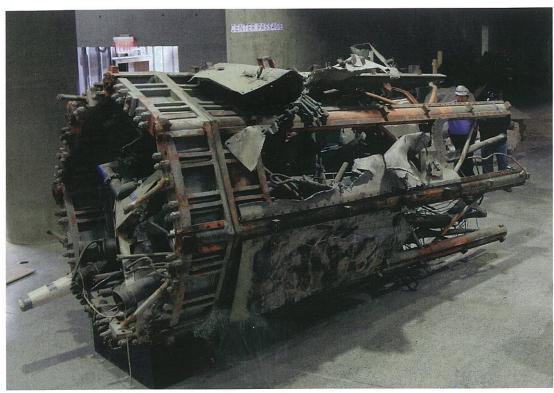


World Trade Center tridents, featured in the Pavilion of the 9/11 Memorial Museum.

Voices from the 9/11 Memorial Museum formation experience.

The debut this spring of the National September 11 Memorial Museum marks the culmination of an eight-year odyssey. Involved in the collaborative process of envisioning this important new institution were an array of contributors—all charged with translating the imperatives surrounding the impact of 9/11 into a cogent and meaningful experience. Curators, educators, exhibition developers, architects, media producers and landmark preservationists all brought their expertise and perspectives to the table. Representatives of different constituencies—family members of victims, survivors of the attacks, first responders, former recovery workers, and lower Manhattan residents and business owners—all had a vested interest in what this museum should and would present. All these voices came together to help form the museum, scheduled to open to the public on May 21. Following are reflections from some of the key players.



A remnant of the radio and television antenna from the World Trade Center's North Tower

Alice M. Greenwald

Director, 9/11 Memorial Museum

All museums that document events defined by unimaginable personal loss and collective trauma will inevitably face challenges during the planning phase. The 9/11 Memorial Museum was no exception. But the work to create this particular museum also took place within the context of intense public scrutiny, divergent expectations of what would be appropriate to present at such an emotionally charged site and the daunting responsibility to construct an exhibition narrative that would effectively codify a history not yet written. Core challenges included the balance of commemoration with education, historical documentation, and the presentation of information that is occasionally both graphic and provocative. Adding to these complications were temporal proximity to the event itself; key

constituencies' continuing personal and communal grief; and the extremely public, and at times, politicized, planning process for a museum commemorating an event at once highly local, distinctly national and essentially global.

At virtually every step of the planning process, the exhibition design team had to negotiate each of these considerations. The 9/11 Memorial Museum reflects a deliberative process that made tactical use of key planning tools and practical strategies, including audience segmentation analysis, narrative sequencing, and the integration of new media to enable first-person voices to complement and reinforce a setting of palpable authenticity.

At the 9/11 Museum, that setting is a physical given. The museum is not simply located at the site of the attacks; it is seven stories below ground in a space defined by in-situ historic remnants. Because federal preservation law mandated that those remnants be publicly accessible,

the museum was built in a contemporary archeological site whose authenticity of place had to be fully integrated with the narrative that would unfold within it. In the words of lead exhibition designer Tom Hennes, the "here and now" needed to work seamlessly with the "there and then."

Given that nearly 2 billion people are estimated to have watched the events on 9/11, and with the museum opening just over a decade after the attacks, planners anticipated a range of visitor entry narratives, knowing many would bring their own memories to the experience. A key challenge was figuring out how and when to use the more conventionally didactic, authoritative "museum voice" versus how and when to allow visitors to complete the narrative within a more affective, experiential environment.

On 9/11, events occurred simultaneously in multiple locations; this was not a story that could be told in a conventionally linear way. So the design evolved to accommodate multiple options for engagement, available simultaneously through different though concurrent modes of storytelling. Because this complex storyline would be presented within the envelope of a historic site, the power of place had to be integrated with the storytelling. Designers chose to combine exhibition content with the unique features of the physical and built environments to provide visitors with a progressive accretion of information. As visitors encounter objects and information more than once, the design facilitates the performative equivalent of historiography, shaping facts and events into a coherent narrative that is both known and felt.

In Civil War museums, diaries and letters

convey individual experiences. For 21st-century history museums, new media offers new opportunities. Voice mail messages, e-mails, cockpit recorders and radio transmissions provide an unparalleled sense of being inside this story. But using them brings ethical dilemmas, demanding careful consideration of visitors' emotional thresholds. When is listening to a recording of someone's final words in the public space of a museum appropriate? When does historical documentation violate individual privacy and dignity? These questions were at the heart of every design decision made.

The core creative team responsible for the 9/11 Museum spent years deliberating over how to shape a memorial museum that would offer a safe environment in which to explore difficult history. While the events of 9/11 are the foundation of the experience, the museum does more than facilitate learning. It is a place where an encounter with history connects visitors to the shared human impacts of this event, transforming what can seem like the anonymous abstractions of terrorism and mass murder into a very personal sense of loss.

As much about "9/12" as it is about 9/11, the museum provides a case study in how ordinary people acted in extraordinary circumstances, their acts of kindness, compassion and generosity of spirit demonstrating the profoundly constructive effect we can have on each other's lives by the choices we make, even in the face of unspeakable destruction. The 9/11 Memorial Museum takes you on a journey into the heart of memory as an agent of transformation, empowering each of us to seek a deeper understanding of what it means to be a human being living in an interdependent world at the start of the 21st century.

Michael Shulan

Creative Director, Museum Planning, 9/11 Memorial Museum

Every history museum has an obligation to give its visitors the facts and to do so in a way that is clear and comprehensible. This is particularly true of the 9/11 Memorial Museum, whose subject is highly complex, concerning not only the terrorist attacks of September 11, 2001, but their background—going back decades—and their aftermath, the effects of which we are still experiencing today. In planning the museum, we wanted not only to give visitors the facts but to impress upon them that history is not simply a fixed story of the past but a continuum—and that asking questions and being observant are critical in our ever more interconnected world.

Because the museum expands across 110,000 square feet and its form is dictated both by the topography of the original World Trade Center and its archeological remnants, we saw the visitor's path as a journey. In one sense, this journey is explicit and physical: people entering the Museum Pavilion at street level descend seven stories via a ramp, visit various exhibitions and then ascend, exiting onto the Memorial. In another sense, their journey is metaphorical and historical: visitors leave the redeveloped World Trade Center site and the living city and descend to discover the history of what happened not only here but at the Pentagon and at the crash site of Flight 93 near Shanksville, Pennsylvania. They learn how people everywhere reacted to the tragedy, as well as the story of the World Trade Center, and they come back up to the Memorial and the city with a new understanding of the past and its connection to the present.



In creating this journey, we developed a loosely progressive narrative that works on both levels. Visitors start with the Introductory Exhibition at the head of the ramp and then move through a visual field created by a fractured global map, listening to the voices of people around the world speaking about where they were when they first learned of the attacks. The map and soundscape give way to photographs taken of crowds in New York City and Washington, staring at the burning towers and the smoldering Pentagon. These images of witnessing cue and prepare visitors for their first view into the expanse of the museum. As seen from an overlook, the huge space known

as Foundation Hall is dominated by the slurry wall originally built to keep the waters of the Hudson River out of the World Trade Center site when it was being constructed in the late 1960s. The wall held fast against the collapse of the towers on September 11.

Throughout the museum, and especially in the historical exhibition, we use photographs to orient visitors. The section that explores the day of the attacks covers all three sites and proceeds chronologically. Huge documentary images of the towers—as well as of the Pentagon and the Pennsylvania crash site—serve as visual and temporal markers, visible from a distance. These photographs orient visitors to the

"We Remember," the museum's introductory exhibit.

chronological and physical narratives, and also mark the shifts in emotional response experienced collectively over the course of the day.

We consistently created nodes of information and story clusters centered around artifacts. In Center Passage, adjacent to the entry to the historical exhibition and leading toward Foundation Hall, four large and imposing artifacts sit close to the floor on minimal mounts, and a fifth hangs overhead off the structure that sits above the North Tower footprint. Not arranged in a line or grid, each seems ambiguous from a distance. But as visitors circulate around them, they discover photographs, videos, oral histories, maps and brief labels that tell powerful stories. A twisted and melted skein of metal turns out to be a fire truck, FDNY Ladder 3, whose company lost all 11 of its responding members on September 11. An object that resembles the Gemini space capsule is revealed as a tiny fraction of the radio and television antenna from the top of the North Tower. A huge rotor is actually the motor of one of the Twin Towers' 198 elevators, feats of engineering that made such tall structures feasible. A huge piece of steel becomes a tiny piece of the structural box columns whose cut ends are adjacent to it, embedded in concrete, preserved when the site was cleared. And the vastly larger piece of steel hanging overhead is from the facade of the North Tower at the exact impact point of hijacked Flight 11, its bent and twisted contours forming a chilling record.

Not every visitor will be able to see or absorb everything, especially in a first-time experience at the museum. But everyone will come away with an awareness that history is composed of many interconnected stories, and that each of us has a part in it.

Tom Hennes

Principal, Thinc Design; Lead Exhibition Designer, 9/11 Memorial Museum

Most of us who come to the 9/11 Memorial Museum will bring strong, emotion-laden memories of the day of September 11th. We remember where we were and how we felt watching the events transpire. Most will have a sense of how the events changed our lives and the world. Even people who had no direct experience of the daythose too young or those born afterward—will have had powerful feelings passed to them by adults, older siblings and mass media. Because of the way the human brain processes threatening and destabilizing events, many of our feelings about an event like 9/11 are formed through experiences that occur outside the reach of conscious awareness. In other words, much of what forms such feelings is not directly knowable.

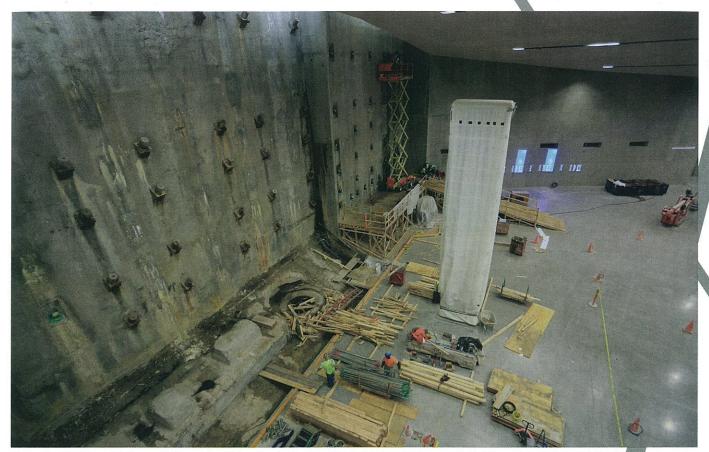
The exhibition design for the 9/11 Museum anticipates not only that people coming into the museum will have experienced 9/11 in wideranging ways, but also that a measure of that experience lies in sensory impressions outside conscious awareness. This creates the potential for unexpected responses to the museum itself—which might be painful, dislocating, eerily familiar or even revelatory to individuals. This dynamic compelled Thinc's design team—which included a practicing psychoanalyst—to begin its work by considering the ways different kinds of people might respond to and use the museum.

We conducted a workshop to envision the characteristics of more than 30 such user groups, and then imagined ways the museum could serve the divergent needs of a selected sample of them. This technique resulted in a chart that plotted different groups' use of the museum at different levels of encounter and connectedness.

The uses ranged from a brief visit to a more sustained relationship across many visits. The connections ranged from scant awareness to profound experiences of loss. We then extracted emergent patterns into a core set of purposes and design principles to guide the work and enable the team to envision its task with added flexibility and perspective.

This process also gave rise to another, seemingly dichotomous aspect of the work. The rituals of memorializing typically follow a narrative that, particularly for Western culture, moves from shock, through action, to a kind of collective redemption. The archetypal story outlines a path from recognition of a horror committed; through giving of aid, comfort and assistance; to completed reconstruction. Traveling this route gives society an essential means of bringing closure to an unbearable event and is supposed to enable us to move on. In the case of 9/11, however, this essential memorialization process stands in tension with an awareness that the legacies of this event are still very present-in the news, in our conversations and in global politics. Ongoing conflict, the threat of further attacks, and continued debate over the competing needs of safety and liberty are all signs that 9/11 continues to exert enormous influence on political and social relations, and on our ability to negotiate human difference around the globe.

To be experienced by a broad range of people as truly authentic, the 9/11 Museum must support the paradoxically contemporaneous functions of bringing closure and acknowledging 9/11's continuing impact. At the same time, it must provide a coherent journey through this complex emotional terrain.



Above: The 9/11 Memorial Museum's Foundation Hall under construction. Below: Workers prepare a section of "impact steel" for installation in the museum.



To support that coherence, the designers conceived an initial sequence of experience that draws upon processional aspects of public memorialization: encountering the site, remembering the loss, bearing witness, reconstructing and reflecting. This entry experience is intended to create a consistent beginning for virtually everyone, after which people are free to explore where their interest takes them. Our working assumption, which draws on a breadth of literature on mourning, memorialization, narrative history and psychology, is that this coherent initial sequence gives the museum a stable base from which to offer the diversity of materials and encounters that different people, with equally different motivations for visiting and expectations for the visit, will seek. Reassured by this implicit (and to some degree familiar) processional sequence, visitors might better absorb the complex and unexpected content of the exhibitions—and deal more successfully with the emotional responses that may result. Similarly, an ending sequence helps people bring closure to the narrative arc of their encounter with history.

Making a broad range of information and narratives available, while providing a stabilizing basis for the experience, can give museum users expanded ways to encounter those aspects of 9/11 that they already identify with—and those aspects that are unfamiliar or contrary to their own experience. This offers a way for any of us to use the exhibition to open ourselves empathically to others' experience of 9/11 and to gain new perspectives on our own experience—both through the re-encounter with our memories and through the wider range of experiences represented. In that way, the museum not only enables us to honor the dead and encounter the site and history of these attacks, but also to build our capacity to engage with the complex world that is their result.

Jake Barton

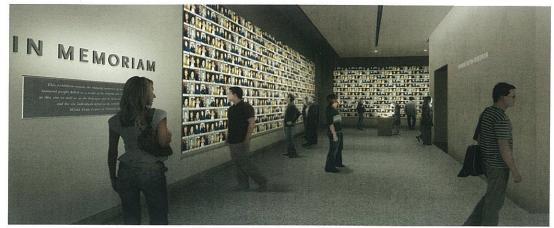
Principal, Local Projects; Media Designer, 9/11 Memorial Museum

September 11 has been described as one of the most documented events in history. Watching this global media event unfold in real time, we were connected to others as they, too, witnessed it live.

Given the nature of this history, the 9/11 Memorial Museum is unprecedented in the quantity of media it presents, and in the relevance of that media as artifact, collection and medium for visitor participation.

When Local Projects was first invited by Thinc Design to partner for the exhibition design competition, we asserted that media design would be critical from the very start of concept design. As members of the original team that designed the "storybooth" for StoryCorps, a national oral history project, we had the impulse to integrate first-person voices as a central element within the 9/11 Museum experience. We knew that this presence would lend authenticity to the exhibits, matching the powerful and raw archeology of the greater museum space.

I remember a moment when we matched a time-stamped event—"9:59 am 2 WTC, the South Tower Collapses in 9 Seconds"—with a first-person oral history quote we had found describing the impact: "Like a waterfall, thousands of panes of glass shattering." We were beginning to see how effective it was to connect the voice of "objective reality," i.e., timestamps and locations, with the voice of "subjective experience," i.e., those who experienced the event first-hand. We elected to include the extraordinary oral history of Stanley Praimnath, who worked on the 81st floor of the South Tower, speaking in his own



"In Memoriam" features portraits of the nearly 3,000 people who were killed in the September 11, 2001 and February 26, 1993 \ attacks.

voice: "This plane is coming in at eye level, eye contact. I can still see the big 'U' on this plane, and this plane is bearing down on me, and I dropped the phone, and I screamed, and I dove under the desk."

This technique invited those who survived the event to share their experiences with visitors who might know nothing about it. Having people tell their stories actualized the museum's mission: to remember the thousands of victims, recognize the endurance of those who survived and hear directly from those who risked their lives to save others.

This approach catalyzed the museum's commitment to broadening the use of oral history to include the visitor's own voice. Whether telling one's own 9/11 story, recording a remembrance for someone who was killed, or adding an opinion about some of the more challenging questions raised by 9/11, visitors are invited to contribute their own stories to the museum. Some of these "9/11 stories" have been assembled into the first installation, "We Remember." In an audio collage of overlapping memories, people from around the world recall where they were, how they heard, whom they called and what they felt. Acknowledging visitors' own entry narratives, this opening exhibit signals that the experience of 9/11 is collective and ongoing.

Whether online through the user contribution website "Make History" (also designed by Local Projects for the 9/11 Memorial and Museum) or inside the museum, the collection of visitors' personal experiences acknowledges the role of witness played by so many. Over time, this archive of individual reflections will also help the curatorial team track evolutions in our understanding of 9/11 and its impact.

One of the final media pieces deals directly with the changing nature of the post-9/11 world. Called "Timescape," it mines an ever-growing archive of major news outlets from 9/11/01 to the present. Through an algorithm developed by Local Projects with Ben Rubin, Mark Hansen and Jer Thorp, themes, players and topics emerge from the news reports, evolving into new associations over time. This final piece presents the collective voice of our news and even arguably our culture, chronicling events catalyzed through the moment of 9/11 that frame our world today.

Together these media pieces grapple with one of the core challenges of the 9/11 Memorial Museum: how to convey history before an "official" history has been written. The museum uses its variety of media installations not only to document what happened on 9/11, but to convey the complexity and meaning of the post-9/11 world. We look forward to adding your voice to the project.

David Layman

Principal, Layman Design; Historical Exhibition Designer, 9/11 Memorial Museum

Good design often comes from a place of joy.

When a project's design approach is rooted in an exciting, innovative idea or a previously untried technique, or simply intends to surprise and delight, the resulting design reflects that joy.

How, then, does one undertake the design process for an exhibition that springs not from joy, but from terror or deep sorrow? Most conventional approaches are either inadequate or inappropriate and more likely to yield results that are unintentionally thoughtless, hurtful or even offensive.

Exhibitions rooted in horrific loss of life and large-scale atrocity require the planning team to confront a daunting array of complicated issues well before the first thumbnail sketch is penciled. Innumerable fine lines of tone, presentational sensibility, authenticity and stylistic convention need to be drawn. For the 9/11 Memorial Museum's historical exhibition, some of the questions were:

- Should the general tone of the exhibition be neutral—detached from the narrative and allowing the storyline to dominate? Or should the tone be reflexive to echo the emotional current in the narrative?
- How can design effectively modulate disparity of scale to convey both the enormity of physical devastation and the intimacy of a personal effects item?
- How should the experience be shaped to prevent visitors from becoming overwhelmed by the cumulative impact of the events being documented? Can the design offer relief? Should it?

 How do you design the ending for an exhibition documenting an event whose long-term impact is still unfolding?

While we couldn't fully answer these questions (and dozens more), we still had to grapple with them. Using three strategic approaches, we determined how to shape the experiential landscape and present sensitive content:

Overall Strategies (addressing overarching concerns such as tonality, the contour of the visitor experience and primary themes), e.g., mapping the emotional topography:

This is not a typical historical exhibition that establishes a formal relationship between the visitor and the content. Because this exhibition presents an event many visitors will have personally experienced in some fashion, and because some will be re-living their own memories of that day, didactic text panels take a back seat to content presented in layers and multisensory environments.

Although the narrative maintains a neutral voice, it still must engage in a dialogue with the visitor. Both exhibit and visitor are witnesses to that day, sharing memories each step of the way. In order for that dialogue to be effective, the emotional topography must correspond to the content. Relative areas of emphasis must be assigned; sensitive events must be anticipated and positioned carefully; temporal sequence must be coherently orchestrated. The visitor path must be sculpted and visual clues placed so that the experience unfolds in an intuitive way.

Given the subject matter, a visit can be emotionally and cognitively complex. There is the risk of disengagement unless the topography is mapped out in advance.

Compositional Strategies (techniques that guide visitor focus), e.g., modulation of moments:

The central events that transpired on 9/11 and its aftermath were momentous. The exhibition could present only those large events and still be coherent and moving. But many of the small moments are equally powerful. Given the difficulty of knitting dissimilar narrative components together, with large moments typically overshadowing small ones, a strategy of modulation is required. Large events serve as defining moments that anchor a particular area. Intimate moments, nestled into niches or conveyed via audio wands, punctuate the narrative. Sometimes the most difficult content is pulled off the main narrative path altogether. The locations and rhythm of these massive and intimate moments are carefully arranged to provide balance and pacing.

Pragmatic Strategies (common-sense measures that predict and meet the emotional needs of the visitor), e.g., early exits:

The exhibition offers thoughtfully planned, clearly signed exits along the visitor path. These are not emergency exits, but offer the option of a respite or early departure for any visitor who may want to step away at a given point.

These strategies represent a few approaches to sensitive presentation of the traumatic moments of 9/11. This is an unapologetically historical exhibition, and the integrity of its content cannot be compromised. But good design must also anticipate the profound emotions visitors will likely experience. To varying degrees, we each carry wounds from that day, and we will bring them with us into this space. While the 9/11 Museum may remind us of the pain suffered, it is also a place of catharsis, healing, introspection and inspiration. Ultimately, for a project that does not originate from a place of joy, the benchmark of good design may be how an exhibition can accommodate us as we weep. «

Museum Pavilion, designed by architectural firm Snøhetta.

