"An unprecedented structure with unprecedented capabilities for visual, aural, and theatrical experience, the Pavilion is unlike any other performance arena, in that performers were as entirely absorbed into its shimmering mirrored surface as the audience in their reflections and activities merging with those of the spectators."

There is a long history of artists aspiring to build worlds of the imagination as excited space, multisensory "magic theater" that would transcend the physical laws of the real world. Of course the caves of Lascaux, the European gothic cathedrals, or the great palaces such as the Moorish Alhambra are prime examples, but lesser known are the theatrical experiments of the avant-garde. Many of these latter efforts—pure experimentation, research, and idealism—called for live performance as a vehicle for artistic and social transformation. For example, the Prophetic Action of the Russian composer Alexander Khachaturian, although never performed, was conceived for color organ, lights, sound, and thousands of choral voices "at the foot of the Himalayas ... an orgy of the arts and senses." Bauhaus director and architect Walter Gropius had ambitious plans to create a new theater architecture, rethinking the configuration of performance space as a means to alter the perspective of the viewer. His ideas influenced László Moholy-Nagy’s research at the Bauhaus Theater, who wrote: "It is time to produce a kind of stage activity which will no longer permit the masses to be silent spectators, which will not only excite them inwardly but will let them take hold and participate—actually allow them to fuse with the action on the stage at the peak of cathartic ecstasy."

Further experimentation in live performance subsequently had a profound impact on the changing relationship between the viewer and the artwork, with the intent to heighten individual, subjective experience. This tendency took root in the performance art of John Cage, who staged seminal events with Robert Rauschenberg and Merce Cunningham at Black Mountain College in the early 1950s. As Cage had asked: "What'll art become? A family reunion? If so let's have it with people in the round, each individual free to lend his attention wherever he will."

By the 1960s, Allan Kaprow, Claes Oldenburg, Jim Dine, Red Grooms, and Robert Whitman were exploring new forms that would collectively engage audiences in environments and situations that dissolved all traditional distinctions between performer, stage, set and audience. Paramount in their concern was subverting hierarchical social structures through live performance. According to Whitman, "[o]ne of the problems of traditional theater is that you tell somebody what to see, where to sit, what to do, when to come, when to go—I don’t think that’s acceptable. What one wants to do is make a theatrical situation that can be available at any time."

Billy Klüver, the Bell Labs scientist who sparked broad interest in art and technology during the 1960s, participated in many of the experimental perfor-
from left to right:
Pepper Pavilion
Osaka Expo, 1970
"floats" and geodesic dome
enshrouded in fog
©E.A.T.
photo © Harry Shunk;
courtesy E.A.T.

Pepper Pavilion
"real" reflections of viewers and
the floor in the Mirror Dome
©E.A.T.
photo © Fuku Nakaya;
courtesy E.A.T.

Pepper Pavilion
at night with xenon lights
framing dome
©E.A.T.
photo © Harry Shunk;
courtesy E.A.T.

mance events that took place in lofts and storefronts
of New York City, among them Oldenburg's 1962 Ray
Gun Theater. Oldenburg, who claimed that "theater
is the most powerful art form there because it is
the most involving," kept audiences small in an open
gallery space to heighten the intimacy of the expe-
rience.

Klüver had also developed a close association with
Robert Rauschenberg, resulting in several collabora-
tive art and technology projects that helped to
catalyze the New York art scene, including Yvonne
Rainier, Cage, Cunningham, Andy Warhol, Jasper Johns,
among others— to incorporate the new technologies
in artworks and performance events. One such event
was the 9 Evenings: Theatre and Engineering in the fall
of 1966 at the cavernous 69th Regiment Armory in
New York. Klüver and Rauschenberg organized works
involving artists, composers, and dancers in collabora-
tion with engineers from Bell Labs. As a result of 9
Evenings, Klüver, Rauschenberg, Whitman, and the
engineer Fred Waldhauer founded E.A.T. (Experiments
in Art & Technology) in late 1966, encouraging activity
in art and technology across the U.S.

The culminating project carried out by E.A.T. was the
Pepper Pavilion—an extraordinary effort involving
over 75 artists and engineers—a landmark public
sculpture and performance installation commissioned
by Pepsi-Cola for the Expo '70 in Osaka, Japan. The
artists and engineers who created the Pavilion
synthesized the tendencies of the 1960s, bringing
together the currents of social interaction,
collaboration, electronic media, Happenings and
performance art, immersive environments, and mind-
altering "realities" in this transformative "theater of
the future."

The Pepper Pavilion was first an experiment in
collaboration and interaction between the artists
and the engineers, exploring systems of feedback
between aesthetic and technical choices, and the
humanization of technological systems. Klüver's ambi-
tion was to create a laboratory environment, encour-
gaging "live programming" that offered opportunity
for experimentation, rather than resort to fixed or "dead
programming" as he called it, typical of most expo-
sition pavilions. Secondly, the Pavilion evoked and cele-
brated aspirations for heightened, non-hierarchical
social dynamics built on the aesthetics of agency and
transformation brought about through the collective
participation of the audience, the artists, and the
engineers. The Pavilion's interior dome—immersing
viewers in three-dimensional real images generated
by mirror reflections, as well as spatialized electronic
music—invited the spectator to individually and collec-
tively participate in the experience rather than
view the work as a fixed narrative of pre-programmed
events. The Pavilion gave visitors the liberty of
shaping their own reality from the materials, proc-
ceses, and structures set in motion by its creators.

Klüver's commitment to "live programming" and
the active role of the viewer is best expressed in this
statement: "The initial concern of the artists who
designed the Pavilion was that the quality of the experi-
ce of the visitor should involve choice, responsibil-
ity, freedom, and participation. The Pavilion would
not tell a story or guide the visitor through a didactic,
authoritarian experience. The visitor would be encour-
gaged as an individual to explore the environment and
compose his own experience."

As an intermediary work, the Pepper Pavilion was an ambi-
tious exploration in collaboration and community
among a diverse group of visual artists, composers, choreographers, scientists and engineers. Breaking with the post-renaissance notion of specialization and the artist as "auteur"—single-handedly creating the work—the interdisciplinary nature of the Pavilion required the collective effort of a large group of artists and engineers who had the challenging task of integrating building ideas born from the group process. At the same time, there was considerable space for individual creative thinking, each artist assigned a component of the overall project. Nevertheless, the sum total of the individual parts had to reach a common goal and coalesce into the whole, striving towards the Gesamtkunstwerk or total artwork. The Pavilion represents a realization of such dreams, due to the fact that the collaborating artists, architects and engineers were committed to the process of interaction that would help to solve complex design problems and bring about new ideas and forms.

After receiving the invitation from Pepsi, Klüver assembled a core team of artists, along with Whitman, that included Frosty Myers, David Tudor, and Robert Flurer. Together they conceived the key elements of the Pavilion: the spherical, 30-foot diameter, 360-degree mirrored dome, inflated inside a geodesic shell, generating real-image, three-dimensional, upside-down reflections of audience and performers; a fully programmable surround-sound system enabling composers to direct sound in various spatial trajectories via thirty-seven speakers arranged in a rhombic grid, handsets held by the viewer emitting pre-recorded "natural" sounds as the audience traversed loop coils installed beneath the floor of the mirrored dome, 800-pound kinetic sculptures (Floats) groomed the terrace outside the Pavilion at a speed of approximately two inches per minute, broadcasting sounds and gently deflecting off of unaware spectators, and four towers with powerful xenon lights generating a well-defined beam between each tower, dramatically framing the dome at night.

Additional artists later joined the team including Gordon Mumma, Lowell Cross, Tony Martin and Fujiko Nakaya, among others, who were responsible for the laser deflection system that responded to audio input, bathing spectators in pulsating streams of color as they entered the Pavilion’s lower Clam Room, a programmable, retractable lighting system generated spectacular blossoming effects in the mirror, and a man-made fog sculpture generated by hundreds of tiny water nozzles enshrouded the exterior dome in a fine mist, interacting with the weather conditions. The sum total of the Pepsi Pavilion was a fluid, multi-sensory experience of light, sound, touch and movement, constantly changing in response to the viewer’s presence and actions, and to the natural forces of the environment.

Seen by millions of visitors, the Pavilion brought into sharp focus the active role of the viewer through the project’s embrace of open, responsive systems. For the artists and engineers, it became a study in the dynamics of viewer interaction. Although the artists—including Pauline Oliveros, Remy Charlip, David Tudor, and Tony Martin—who performed in the space had prepared extensive proposals for performances and environments, they were instead encouraged to freely experiment with the multi-dimensional audio-visual system and to consider the response of the spectator in the development of their evolving ideas. Prior to their arrival in Japan, it would have been impossible for the artists to pre-determine the
nearly infinite possibilities of the Pavilion as a space for live performance. Klüver was committed to the ideal that the Pavilion's advanced technological systems support the artists' ideas, creating an open field of possibilities in which they could choose and do whatever he or she could imagine.

According to Barbara Rose, the art critic who accompanied the artists to Japan, "...basic to this system of values was social interaction, control of technology toward fulfilling human needs, respect for the natural environment, and its potentials and limitation, and a belief in the ability of individuals to take responsibility in democratic, non-coercive, non-hierarchical situations." This notion of establishing an environment for audience participation, enables, according to media critic Pierre Lévy, interpretation to enter the loop with collective action. This view of the artwork as a field of interaction between artist and viewer echoes Situationist Guy Debord, who wrote Society of the Spectacle just three years before the opening of the Pavilion: "The spectacle is not a collection of images, but a social relation among people, mediated by images."

The Pavilion was a response to the idea of freeing the spectator to make his or her own connections in the experience of the work, or as Henry David Thoreau poetically intoned, "[o]nly on the spur of the moment... Let the spur of countless moments goad us incessantly into life." Here the artists built a world without controlling it, in order that the spectator exist in the world as a willing and equal partner in forming the experience, in shaping their own reality. Art then functions as a transformative agent, without imposing pre-conceived patterns of thought, which might prevent the viewer from freely experiencing the artwork according to their own unique perspective.

We could surmise that the Pavilion articulated a vision of social sculpture, in the spirit of Joseph Beuys, who was concerned with "how we mold and shape the world in which we live: sculpture as an evolutionary process, everyone an artist." The Pavilion was a public sculpture for constructing worlds of the imagination that defy the constraints of physical laws, of everyday reality, revealing to us, in the most extravagant manner, what our reality might be, given the tools and minds to reshape it.

"If art was going to be of any use, it was going to be of use not with reference to itself, but with reference to the people who used it." — John Cage