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Culture on the Brink

Ideologies of Technology

Edited by Gretchen Bender + Timothy Druckrey

A Manifesto for Cyborgs

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Page 13: Still from Nam June Paik, *Lake Placid* (1980). Photo: Marita Sturken
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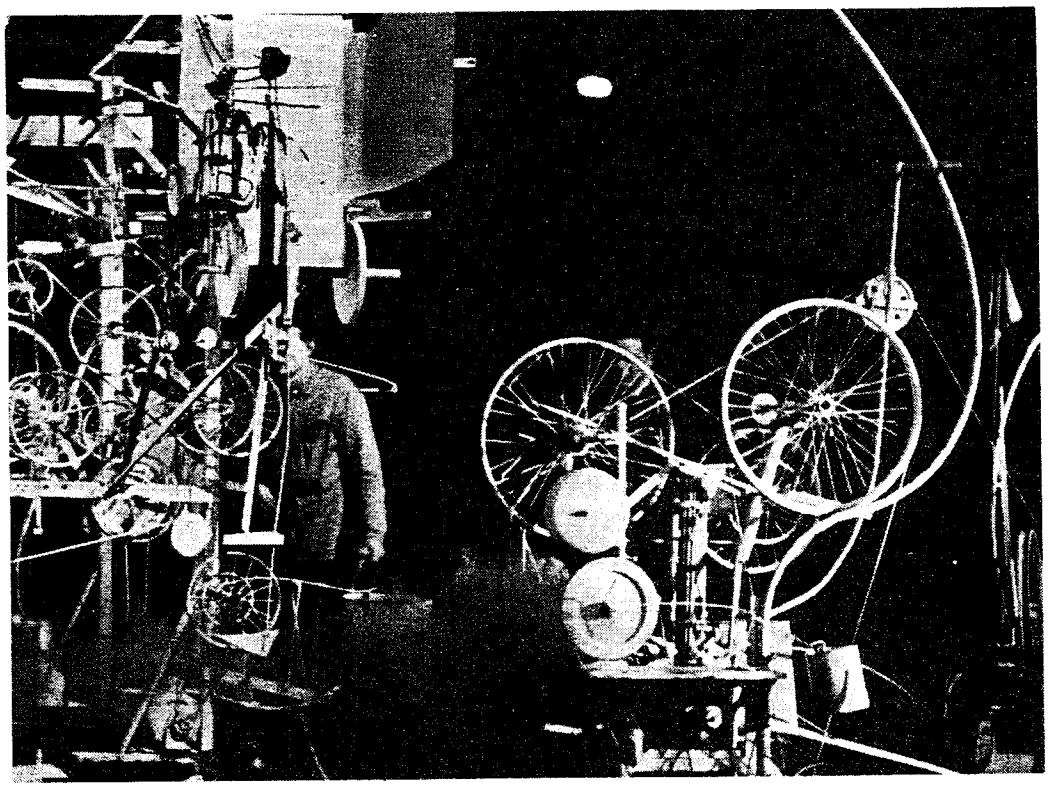
Artists, Engineers, and Collaboration

Billy Klüver

One of the most persistent ideas in twentieth-century art is that of absorbing new technology into art: the Futurists' blind devotion to technology, the Russian Constructivists' attempts to merge art and life into new imaginative forms, the more rigorous design approaches at the Bauhaus, continued by Gyorgy Kepes at MIT, and the work of individual artists such as Marcel Duchamp and John Cage. This involvement with technology has represented artists' positive desire to be engaged in the physical and social environment around them.

In the early 1960s, when technology began to develop rapidly, many artists wanted to work with forms of new technologies, but often found themselves shut out, with little or no access to technical and industrial communities. When, in 1960, I began to collaborate with artists on their projects, I was working as a scientist in the Communication Sciences Division at Bell Telephone Laboratories and had virtually unlimited access to technical people and resources, and most importantly, I had the tacit support of executive director of the division, John R. Pierce. I will discuss the evolution of these one-on-one collaborations between artists and engineers, and their development into the foundation Experiments in Art and Technology (E.A.T.).

Jean Tinguely came to New York City in early 1960. On seeing the city for the first time, he decided to build a large machine that would violently destroy itself in front of an audience in a theater, throwing off parts in all directions. A protective netting would save the audience. When the Museum of Modern Art invited Jean to build his machine in the garden of the museum, he asked me for help. I took him to the New Jersey dumps, which in those days were not covered with dirt. He found bicycle wheels, parts of old appliances, tubs, and other junk, which we hauled to the museum and threw over the fence into the garden.

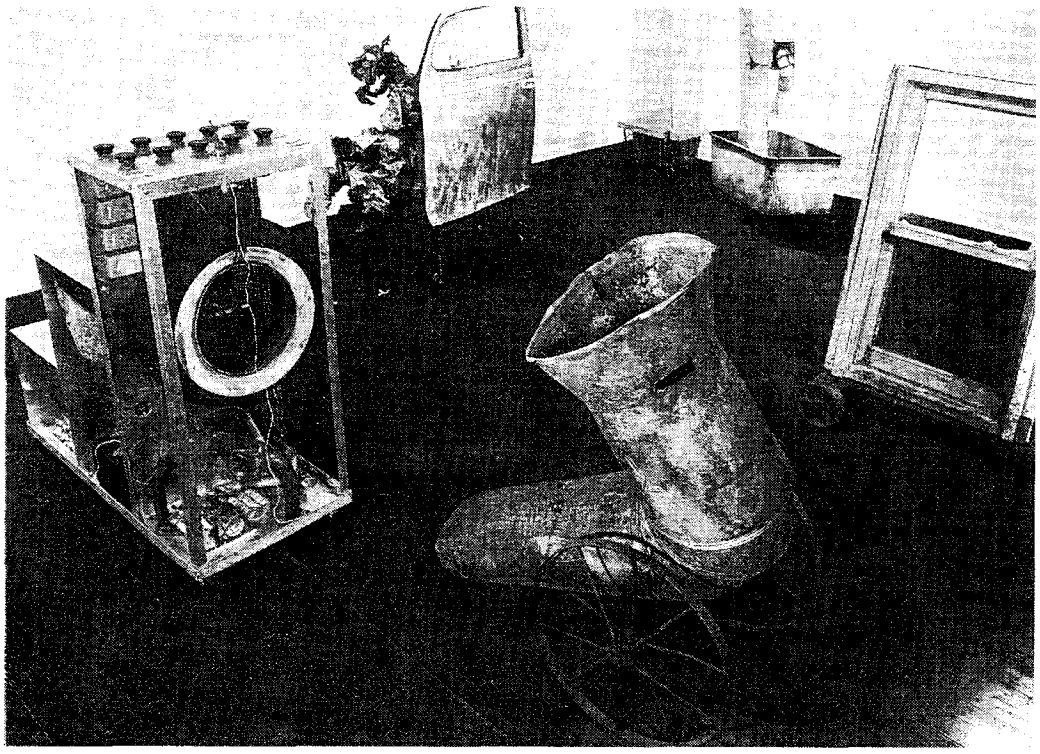


Jean Tinguely, *Homage to New York* (1960), photograph: David Gahr.

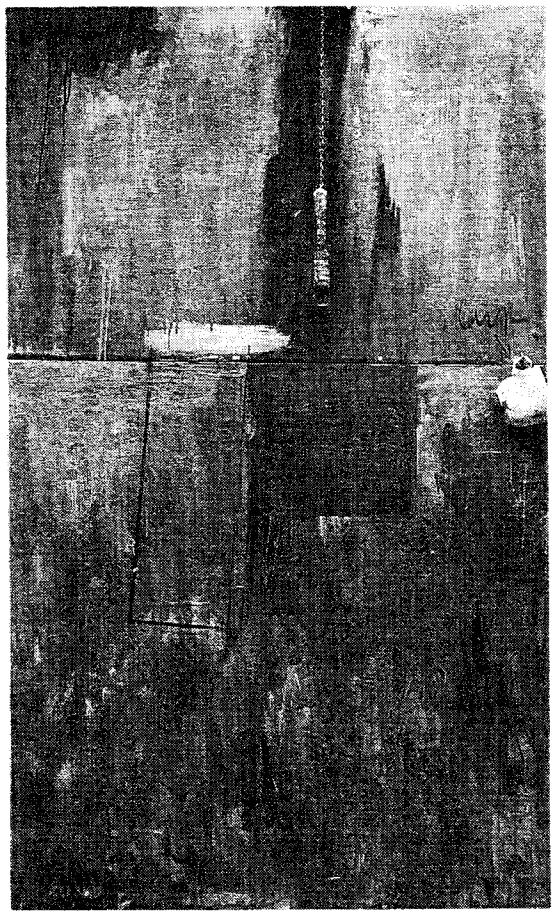
Enlisting the help of Harold Hodges at Bell Laboratories, we built a timer that controlled eight electrical circuits that closed successively as the machine progressed toward its ultimate fate. Motors started; smoke, generated by mixing titanium tetrachloride and ammonia, bellowed out of a bassinet; a piano began to play and was later set on fire; smaller machines shot out from the sculpture and ran into the audience. In order to make the main structure collapse, Harold had devised a scheme of using supporting sections of Wood's metal, which would melt from the heat of overheated resistors. The whole thing was over in twenty-seven minutes. The audience applauded, and then descended on the wreckage for souvenirs. Jean called the event *Homage to New York*. During those three or four weeks of the construction of the machine, I learned how to listen to the artist, and to give him as many technical choices as I could—as quickly as possible. And as Jean has said repeatedly since, it couldn't have happened without our collaboration.

Shortly thereafter, Robert Rauschenberg asked me to collaborate on what he described as an interactive environment, where the temperature, sound, smell, and lights would change as the audience moved through it. After many discussions, the idea boiled down to a sound

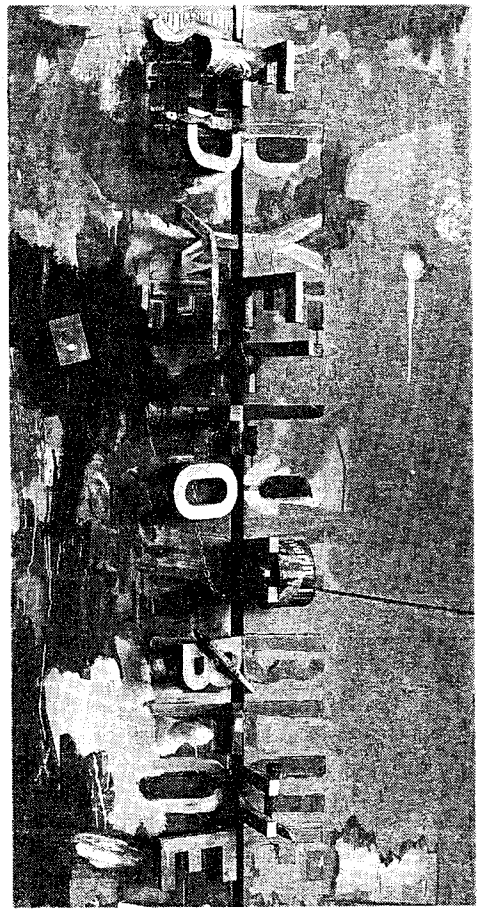
environment where the sounds came from five AM radios. From a central control unit, the audience could vary the volume and the rate at which the AM band of each radio was being scanned. But Bob wanted no wires between the control unit and the radios. Considering the electronics available in the early sixties, this turned out to be a difficult technical problem. We designed a system in which all the AM radios were located in the control unit and the sound was retransmitted on FM to receivers and speakers. We had a lot of trouble with interference between the AM receivers and with noise from the small motors that drove the scanners. When we solved these problems, Bob put together the five sculptures that make up *Oracle* from objects he found in the streets; and the control panel, receivers, and speakers were installed in them. *Oracle* is now at the Centre Georges Pompidou in Paris. The technology has now been updated for the fourth time, using electronic scanning and infrared transmission between the pieces. After thirty years the technology has finally caught up with the artist, and *Oracle* is performing as it was originally conceived.



Robert Rauschenberg, *Oracle* (1965). Copyright © Robert Rauschenberg/VAGA, New York, photograph: Rudy Burckhardt.



Jasper Johns, *Zone* (1962), 60 x 36 inches. Collection Kunsthaus Zurich. Copyright © 1994 Jasper Johns/VAGA, New York.

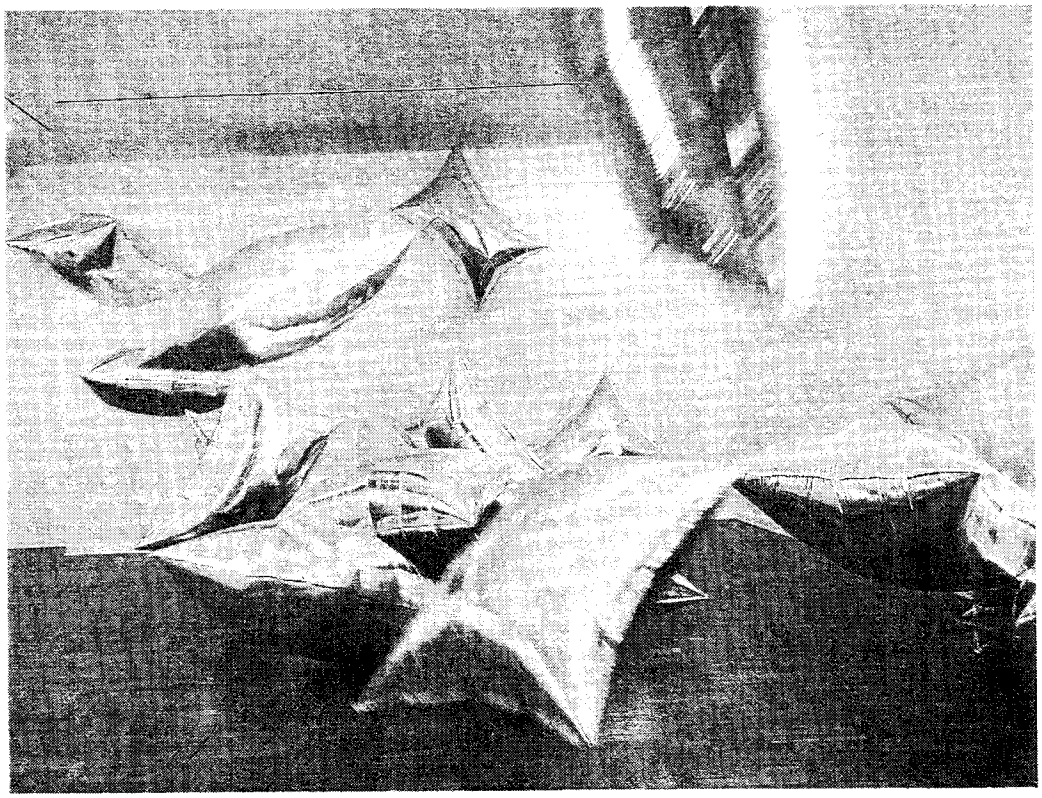


Jasper Johns, *Field Painting* (1964), 72 x 36 3/4 inches. Collection of the artist. Copyright © 1994 Jasper Johns/VAGA, New York.

Jasper Johns asked if he could make a painting with a neon letter in it. What was new was that Johns wanted no cords to the painting. We needed a battery-powered high-voltage supply, but to stack up batteries attached to seven hundred volts would have been messy, dangerous, and impractical. So we started out with twelve volts of rechargeable batteries. A multivibrator circuit converted the DC voltage from the batteries into AC. Transformed into seven hundred volts and then rectified, it powered the neon letter. All the technical equipment was mounted behind the painting. We were able to provide enough energy for the blue "A" which sticks out horizontally at the top of the painting in *Zone* (1962) and the red neon "R" in *Field Painting* (1964).

One day in the summer of 1964 in his Forty-Seventh Street studio, Andy Warhol asked me if we could make him a floating light bulb. My colleagues at Bell Laboratories and I made some calculations and discovered that it was not possible with existing battery technology. While working on the idea, another colleague found a material called Scotchpak, which was relatively impermeable to helium and could be heat-sealed. The United States Army used it to vacuum-pack sandwiches. Andy wanted to use the material to make clouds. While we were experimenting with how to heat-seal curves, Andy took the material, folded it over, and made his *Silver Clouds*. When they were shown at the Leo Castelli Gallery in April 1966, the heat gradient between the floor and the ceiling created a slight pressure differential, and with paper clips as ballast, we balanced them so that they would float halfway between the ceiling and the floor.

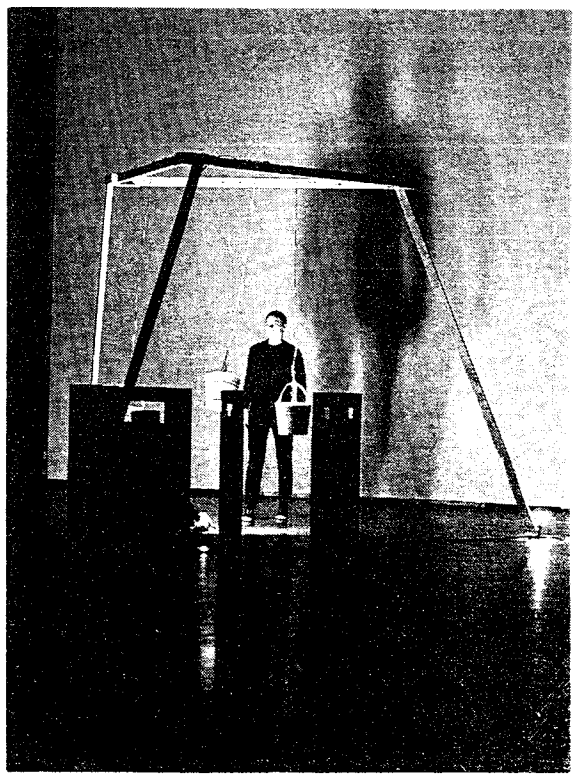
By 1965 I had taken dozens of artists through Bell Laboratories and many of my colleagues had worked with artists, but I began to feel a larger effort was necessary to increase the awareness of the technical



Andy Warhol, *Silver Clouds* (1966). Courtesy Leo Castelli Gallery/
The Andy Warhol Foundation for the Visual Arts, photograph: Rudy Burckhardt.

community and make it more accessible to artists. This became possible when a group of artists, many of whom had performed together at Judson Church, expressed a desire to stage large-scale performances in collaboration with scientists and engineers. Out of this came "9 Evenings: Theater and Engineering," a series of performances at the 69th Regiment Armory in New York City in October 1966 by ten artists: John Cage, Lucinda Childs, Oyvind Fahlström, Alex Hay, Deborah Hay, Steve Paxton, Yvonne Rainer, Robert Rauschenberg, David Tudor, and Robert Whitman. Each of the ten artists worked closely with one or more engineers, primarily from Bell Telephone Laboratories.

The first meeting of artists and engineers took place in early 1966 in Rauschenberg's studio. During the summer of 1966, more than thirty engineers were hard at work, with at least one engineer assigned to each artist, depending on the artist's project and engineer's specialty. For example, Bill Kaminski designed and built for Alex Hay low-noise differential amplifiers with 80db gain and FM transmitters that could pick up and transmit body sounds, muscle activity, eye movements, and brain waves from electrodes attached to his body. Peter Hirsch developed a



Lucinda Childs, "Vehicle," *9 Evenings* (October 13, 1966). Photograph: Peter Moore.

Doppler sonar for Lucinda Childs. Three red buckets swung inside a simple scaffolding, on the periphery of which were mounted three seventy kHz ultra-high-frequency sound transmitters generating inaudible sound beams, which were reflected from the moving buckets. Through the Doppler effect, the reflected sound beam had a frequency slightly higher or lower than seventy kHz and the beat frequency between the return signal and seventy kHz, which was proportional to the speed of the buckets, was amplified and fed through the speakers in the armory. The resulting sound was like wind blowing through a forest.

Other engineers worked on equipment and systems that would be used by more than one artist; in particular, a local-area FM transmitting system used to control lights, sound, and movement of objects at a distance. Fred Waldhauer designed a proportional control system for moving sound around the speakers mounted in the armory and for varying the level of the sound in each speaker, which was used by John Cage, Deborah Hay, and David Tudor.

Robert Rauschenberg's work *Open Score* combined the FM transmitting system with elements unique to his piece. In the first part, Frank Stella and Mimi Kanarek played tennis. Each time they hit the ball, a small specially designed radio transmitter embedded in the racquet handle transmitted the vibration of the racquet strings to the speakers around the armory, and a loud bong was heard. For each bong, a light went out, and the game ended when the armory was in complete darkness. With the use of infrared light and infrared-sensitive television cameras, the images of the crowd as they moved in the space were projected on three large screens suspended in front of the audience. The audience could feel that the people were there but could not see them except on the screens. The infrared camera tubes came from Japan, since they were classified as secret by the military in this country.

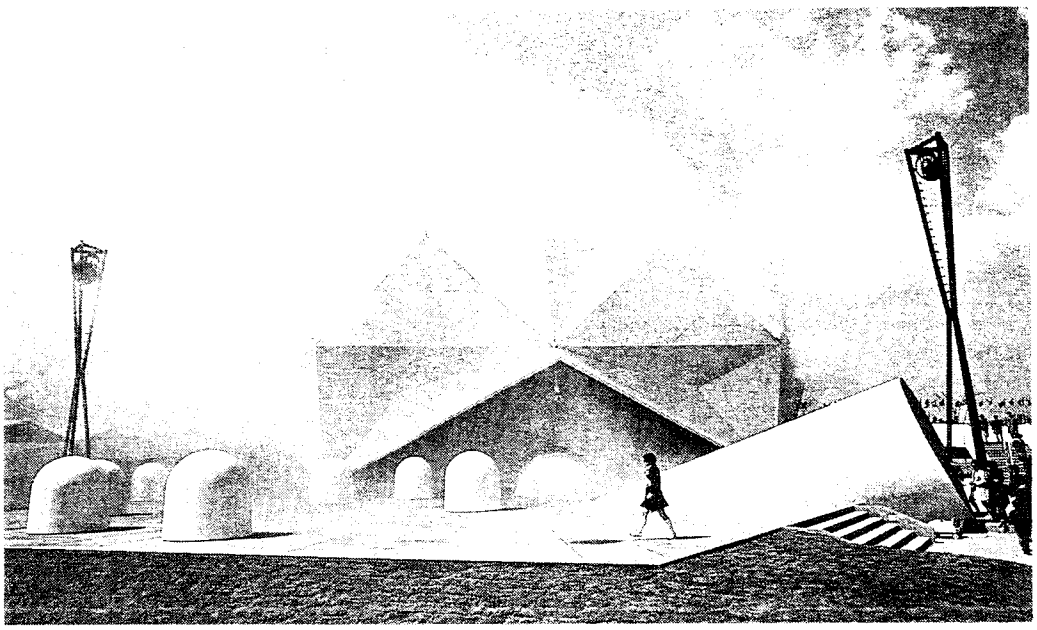
Most of the equipment used in "9 Evenings" did not exist off-the-shelf in 1966 and was built especially for the artists by the engineers. All together, the engineers contributed four man-years of engineering to the performances. "9 Evenings" ran from October 14 to 23, 1966, and more than ten thousand people attended over the course of the performances.

"9 Evenings" raised enormous interest among New York artists in using new technology. Robert Whitman, Fred Waldhauer, Robert Rauschenberg, and I decided to form E.A.T., a service organization for artists, engineers, and scientists. Three hundred artists showed up at our first meeting in November 1966, and eighty made immediate requests for technical help. We began to actively recruit engineer members, published a newsletter, held open houses where artists and engineers could meet informally, and organized lecture-demonstrations by scientists for artists on topics ranging from lasers to computer graphics to paper to color theory. Within three years we had recruited more than two thousand engineers from all over the country and established a technical services matching system to put artists directly in touch with engineers. We made a conscious effort to help every artist who approached us with a request.

In late 1968 Pepsi-Cola approached E.A.T. about designing and programming a pavilion for Expo '70 in Osaka, Japan. The original four artists who began the collaborative design of the pavilion were Robert Breer, Robert Whitman, Frosty Myers, and David Tudor. As the design of the pavilion developed, engineers and artists were added to the project and given responsibility to develop specific elements. Finally, sixty-three engineers, artists, and scientists in the United States and Japan contributed to the design of the pavilion.

As the exterior and interior elements of the pavilion developed, so did the guiding notion of the pavilion. It became an ever-changing place where each visitor would be encouraged to explore and create an individual experience. The pavilion was designed as a performance space as well, continuously programmed by invited artists throughout the six-month duration of Expo '70.

The visitor entered the pavilion through a tunnel and descended into a dark clam-shaped room, lit only by moving patterns of laser light from a sound-activated laser display system developed by Lowell Cross and David Tudor. The path continued upstairs into the main space of the pavilion, a ninety-foot diameter, 210-degree spherical mirror made of aluminized Mylar. The floor and the people moving on it were all reflected upside down as "real" images in the mirror. (A "virtual" image



Pavilion for Expo '70, Osaka, Japan (1970). Photograph: Harry Shunk.

is one you see "behind" a flat mirror; a "real" image appears in front of the mirror, roughly the same distance from the center of the sphere as you are on the other side of the center.) A "real" image produced in a spherical mirror resembles a hologram. Because of the size of our mirror, however, a spectator looking at the real image of someone in the mirror could walk around the image and see it from all sides. The space in the mirror was gentle and poetic, rich and always changing. It was visually complex and we discovered new and complicated optical effects every day. Once visitors could see themselves or their friends as three-dimensional real images in the mirror space, the reaction was incredible and created much more excitement than we ever could have expected.

David Tudor conceived of the interior of the mirror dome as a sound environment and designed the sound system as an "instrument" that could be programmed or played by visiting artists. Recognizing the unique properties of the spherical mirror, thirty-seven speakers were arranged in a rhombic grid on the surface of the dome behind the mirror. Sound could be moved from speaker to speaker at varying speeds linearly across the dome and in circles around the dome. It could also be shifted abruptly from any one speaker to any other speaker, creating point sources of sound.

Beneath all this, the floor was divided into ten sectors, each made of a different material, in which were embedded wire loops serving as antennae that transmitted a highly localized sound signal. Using handsets, visitors could hear sounds specific to each different floor material: on the tile floor, horses, hooves and shattering glass; on the Astroturf, ducks, frogs, cicadas, roaring lions, and so on.

Outside the pavilion, the dome-shaped roof was covered by a water-vapor cloud sculpture by the Japanese artist Fujiko Nakaya. The cloud was produced when water under high pressure was pushed through 2,520 jet-spray nozzles and broken up into water drops small enough to remain suspended in air. On the plaza in front of the pavilion seven of Robert Breer's *Floats*—six-foot high, dome-shaped sculptures—moved around at less than two feet per minute, emitting sound. At night Frosty Myers's *Light Frame* sculpture traced a well-defined tilted square of white light around the pavilion. Four three-legged black poles of different heights were set in a square at each corner of the pavilion plaza. Two high-intensity xenon lights were placed atop each pole. Each light was directed toward the light of the neighboring tower, and specially designed parabolic reflectors kept the light beams narrow, which defined the sides of the square of light.

The number of technical breakthroughs in the pavilion was quite astonishing; almost every system we designed was new and untried. But even more significant, the artists and engineers had created a living, responsive environment that was different for each visitor. Three million people visited the pavilion during the summer of 1970.

In the 1970s we became more interested in interdisciplinary collaborative projects that involved artists in other areas of society. The first grew out of a request from Vikram Sarabhai, head of the Indian Atomic Energy Commission, to develop procedures for producing instructional material to be broadcast from the AST-F satellite to hundreds of Indian villages. We put together a team that included engineers, artists, psychologists, and education specialists, and chose to work on instructional programs for women who owned water buffaloes in a dairy cooperative near Baroda in Gujurat state. The challenge was to preserve the local cultural component and overcome the built-in cultural aesthetics associ-

ated with instructional programming inherited from the West. We proposed that visual material be generated by the villagers themselves on such subjects as artificial insemination, proper nutrition for the buffalo, treatment of the diseases, and so on, using half-inch videotape; these tapes would then be bicycled to another village to be shown and evaluated. On the basis of this recorded material, the final programs on professional broadcast tapes would be made. Our proposal was in fact adopted for the SITE satellite educational television project and was carried over to other areas of instructional television in India.

"Children and Communication" was designed and run in collaboration with education specialists from New York University. Children from different neighborhoods in New York City became acquainted with each other through the use of various types of communication equipment, never having to leave their own neighborhoods. One center was set up on Sixteenth Street and one on Sixty-Eighth Street with open lines for telephones, telex machines, facsimile machines, and telewriters. Robert Whitman designed the physical environment for each center. Groups of children at each location freely used the equipment to communicate with each other. The project generated hundreds of drawings which depicted how the children saw the experience, and the hard copy from the telex and telewriter machines reflected the ingenuity and enthusiasm of the children in making contact with each other.

Another communication project, "Utopia Q and A," was part of Pontus Hulten's exhibition at Moderna Museet in Stockholm commemorating the hundred year anniversary of the Paris Commune of 1871. Using telex machines in Tokyo, Ahmedabad (north of Bombay), Stockholm, and New York, the public was able to send technical or opinion questions about ten years in the future—1981—to the other three countries. The answers—from experts or from the general public—were telexed back to the questioner. Hundreds of questions and answers were exchanged over the month-long operation of the project. The general tone of the Japanese questions and answers were optimistic; the American, more pessimistic; the Swedish, critical; and the Indian, theoretical.

E.A.T.'s contribution to the social dialogue of the 1960s and '70s was the idea of one-to-one collaborations between artists and engineers. E.A.T. opened up exciting possibilities for the artists' work by finding engineers willing to work with them in the artists' own environment. Together the artist and the engineer went one step beyond what either of them could have done separately. But perhaps more importantly, the artist-engineer collaboration was the training ground for larger-scale involvement in social issues for both the artist and the engineer. In the nonart projects that E.A.T. undertook, at least one artist was always part of the interdisciplinary team, and we put a high value on the expertise the artist brought to the project.

The "expertise" that artists bring to the collaboration comes directly from their experience in making art. The artist deals with materials and physical situations in a straightforward manner without the limits of generally accepted functions of an object or situation, and without assigning a value hierarchy to any material. The audacity of Picasso's collages in his time, Meret Oppenheim's surrealist objects, and Rauschenberg's combines and cardboard pieces all illustrate this quality. The artist makes the most efficient use of materials, and achieves the maximum effect with minimum means. Surplus of material leads to decorative work. The artist is sensitive to scale and how it affects the human being. From cave drawings to Persian miniatures, cathedral frescoes, or Christo's *Running Fence*, scale has been a consistent concern of the artist. The artist is sensitive to generally unexpressed aesthetic assumptions, which are based on subjective preference masquerading as "objective," practical, economic, or social factors. The artist assumes total responsibility for the artwork. The artist knows that a work is the result of personal choices; this sense of commitment and responsibility gives the artist and the work a unique quality.

The engineer, of course, brought to these collaborations technical expertise and an interest in problem solving. While the technology needed by the artists might often be "trivial" from the engineer's point of view, its application in a new environment for a new use provided difficulty and challenge. In Rauschenberg's *Oracle*, we had to build a multichannel FM broadcasting system in a single room!

Those of us in the technical community in the early sixties who were worried about the direction of technological change believed that artists' ideas, approaches, and concerns could influence the way engineers approach technological or day-to-day social problems. Our collaborations, we hoped, could lead technological development in directions more beneficial to the needs, desires, and pleasures of the individual.

An interesting comment on my experience in working with artists came from Nam June Paik, when he told me recently, "Billy, I am working with off-the-shelf technology, you always worked to invent one-of-a-kind technology." Paik, of course, was understating his extraordinary visual sense in manipulating his material, but he hit the nail on the head about the driving force in the interaction between artists and engineers: what will emerge is something that neither the artist nor the engineer had thought of before. Thus, the artist-engineer collaboration remains a viable model for how we can actively confront and shape new technology.

Stories from the Nerve Bible

Laurie Anderson

EAST: O Little Town of Bethlehem: rock-throwing capital
of the world.
WEST: those who came before me.
UP: the true meaning of the word "ARISE"

HEY LITTLE GIRL THE GULF MY GRANDMOTHER'S HAT WAR IS THE HIGHEST FORM OF MODERN ART NIGHT IN BAGHDAD THE CARDINAL POINTS TILT ALIEN SEX THE RIGHT TO BEAR ARMS SPEAK MY LANGUAGE WHERE I COME FROM ETHEREAL WORMS TIGHTROPE THE MIND IS A (WILD WHITE HORSE) LA VIDA THAT LITTLE CLOCK

You know the reason why some nights
you don't have a dream?
When there's just blackness?
And total silence?

Well, this is the reason:
It's because on that night
you are in somebody else's dream.
And this is the reason you can't
be in your own dream because
you're already busy
in somebody else's dream.

In 1992, I was invited to perform in Israel. As an official guest of the government, I met many artists and politicians and did a lot of press conferences. The journalists always began by asking about the avant garde.

One journalist asked, "So what's so good about new?"

"Well," I said, "...uh...um...new is interesting."

"And what," she said, "is so good about 'interesting'?"

"Well, interesting is, you know, interesting...it's uh...like being awake." I was treading water.

"And what's so good about being awake?" she asked. By now I was getting the hang of this: Never actually answer a question in Israel. Always just ask another question.

The Israelis were also very curious about the Gulf War and what Americans had thought about it and I tried to think of a good question to ask in answer to this but what was really on my mind was that the week before I had been testing explosives in a parking lot in Tel Aviv. This happened because I had brought some small bombs to Israel as props for the performance and the Israeli promoter was very interested in them. It turned out that he did weekend duty on one of the bomb squads and bombs were also something of a hobby during the week. He was eager to talk pyrotechnics.

So I said, "Look, these bombs are no big deal, just a little smoke," and he said, "Well, we can get much better stuff for you," and I said, "No, really, these are fine," and he said, "But they should be big, theatrical! I mean you need just the right bombs."

And so one morning he arranged to have about fifty small bombs delivered to a parking lot, and since he looked on it as sort of a special surprise favor, I couldn't really refuse, so we're out in this parking lot, testing the bombs and after the first few I found that I was really getting pretty interested.

They all had very different characteristics. Some erupted in fiery orange sparks and made a low popping sound; others exploded in midair and left long smoky trails. He had several of each kind in case I needed to review them all at the end, and I'm thinking, "Here I am, a citizen of the world's largest arms supplier, setting bombs off with the world's second largest arms customer, and I'm having a great time."

So even though the diplomatic part of the trip wasn't going so well, at least I was getting some instruction in terrorism. And it reminded me of something in a book by Don DeLillo about how terrorists are the only true avant-garde artists

because they're the only ones who are still capable of really surprising people.

And Jerusalem? It looked just the way my grandmother had described it, pristine, white, majestic. Except that it was full of guns. Guns and bones. I'd come to Jerusalem hoping to find out something about time and timelessness, something about how an Ark could turn into a whale or into a book. But "Stories from the Nerve Bible" is about the future, and it didn't have any answers, only questions.

"Come here little girl, get into the car.
It's a brand new Cadillac. Bright red.
Come here little girl."

You know that little clock, the one on your VCR,
the one that's always blinking twelve
because you never figured out how to get in there
And change it.
So it's always the same time
Just the way it came from the factory.
Good morning. Good night.
Same time tomorrow. We're in record.

So here are the questions. Is time long or is it wide?
And the answers?
Sometimes the answers just come in the mail
and you get a letter that says all the things
you were waiting to hear, the things you
suspected, the things you knew were true.
And then in the last line it says:
Burn this.
I think that history has nothing to do
With parades or lines or trains
Or roads. Maybe it's a light
And in that little book called "Einstein's Dreams"
He plays the violin and time stops.
World without end. Remember me.

from "That Little Clock"

The Right to Bear Arms

You know, in the last year there have been a lot of arguments in my country about the Bill of Rights. Of course, the Bill of Rights is amazing. It guarantees freedom of speech, freedom of the press, religion, the right to trial by jury, and so on but at the moment a lot of Americans are fighting about what the thing really means.

For example, let's take a look at the second amendment, the right to bear arms. This amendment was written two hundred years ago back when people were bagging possum.

So it's pretty hopelessly outdated now as a concept.

The founding fathers also probably hadn't imagined that eighth graders would be showing up at school armed with semi-automatic assault weapons.

And they probably didn't predict that at the end of the twentieth century the privately owned arsenals in this country would dwarf almost every other country's national stockpiles. Because, ladies and gentlemen, the current figures are these: two hundred and sixty million Americans—two hundred million guns.

Sometimes when you hear someone screaming,
It goes in one ear and out the other.
Sometimes when you hear someone screaming,
It goes right into the middle of your head
And stays there forever.
I hear these voices, at the back of my head.
I'm holding my ears, then my ears turn red.
My hands are clean. My hands are clean.

from "Where I Come From"

War Is the Highest Form of Modern Art

During the Gulf War I was traveling around Europe with a lot of equipment and all the airports were full of security guards who would suddenly point to a suitcase and start yelling, "WHOSEBAGISTHIS?"

(Explosion)

"I want to know right now who owns this bag!" and huge groups of passengers would start fanning out from the bag just running around in circles like a Scud missile was on its way in.

I was carrying a lot of electronics, so I had to keep unpacking everything and plugging it in and demonstrating how it all worked and I guess it did seem a little fishy, a lot of this stuff wakes up displaying LED-program read-outs that have names like "Atom Smasher" and so it took a while to convince them that they weren't some kind of portable espionage system.

So I've done quite a few of these sort of impromptu new music concerts for small groups of detectives and customs agents. I'd have to set all this stuff up and they'd listen for a while and then say "So what's this?" and I'd pull out something like this filter and say "This is what I like to think of as the voice of authority" and it would take me a while to tell them how I used it for songs that were about various forms of control and they would say:

"Now why would you want to talk like that?"

And I looked around at the swat teams and undercover agents and dogs and the radio in the corner tuned to the Super Bowl coverage of the war and I'd say:

Take a wild guess.

Finally of course I got through. It was after all American-made equipment and the customs agents were all talking about the effectiveness, no, the beauty, the elegance of the American strategy of pinpoint bombing, the high-tech surgical approach which was bring reported on CNN as something between grand opera and the Super Bowl, like the first reports before the blackout when TV was live and everything was heightened, and it was so euphoric.

Night in Baghdad

Oh it's so beautiful, it's like the Fourth of July,
It's like a Christmas tree, it's like fireflies
On a summer night.

Here I'm just going to stick this microphone
Out the window and see if we can't hear a little better.
Can you hear it? Hello, California. Can you hear us?
Come in.

Oh it's so beautiful, it's like the Fourth of July,
It's like a Christmas tree, it's like fireflies
On a summer night.

And I wish I could describe this to you better
But I can't very well right now 'cause I've
Got this damned gas mask on.

So I'm just going to stick this microphone
Out the window and see if we can't hear a little better.
Hello, California? What's the weather like out there?

And I only have one question:
Did you ever really love me?
Only when we danced.
And it was so beautiful. It was like the Fourth of July.
It was like fireflies on a summer night.

Mamacitas, Caballeros,
Welcome to our city, the land of the free.
 Welcome to the future.
Hablamos ingles aqui.
Hop in. We're gonna take you for a little ride,
We're goin' downtown.
La vida es un sueño.
Close your eyes now, we're gonna take you there.

I remember where I came from
There were tropical breezes and a wide open sea
I remember my childhood
I remember being free.

La vida es un sueño
Close your eyes now, we're gonna take you there.
La vida es un sueño
Close your eyes now, we're almost there.

Some say the future is written down in a book
And that you can't change a word of it.
And down in the street
They're talkin' on their radios
Gonna build a city that will never fall down.

I remember where I came from
There were burning buildings and a fiery red sea.
I remember all my lovers
I remember how they held me.

Hey, Mister Sandman.
Life is like a dream
But I remember it like a movie.

OK, amigo! Out of the car!
When my father died
We put him in the ground.
When my father died it was like
A whole library had burned down.

from "La Vida" 1992

Tilt

I find that a good place to think about the future is in airplanes and airports because time and place start to merge there and everything's in this constant unstoppable motion. Like the way things have seemed to

speed up in the last couple of years, beginning with the fall of the Berlin Wall. And I remember we watched this on TV every night, over and over, and then one night I thought:

"Gee there's something really familiar about the expressions on their faces."

Then I realized that these were people desperate to shop. They couldn't wait. And somehow from the other side of the wall you got this eerie feeling that you knew exactly what all of this was going to lead to, but they were too far away to scream "GO BACK! GO BACK!" and you didn't know whether it was too early or too late to warn them and anyway they all looked so hopeful.

And ever since the wall fell, it seems like half the world has been pouring from one side to the other, through the train stations, the autobahns, the airports, moving back and forth across the old borders. Like the world had suddenly tilted on its axis and was pouring people from one side to the other. Like an enormous plane, tilting and banking, looking for somewhere to land.

The strangest thing about performing "Stories from the Nerve Bible" in Israel was the show in Tel Aviv. On the screen, there were pictures of buildings that had been blown up in the Gulf War. These buildings had been only blocks away from the theater.

In "Stories from the Nerve Bible" I wore a pair of dark glasses with a tiny video camera attached to the side. During a taped monologue by Admiral Stockdale (an excerpt from the 1992 vice presidential debates), bright lights were turned on in the audience. The camera scanned the first several rows and projected the audience onto the screen.

(On tape, the voice of Admiral Stockdale)

"You know, I ran a civilization of three to four hundred wonderful men. We had our own laws. We had practically our own constitution. And I was the sovereign for a good bit of that. And I tried to analyze human predicaments in that microcosm...in the...in the world.

YOU'VE GOT TO HAVE LEADERS!

And they're out there...who can do this with their bare hands...working with people on the scene.

(Sound of helicopters)

Ladies and gentlemen, there will be four helicopters and the third one will be Marine One and the President of the United States.

Wild White Horses

In the Tibetan map of the world, the world is a circle and at the center there is an enormous mountain guarded by four gates. And when they draw a map of the world, they draw the map in sand, and it takes months and then when the map is finished, they erase it and throw the sand into the nearest river.

Last fall the Dalai Lama came to New York City to do a two-week ceremony called the Kalachakra, which is a prayer to heal the earth. And woven into these prayers were a series of vows that he asked us to take and before I knew it I had taken a vow to be kind for the rest of my life. And I walked out of there and I thought: "For the rest of my life?? What have I done? This is a disaster!"

And I was really worried. Had I promised too much? Not enough? I was really in a panic. And there were all these monks walking around. They had come from Tibet for the ceremony and they were walking around midtown in their new brown shoes and I went up to one of the monks and said, "Can you come with me to have a cappuccino right now and talk?" And so we went to this little Italian place. He had never had coffee before so he kept talking faster and faster and I kept saying, "Look, I don't know whether I promised too much or too little. Can you help me please?":

And he was really being practical. He said, "Look, don't limit yourself. Don't be so strict! Open it up!" He said, "The mind is a wild white horse and when you make a corral for it make sure it's not too small. And another thing: when your house burns down, just walk away. And another thing: Keep your eyes open.

"And one more thing: Keep moving. 'Cause it's a long way home."