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## Places

### Title

Bridges and Bridging: Infrastructure and the Arts

### Permalink

<https://escholarship.org/uc/item/56s75786>

### Journal

Places, 9(2)

### ISSN

0731-0455

### Author

Reiter, Wellington

### Publication Date

1994-07-01

Peer reviewed

# Bridges and Bridging: Infrastructure and the Arts

*Wellington Reiter*


*The scenario: A bridge is required over a river in an urban area. Question: Who should perform the work?*

The problem, obviously, is technically complex. The span is great, the soil conditions not ideal and the budget less than one would hope for. And, of course, there are the basic questions of erection time, safety and maintenance that are part of any bridge project. *Answer #1: An engineer.*

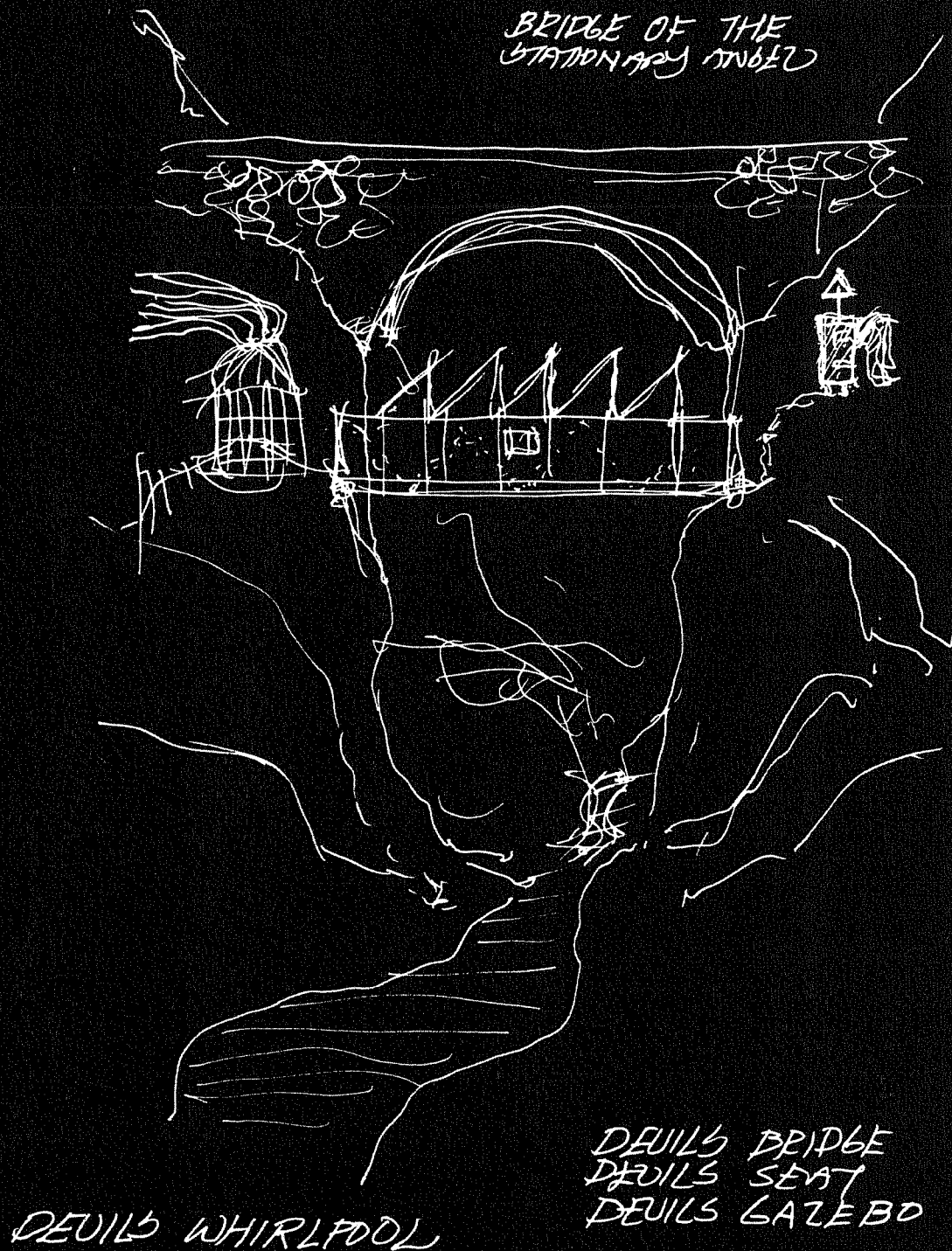
On the other hand, the bridge is to be an integral part of the city fabric. The site is highly visible and surrounded by significant works of architecture. The bridge's design must respond to these diverse conditions, addressing the past with respect while suggesting a progressive civic image. *Answer #2: An architect.*

But engineers and architects are in part responsible for the bleak urban landscape through which we all pass everyday. They and other so-called professionals have blown it. Why not give someone else a chance? An artist, for example, couldn't do any worse and might possibly bring the creative insight the design of the built environment so obviously lacks. This is an opportunity to make something special — a work of art, not just a bridge. *Answer #3: An artist.*

So goes the debate over who should be responsible for designing cities and infrastructure. What makes this dialogue especially complex is the introduction of the public artist into the mix. For artists to be successful in their bid to be considered as alternatives to the disciplines traditionally charged with designing the built environment, the stereotypes suggested above must remain firmly in place: the engineer is an uninspired technician, the architect is a client-oriented image-maker and the artist is a creative genius.



Old Colony Bridge, Boston. Built by Schertzer Rolling Lift Co., 1898. While the imperative of the bridge was to ameliorate the conflicting patterns of rail and water traffic by use of a pivoting mechanism, the bridge designers created some of the most elegant formal, visual relationships to be found anywhere in Boston's built environment. Photo © Peter Vandewarker.



John Hedjuk's exploration, "Devil's Bridge," suggests a broader definition of architectural practice. Hedjuk pursues the metaphoric possibilities of architecture, combining architectural intent with artistic sensibility. On many projects, architects are excluded from such explorations, which are all too often regarded solely as the province of artists. Drawing courtesy John Hedjuk.

This essay reflects on how innovative design in the public realm is suddenly thought to be a question of public art. It will explore the expectations implicit in selecting artists as designers and the consequences of this new alignment of professional and artistic responsibilities. Finally, it examines the tension between infrastructure that serves a collective, pragmatic and social purpose and uniquely authored elements of art that are becoming institutionalized components of the public realm.

### The Mandate of Public Art Considered

The advocacy of artists is primarily the responsibility of small, motivated organizations dedicated to elevating artists' participation in the design of cities. These groups aim to intervene in the design of public buildings, private projects, parks, transportation networks and other infrastructure — components of city-making that by their scale and visibility define the public realm.

As contemporary urban monuments are rarely invested with a recognizable sense of *civitas*, it is difficult to refute the crisis of banality that has fueled the call for public art. However, it is not the stated intention of public art advocates to analyze the urban condition and its history; rather, they contend that by including artists in the conversation about city design, the result will be a more visually simulating, environmentally sustainable and user-sensitive public realm.

However, in their effort to establish a beachhead in the design world, public art promoters have employed an argument that is inherently contradictory. On the one hand, the artist, as a non-professional, is cast as being in tune with the needs and concerns of real people — as opposed to engineers, architects and urban designers, who are said to be preprogrammed and indifferent. It has even been suggested that artists' lack of training in design and urbanism assures they will not make decisions by formula or academic abstraction.

On the other hand, artists enjoy a sort of hyper-professional status by virtue of the authority that comes with the concept of authorship — the very foundation of their art. They are frequently offered the opportunity to pose both questions and answers, a luxury that is rarely afforded to design professionals. Consider the contrasting scope of possibility offered to architects and artists in the case of a waste treatment facility in Phoenix. Critic Herbert Muschamp certifies architecture as a service industry and art as alchemy when he writes: “(the artists) were not hired to design a building. They were invited to imagine a place ...”<sup>1</sup> A more succinct definition of architecture would be difficult to find.

The irony of the current situation is that as public art initiatives (such as percent-for-art ordinances) are proliferating, architecture and urban design are bursting at the seams with a backlog of unrealized potential (so is engineering, to some extent). Thus there is a widening rift between architecture's possibility and conventional practice. As a result, while artists are leaving the gallery, buoyed by the possibilities of working on a grand scale, they are bumping into architects who are using the gallery as the site for their most progressive work.

In the case of large infrastructure or public projects, the architects and engineers at the table frequently represent corporate firms that can offer stability, competence and technical capacity — risk is not what they sell. Aggressive problem seeking and solving by design professionals is usually not in evidence, and public art advocates would be loath to encourage it for fear of undercutting the exclusive claim of the artist as seer. Design culture, rather than encouraging artful thinking in all aspects of the public realm (the purported aim of public art advocates), is being segregated into carefully managed sub-groups — a situation reflected in our eviscerated public realm.

Interestingly, architects have dominated open competitions that call for a synthesis of poetic representation, formal development, contextual integration and technical implementation. Examples can be found in the outcome of recent memorial competitions in Atlanta, Boston, Cape Canaveral, New York, Salem and elsewhere.

This is not to suggest, however, that what architects do is art — it most frequently is not. Instead, one should question why design issues like marking a site or creating a threshold have been made into questions of public art when they are clearly the historical foundations of a meaningful architecture.

Writing about Roman architecture, historian William MacDonald has stated: *an architecture of passage [which] marked significant armature points and transitions and provided amenities along the way. Passage architecture is a proper urban building category, a basic constituent of urban public circuitry that also made cities and towns visually more apprehensible and vivid.*<sup>2</sup>

Increasingly, design concerns such as MacDonald's “architecture of passage” have been converted into public art projects. As this transformation has occurred, a great deal of initiative has been stripped away from professions like architecture and engineering — and, ironically, from art.



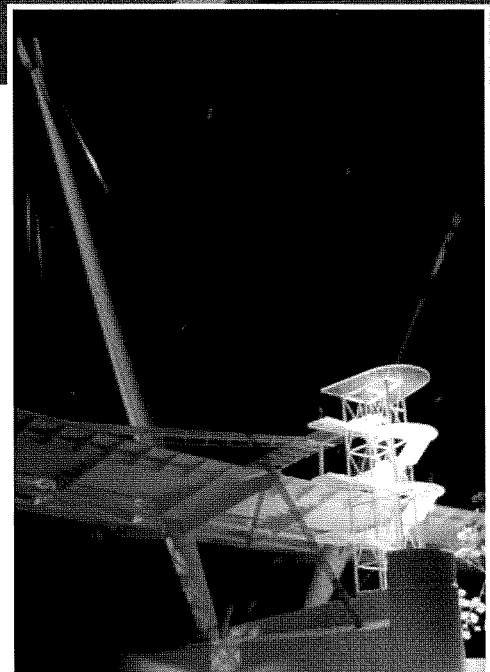
### Bridging the Disciplines — Case Studies

The stultifying stereotypes described earlier in this essay attempt to portray the approaches that are all too often the norm when constructing the built environment. Returning to the scenario of a bridge in the city, the following case studies reveal that the crossover activity between architecture, engineering and art has destabilized the role of all three.

*Wabasha Street Bridge, St. Paul, MN (1992) — James Carpenter, artist* — The competition brief for the Wabasha Street Bridge, which crosses the Mississippi River in St. Paul, required that the lead designer be an artist. The project was awarded to James Carpenter, whose work is characterized by the orchestration of glass and steel in tensile formations backed up by a familiarity with the processes of engineering and fabrication.

Carpenter was able to expand (with the aid of consulting engineers) his previous experiments into a taut, six-lane highway bridge and a thoughtful piece of urban design. The misalignment of the adjoining streets, the V-shaped mast and the location of the island were knitted together with precision and elegance. Here is a case of an artist clearly understanding the problem in all its particulars.

Interestingly, the bridge competition excluded the participation of bridge designers (Santiago Calatrava, the exception, was invited but dropped out). Clearly the expectation was that artists could produce designs that architects or engineers could not. There is no question that Carpenter's proposal is sophisticated and worthy of the praise it has received. But it is not distinguishable as art from the work of architects or engineers who are designing and installing similar projects, particularly in Europe. Carpenter's bridge, in fact, is guided almost exclu-



Wabasha Street Bridge, St. Paul. Artist's preferred proposal. Courtesy James Carpenter Design Associates/Macromedia Technologies Inc. Minnesota.

sively by the standard mandate of all good engineering: "There is no structural art without an expression of thinness."<sup>3</sup>

If the rationale of asking an artist to imagine a bridge was to see it expressed as a work of art, then one would have to conclude that the experiment was a failure. Fortunately, Carpenter saw the folly in such a misrepresentation, opening acknowledging the mislabeling of the project as art by virtue of its inclusion in the 1993 *Progressive Architecture* annual awards issue. What the Wabasha Street Bridge proposal illuminates is not a lack of versatility among artists — far from it — but the mischaracterization of the design arts and the poorly constructed questions we ask of them.



Irene Hixon Whitney Bridge, designed by Siah Armajani. Courtesy Walker Art Center, Minneapolis.

*Irene Hixon Whitney Bridge, Minneapolis, MN, 1985-8 — Siah Armajani, artist* — This pedestrian bridge, which links the Walker Art Center's sculpture garden to the surrounding urban landscape, demonstrates the difficulty of moving the ambiguity of a poetic vision into the bureaucratic world of construction, engineering and highway administration.

While the project is a triumph over standard-issue state or federal bridges, it carries forward little of the provocative ventures into the nature of the type that the artist, Siah Armajani, explored in his small-scale models. Although the syntax of engineering is evident in the arch, suspension and girder motifs registered on the elevations, the bridge does not advance the art of bridge-making in any appreciable sense or demonstrate an awareness of the field. The span is significant only because it has been designated as art by virtue of who authored it.

The Whitney Bridge is more akin to weak architecture because its programmatic imperative (pedestrian passage over a busy freeway) has overwhelmed the philosophical and technical questions of a bridge and reduced them to applied emblems. Armajani's earlier models of small, dysfunctional bridges "perceived in their somewhat self-contained uselessness as conceptual art"<sup>4</sup> are more profound, twisting the conventional into the sublime. They were of no use, by normative definition.

Armajani implicitly confirms the difficulty of actualizing complex ideas within the constraints of building projects. Having texts (such as Melville's *Moby Dick*) tattooed onto his later bridges, Armajani speaks volumes about the resistance of architecture as a vehicle for conveying ideas not indigenous to its own genetic structure. Such literal attempts to apply meaning to the built environment are to be expected as the one tra-

verses the boundaries of art, architecture and engineering, a pitfall that Carpenter avoided by shifting into a mindset that was synchronous with the medium of the bridge.

*Alamillo Bridge, Seville, 1987-92 — Santiago Calatrava, architect and engineer* — The expressive engineering of Santiago Calatrava is so widely recognized both in style and contribution to the field that his work borders on becoming an art form unto itself. And with good reason; Calatrava has successfully brought the idea of gesture to the fabric of the city and awakened public agencies to the aesthetic possibility of infrastructure.

The Alamillo Bridge in Seville is but one of many examples of his consistently inventive approach to design. Calatrava's bridges, towers and buildings shatter the stereotypical notion of the engineer described earlier and have drawn attention to the many other creative thinkers in this field.

But while expanding the definition of engineering practice, Calatrava also seems to desire the mantle of artist, a notion that relies heavily on formal anecdote. The exhibition of Calatrava's work at the Museum of Modern Art was clearly motivated by the conviction that his projects could, with a bit of squinting, be construed as sculpture, albeit sculpture that works.

The words of the late sculptor Donald Judd, however bombastic, cast doubt on the possibility of such a facile transposition: *A building as sculpture is a bad idea to begin with, but architects know very little about the recent history of sculpture. The deviation is so ignorant that it would never occur in first-rate art. Old forms that are considered finished by first-rate artists are revived by architects as if there is no history, as if sculpture has no meaning.*<sup>5</sup>



While Judd's criticism is riddled with inconsistency and ambiguity, he nevertheless illuminates the enormous difficulty of speaking with integrity to one concern through the language of another. Just as architecture is potentially diminished by the pale markings of sites by artists, so too is art marginalized as a sort of fetishizing activity practiced by those with an intuitive sense of form-making.

### The Essential Objective Public Realm

We are an impatient lot. Conditioned by television and Disney World, we want and expect to be entertained. Consequently, we have lost both our ability to discriminate between fact and fiction and the patience to reinvest the city with thoughtful myth-making. We have begun to misconstrue the act of making infrastructure as an occasion for entertainment without understanding that infrastructure's expressive attributes are unlike those of art.

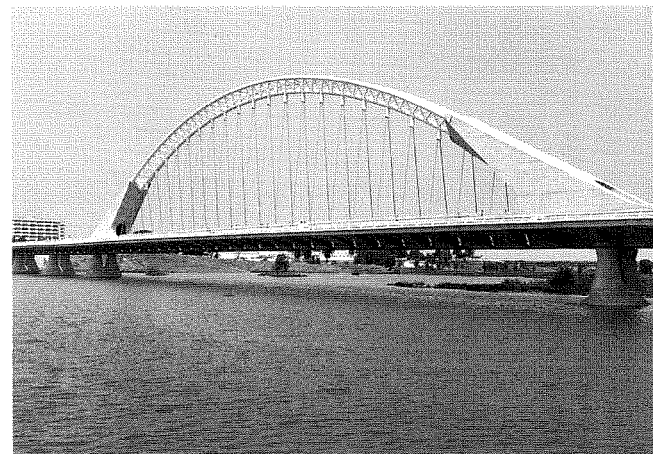
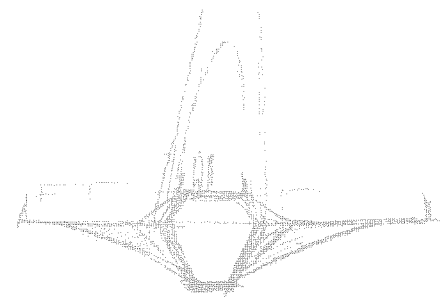
City building is about the sequential layering of meaning, beginning with those that are deterministic, utilitarian and costly (infrastructure) and concluding with events that are spontaneous, topical, interactive and potentially outrageous (temporary public art or performance). Understanding the nature of each strata is essential if one is to respond in a manner that not only advances design but also demonstrates the mutually supportive forces among the layers of the city.

Each discipline must make contributions to the built environment that are coincident with the unique insights and critical understanding inherent to the medium. With regard to the visual arts, the idea of boundary-setting is not universally applicable, but it appears a far more radical proposal than the concept of integrating artists into design teams, a process that virtually assures homogeneity rather than vigorous exchange.

Infrastructure and urban architecture extend themselves into the larger dialogue of society quietly. The art of engineering and architecture requires the nearly impossible synthesis of invention, convention and stability. There is no suggestion of banality in this proposition, but no art-making either. Infrastructure and urban architecture are a reflection of our desires as a society, but art transcends those wants, insisting that we examine their reflection and confront their meaning.

For a product of architecture or engineering to encourage such speculation, it must assume the sort of naturalness that one normally associates with landscape. The perception of design as inevitable and economical translates into a demonstration of fact. "If it is to redeem its culture — if it is to project an meaningful Utopia — it must be grounded in actuality."<sup>6</sup>

The Brooklyn Bridge is not art. It is a magnificent instrument spanning the East River. Walker Evans' well-known pho-



Puente de Merida (bridge over the Guadalquivir River), Merida, Spain. Sketches courtesy Calatrava Vallis S.A. Photo © Paolo Rosselli.

## The Bridge

How many dawns, chill from his rippling rest  
The seagull's wings shall dip and pivot him  
Shedding white wings of tumult, building high  
Over the chained bay waters Liberty —

Then, with inviolate curve, forsake our eyes  
As apparitional as sails that cross  
Some page of figures to be filed away;  
— Till elevators drop us from our day . . .

I think of cinemas, panoramic sleights  
With multitudes bent toward some flashing scene  
Never disclosed, but hastened to again  
Foretold to other eyes on the same screen;

And Thee, across the harbor, silver-paced  
As though the sun took step of thee, yet left  
Some motion ever unspent in thy stride, —  
Implicitly thy freedom staying thee!

Out of some subway scuttle, cell or loft  
A bedlamite speeds to thy parapets,  
Titling there momentarily, shrill shirt ballooning,  
A jest falls from the speechless caravan.

Down Wall, from girder into street noon leaks,  
A rip-tooth of the sky's acetylene;  
All afternoon the cloud-flown derricks turn . . .  
Thy cables breathe the North Atlantic still.

And obscure as that heaven of the Jews,  
Thy guerdon . . . Accolate thou dost bestow  
Of anonymity time cannot raise:  
Vibrant reprieve and pardon thou dost show.

O harp and altar, of the fury fused,  
(How could mere toil align thy choiring strings!)  
Terrific threshold of the prophet's pledge,  
Prayer of pariah, and the lover's cry, —

Again the traffic lights skim thy swift  
Unfractioned idion, immaculate sigh of stars,  
Beading thy path — condense eternity;  
and we have seen night lifted in thine arms.

Under they shadow by the piers I waited;  
Only in darkness is they shadow clear.  
The City's fiery parcels all undone,  
Already snow submerges an iron year . . .

O Sleepless as the river under thee,  
Vaulting the sea, the prairies' dreaming sod,  
Unto us lowliest sometime sweep, descend  
And the curveship lend a myth to God.

Excerpted from Hart Crane, "The Bridge." First published by The Black Sun Press, 1930.

tographs of the bridge encourage us to think of it as art; so too does Hart Crane's poetry. As Alan Trachtenberg writes, Crane's poetry "completed the passage of the Brooklyn Bridge from fact to symbol. Such a passage was implicit in the earliest ideas of an East River bridge, in Thomas Pope's conception as well as John Roebling's. He imagined an ideal function: a leap into a new consciousness."<sup>7</sup>

Both Crane and Evans were able to make art of the bridge because it was so confident of itself as a matter of engineering. As such, it was available as evidence of larger truths imbedded in its making. This is the art of infrastructure, the foundation for the assembly of meaning in the city.

## Redundancy or Relevancy?

One of the mantras of the public art movement is that artists should be involved early in the development process. Artists may find a place at the conference table, but in taking that seat they tacitly agree to work in collaboration with fellow designers, thus relinquishing the most fertile territory of the arts: critical commentary.

Artist Krzysztof Wodiczko, one of the most incisive thinkers on the subject of the built environment, both in his public art work and his lecturing, declares: "We must stop this ideological 'ritual,' interrupt this journey-in-fiction, arrest the somnambulist movement, restore a public focus, a concentration on the building and its architecture."<sup>8</sup>

Meeting this provocative challenge is nearly impossible within the straight jacket of typical public art processes. All too often, artists participating on collaborative teams end up manipulating a particular surface of a building. Ironically, this situation is equivalent to the guild system, in which artisans possessed of superior knowledge of a particular material were given the freedom to operate within a framework established by the architect. But public artists have expended considerable effort throwing off the workman-like label of "artisan," wanting to be seen as creative thinkers in their own right. They will soon discover that the permanent built environment is an awkward and resistant venue for critical work.

For those engaged in exposing the latent conditions of the contemporary urban environment, an enterprise that only artists have the freedom to pursue with abandon, being implicated in the process of building is a debilitating prospect, even antithetical to the cause. Architecture is a particularly unwieldy vehicle as an art form — its turning radius is wide, its acceleration and hauling capacity virtually non-existent. Architecture is also particularly ill suited to delivering the messages of other disciplines (literary theory, for example) without becoming a caricature. Theory masquerading as architecture is frequently



grotesque and particularly unstable as a setting either for art or for citizens to conduct their lives.

Yet architecture and infrastructure can be pregnant with meaning, as Crane and Evans revealed in their interpretations of the Brooklyn Bridge. To observe architecture as an artist and to offer the feedback that keeps it alive, one cannot be in the building looking out. Buildings need to be approached with great stealth and captured in the act of being themselves. Such is the case with Wodiczko's projections:

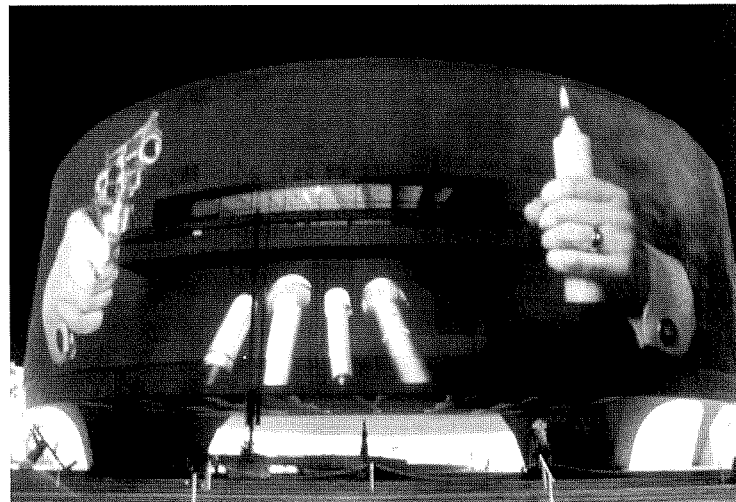
*What is implicit about the building must be exposed as explicit: the myth must be visually concretized and unmasked. The absentminded, hypnotic relation with architecture must be challenged by a conscious and critical public discourse taking place in front of the building.*<sup>9</sup>

Wodiczko's work is a muscular demonstration of the power of public art to open our eyes to the conditions that could only be demonstrated through this medium. While taking architecture to task, his work capitalizes on the foundation that the static components of the city provide, correctly proclaiming art's culminating position in the layers that make up our urban environment.

## Conclusion

There are those that will read my constant references to the differences between art, architecture and engineering as yet another attempt to constrain artists from participating in shaping the public realm. Some will find my call to break out of the percent-for-art radius of traditional public art programs desirable but, without another option in place, foolhardy. And others will object to my critique of collaborative design teams as well-intentioned interest groups focused on process but without a compelling vision of either the past or the future.

Nevertheless, it would be difficult to dispute the fact that most public art, as it is conventionally defined, is of the same caliber as the bland corporate environment that it was intended to eclipse. Many of the best public pieces are still those that come from inventive artists intent on demonstrating expanded possibilities within their discipline, just as Roebling was attempting within engineering. Like the Brooklyn Bridge, accomplished works of art, engineering or architecture became public icons not by designation or committee, but by virtue of the population's reflected recognition of themselves as participants in the construction of the public realm.



(Above) Krzysztof Wodiczko, Hirschhorn Museum Building, 1988. Courtesy Galerie Lelong.

(Opposite page) Brooklyn Bridge, from pedestrian promenade. Courtesy Todd W. Bressi.

## Notes

1. Herbert Muschamp, "When Art Becomes a Public Spectacle," *New York Times* (2 January 1994) Section 2, page 1.
2. William MacDonald, *The Architecture of the Roman Empire* (New Haven: Yale, 1986).
3. David P. Billington, *The Tower and the Bridge: The New Art of Structural Engineering* (Princeton: Princeton University Press, 1983).
4. Janet Kardon, *Siab Armajani: Bridges, Houses, Communal Spaces, Dictionary for Building* (Philadelphia: Institute for Contemporary Art, University of Pennsylvania, 1985).
5. Donald Judd, "Two Cultures," *Lotus* 73.
6. Alan Trachtenberg, *Brooklyn Bridge: Fact and Symbol* (Chicago and London: University of Chicago Press, 1965), 170.
7. Trachtenberg, 167.
8. Krzysztof Wodiczko, "Public Projection," *Canadian Journal of Political and Social Theory/Revue canadienne de théorie politique et sociale* 7:1-2 (Winter/Spring 1983): 184-7.
9. Wodiczko.