Opening Up the Exploratorium

KATHLEEN MCLEAN

The phrase "public realm" means different things to different people. Architects and planners tend to define it as the totality of the physical elements, buildings, amenities, and landscapes that together form what we see when we are in a city. For others, the public realm is the sphere of public activities, from the simplest act, like sitting on a bench watching people go by, to the most complex public interactions like community and social events, commercial transactions and political rallies. To me the public realm implies the confluence of the two: the coming together of the form of a place with the activities that occur there. One cannot exist without the other.
—Gianni Longo, *A Guide to Great American Public Places*

Even before the Exploratorium opened its doors in 1969, its site was a major influence on the culture of the organization. The remarkable open space of Bernard Maybeck's Palace of Fine Arts, built for the 1915 Panama-Pacific International Exposition, evoked an expansive sense of possibilities. This spaciousness, combined with founder Frank Oppenheimer's commitment to self-directed learning and individual discovery, imbued the organization with a unique character and vision as a place of exploration for both staff and visitors.

From the beginning, staff activity focused on exhibit development. The exhibit curriculum was practically infinite, and artists, scientists, and exhibit developers designed and built exhibits with few physical constraints. The large doors were thrown open, and visitors to the Palace of Fine Arts gardens and lagoon could simply wander in and amble around. Wandering epitomized Oppenheimer's self-directed philosophy that became a core value of the organization:

> It is a place for sightseeing, a woods of natural phenomena through which to wander. Sightseeing is more than just pleasurable; it can build the experiences and intuitions on which other opportunities for learning rely; it can arouse curiosity and, in a broad sense, it can help people determine where they are going and where they want to make their home.[1]

More recently, and still in keeping with a sense of sightseeing and wandering, Rob Semper likened the Exploratorium to Paris,

> a space formed by association. In its ideal design, there are centralized large and dramatic icon exhibits, which define the overall space, and a set of smaller exhibits, which form a thematic neighborhood. A series of main roads connects the major icons. The exhibits are juxtaposed at many angles to each other, creating a personally scaled neighborhood radiating out from the central space. . . . Because the design of the space does not force a single visitation path, visitors are encouraged to follow their own road map.[2]

Over time, the building filled, not only with exhibits but also with large office trailers, brought in to accommodate increasing numbers of staff. As exhibits began to crowd in on each other, visitor pathways constricted and tightened. At the same time, the number of visitors increased as the reputation of the organization grew. Most of the museum's resources continued to flow to exhibit development, with little invested in the infrastructure—lighting, heating, acoustics, rest rooms, and food services. In this metaphorical woods or streetscape, wandering took on an edge as people traipsed around the building and parking lots trying to find the entrance, backed up at the admissions desks trying to orient themselves, and stood in lines to use the exhibits and the rest rooms. Many visitors, when asked, complained of the noise, darkness, air quality, confusing layout of exhibits, and an overall lack of amenities. As one staff person described the situation, the Exploratorium had become a severely overconstrained system.

Refocusing on the Floor

In 1994, I was hired by the new executive director, Goéry Delacôte, to oversee the public aspects of the organization, from its spaces and amenities to its exhibits and programs. Goéry articulated the challenge: to take a place with sophisticated thinkers and deep values and improve the public experience without losing the organization's essence, to try to more closely align the actual physical environment with core values of the place. If the Exploratorium is like a woods, then my work would be one of conservation—cutting back some of the

Kathleen McLean is the director of public programs and the Center for Public Exhibition at the Exploratorium in San Francisco. She has been involved in the conception, design, and implementation of museum exhibitions and public spaces for 25 years.

thicket to allow room once again for the process of succession. If it is like a small city, with streets and neighborhoods, then my work would be to oversee the downtown restoration, to upgrade the environment without losing its early character. And like similar projects, this revitalization process would come with its range of diverse participants and stakeholders, from the preservationists who balk at any change to the opportunistic developers who lobby for the bulldozer.

It seemed like an overwhelming task at first. While the Exploratorium often brought together some of the best minds in the world to work with light, color, sound, heat, and temperature in the exhibits, that same expertise was not brought to bear when considering the public space. Goéry insisted that I would have to be "a long-distance runner," starting out slowly and keeping at it a long time. As with any significant change process, we needed to be careful but also proactive, to change what needed changing and retain the essences—indeed, protect them and keep them intact. I began by giving this effort a name—"Refocusing on the Floor"—in order to create a projectlike quality that we could wrap our minds around. At the same time that new staff, like me, needed to spend time understanding the traditions of the place, this focused effort was also essential for the longtime staff who would participate in decisions about what to keep and what to change.

We began by looking at the past and identifying those essential qualities that gave the Exploratorium its singular personality. We focused on what Ed Casey calls "place memory," the "stabilizing persistence of place as a container of experiences that contributes so powerfully to its memorability."[3] We spent a year in conversation, describing early design configurations, remembering significant programs and events, retelling the stories of the "old days." We reread Maybeck's original intentions for the building, critiqued a number of early interior renovations, and reviewed the planning from more recent architectural charettes. Managers pointed to the gross inefficiencies in this ongoing conversation. But this honoring of the past was arguably the most important aspect of envisioning the future for the Exploratorium. It helped us to determine which aspects we should change and highlighted the essential qualities that made the place so exceptional—qualities we need to retain as we evolve over the next few years.

Although the project grew out of our response to the constraints of the physical space, it was really about the whole place. I gathered staff from across the organization into small groups or task forces that concentrated on three major aspects of the place—Space (the physical environment), Pedagogy (the intellectual environment), and Mediated Experiences (the social environment). All three were interconnected: we couldn't think about one aspect without considering the other two. As the Pedagogy task force discussed what we are about and how we might re-present it, the Mediated Experiences group considered how people (staff and visitors) interact, and the Space group grappled with the physical settings that could embody the values of the organization while encouraging a broad range of social interactions.

A Real Place?

Some of our board members and strategic planning consultants suggested that perhaps we should not put resources into the space, that within the next 10 years people would come to rely more on virtual places and the notion of public place would shift from the real to the virtual. But, staff argued, if museums are, simultaneously a forum, a showcase, and a place of celebration, then they must have a physical presence. If public places "bring people together for the face-to-face contact that is essential to a healthy society,"[4] then the physicality of our place makes sense. If the interactions among staff and visitors are essential to our research and development efforts, then visitors and staff have to be in the same place at the same time and have to rub up against each other. As a result of these many conversations during the "Refocusing on the Floor" effort, we came to agree that the physical place of the Exploratorium was central to the culture of the organization—that the actual coming together of visitors, scientists, artists, and staff was an essential aspect of our "placeness."

Orientation and Exploration

We found ourselves always back at the same pesky question: What makes the Exploratorium a unique and vital public place? What enhances people coming together to share powerful experiences in powerful ways? We agreed that the space influenced the social relations and the social relations defined the place. But beyond that, we had a range of disagreements. While we reflected on visitors' needs for orientation, some staff were concerned that orientation would undermine the exploratory nature of the place. Are orientation and exploration really contradictory? Ed Casey, in *Getting Back into Place*, doesn't think so: "In exploration the primary issue, so far as place is concerned, is orientation. Unless we are oriented to some degree in the places through which we pass, we do not even know what we are in the process of discovering: witness Columbus's confusion as to just what he had come upon in the New World."[5] How might we provide orientation for those who want it, and at the same time encourage exploration?

Research

We began with an assessment of the current state of the place. Staff took video cameras out into the public spaces and documented a variety of physical aspects, from the scale of exhibit groupings to the patterns of light on a wall. I created a video walk-through, beginning a block from the building and looking at the way-finding clues (or lack of them) that helped guide people to our front doors. Researchers walked with visitors from the parking lot through the entrance into the Building and documented their perceptions and questions. We discovered that there were zones of experience where visitors had specific types of questions: What is this place all about? Who owns the building? Is there food inside? Where should I begin? Where's the cow's eye dissection?[6]

Research also revealed that some visitors wanted to know what they "should see" on their visit. Our biggest challenge was not to go too far, not to make the organization of the space too controlled and predigested. Kevin Lynch's comments in *The Image of the City* had contributed to the shaping of the Exploratorium's philosophy:

> there is some value in mystification, labyrinth, or surprise in the environment. Many of us enjoy the House of Mirrors, and there is a certain charm in the crooked streets of Boston. This is so, however, only under two conditions. First, there must be no danger of losing basic form or orientation, of never coming out. The surprise must occur in an overall framework; the confusions must be small regions in a visible whole. Furthermore, the labyrinth or mystery must in itself have some form that can be explored and in time be apprehended.[7]

So while some visitors asked for a prescribed path, we described "popular exhibits" and offered as guidance the phrase "Many people enjoy . . ." .

Fifteen small research studies led to many iterations of a floor map, an associated display on "Getting Started," a scale model of the building, information about current and future programs, and exhibits that provide a variety of contexts for people as they begin their visit. We spent time envisioning the Exploratorium as an ideal public place, using William Whyte's description of the principal public needs of indoor spaces (seating, food, retailing, and toilets) and Lynch's five types of elements of city image (paths, edges, districts, nodes, and landmarks).[8] In our "Café Bench" study, researchers sat with visitors on the benches surrounding the café and discussed their feelings about the space after having navigated almost all the way through it. We asked visitors to describe what elements they would use as spontaneous landmarks—navigational references or places to meet others. We even examined the language staff used to describe areas of the building and compared these to visitor descriptions. What staff described as "the mezzanine," for example, visitors described as "upstairs." (In fact, when asked, most visitors said they did not know the meaning of "mezzanine," a finding that was troublesome since we used the word on directional signage and as a locator.)

Along with employing video documentation and visitor research in assessing the physical space of the Exploratorium, we wanted to consider its cultural qualities as well. How might we describe the place through narrative and storytelling? Inspired by Daniel Kemmis's description of the plaza as a theater, "a stage upon which the city might continue to unfold its story,"[9] we presented "Public Viewing: How Do People Really Use Museums?"—an event that employed performance as a way of examining our public space and visitors' experiences within it. Twenty performers from a variety of cultures, including dancers, actors, performance artists, and musicians, created short pieces that reflected their observations of visitors and exhibits at the Exploratorium. These pieces were crafted into an evening performance during which an invited audience of museum and theater professionals, artists, and architects moved from area to area to see each piece. The second half of the evening was spent in a facilitated discussion. Pamela Winfrey, director of performing arts programs, explained, "The event was a telescoped investigation about the visitor experience. The invited audience became visitors watching performers, who were also visitors, create performances based on their observations about our visitors."

"In exploration the primary issue, so far as place is concerned, is orientation. Unless we are oriented to some degree in the places through which we pass, we do not even know what we are in the process of discovering: witness Columbus's confusion as to just what he had come upon in the New World."

Design

Once we had considered broad, overarching public space issues, we directed our attention to specific areas. One of our most difficult spots was the portico or lobby, a dreary entrance area with battleship gray walls and a deteriorating vinyl floor. It is a small space, much too small to welcome the hundreds of thousands of people who visit the Exploratorium each year. In the early days, it had been an exterior space used mostly by neighborhood men to play chess. It housed our only rest rooms, which also served all the people in the surrounding park. When staff enclosed the space in the 1980s, it became the admissions area, although because of its small size, on busy days visitors often had to stand in lines in the rain. Eventually, the admissions desks moved further inside, and the portico space became a free space once again. Because we had so many needs for signage, orientation, and amenities, we kept trying to cram them into the portico, but issues of traffic flow and congestion always brought us up short. Architectural consultants didn't do any better, and one of their solutions was even laughable: pathways painted on the floor accompanied by a voice on a loudspeaker telling visitors to stay in line.

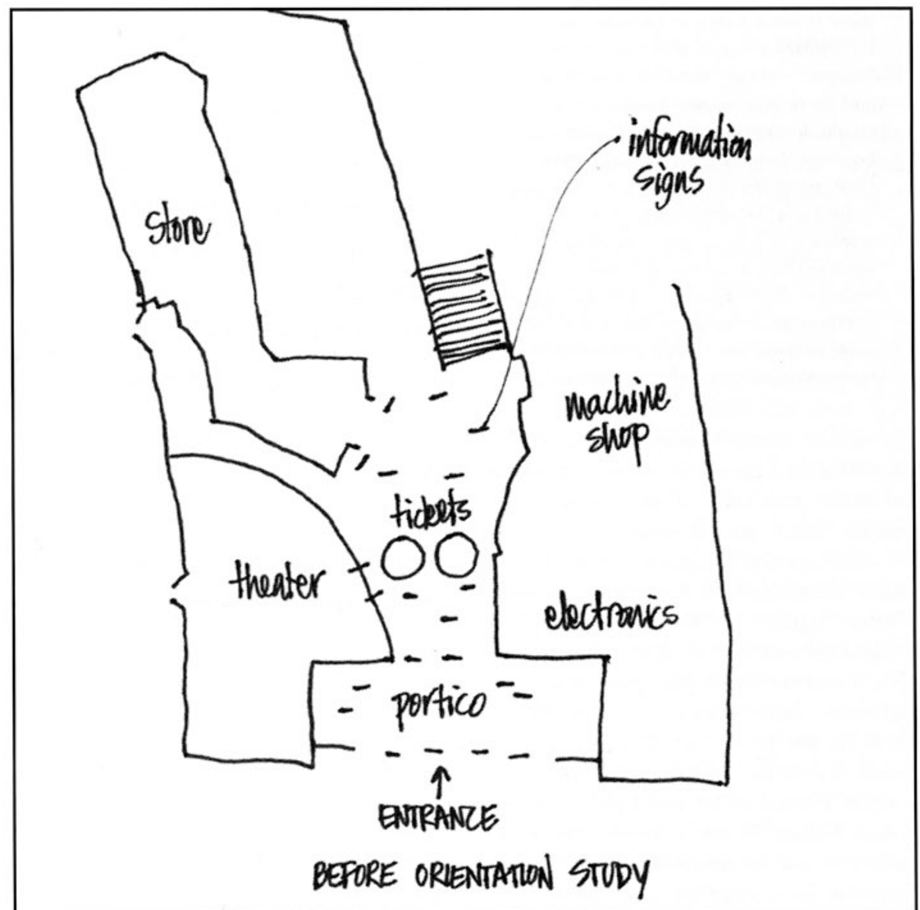
Our breakthrough came when we finally began thinking about the portico as a transitional space, the connection between the outside (a beaux-arts building with elegant columns and a massive rotunda) and the inside (a multisensory learning environment full of individual exhibits on science, art, and human perception). Because the portico is the only interior space at the Exploratorium where visitors don't have to pay an admission fee, it is in some ways more connected to the outside than the inside. To emphasize its outdoor connection and history, we painted the portico walls the same color (and patina) as the exterior. The café latte cart, previously inside the main space, was moved to this transition space so that it could serve park visitors and neighbors as well as our museum visitors. Sales increased dramatically. We installed two exhibits in the space that not only serve as examples of the Exploratorium experience but that also play with the tensions between outside and inside, old and new, low- and high-tech. The female columns in the exhibit *Angel Caryatids*, a large figure-ground illusion, reference the columns and the historical character of the exterior. Juxtaposed next to the *Angel Caryatids*, closed-circuit television monitors capture some of the activities taking place inside the Exploratorium: looking down from the top of the *Tornado* exhibit, watching the images created by visitors on the screen of the *Recollections* exhibit, peering into the electric sphere

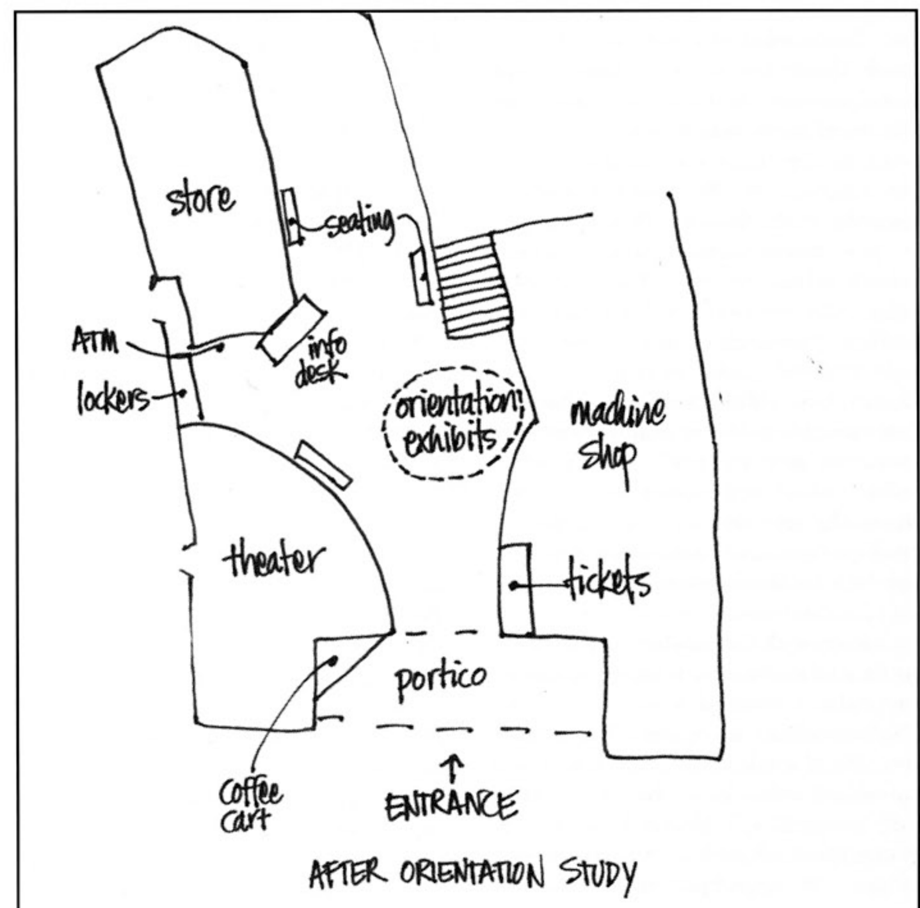
of *Quiet Lightning*. The real-time images make use of new wiring throughout the building and provide a reference to the new digital technology that the Exploratorium is increasingly incorporating.

Beyond the portico inside the building, we created an "entry plaza" where visitors can enter, pay their admission fees, get information at a staffed desk, use an ATM machine, and store their bags. The orientation exhibits, focused on the theme "You Are Here," play with the notion of "here" in scale as well as in place: visitors can locate themselves on a scale model of the building, in a self-directed video flyover of the surrounding environment, in Landsat photographs of San Francisco neighborhoods, and on real-time marine radar images of the San Francisco Bay. We installed a small, traditional marquee on our theater, and now, for the first time, visitors know we actually have a theater and know what to expect inside. Attendance at special theater programs has increased. We painted the theater one of the historic Palace of Fine Arts colors, again referencing the exterior of the building.

The significant change of ambience in the entry plaza is, more than anything else, the result of opening a previously covered skylight. But in opening the building to more light, we came up against another organizational tension. The first major collection of exhibits that Oppenheimer and his staff created was on light and color—exhibits that needed darkness—so most of the skylights in the roof remained covered, creating a dark, mysterious feel to the space that many staff felt was a significant aspect of the Exploratorium's character. Although we knew that some visitors had difficulty making the transition from the bright exterior to the dark interior, when we asked visitors for their preference the results were no help. Fully half of our visitors liked the darkness because it "focuses you on the exhibits," "draws you in," and "is a little bit exciting."

Our decision to open the skylight came at director Goéry Delacôte's insistence: "The brightness is welcoming to our visitors. It helps them orient themselves and is a metaphor for the need for greater clarity and less obfuscation about how science works in the world. Our museum should reflect this modern sensibility, rather than the bunker





mentality evident in museums designed in the 1960s." The effect was dramatic. Not only did daylight pour into the building, making it seem much larger, but from the floor of the public space we could see outside to the tops of surrounding redwood trees and the adjacent rotunda. The daylight changed significantly the quality of the entrance experience, and people began to spend more time in the area. We also installed glass panes in the large paneled doors toward the back of the space, creating a sense of porousness in the building that connects it much more directly with its surrounding environment. This ability to see outside from the interior of the space and to see in from the exterior is essential in defining the building as a geographic place with a unique physical location. And it is an important quality of public space, providing a transparency and accessibility that encourage public interactions.

But are we truly a public place? William Whyte suggests, "A commonsense interpretation would be that the public could use the space in the same manner as it did any public space, with the same freedoms and the same constraints."[10] Some would argue that, like the "public" spaces of theme parks or shopping malls, museums control, to some extent, the freedom and activities of the people who visit. "There are no demonstrations in Disneyland," observes Michael Sorkin.[11] And because we charge an entrance fee, we are often seen as only quasi-public. Of the 60 places profiled in *A Guide to Great American Public Places*, only one is a museum—the Franklin Institute—and only its admission-free Atrium is considered "public."[12]

However the Exploratorium is defined, its informal and sometimes chaotic character makes it feel like a public place: on any afternoon you might encounter staff skateboarding from one end of the huge building to the other or breakdancing in front of the *Colored Shadows* exhibit. Dogs come and go. People sit on benches with coffee in hand. One visitor frequently presents his own bubble-making demonstration. For me, we are truly at our public best on monthly Free Days, when attendance is higher and visitors are much more diverse. Even on these crowded days the atmosphere is relaxed and friendly, since we doubled the seating throughout the building, upgraded the café and store, and installed a second set of rest rooms toward the back of the building. For our visitors, I believe the Exploratorium is a forum where people speak their minds and a place of celebration where people come together to share common interests and common experiences.

We are now entering another phase of public place research and design at the Exploratorium. Architects and engineers are working with Exploratorium staff to redesign the interior spaces, move the entrance back to its original Maybeck location, create a central public plaza, and provide a dynamic outdoor space on the "back" side of the building. The process of research and design that led us to this point will continue with the new activity. In a sense, we started out with the theory informing our practice, but our research and experimentation have, in turn, informed our theory, and they will contribute significantly to our design process going forward. Most important, our research work with visitors—the public—will continue to be essential in the development of the Exploratorium as a public place.

NOTES

The epigraph is from Gianni Longo, *A Guide to Great American Public Places* (New York: Urban Initiatives, 1996), p. 5.

1. Frank Oppenheimer and the Staff of the Exploratorium, *Working Prototypes* (San Francisco: Exploratorium, 1986), p. 6.

2. Rob Semper, "The Importance of Place," *ASTC Newsletter*, September/October 1996, pp. 2–5.

3. Edward Casey, *Remembering: A Phenomenological Study* (Bloomington, Ind.: Indiana University Press, 1987), pp. 186–87, quoted in Dolores Hayden, *The Power of Place: Urban Landscapes as Public History* (Cambridge, Mass.: MIT Press, 1997), p. 46.

4. Longo, *Guide to Great American Public Places*, p. xiii.

5. Edward Casey, *Getting Back Into Place: Toward a Renewed Understanding of the Place-World* (Bloomington, Ind.: Indiana University Press, 1993), p. 121.

6. Sue Allen and Veronica Garcia-Luis, Exploratorium internal research report, 1998.

7. Kevin Lynch, *The Image of the City* (Cambridge, Mass.: MIT Press, 1960), pp. 5–6.

8. William H. Whyte, *The Social Life of Small Urban Spaces* (Washington, D.C.: Conservation Foundation, 1980), pp. 50–53; Lynch, *Image of the City*, pp. 46–85.

9. Daniel Kemmis, *The Good City and the Good Life* (New York: Houghton Mifflin, 1995), pp. 66–67.

10. Whyte, *Social Life of Small Urban Spaces*, pp. 64–65.

11. Michael Sorkin, ed., *Variations on a Theme Park: The New American City and the End of Public Space* (New York: Noonday Press, 1992), p. xv.

12. Longo, *Guide to Great American Public Places*, pp. 126–27.

FURTHER READING

Hayden, Dolores. 1997. *The Power of Place: Urban Landscapes as Public History.* Cambridge, Mass.: MIT Press.

Sardello, Robert, and Gail Thomas. *Stirrings of Culture.* Dallas: Dallas Institute Publications, 1986.