects and designers who gathered to imagine responses on an urban scale to September 11. I was working in a group interested in proposing ideas for temporary memorials to the events. I had a memorial map of Sarajevo—designed by FAMA, the same activist designers who'd created the *Survival Guide Sarajevo* early in the siege—that I had used to tour the city after the war in 1999.<sup>45</sup> I brought it into one of our meetings to provide inspiration and a bit of context because I was trying to show that memorials don't have to be permanent.

AT: Why a map?

LK: It became clear that at that particular moment in time, the most pressing need was to respond to the number of people who were going to Ground Zero and looking at what was there. When I was first at the site, visitors had no idea which streets were open or closed and no idea where the towers had been. They crowded around these little Xeroxed FEMA maps that were posted on walls for the construction workers. Often, the gate guards had enlarged the FEMA maps and had them leaning against the back of a chair to avoid answering people's questions. There seemed to be an urgent need for a type of map that would help people make sense of what they were seeing, to orient themselves, in all senses of the word, or, if that was asking too much, at least one that would let them measure their disorientation in the face of the unimaginable. The site around what was the World Trade Center was manifestly disorienting for obvious reasons, and in a sense, that was as it should be. The map tried to address the unnecessary confusion and allow visitors to begin to take stock of what had happened.

AT: How did you make the map?

LK: I thought that we would simply be able to go to various agencies, such as the Department of Design and Construction, and ask them for relevant maps that they were drawing and using to put up fences and so on. But we found that just about every map being drawn in the city was either classified (still being used in the investigation or recovery effort) or otherwise not available for public use, and so we were left to our own devices. This meant we had to walk around and document where every fence, sign, Con Ed electric cable was and then draw it on the map. A lot of people helped out (especially Janette Kim and Bethia Liu from Princeton,





New and transparent fence around World Trade Center Site, with explanatory text of where the former buildings were located, among other details. PHOTO: BETHIA LIU

the photographer Margaret Morton, and Rivka Mazar). We made lists, e-mailed notes, took photographs, followed the news in the papers and on television, talked to the cops and the workers, noticed as subways and streets closed and opened, collected everything and anything we could. The data gathering itself was a very low-tech process. The map is a compilation of all this ground-level surveying and then a number of digital sources.

There were many debates in the group about what should be emphasized and what should be on or off the map. As with any map, this one has a point of view. We tried to be factual, not emotional, open-ended, rather than didactic, without hiding the political and ethical stakes of the project. There was a long time when we had images of the burning towers on the front fold of the mockups. We took them off in the end to avoid spectacularization. We also avoided the images that had already become too familiar.

The map, though, was not just a humanitarian effort. We wanted to insist that the task of marking and reimagining the site had to be an open, public process, that the ordinary people who were visiting the site in such numbers should have access to the area and to information about it. The map says that, and it tries to enable it, as well. We wanted to underline the fact that before the “real” debate

about memorials and buildings had even begun, people were already making their own tributes, markers, and memorials. We made a point of noting that the site was a cemetery, a mass grave—an open tomb of unknowns. And we wanted to begin recording the fact that a new history began on September 11 and that one of its sites was around Ground Zero.

**AT:** In what ways did Ground Zero transform from a disaster site to a tourist destination?

**LK:** When I began working on the map, the loudest voices were opposed to tourism in relation to the disaster—after all, they said, the site was still an open grave.<sup>46</sup> I wanted to say, “You should allow tourists down there because they are not doing anything bad—just bearing witness or paying respects or looking at the site is an important part of coming to terms with what has happened.” It was a kind of an activist project on my part.

Then the situation changed a lot. After six months, “the bathtub” (the seventy-foot-deep slurry wall that holds back the Hudson River) was exposed, and all of the debris and remains had been carted away. By May 29, 2002, the site had been officially converted from a site of recovery to a site of construction. By the time of the first anniversary, tourism had been completely embraced by the Port Authority.

**AT:** And how did design play a role in this metamorphosis?

**LK:** As tourism began to be embraced, the perimeter fence became more and more of a focus, with graphic signs pointing out the “Best Views.” In fact, something as simple as signage and the way-finding system did make a considerable difference in people’s relationship to the site and the events. So design enabled this transformation, and it also became one of the biggest issues at stake in the public debates. Architectural renderings of what would become of the recovery site were on the front page of the *New York Times*, every night on CNN, and the topic of a huge town meeting and an ongoing public discussion, however imperfect.

Even though it didn’t become an official map, perhaps it played some part in converting those who were initially suspicious about tourism. I hope it helped them to see another frame for looking at the site.

Now I think we’ve reached the point where we should be very careful about how we use signs and symbols in and around Ground Zero. I supported the fence becoming transparent (there were plans to build a forty-foot-high wooden fence around the site), but I don’t like the interpretation of the event it seems to offer for tourists. I think that Ground Zero is something that demands great care and rigor in the way we frame it.



For instance, today, the fence announces a “Wall of Heroes,” but who is defining whom as heroes? The apparently automatic patriotism of that wall of names seems inappropriate. Most of the names there are not heroes in the strict sense, but simply people who died doing a very ordinary thing: going to work one day. It does a disservice to the heroes to declare that everyone’s a hero. The new fence is somehow at once watered-down and inoffensive and terribly didactic—not only telling you what is there, but also what to think about it. If we are framing a view of that site, we should be very careful with every word and image that is put there. In my opinion, there should be no words on that fence.

**AT:** I think that one of the ways in which your work differs from memorializing efforts, such as the “Wall of Heroes,” for example, is due to your interest in data-driven work that is not melodramatic and not nostalgic. How does this mapping project relate to your other work and to other maps?

**LK:** I do a lot of work with mapping, but it is usually at the high-tech end of the spectrum, using Global Positioning System devices and high-resolution satellite imagery. Most of the other maps I have done have been consciously about disorientation: about how impossible it is to orient yourself in the new spaces of electronic technologies and also how important it is to use these new technologies for good ends, rather than the militaristic ones for which they were invented.

Although the Ground Zero project is not directly linked to my other work about maps and digital technologies of mapping—it is the most low-tech project I have done and the least disorientating—there are thematic links. A lot of my work has been about the major political events of the last decade—particularly military ones—and about reclaiming images of war as images of memory. Specifically, I have constructed what I like to call “digital memorials” with images generated by satellites. These images are snapshots in space and time, and I have tried to watch places such as Kosovo and the war crimes tribunal in The Hague to understand what difference new technologies can make for memory.<sup>47</sup>

*Around Ground Zero* is different, too, from the FAMA Sarajevo map, the main function of which was a one-time memorial. This project is time based. It is supposed to be a document of what was there at a given time—the temporary structures, the graffiti, the spontaneous memorials, and the shifting access routes—the things that would be erased in short order. You’re right about the resistance to melodrama and nostalgia: my projects do have a tendency to be about scenes of destruction and yet to insist that there’s no reversing the process. No map is going to undo what happened to the villagers in Izbica (Kosovo). There is something sober about simply marking where they were killed and buried and where the people who killed them came back to get rid of the evidence. In a way, I aim to emulate

the unflinching eye of the satellite sensors, which took note of the graves and then of the mark on the Earth where the graves had been. The important thing is to do this without pathos: to engage in the act of bearing witness, of remembering and of testifying, simply because something happened that should not have happened. I think something of this was at work in the *Around Ground Zero* map, as well.

**AT:** How has the map's function evolved over the past year?

**LK:** At first, the imperative for the map was about memorializing through holding on to the ephemera that were a part of the process of coming to terms with what was going on. Now a different kind of information strategy is necessary for the rebuilding phase. I think that people know very little about what is happening, how the decisions get made and who sets the terms for the competitions. There is very little debate about what an architectural, political, and economic response should be to this act of terrorism. That's what the map is about now.

**AT:** What are your thoughts about the act of memorializing, both in relation to Ground Zero and in a larger social context?

**LK:** It is not only the way that graphic design has been used around the fence to interpret the event that is problematic, but what is being built on the site, too. It seems to me that the only options being made available to architects are symbols of recovery or triumph for a city that has overcome terrorism. There's still a battle between memory and money that characterizes the debate downtown. I think it's really scary.

I've done a number of projects about memory, memorials, and disasters in other countries. I've started becoming a little critical of the whole memory machine. Memorials have, I think, become instant answers to disasters, whether they are battles, or dictatorships, or tragedies such as Oklahoma City and Columbine. I think we should stop and think a little longer before building anything. The paradigm for memorials stopped with the Maya Lin Vietnam Memorial, and now, with no new ideas but an ever-increasing desire for monuments, it just gets repeated and repeated in different, all too often inappropriate contexts.

So far, the architectural proposals for rebuilding downtown—both the buildings and the memorials—appear to be abiding by the rules. I hope the new ones break the rules. It seems to me to do this project correctly, someone needs to break the rules.