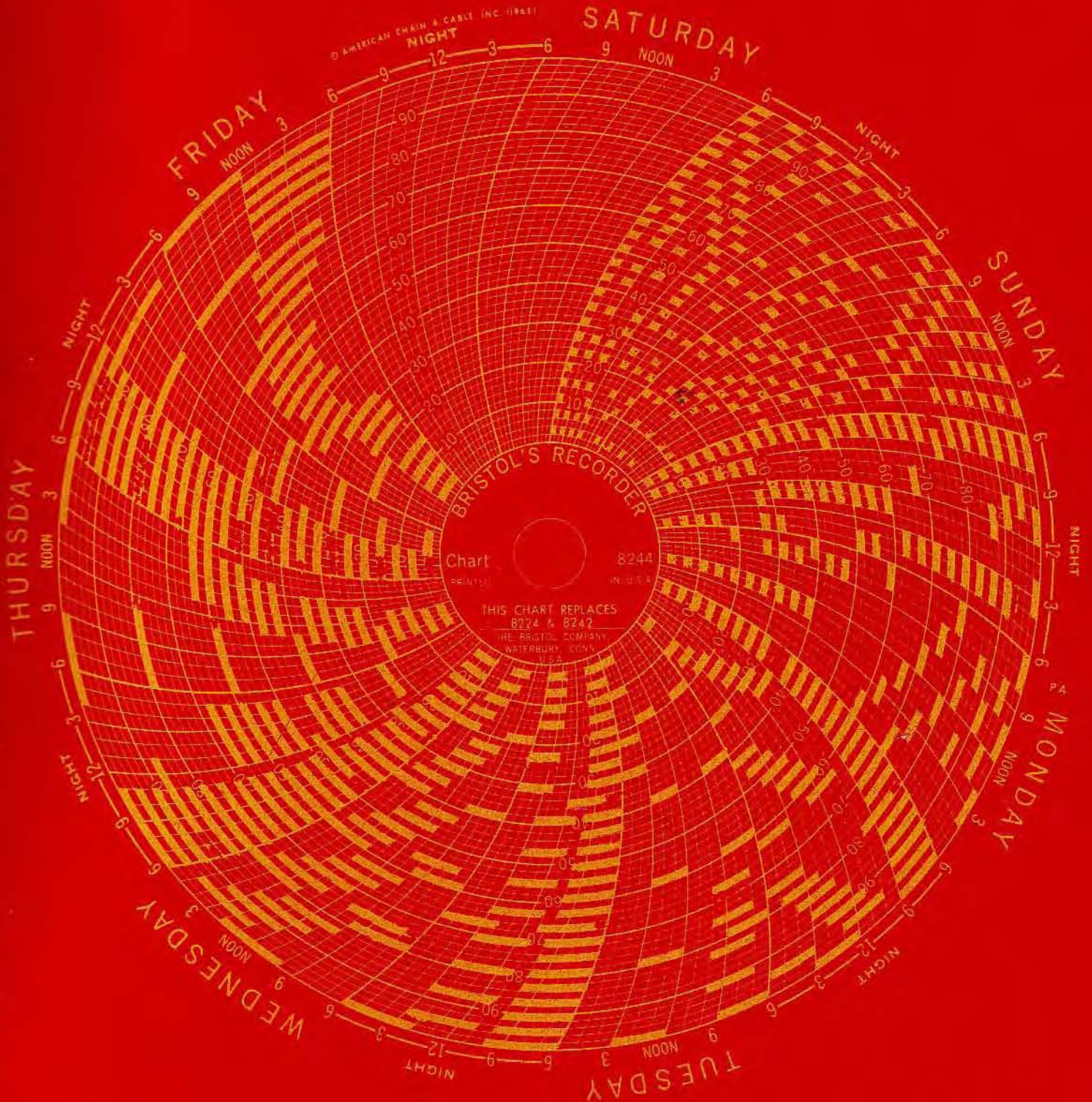


Soft Where, Inc.

The Work of Aaron Marcus

West Coast Poetry Review

Reno



Genesis 1 and 2

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On the cover is a reproduction from the score for *Genesis 1 and 2*: a ritual chant, original diagram on paper, 8-1/2" x 14", 1973. The instructions for the performance of the work are as follows:

Assemble 26 people where day and night meet, where earth, sky, water, and fire meet.

Facing a center, 24 people from a circle standing or sitting within touching distance (extra people are in single file in back of these 24 people and also face the center). Number 24 is at the north, 12 at the south, 6 at the east, and 18 at the west.

Number 25 is near the center facing east. The 26th person, the Timer, is near the center facing west. Both are along the east-west axis.

Number 25 selects a high note and an octave lower a low note. They should be comfortable and resonant. The low note is sung as BA, as in 'baw'; the high note is sung as ME, as in 'meet'.

Each of the 25 persons (or extra people in a radial line) finds the appropriate concentric band in the time chart, beginning with Number 1 near the center of the chart. Empty spaces indicate silence. Filled spaces represent sound. A short breath may be taken between continued spaces.

The Timer will clap every 5 seconds (this may be determined by the rhythm of slow breathing) for the first time through the sequence of marks and every 1 second (this may be determined by the rhythm of heartbeats) for the second time through the sequence. Each clap signals to the 25 people the beginning of a new time-space, and

each person should begin to chant or to be silent according to the chart. The syllables should be alternated each time-space that a person is to sing. The person should begin by first singing the low or high note according to whether the person is male or female.

The chart sequence begins at 6 pm Saturday evening on the chart and all singing ends at 6 pm Friday evening. During all of Saturday, the Timer will continue to clap the time intervals. With a little practice and a moment of silence before each of the two sequences, begin the event.

The two sequences will actually require only about twelve minutes and about two and one-half minutes respectively to complete.

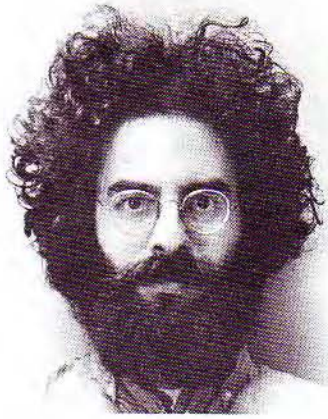
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Introduction



Born in Omaha, Nebraska, in 1943, educated in physics at Princeton University (BA, 1965), and trained professionally in graphic design at Yale University (BFA, MFA, 1968), Aaron Marcus is now assistant professor at Princeton University where he has taught in the Visual Arts Program and in the school of Architecture and Urban Planning. As an artist/author he is concerned with making apparent the aesthetic possibilities of mass media communication. His experiments in visual-verbal form consciously distort elements of normal syntactic and semantic structure, emphasizing the multiple nature of sign (symbol) compositions as poems, drawings, and sculpture.

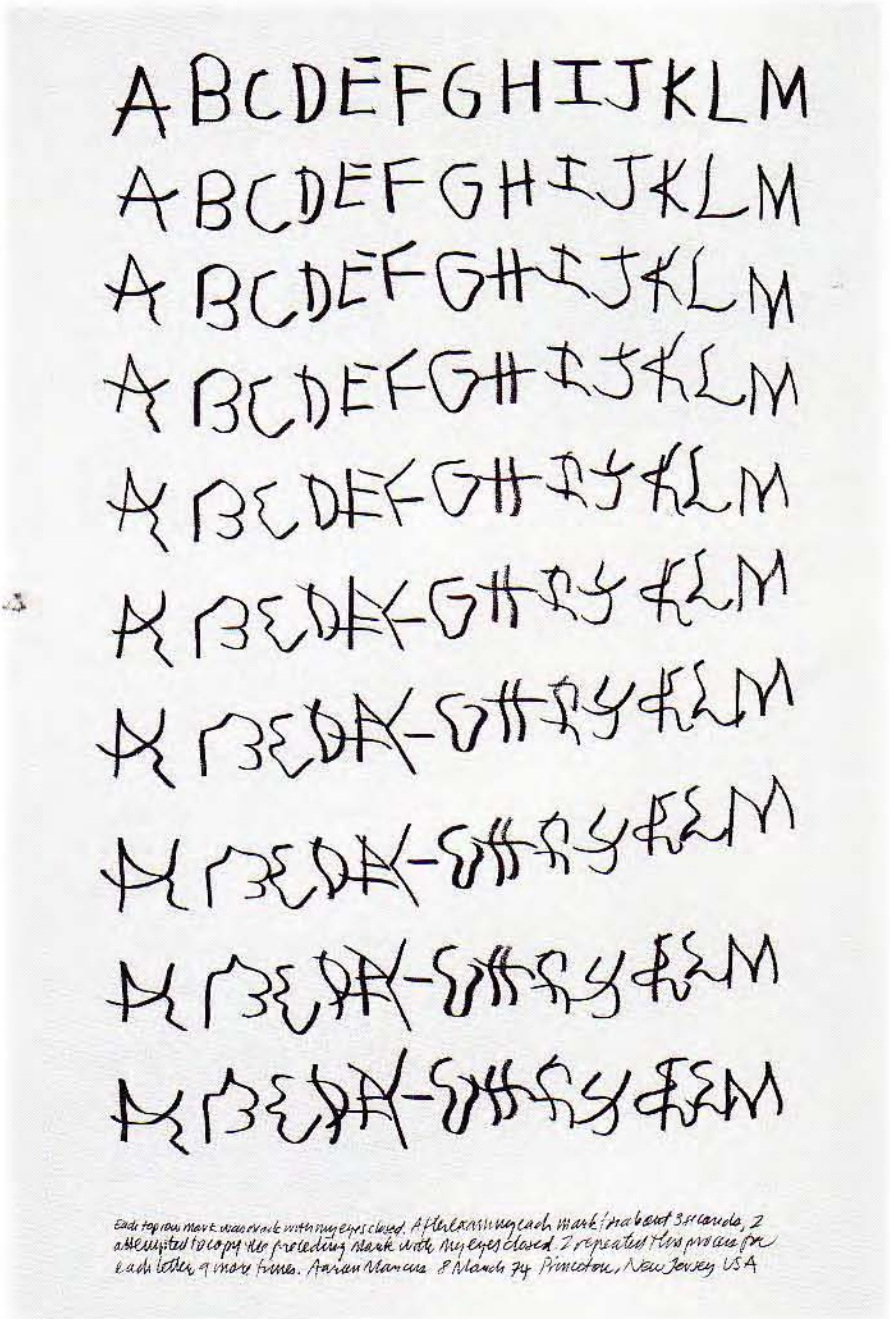
His work ranges across several media, from conventional typewriter or pencil and paper compositions to those of photography, computer graphics, and other electronic media. The title for this publication is intended to suggest the ambiguity of conceptual and perceptual boundaries which one encounters in trying to define and to limit the works as concrete poetry, as conventional drawing or sculpture, or as conceptual art works.

Since 1967 Aaron Marcus has been working in computer-assisted art forms, serving from 1967-71 as a part-time consultant in computer graphics at Bell Telephone Laboratories, Murray Hill, New Jersey. Presently he is working in the Computer Graphics Laboratory at Princeton University. His projects in computer graphics stress the new forms of aesthetic communication that are possible with computer-assisted visual displays, in particular, a new scale for symbol systems in interactive environmental compositions.

He has planned, executed, and documented a number of conceptual works, three of which are included in this publication in their entirety. These works continue an interest in an enlarged scale for symbol artifacts, a search for appropriate media for late twentieth century composition, and the relationships between written and drawn markings.

Aaron Marcus' works have been shown in exhibits in the United States and abroad, including *Some More Beginnings*, Brooklyn Museum of Art, New York; *Vis-Com 71*, Icoagrada Congress, Vienna, Austria; *Circuit*, Cranbrook Academy of Art, Bloomfield Hills, Michigan; *Messages*, The Gallery of the American Institute of Graphic Arts, New York; and *Symbologiconstructs*, the Art Museum of Princeton University, Princeton, New Jersey. His works have appeared in such publications as *Typographische Monatsblätter: Kommunikation*, St. Gallen; *The Penrose Annual*, London; *The Something Else Press Yearbook*, Something Else Press, West Glover, Vermont; *Print Magazine*, New York; and *Print Review*, New York.

By using specific conventions of writing and drawing, I am able to examine several aspects of mark making that continue to fascinate me. In each case I begin with a known, standard form, and I attempt to copy it. Following a pre-determined procedure for contemplation, then action, I am able to outwit certain ingrained writing, reading, seeing, drawing tendencies which operate within me unconsciously. In the visual results of the procedure, one is able to find traces of mechanical response, spontaneous mutations, and creative intuition as the gestalt of the mark undergoes change. These and others of my alphanumeric-time pieces enable one to indirectly eavesdrop on left-brain/right-brain dialogue. In another sense they allow one to travel backward through time through the generation of successive stages of quasi-primitive forms.



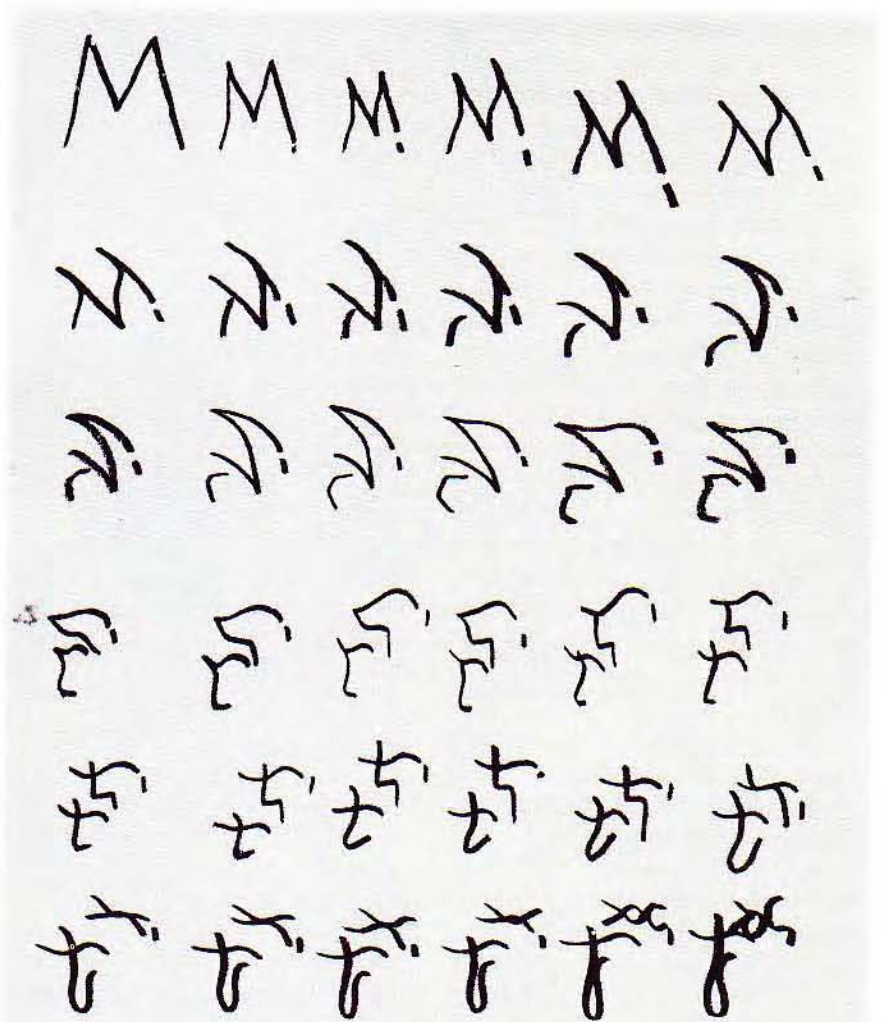
Each top row mark was drawn with my eyes closed. After a 30 min rest, each mark's mark board 30 seconds, I attempted to copy the preceding mark with my eyes closed. I repeated this process for each letter of many forms. Arrian Marquis, 8 March 74, Princeton, New Jersey, USA

Left: *Untitled*, drawing, 12" x 18", 1974.

This work is from a set of two studies of the complete alphabet. Each top row mark was made with my right hand and with my eyes closed. After examining a mark for about three seconds, I attempted to copy the preceding symbol with my right hand and with my eyes closed. I repeated this process for each letter nine more times.

Right: *Validation of the Torah*, drawing, 12" x 18", 1974. Collection of M. Cohen, Princeton, New Jersey.

Beginning with the letter 'M', I examined the mark made with my right hand until I thought I knew it. Then I closed my eyes and attempted to redraw it. This process was repeated thirty-five times. The drawing is one of several studies for a complete set of works created in 1974 using individual letters of the alphabet as initiating marks.



A drawing for Mark Cohen on the occasion of his birthday on March 11, 1974

Beginning with the letter 'M', I examined the mark made with my right hand until I thought I knew it, then I closed my eyes and attempted to redraw it. This process was reiterated 35 times. The drawing is called

Validation of the Torah. Aaron Marcus 12 April 74. 9" x 10 1/2"

Left: *Untitled*, press-on lettering and ink on graph paper, 8-1/2" x 11", 1971-2.

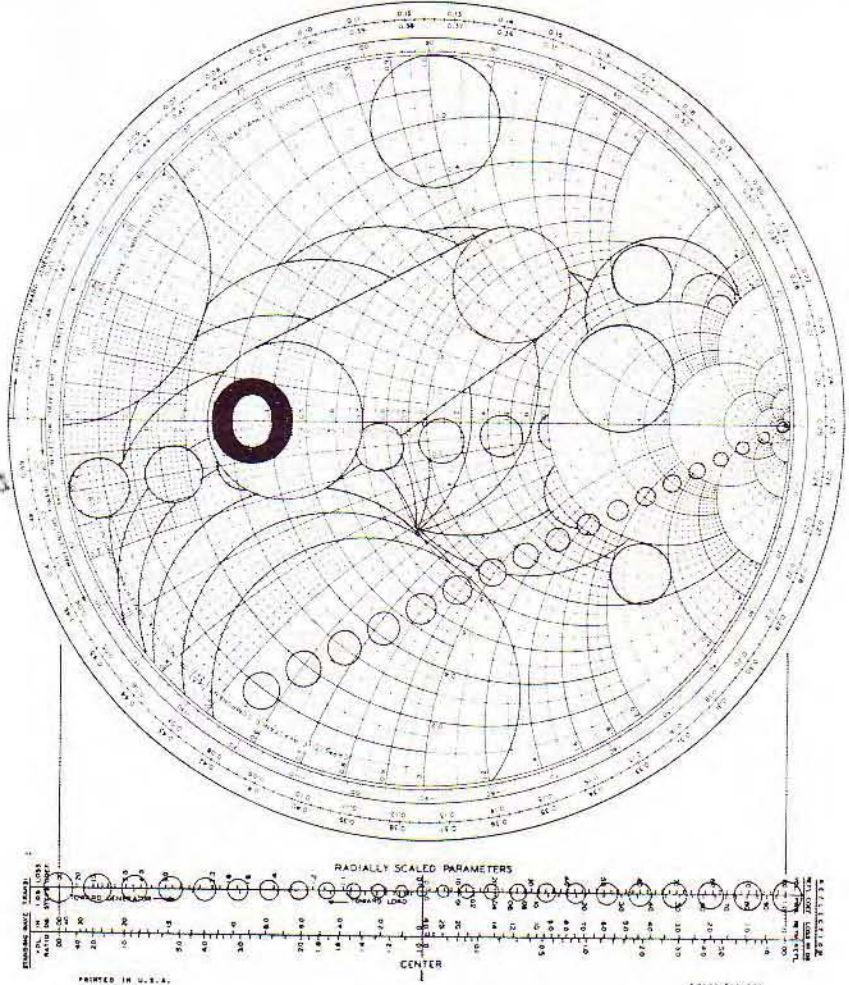
Right: *Untitled*, press-on lettering and ink on graph paper, 8-1/2" x 11", 1971-2.

It is possible that computer programs could be written to organize rules for such formations and to enable alternatives to be displayed. The potential for meaningful compositions could then be analyzed more exactly. For the present they remain enigmatic and diagrammatic. Viewed from the next century, they may resemble familiar symbolic communication.

(The text and the first two illustrations are reprinted with permission of *Typographische Monatsblätter: Kommunikation*, St. Gallen, Switzerland.)

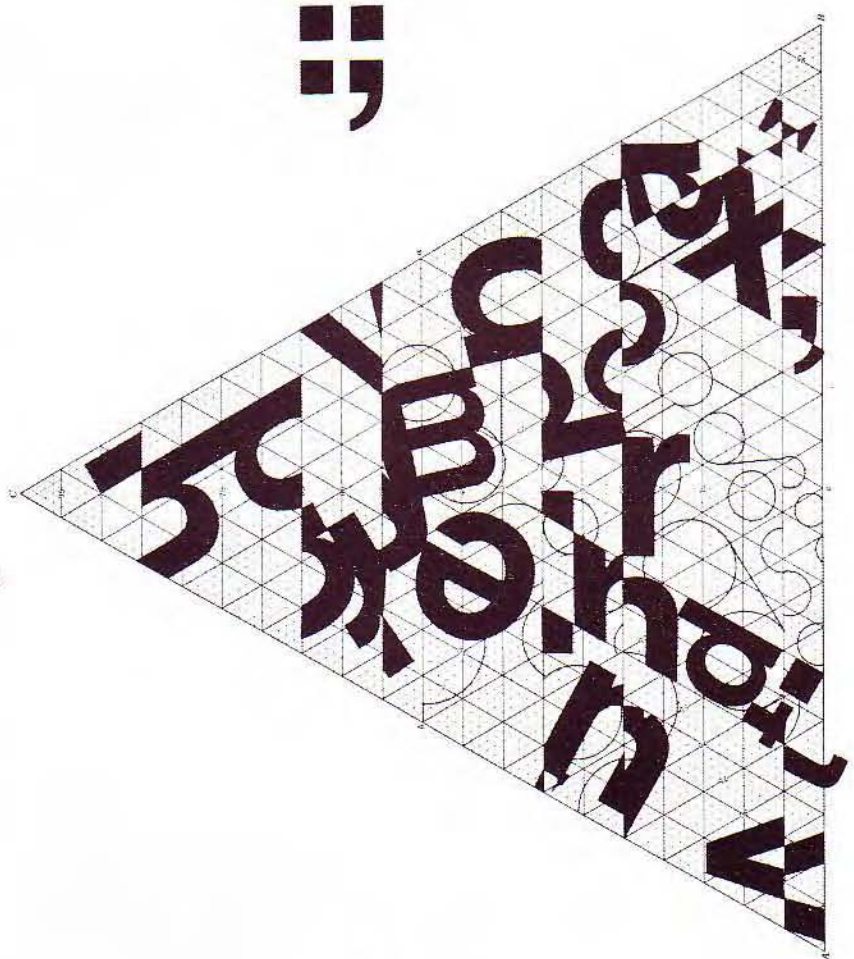
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	ENG.		

IMPEDANCE OR ADMITTANCE COORDINATES

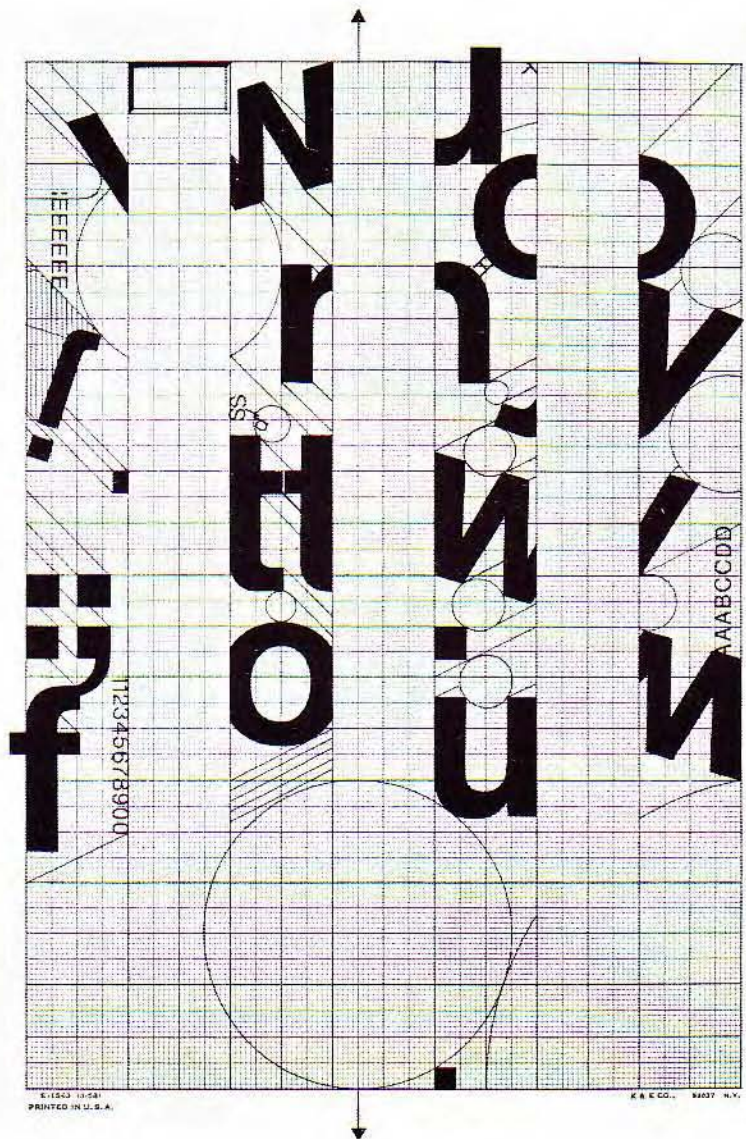


Daily experiences from television, film, highway signage, newspaper advertising and other forms of typographic communication continue to erode our traditional linear means of absorbing information. (Anyone trying to read Charles Morris' *Signs, Language, and Behavior* can appreciate the help which two-dimensional and, eventually, three-dimensional composition would bring to the limitations of conventional text typography.) As familiar messages have become more complex and numerous, we have also had to simplify them to retain a coherent perspective: from Massachusetts institute of technology to MIT to . . . ? At one moment we lose precise definition, but at the same time we gain an ability to conceive of and manipulate entirely new relationships at a different scale.

These symbolic constructions are from a series of compositional experiments which attempt to discover aspects of possible symbolic grammar (i.e., rules by which meaningful visual statements may be formed for public communication). The present examples can be read as essentially syntactic structures freed from specific semantic content. The symbols interact in a semi-random fashion, sometimes affected by traces of their former roles. At the same time, they interact with grids provided by graphing systems. This is intended as a metaphor for typography and language itself, which act as nets to catch some realities while letting others slip through. In these two series the results are sometimes playful — irrationality plays a cat and mouse game with rationality.



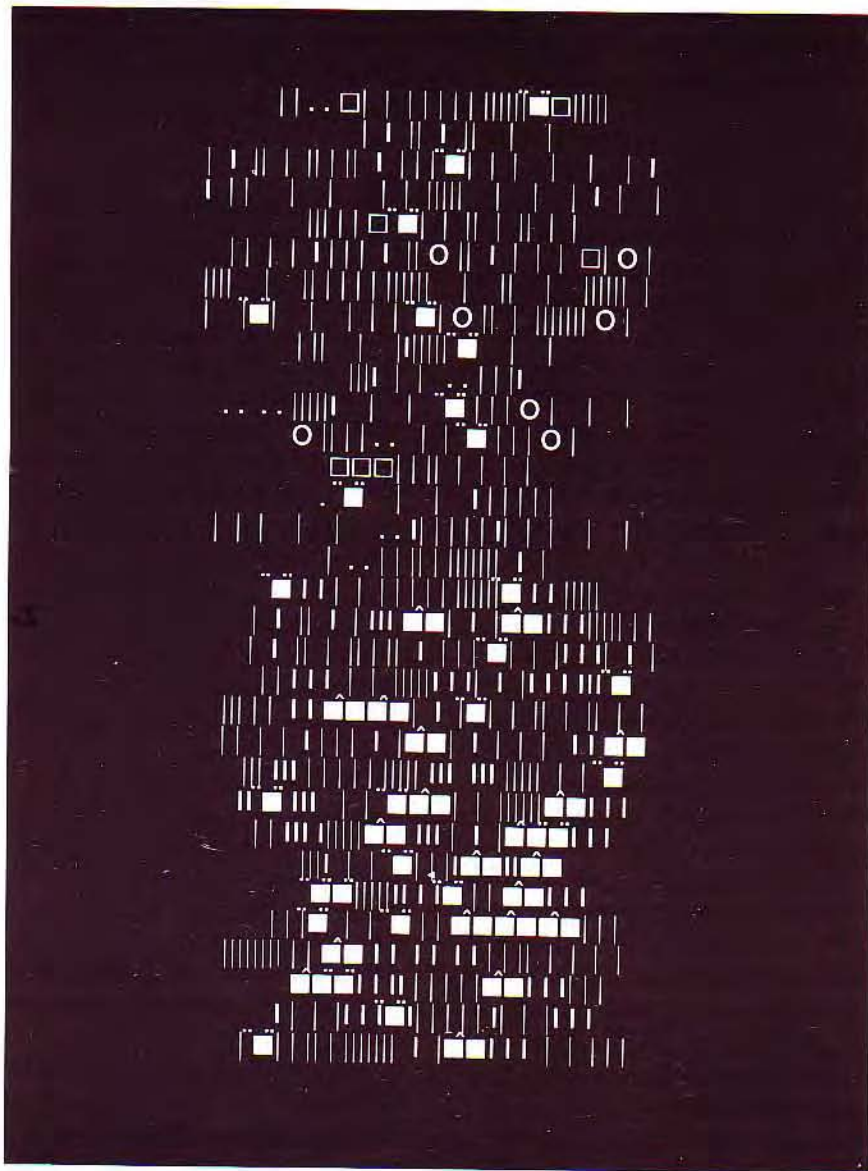
Untitled, press-on lettering and ink on graph paper, 8-1/2" x 11", 1971-2.



During the spring semester of 1972, as a Research Associate in the Arts at Yale Art School, New Haven, Connecticut, I worked with a phototypesetting machine connected to a digital computer. My intention was to explore new possibilities for expression. Through a give-and-take process, through writing programs and examining the visual results of these decisions, I was able to finalize the images.

As with most of my computer-assisted art works, they are meant to be seen as white symbols against dark fields. Therefore the positive space as well as the negative space is part of the total meaning. I am interested in this kind of computer-assisted image generation as it relates to the use of light/electromagnetic information display, the primary medium for a computerized, bureaucratized society. I am also interested in relating the most advanced technological-symbolical achievements to the most archaic experiences of mankind. Hence, I find it appropriate to ponder Genesis I and II in considering these images: the creation of order out of chaos, the creation of light out of darkness.

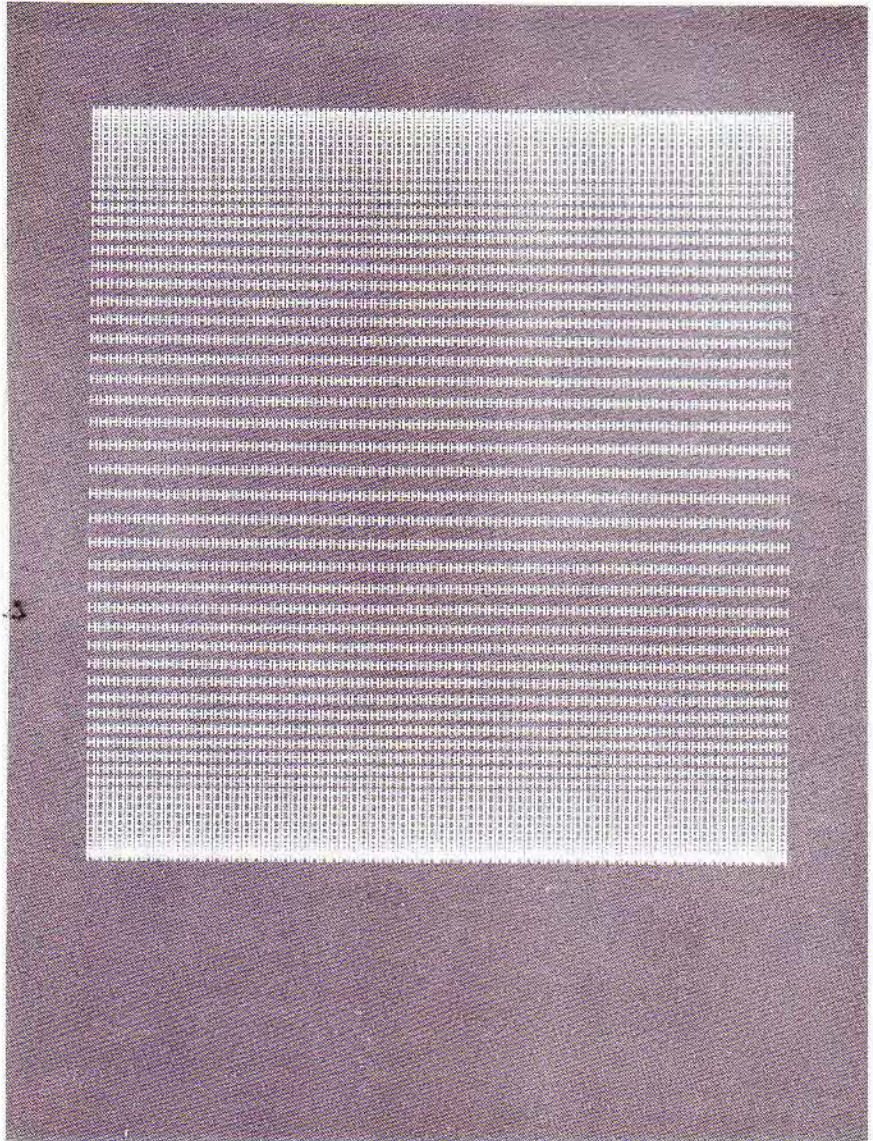
Most of the images use standard typographic symbols available on the phototypesetting machine. Some of the compositions resemble more familiar forms of poetic expression in linear typographic form. The images attempt to focus attention on the manifold nature of symbolic statement: as gesture of movement and material, as pictogram, as ideogram, as phonogram, as two- or three-dimensional object. Conceptual cross-references are the turnpike at night, the starry sky, ritual chants, and typography dreaming.



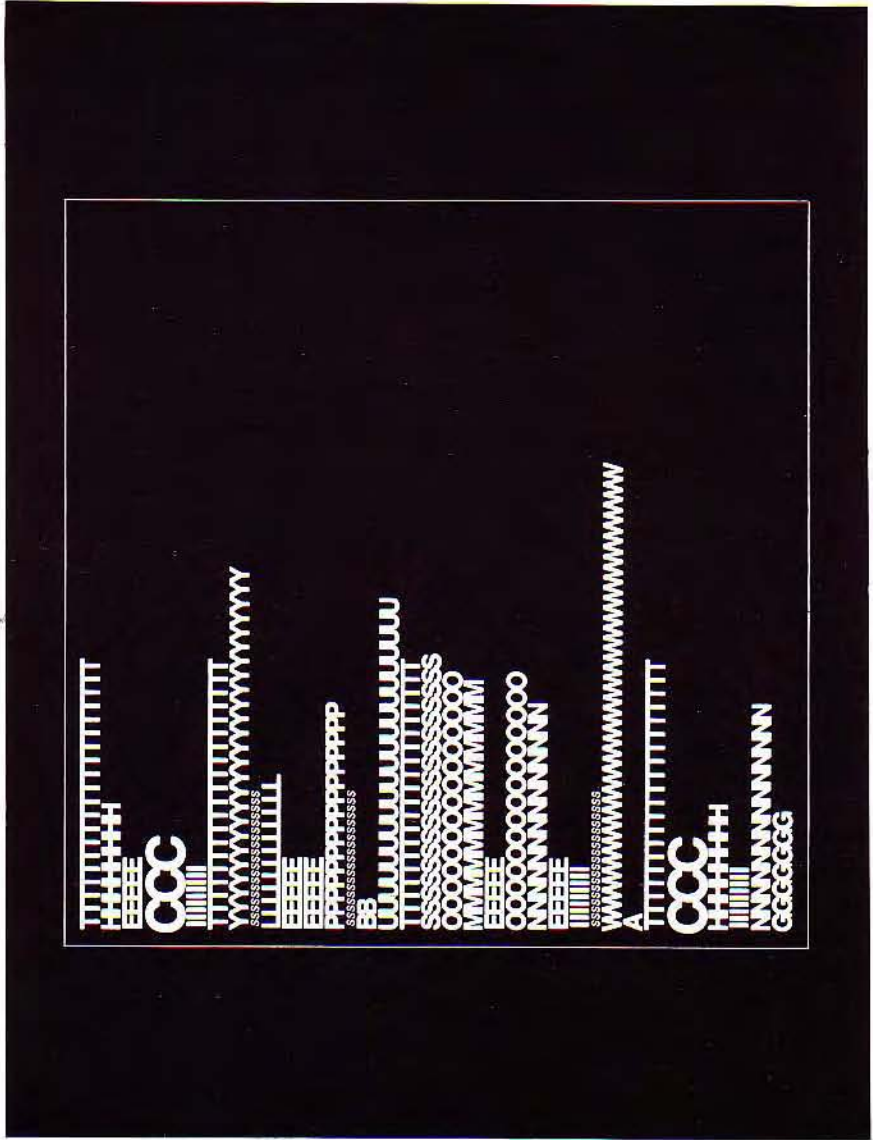
Untitled, photoprint, 15" x 19", 1972.

Shades of Hades, lithograph in two colors, 5" x 6-1/2", 1972-4.

This image is one of a set of multi-colored transformations of the original computer-generated forms. The other images in this set are *Radioactive Jukebox*, *Evolving Gravity*, and *Urbane Nova*. Copies of these limited editions are available through the author/artist.

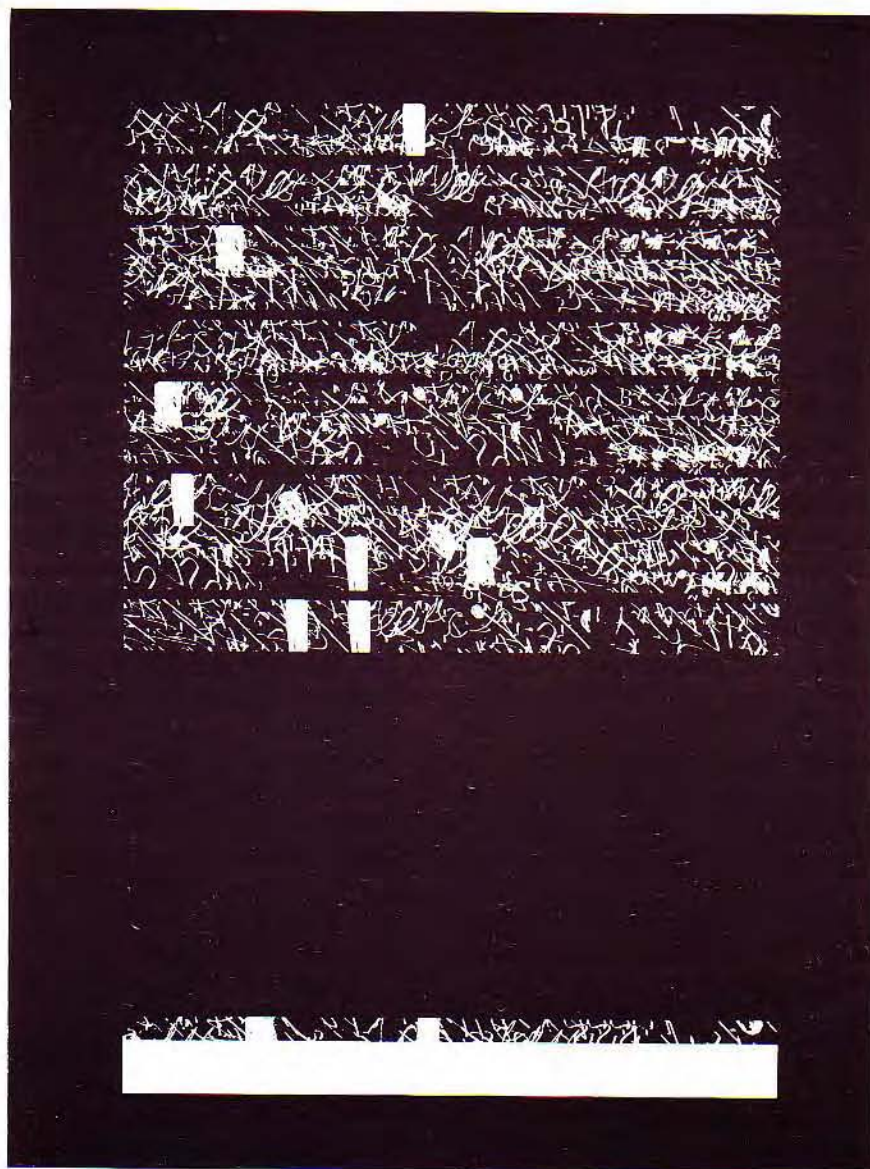


The City Sleeps, but Someone is Watching, photoprint, 15" x 19", 1972.



Noise Barrier, silkscreen in two colors,
12" x 17-3/4", 1974.

This image is a transformation of the
original computer-generated form.
Copies of this limited edition are avail-
able through the Pratt Graphic Center,
831 Broadway, New York, New York
10003.

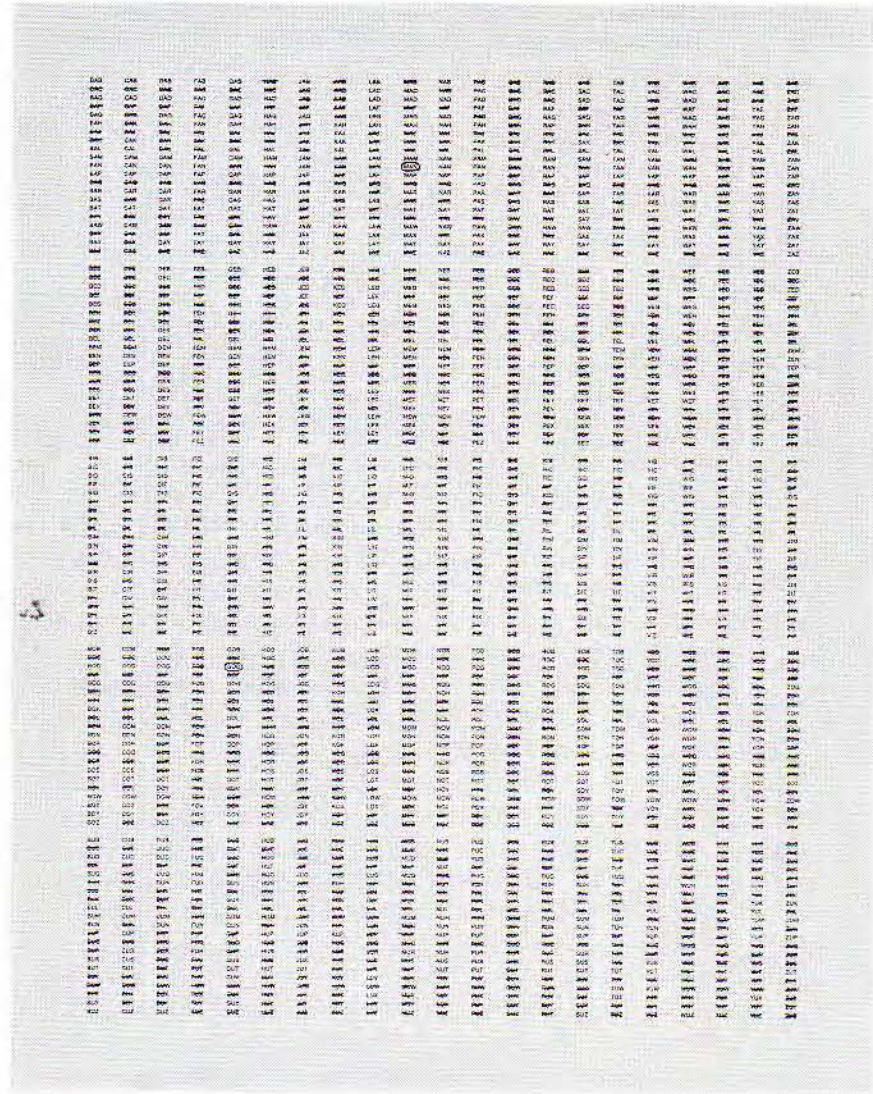


Meaning Map, photoprint, 15" x 19",
1972.

'And out of the ground the Lord God
formed every beast of the field, and
every fowl of the air; and brought
them unto the man to see what he
would call them; and whatsoever the
man would call every living creature,
that was to be the name thereof.'
(Genesis II, 19, *The Soncino Chumash*)

As in a sacred roster, 'Meaning Map'
presents all combinations of consonant,
vowel, consonant listed by a digital
computer connected to a photo-type-
setting machine. I, the human being,
am in symbiotic relationship to the
machine with respect to the total work.
I proceed through the ritual of striking
out all combinations which have no
meaning to me. As I do this visions of
personal experience are called forth
from various levels of my mind by this
simple combination of symbols, a basic
element of connotation and denotation
in English and western languages, simi-
lar in some respects to the three-letter
word roots of Hebrew (but also very
different from them). I am left with a
map of meanings, a personal collage of
English words, acronyms, foreign words,
etc., which are available to my con-
scious mind at a particular time and
place. As a reflection upon the indi-
vidual's relationship to the cosmos and
the sacred act of naming reality, the
important combination of MAN/GOD
emerges, the one/all.

The reader is able in a glance to per-
ceive a total, over-all gestalt related to
an individual's language experience, the
language history of a society, and the
evolution of human language itself. In
examining the work in greater detail,
the reader may follow the implied syn-



tax or create his or her own. The reader
is able to share in the stream of images
and emotions embodied in the work
and to compare and contrast with his
or her own the contours of my mean-
ing space.

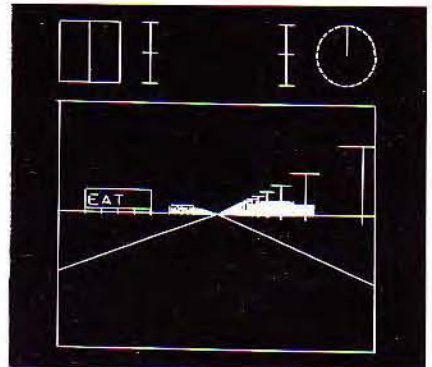
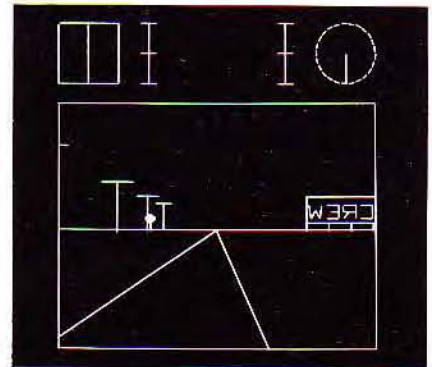
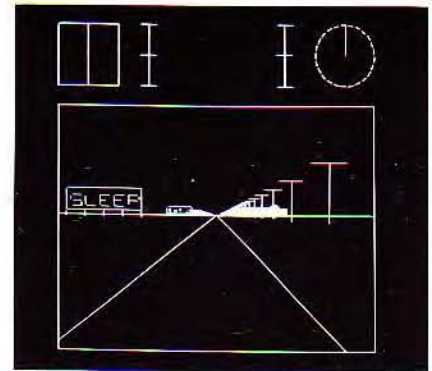
(The text is to appear in a forthcoming
book edited by Mary Ellen Solt, *Semio-
tic Trends in Concrete Poetry*.)

Cybernetic Environments

The illustrations show a sequence from *Cybernetic Landscape I*, 1971-3, one of three computer-generated environments I have programmed.

As writing was born, man struggled to find ways to compress his spatial, temporal, wraparound experience into abstract, easily reproducible marks on specially prepared flat surfaces. From essentially pictographic images bearing an iconic resemblance to things and actions, abstract forms evolved to provide man with more complex conceptions and a more intricately structured cosmos. After two millenia of relatively stable symbols and 500 years of their mechanical reproduction, the forms of writing, the ideas expressible by them are changing rapidly. At this moment, with the aid of electronic media and computer-assisted displays, the semiotic parameters of verbi-vocovisual communication are revitalizing long unused possibilities and discovering new combinations of elements for restating the inner and outer worlds of man's experience.

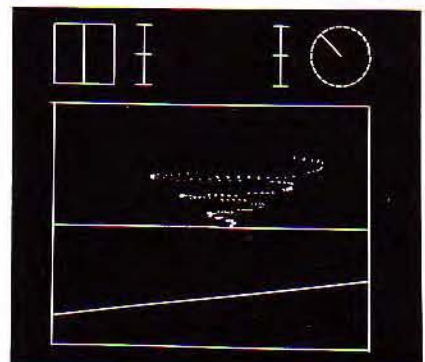
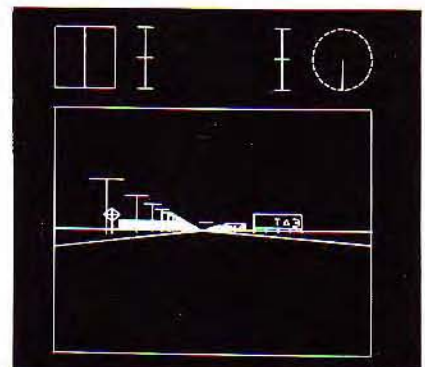
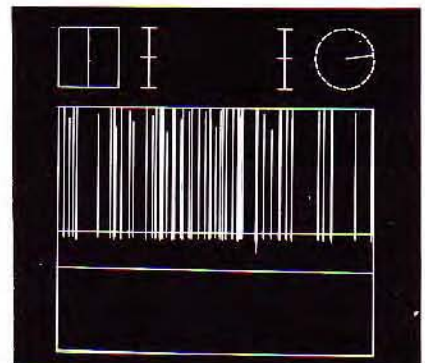
In the late nineteenth century, the poet Mallarme dreamed of a language and a language space in which everything could be expressive. With music as an ideal abstract formal system, he conceived of and began to make concrete a poetry in which marks, their form and position on a two-dimensional field, as well as their verbal denotations and connotations, contributed to a visual, spatial construction which one must see as well as read and hear. In the middle of this century, the international concrete poetry movement expanded and restructured the visions of 19th century innovators like Mallarme and Apollinaire. Joined to electronic, computer-assisted communication, the forms of visually oriented expression are beginning to bloom with a new array of ideas, a new dimension in abstract symbol communication and an all-encompassing environmental impact.



At the Computer Graphics Laboratory at Princeton University, I have developed a series of cybernetic landscapes utilizing programs in Fortran for a PDP-10 digital computer and an Evans and Southerland LDS-1 interactive computer graphics display system. The cathode ray tube device permits images in stereo and color as well as two-dimensional pictures which can be altered smoothly and instantaneously.

These landscapes in a simulated space provide a concrete, palpable, spatial experience of abstract visual forms and conventional verbal and typographic elements. As such, the space functions as a poem-drawing environment. Instead of the white field and black letterforms of traditional written symbols, the field is the deep, black space of night, and the symbols have been transformed into glowing filaments of light — a direct extension of the desire for 'constellations' which Mallarme, Gomerlinger and others cherished. The 'objects' are diagrams for objects, as the letterforms are diagrams for sound/ideas. All are in a dematerialized form. Computer graphics effectively interfaces with man via light. The images have no mass, no physical substance in a sense, but they are perceivable and meaningful to the viewer. Most importantly, the statements appear in a three-dimensional space. The viewer/reader/participant is no longer bound to the flat surface of the incised, written or printed sheet. By using the interactive equipment (a 'joystick' and knobs to control the display), the viewer may look at and wander through this aesthetically composed symbolic space at will.

The illustrations show various views of *Cybernetic Landscape I*. The small dia-

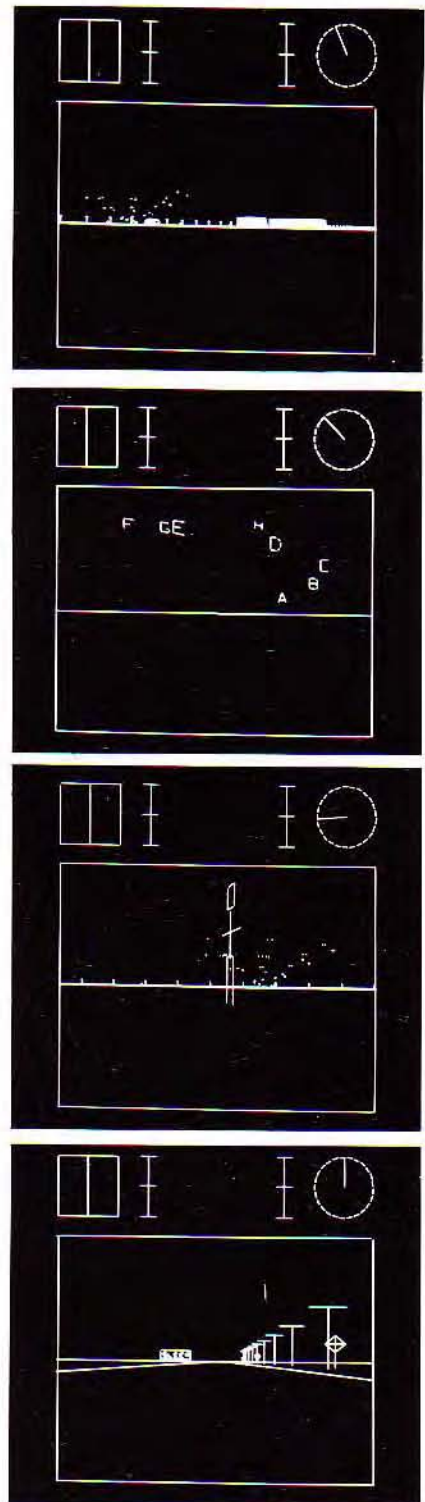


grams at the top indicate location of the viewer on the groundplane (dot in the square) and direction of view along the groundplane (line in the circle). Bars indicate height above the groundplane and a vertical viewing angle. The space is organized with hortatory slogans of the Consumptive Good Life distributed along a sacred axis. At certain locations, other visual elements are to be found in the space away from the main path, and the viewer may explore these as desired. The simple forms near the center of the space symbolize the 'I' of the viewer — the vertical presence moving about the horizontal landscape plane. In one quadrant of the space is a kinetic piece, a whirlwind of letterforms rotating silently with a pulsating, varying rhythm independent of the viewer's position or movement. Within the space is a diagrammatic 'person' who moves randomly along the ground plane. This creature is both a 'mirror' of the viewer and an indicator that other viewers, other human beings, could be connected to this space, could 'enter' it and could 'meet' the present viewer 'inside' this electronically created environment. The space is cyclically infinite. Each side wraps around electronically to the opposite side so the viewer moving off one edge would emerge instantly into the space again at the opposite edge. To signal the beginning/end of the journey, a canopy of points/stars/periods hovers in space at one terminus of the path.

By means of this computer-assisted display, new relationships — new meanings — emerge, depending on the position, movement, and viewing direction of the viewer/reader/participant. As objects of light, the elements in the space convey a distinct and forceful

presence combining the mystery of dreams, the awesomeness of the starry night and the wonder of the modern, man-made urban environment seen at night. Instead of the strict topology of the stele, codex and later book forms, the linking of elements can be richer and more complex; yet is achieved through visually simple elements: points, lines and planes. These visual components of our familiar forms have been transmuted into light and space. The reader travels through the text as context.

(Text and illustrations are to appear in a forthcoming book edited by Mary Ellen Solt, *Semiotic Trends in Concrete Poetry*.)



The following is a documentation of *An X on America*, a conceptual art work utilizing the national telephone system.

Summary

A conference call was established on 7 November 72, Election Day, at approximately 12:00 noon CST, connecting five cities in the United States: New York, Washington, San Francisco, Los Angeles, and Omaha, Nebraska. The end points of the call were public telephones located in downtown sections of the city, and the call involved several people who had picked up the phones simply because each heard a pay phone near him ringing. As the conference call was in progress, a monumental X three thousand miles wide was being created electronically. Hence the title of the piece: *An X on America*. The title and the nature of the work can be interpreted in several ways, relating in particular to the national elections. The title, for example, can be interpreted as 'A Nixon America', and the X relates immediately to the voter's X as he marks a ballot.

12 March 72

I conceived of establishing a conference call between five cities in the USA in such a way that a tremendous X three thousand miles wide would be created across the country by the source points. The original title for the work was *Electronic Auto-cancellation of America Piece*. In subsequent months the title, formulation and the significance of the work developed and matured. The piece was originally scheduled for a 4 July date and included New York and Los Angeles as source points but left the remaining three cities unspecified.

Almost immediately I felt it appropriate that the calls should originate from public telephone booths and that they would use the built-in response of the average person to answering ringing telephones. In the next three months I began a lengthy set of conversations with telephone operators, supervisors, and business offices around the country to determine what were the telephone numbers of public telephones at or near the major downtown intersection(s) of the city. At the time I was living in New Haven, Connecticut.

15 March 72

While in Providence, Rhode Island, I collected the number of a pay phone in the Arcade, an older building in central Providence: 401-621-7562.

28 March 72

While in Omaha, Nebraska, visiting my parents, we stopped for a moment on 16th and Douglas Streets (my wife Susan's maiden name is Douglas) to record the number of a pay phone on the northeast corner of the intersection: 402-342-9323. It seemed to me perfectly appropriate that this city, my home town, should be the center of the X, even though geographically it might not be exactly centered. By this time I had numbers for Miami and was expecting information from Seattle, but I decided that San Francisco and Washington were the most appropriate urban centers in which to contact the Man on the Street.

6 April 72

I called information in Seattle, Washington, to try to find a pay phone. She didn't know of any and told me to call the business office in New Haven.

7 April 72

I called the business office in New Haven. They didn't know about New Haven phones, but they said other cities might know their pay phone numbers and locations. Miss D. gave me the business office numbers in Seattle (206-345-2341), San Francisco (415-421-9000), Savannah (912-232-9011). I forgot to get the New York and Omaha business office numbers. She was helpful, said the project sounded interesting, and wished me luck.

I called the Savannah business office. Miss F. said she didn't have a list of the pay phones separately but said she would ask her supervisor if he wanted to make the effort to find one. She described the center of Savannah, indicating that it was built on a square, with primary axes of Bull and Broughton streets. She remembered that just outside of the J.C. Penney store on the corner were two booths, but of course, even if she were to happen by, she couldn't give the numbers because they were private (i.e. they belonged to the telephone company) and were unlisted. She said the telephone company felt people wouldn't answer them. I said I thought they would.

I called the business office in New Haven again (203-771-5200) and talked with Miss B. about conference call costs. She called back twice to give me prices: five cities would cost \$11.00 for the first three minutes and \$2.25 per additional minute for any time and any type of call (person-person, station-station). Her second call back informed me that I could call a conference call operator in any of the five cities to give her the originating number, my billing number, etc. Then that operator would call the

telephones until she reached someone, keep them on the line until she found all five, then allow the people to talk for my stipulated time (five minutes, one minute per source point). This was all in theory, of course, and I didn't know whether an operator would be able to give me the names of the people involved or would be able to give my name to the participants.

17 April 72

Miss F. called back from Savannah with two numbers of pay phone booths at the corner of Bull and Broughton: 912-234-9254 and 912-234-9125. This was very kind of her, particularly in the light of the difficulties I was encountering elsewhere.

19 April 72

I talked with Miss H., a business office representative in Los Angeles who had been there only a short time (213-461-9611 - 1779). She told me about several areas which seemed likely in the city, e.g., near the arts center, the municipal center, near the Richfield and Bunker Hill Towers, and on Olvera Street. I learned from her that a lot of redevelopment is going on in Los Angeles and that Olvera Street represented the historical center of the city. I did not as yet get any numbers. I was told a supervisor would call me back.

Meanwhile, in calling San Francisco, I encountered the only male telephone operator in New Haven. I told him I was pleased to hear his voice and wished him luck. In communicating my name to various operators, I have been called everything from Earnest to Edwin. Only occasionally do operators understand my first name to be

Aaron. This name does not apparently fit into their repertoire.

I talked with Miss S. in the San Francisco business office. She switched me to Mr. B. He told me that there were indeed phones at the corner of Powell and Market Streets, where the Powell Street Cable Car Line began, and near the Bank of America building, but he wouldn't give me the numbers, saying it was not telephone company policy in his area to give out this information.

I called the Washington, DC business office (202-637-9900) and talked to Miss R. We had a friendly chat and she told me about the streets near the White House. She thought there was a phone near 16th and Pennsylvania Avenue and told me about the difficulty in finding pay phone numbers because they were listed by number, not location. I told her surely there must be a maintenance chart somewhere that would provide the necessary information. We continued to talk while she had a spot check done on the 16th Street and Pennsylvania Avenue location. We learned unfortunately that there were only indoor public phones in government buildings near that location. I felt these were not appropriate locations but would take the numbers anyway. At this point she switched me to her supervisor Mr. B. who informed me that pay phones are filed by number, not by location, and it is not company policy to give them out. Thus after more than 45 minutes conversation, I was back to the beginning.

In passing I noted, as I have on other occasions, that the ranks of female operators, who generally seemed interested in my project and good natured

about my inquiries, were under the thumb of male supervisors, who were usually somewhat pompous in their business-like habits and conveyed less humor and humanity.

On this same day Mr. A., from the Department of Public Relations in the telephone company of Los Angeles, called me. We discussed what I was trying to do, the laws about recording telephone conversations, etc. He got an idea of what I needed and said he would call me back in a few days.

20 April 72

A brief notice of my creation of a Cybernetic Landscape, a computer-generated large scale aesthetic environment, had appeared in *Design and Environment*. I received about twenty inquiries from around the United States. In replying, I asked the people writing me to send me the numbers and locations of downtown telephone booths. From H.L. Malt Associates (1049 Thomas Jefferson Street, N.W., Washington, D.C. 20007, 202-338-4010) I received courtesy of Barbara Rubino a map and a telephone number of a pay phone right in the area which I had discussed in vain yesterday with the telephone company. The phone is located near 14th and F streets on a traffic island, and its number is 202-393-9878.

22 April 72

While in New York to take part in an anti-Vietnam War peace march from Central Park to midtown Manhattan (a re-creation and alteration of a similar march I had participated in during 1967), I located two suitable phone booths at the northeast corner of Fifth Avenue and 42nd Street: 212-687-9983 and 212-687-9985.



Above: Diagram by Aaron Marcus showing alternatives for *An X on America*, collage on paper, 8-1/2" x 11", 1972.

23 April 72

In response to a hurried note to my long time friend William Horwich who works at Graham and James Law Firm in San Francisco, I obtained in a letter the number, 415-781-9958, of a pay phone near Montgomery and California streets in the heart of the financial district. I was now planning to execute my event on 22 May 72, my birthday, because I would be out of the country on 4 July.

25 April 72

I talked again with Mr. A. from San Francisco who gave me information

about taping calls. Sensing that this might be an interesting and at least amusing event, he encouraged me to tape the conversation to have a record of the piece. I told him that I wasn't so much interested in eavesdropping on the event as in enabling it. The Talmud says that the highest act of giving is that in which the giver does not know whom he benefits and the receiver does not know his benefactor and thus does not need to shame himself before anyone.

4 May 72

In response to another hurried note, I

received from another friend in Los Angeles, Keith Godard (6 Granada Buildings, LaFayette Park, Los Angeles, California 90057, 213-388-0331) the numbers of booths at six locations in Los Angeles. I selected two Olvera Street phones: 213-688-9499 and 213-688-9328.

21 May 72

Because I had to leave the country today before I turned 29 to take advantage of a youth fare flight to the Middle East and because I had not had time to arrange everything with operators in Omaha, I decided to temporarily delay the project.

1 November 72

The project continued from Princeton, New Jersey. Does 'An X on America' equal 'An Exxon America'? Is there hiding here some relation to gigantic corporate name changing which Standard Oil or Humble is now undertaking. I can't believe what they tell me on the radio about their reasons for a change.

I decided that the piece should take place on Election Day. The X symbolism in relation to the polling X is clear. The telephone booth vs. the polling booth relation is also clear. At the same time the polls printed in the newspapers indicate a large victory for Nixon. While I am hopeful they are wrong, I am pessimistic about the probable outcome of the election. In any event, this seemed a much better date for staging the event.

I called the conference operator in Omaha (operator code 402-11511) via Trenton after being connected to the conference operator in Newark by mistake. I gave her the numbers that I was planning to use and I checked again for the price of a conference call. She called me back and gave me



Above: Documentation photograph by Susan Marcus for *An X on America*, 6" x 9", 1972.

the identical estimate I had received earlier. Everything seemed in order. I told her that the phones were public phones, that I would talk with anyone, and I suggested she check out the phones to see if they were in working order. I would call back on 7 November to be sure everything was set up properly.

Later that day I received a call from the Trenton operator who told me that Omaha said Newark was supposed to arrange the call. She called the Newark conference call operator who called me back. She said that Omaha said that . . . she said that she said that . . . etc. The net result was that I had to explain all over again what I was doing and that I wanted the call to originate from Omaha. Omaha brought on a supervisor. There was much debating back and forth between Omaha and Newark and much confusion about the fact that I was not participating in the call. This confronted all of their rules about conference calls, to say nothing about using pay telephones as source points. After almost thirty minutes on the phone I was told that the matter would be discussed with supervisors in Omaha and I would be called back tomorrow.

I decided to send a notice of my event in advance to the *New York Times*, *The San Francisco Chronicle*, *The Washington Post*, *The Los Angeles Times*, and the *Omaha World-Herald*.

2 November 72

New Jersey called back and wanted to know 'what was going on'. Because operator shifts are constantly changing, only a brief written report is used to keep track of calls. The New Jersey conference call operator in Newark

called back later. She was impatient and said Omaha said 'no, it's just not done', 'it can't be done', etc., etc. Her reasons for Omaha's refusal were not clear. What was clear was that Omaha had deflected the assault on its orderly procedures to Newark. Newark also refused, citing Omaha as a precedent. I was directed to call the New Jersey Business Office, if I had further questions. I called Omaha back and talked with a supervisor to try to clarify the reasons for the refusal. After some discussion the problem boiled down to the following bureaucratic difficulty. Omaha maintained it couldn't 'take down' (i.e., end) a call if the Omaha number decided to continue talking, even if I had specified a five minute limit in advance. Because the Omaha telephone is the primary source point, New Jersey won't and can't take charge of the call, even though I'm having the bill sent to my number (609-924-0186). This seemed to me somewhat ludicrous, but I was finally forced to accept two alternatives. (1) My own number in New Jersey (5y Magie Apartments, Faculty Road, Princeton, New Jersey 08540), would be the source point, but I would be 'silent.' (2) I would have to be at one of the five source points. After some internal debate I decided the first alternative changed the whole pattern of the X into something else. The second alternative seemed better, but changed the pure Man on the Street quality of the call. In my original plans, the operator was to have informed each person that they were about to participate in a telephone system conceptual art work and that they could talk free of charge for a given length of time. Now I would have to be at one of the source points. Not being able to to Omaha,

I decided to go into New York to station myself at one phone booth.

3 November 72

I sent the newspaper notices out, checked the various pay phone numbers by trying to call them myself to see if I would get a ringing tone. I continually had trouble with the San Francisco number. I called the New York conference call operator who agreed quickly and good-naturedly to carry out the call.

6 November 72

Having doubts about the San Francisco number, I called William Horwich in San Francisco to ask him for other numbers. He returned my call with a check on that number and three others, one at Montgomery and Bush, 413-398-9671, and two in front of the Stock Exchange, 413-986-9846 and 413-362-9884.

7 November 72

I arrived at the telephone booth in New York at approximately 12:30 pm to arrange for the call at noon-time in mid-America. The conference call operator was generally agreeable and said she would call me back when everything was ready. In a few minutes the service operator called back to complain about the call. She said they had reached one person at the Washington number, but he said he didn't want to participate and had hung up. The other numbers were ringing but no one answered. I asked her to please be patient and said that I'd thought everything had been agreed upon, that I had traveled an hour and a half to reach this phone, and that I wasn't going to make a regular practice of such conference calls. She agreed to continue dialing the num-

bers and said she would call me back. This seemed to be the end of the event, at least the end of phase one. I recalled Nixon's watching a football game a few years back while half a million people tried to tell him of their opposition to the Vietnam War. This seemed symbolically re-created by the refusal of the Washington person to listen to what I had to say. On the other hand, the other numbers being busy suggested the idea of the middle-class man on the street being too busy buying and selling to listen to a self-styled artist-intellectual calling from the so-called artistic and intellectual capital of the country. This seemed a perfectly appropriate end to the piece.

Just as I was deciding this, the operator called back to report that she had two people on the line in Washington and Los Angeles and asked if I wanted to go through with my call. I felt caught in the middle of all of my plans with a powerful impetus to complete what I had begun. I said yes and asked her to keep the other two phones ringing and to break in if she reached anyone.

I found myself talking to a Mr. Rozales in Los Angeles. He is from a contracting firm and just happened to be walking by the phone when it rang. On the spur of the moment, he picked it up. The weather on Olvera Street was overcast.

In Washington a Mr. Kranish was just about to make a call when he discovered that the operator was already on the line and wanted to talk with him. I explained who I was and what I was trying to do. Both gentlemen seemed amused and interested. Just then the operator interrupted to announce the entry of Omana.

Ms. Mantz happened to be walking by a ringing pay phone and decided to answer it. She seemed delighted to participate in the event.

I suggested they begin talking. They were somewhat confused and didn't know what to say. Mr. Kranish asked how Nebraska was going to vote. Ms. Mantz replied probably for Nixon. Mr. Kranish remarked that Washington, D.C., was voting for only the second time in its history. At some point Mr. Rozales hung up for unknown reasons. The operator interrupted to note that San Francisco was still ringing, but that five minutes were up. I decided this was the appropriate end point of phase two. I thanked the remaining participants and said good-bye.

I did not consider the event a failure because electronic arms were in fact reaching out between the five points at all times during the piece, and the phase one qualities were clear. The deeper significance of phase two qualities were not immediately clear. However, in good Kabbalistic fashion, their relationships would probably emerge at some later date after more time for consideration.

8 November 72

To my knowledge, no newspaper covered the event or reported its existence. I tried calling the *New York Times* yesterday to announce the completion of the event. The city desk, realizing it was a 'cultural' event', called back the switchboard operator and told her, 'give this man culture'. I was immediately whisked to the culture desk where a man laughed upon understanding the event and said to call back tomorrow.

At this very time, 14:41, I do not know who won the election, but I can guess. As soon as I learn the answer to this question, I will consider phase three, and the event itself, to be at an end. It has been raining all day. It seems to be a very sad day outside.

At 14:44 I dialed information (411) and asked the operator who won the election. She told me: Richard M. Nixon.

Aaron Marcus
8 November 72

The following is a documentation of *A Zero-Circle Around the Earth*, a conceptual art work utilizing the international telephone system.

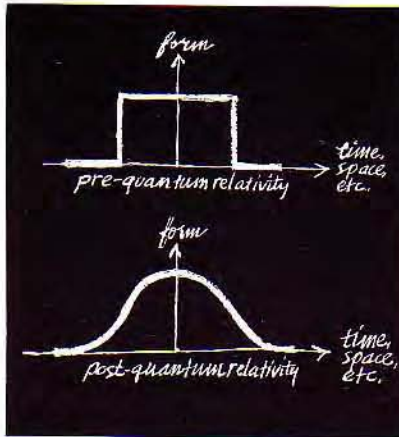
Summary

On Wednesday, 24 October 73, United Nations Day, at 3:00 pm EDT, I placed a phone call from a public telephone booth in the United Nations, New York City, to an adjacent telephone booth by way of Tokyo, Japan, and Frankfurt, Germany. The telephone connection thus circled the globe, creating a conceptual zero and/or circle around the world. I completed the circuit by talking and listening into both telephones.

Conceptually, the work is an electronic poem-drawing at an environmental scale. The telephone connection (electricity = fire) went by way of satellite (air), undersea cable (water), and underground cable (earth). The theme of the event was solipsistic unification despite topological deformation. By means of its development over time, its position in space, its intentions, its abstract/concrete ambiguity, and its sensual properties of shape, color, texture, solidity, etc., this work of conceptual art demonstrated the statistical, quantum-relativistic, soft edge of form (see diagram) with respect to ontological, epistemological, and teleological inquiry.

In regard to the single concept of connectiveness, one may observe the following aspects of unification implicit in the total work:

1. The unification of humankind via the institutions of the United Nations and electronic communication and via the very surface of the planet.



2. The unification of the eastern and western hemispheres with their corresponding modes of thought, i.e., quality vs. quantity.

3. The unification of the left and right cerebral hemispheres, i.e., the unification of the verbal and the visual/tactile centers.

4. The unification of the rational and intuitive, of reason and emotion, and the worlds of science/technology and the arts/the humanities.

5. The unification of space and time. My voice as myself encircled the earth while I simultaneously was at a single point in space in New York City. I was calling Tokyo into the future across the International Date Line, and Tokyo was calling back into the past to reach New York. During the phone call, space and time were collapsed into conceptual nodes.

Summer 73

I began to conceive of a telephone call which would circle the earth. At the time I thought it would originate and terminate in Princeton, New Jersey.

The work was a natural outgrowth of my desire to compose media of mass communication in the way in which one might use acrylics to create a painting or charcoal to create a drawing. Obviously the environmental scale of the piece would affect its content and its form in space and time as a dematerialized work of art.

2 August 73

I called the operator to begin the long, drawn out process of arranging the call. I reached a male operator. I was switched to a supervisor. The supervisor didn't seem to understand that I would be at both phones. The supervisor disappeared and I was switched to the chief operator. I explained again what I was trying to do. She transferred me to the Manager of Operator Services, Ms. K. She listened attentively and seemed to grasp the import of my request. I had thought that operators in New York City and San Francisco would take care of the call. She told me that with international overseas dialing, it could be done directly. Through her I began to see that there were several options: (1) a phone call which creates a correct circle about the globe, i.e., a great circle (2) a seven-continent connection; and (3) my original 'circle' which is quicker, less complicated and involves New York, London, Paris, Rome, Jerusalem, New Delhi, Hong Kong, Honolulu, San Francisco, and Omaha, Nebraska, as the touch-down points around the globe. We noted that the costs would be small, since it would be only a connection made at all of these cities, not a completed call. The call might involve underwater cables. She said she would contact the overseas operator, try to find out the problems, send them the names, and call me back.

Documentation photograph by Mr. C of *A Zero-Circle Around the Earth*, 3-3/4" x 2", 1973.



8 August 73

Ms. W called back to discuss my call. She spoke of 'dial countries', and 'non-dial countries', i.e., ones in which direct dialing is possible. For example, New Delhi is a non-dial country. She explained that generally I 'can get any cities' I want. She also mentioned that she was just a 'traffic supervisor' and would refer me to her supervisor. She was the District Manager, U.S. Division. Outside the U.S. the costs would be \$12.00 for the first 3 minutes, \$3.00 for each additional minute, but to some countries the costs would be \$15.00/\$5.00. I suddenly realized that she didn't understand the geometry of my call and thought that I wanted to make a conference call, i.e., a star, with all the calls coming back to Princeton. I finally hung up somewhat depressed to think that I'd been talking for so long and only then realized that she had completely misunderstood me.

9 August 73

Ms. B answered for Mr. M at AT&T Long Lines. I was switched to Mr. M and explained my project, that it would probably originate in Princeton and would involve AT&T Long Lines. He sounded a little dubious and not greatly interested.

Ms. K called back to ask how things were going. She wished me good luck

and said to call her back if there were anything she could do. For the next several days I tried to reach Mr. M, but he didn't call me back, or else Mr. M would be at an all-day meeting, etc. I was getting a run-around.

Ms. M called me for Mr. M. She stated that the FCC prohibits such a call, suggested that I write a letter to AT&T, and gave me the name of the Assistant Vice-President of Federal Relations, regarding the FCC tariff covering the call. She also gave me the address of the Public Relations Department of AT&T Long Line Services in New York. She explained that there would be a tariff restriction on the call because no phones would be involved outside the U.S., but circuits would be used. The problem was that I, in effect, would be asking the London international operator to call Paris, the Paris operator to call Rome, etc. As for taping the call, she didn't know what to say. All of the preceding had been relayed to her by Mr. M, who had just left for his vacation. I had presented an annoying problem to him, and he had passed the buck onto someone else, rather than speak to me. At least this is how it appeared to me. She did give me the name of the Vice-President of Public Relations for AT&T who has under him the Assistant Vice-Presidents for Educational Relations, Special Projects, and Public Proj-

ects. I decided that it would probably be easier for me if I communicated directly to a corporate executive, and that he (not likely a she) would then communicate the project downward, thus adding some bureaucratic imperative to the idea. I sent a letter to the Vice-President for Public Relations of AT&T in which I made the proposal for this call.

Mr. L of the Department of Public Affairs of AT&T Long Lines Service called to say Mr. L, returning to the United States from travel abroad, had passed the project onto him. There existed problems with technology and with tariffs for the call, he stated, but his 'people were looking into it' and making a counter proposal. Mr. N, the head of the Technical Division, was also looking into the matter. He added there existed the possibility of going through London and Australia via cables and satellites, instead of my proposed routing. He told me that I should hear shortly from Mr. L or Mr. C of his office in regard to furthering the arrangements for the call.

Mr. C called back to say his technical team had come up with a counter proposal to mine. The call would originate in Princeton or New York City, go to AT&T Long Lines, then by cable or satellite to Australia, then from Aus-

tralia to someplace in the United Kingdom as yet unspecified, then back to New York City, and from there to New York City or Princeton. The costs would be \$9.00 for the first three minutes to Australia; the operator there would then make the return call at \$9.00 for the first three minutes to New York. The cost for each additional minute for either direction would be \$3.00. Because of the number of cities I was trying to link (about 10) the technical engineers felt that the chances of the call being completed and the chances of the voice quality being audible were almost zero. I thought it was curious that this celebration of electronics might be foiled by high technology. I made a counter-counter proposal that the number of cities be reduced to 5 and that we use some that I had suggested. Mr. C said he would go back to his group and discuss this, then let me know. It was clear to me he was sympathetic and trying to have it arranged so that I could take advantage of the UN's birthday. I read a few days later that it was the UN's nineteenth birthday. I thought perhaps that I should wait one more year. Mr. C was non-committal concerning AT&T's desire to publicize the event. He said he would call back soon.

27 September 72

While visiting my parents in Omaha, Nebraska, Mr. C called back to me from New York. I answered the call in the basement of the house in which I had spent most of my youth, in the room in which I experienced most of my creative moments growing up in Omaha. He said he had talked to the engineers. He said the 'coupling device' for recording the call had to be rented from New Jersey Bell. He said he had talked to the engineers, and the best way was

through Australia, possibly Japan, then to the United Kingdom. He didn't know whether the United Kingdom touch-down point would be London or not. He said the use of 5 cities was not possible. Basically he said it was a transmission problem. He mentioned that if I were to set up a radio channel, then there would be no problem with the audio quality, but that would be very expensive, on the order of several thousand dollars. He stated that 'going west was best', because of the facilities involved. He said he was 'warned to stay away from Hong Kong' because of the likelihood of relay problems. He said he would go back to his engineers to discuss a New York/Japan/Paris or London (London preferred)/New York call. He didn't know whether satellite or cable would be used for the links. Concerning publicity for the event, if I wished to make it known that the event had occurred, it was up to me. He mentioned that AT&T would probably not be publicizing it.

11 October 73

Mr. C called back. He had been in touch with the Japanese. The call was arranged with them, and he suggested the best time would be 3:00 pm EDT. The best procedure would be to have the AT&T operator ready in Japan. The route to England was uncertain. It might also be Rome or Paris. He would have to contact Japan about this. The cable/satellite nature of the links was still uncertain. The rate for the Japan to New York call would be \$12.00 for the first three minutes, because it would be a collect call. I called Ms. H at the telephone business office in Trenton, New Jersey, and asked her about a 'taping coupler'. I told her both parties would be aware that the call was being taped because I would be

both parties. She said I would have to inform the Marketing Department of the make and model number of my small portable tape recorder. They would then sell me a plug and ear attachment for the phone. The cost would be about \$2.50. I told her that these devices were sold everywhere. She said that all other devices even 'the ones sold in Bambergers' are illegal.

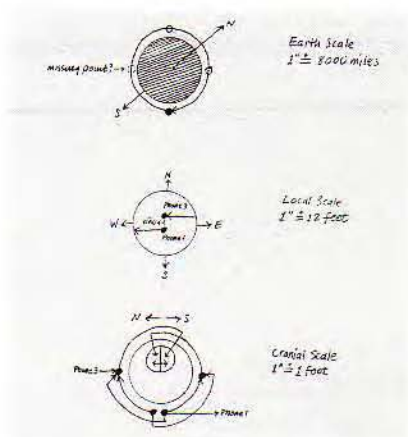
12 October 73

I called Mr. C back. I had decided that the call should originate in New York City at the UN. Therefore he said that a New York business office would have to sell me the coupling device because each company in New Jersey and New York had jurisdiction over its respective phones. I asked him if I had to have the right change for the phone call, or could I charge it. After all, the phone might jam if I tried to put \$20-\$25.00 worth of change in it. He said he would have to ask about that.

16 October 73

Mr. C had said it would be very helpful if I gave him the telephone numbers of the phones in New York. I couldn't get in to New York to do this. By chance I had to call Ms. T in New York, and I asked her as a favor to go to the UN and locate the pay phones. She called me back on 18 October and left a note for me that gave the following instructions:

The telephone booths are in the UN in the Lower building. As you enter and go to the staircase on the right, go down the staircase. When you get off the stairs, walk straight ahead and to the left. There is a sign that says 'Ladies' and 'Dames'. Keep left. The first three booths on the left are (1) 212-355-9521, (2) 212-838-9369, (3) 212-355-9707



Detail from documentation diagram for *A Zero-Circle Around the Earth*, drawing, 8-1/2" x 11", 1973.

18 October 73

Mr. C called back to tell me that there was a problem with third party billing for such a call involving public telephone booths. He asked me if I was sure that I wanted it to originate in New York and not my home phone. I told him I was sure I wanted it to originate from and to involve public telephone booths in the UN in New York. He confirmed my suspicion that there was a possibility that the coin box could get filled up. He also mentioned that 'the Japanese didn't usually make international calls to pay telephones'. After all, it would be a collect call. He said he would check back with me after he found out if I could charge it. I gave him the telephone numbers of the phones in the UN.

23 October 73

I called the New York Telephone business office regarding a coupler. I had found the number from the New York information operator. When I reached the number, I was informed by a tape message that the number had been changed to a new number! I was surprised that the information operator wouldn't know that. I called the new number and reached Ms. K in the Public Relations Department. She said she didn't know anything about such matters and couldn't say anything. She would relay my request to the Sales Department, and they would call back.

That was at 12 noon. At 12:30 Mr. G called back. Our conversation was interrupted and I called him back at 12:50. He told me that no one can tape anything at the UN without UN permission. I wondered to myself if this included taping myself. With a public phone there must be a 'beep-

ing'. He said that this project was 'beyond him' and wanted to consult his lawyers. He said he would call back. He wanted to know which phone I was going to 'couple'. He said it might be better if I just forgot that I had called him, just between himself and me, and that I could then take care of it all myself *sub rosa*.

Mr. C called to tell me that Mr. G's boss had said absolutely no, I could not do any taping; it is not allowed to tape from public phones, even if I am the only person on the line. I detected a note of excessive bureaucratic dogmatism here. If I wanted to argue my case with Mr. G's boss, I was instructed to talk to Mr. B. We settled on the arrangement that the phone call would originate from phone 1 and go to phone 2. He told me that he had arranged for it to be possible to charge the entire call to my home telephone, 609-924-0186. He also informed me that the call would go through Frankfurt, Germany, not the United Kingdom. I was quite surprised by this late change, as well as the problem with taping. He tried to get me to promise that I would not tape the call illegally, after he mentioned that he would be present for the event. I told him that I would just bring my small portable tape recorder and speak into the microphone, rather than coupling it to the phone.

I sent out press releases to the *New York Times*, *The Village Voice*, *The Daily News*, M.E. Solt, *Visible Language*, *Art Forum*, *The Rolling Stone*, Mel Bochner, *The Wall Street Journal*, *Avalanche*, K. Godard, *Print*, *Art Language*, Something Else Press, *Arts Magazine*, S. Marcus, N. Marcus, *Art in America*, and W. Horwich.

24 October 73

After awakening, I turned on the radio to hear the latest catastrophes and the weather. The announcer mentioned that the day was UN Day. On the news Israel said that the Middle-East war was at an end. The Egyptian and Syrian fronts were quiet. Yesterday the second UN resolution of the Security Council for a peace settlement was voted on and accepted 14-0, with China abstaining. I planned to take the bus into New York. My wife Susan heard by chance that there had been a bad accident on the New Jersey Turnpike and that the entire turnpike was closed down for a stretch into New York. Nine people had been killed, 42 people were injured, and traffic was backed up for 40 miles. Images of the film *Weekend* flashed through my mind. The series of collisions had been due to the worst fog near the Newark airport in eight years, according to the announcer. As a result of the accident I had to take the train. I said goodbye to Susan and Joshua our son, then I discovered that the shuttle from Princeton to Princeton Junction, New Jersey was closed down for track repair. Instead I had to take a bus provided by Penn-Central to get to the train. How peculiar, I thought.

The event had changed somewhat from the beginning. Now it involved the USA, Japan, and Germany, a triumvirate of corporate-industrial-militaristic-capitalist powers. I also noted that the call linked former World War II enemies. In the old trio (USA, England, Japan), it was a simple joining of imperial nations. I decided that I would try to hold both phones to my ears in a special way so that my hands crossed. This in effect was helping to unite my left and right cerebral hemispheres, that is, I was involved in an event which was both ver-

bal and visual/tactile. In a very simple, direct, and powerful manner, I felt I would be uniting the eastern and western hemispheres and uniting the worlds of science/technology and art/humanities, i.e., C.P. Snow's *Two Cultures*.

I realized on the train that the circle was also a zero, i.e., implying the collapse of space and time through electronic immediacy. The circle, of course, implied completeness, unification, perfection. I considered the circle as the letter 'o' but decided not to emphasize it. The 'o' is an 'o' sound in the chant 'om' or in the Hebrew word 'olam' for 'world'.

I composed the following speech which I intended to address to myself during the call:

By means of this telephone call around the world, I, Aaron Marcus, on this 24th day of October, 1973, celebrate symbolically and simultaneously the potential unification of the following:

The unification of mankind embodied in the institution of the United Nations.

The unification of the eastern and western hemispheres and the eastern and western modes of thought.

The unification of the left and right cerebral hemispheres, i.e., the unification of the verbal and the visual/tactile centers.

The unification of the rational and the intuitive, of reason and emotion.

The unification of the world of science and technology and the world of the arts and the humanities.

The unification of space and time.

With hope for peaceful co-existence, mutual respect, co-operation and communication, I terminate this call.

During the morning in New York, I visited the American Institute of Graphic Arts. I used their phone to call Channel 13's 'Fifty-First State' news office to tell them of my event. At lunch with Ms. A of the AIGA we discussed my impending event. She pointed out that I was calling into the future, to Tokyo, and that Tokyo was calling into the past, across the international date line. This was another, important aspect of the collapse of space and time in the event.

After taking the bus down to 47th and Third, I walked over to the UN. I asked a young woman to take a picture of me in front of the UN with the camera I brought along. I didn't get her name, but learned that she worked at the UN. As I entered, I found the place buzzing with people, especially children, because this was UN Day.

When I arrived at the phones at about 2:15 pm I met Mr. C of the New York Telephone office, Mr. C of AT&T Long Lines to whom I had talked earlier, and two repairmen, Mr. P and Mr. E. They were involved in checking out the phones to make sure everything was alright. They were having a problem getting a dial tone on phone 1. Phone 2 seemed to be out of order for some reason. Phone 3 was alright. We discussed the horrible accident on the Turnpike. The background noise of children talking and screaming made a constant blanket of sound. Phone 1 was brought back into working order without too much problem. Concerning Phone 2 it

was discovered that a few days ago the switching station for this phone had been changed; thus the phone had a new number, but someone had forgotten to change the disk on the telephone dial. Therefore, no one knew what number it was, and this was the telephone that Tokyo was supposed to be calling! As a result, we had to employ Phone 3 as the receiving phone. Mr. C informed me that the call would go cable to Japan, by satellite to Frankfurt, then either by satellite or by cable back to New York. Mr. C of the New York Telephone Company left to return to his office, Mr. P and Mr. E, from the telephone repair service continued to check my phones and others in the bank of phones on the wall. I couldn't help but notice that the entire inside cover of Mr. E's tool box was covered with naked women in unusual poses, what someone from the P.T.A. might describe as lewd, obscene, indecent, etc. I was glad he had been able to fix the phones.

While waiting for things to get ready, I decided to make a few last minute calls from Phone 1. I didn't have enough change so I tried to get change from one of the desks at the numerous tourist shops and stands in the basement. No one would give me change. When I asked passers-by, no one had any change. I asked about 5-6 people. I went into the cafeteria. A waitress said she wasn't supposed to make change, but would give me some from her own purse. I thanked her profusely and returned to Phone 1. I called UPI to tell them of the event. They said that they were sorry, but they were filled up with news, what with the Middle-East War, Watergate, and a terrible multiple-car accident on the New Jersey Turnpike. Besides, my event sounded like a feature item, and

I would have had to have the story to them several weeks in advance. As a result it was unlikely that I could get any coverage.

I attempted to set up my camera on a tripod to take a documentary photo of myself. I had just set up the camera, adjusted the lens twice, and was about to have Mr. C press the button when a guard came over and said I would have to put the tripod away because it was against regulations to take pictures with a tripod. I gave the camera to Mr. C, who held it in his hand and took several photos.

At 3:00 pm the New York Long Lines operator called me on Phone 1. I identified myself, and she proceeded to contact the Tokyo operator, Ms. S. In no time at all she had her on the line. All conversations were conducted in English. Ms. S in Tokyo then contacted the operator in Frankfurt. She had her momentarily, then the connection was broken for unknown reasons. There was some confusion between New York and Tokyo about what was to be done. Eventually the New York operator asked Ms. S in Tokyo to try to reach 'Miss Frankfurt' again.

The Tokyo operator's voice called out to the operator in Frankfurt like a lonely human entity lost against a background void of black, infinite space; "Miss Frankfurt, Miss Frankfurt, Miss Frankfurt . . .". The experience was very moving and reminiscent of some forgotten scene from a Bergman film. This frail plea was in vain; Frankfurt was not raised. After a few moments Frankfurt did return and tried the New York return connection, but she announced that the line was busy! This was startling to hear because I was

standing right next to the very phone she sought as it waited patiently to be rung. The New York operator suggested that Ms. S in Tokyo tell Miss Frankfurt to check that she was dialing the right area code and reminded her that it was 212. After a few more moments of confusion, the phone to my right rang.

I grasped one phone in each hand and said 'hello' to the Tokyo operator into Phone 3. Approximately one-half second later I heard the word 'hello' in my left ear from Phone 1. My mind became confused at that instant, for I thought I was hearing my brother Stephen's voice who was at that moment in Santa Barbara, California. I was completely open and accepting of this, but my mind cleared in another instant and the reality of my surroundings returned and normal time was re-instated. After a bit of fumbling with telephone receivers, a tape recorder microphone I was also trying to hold, and my notebook, I delivered the speech to myself that I had previously prepared. I was almost overcome with giggles at various moments because of the tension and awesomeness of the event. At the same time, it was confusing for me to read because I was hearing all of my words read back to me with a half-second delay. However, I managed to get through it. I discovered that only the New York operator was left on the line and that I could talk to her into both phones. She too had two voices and her replies were doubled. I thanked each of her voices for her help and hung up. The time was now approximately 3:15 p.m.*

Aaron Marcus
7 November 73

*see Erratum, page 34.

Following is a documentation of *Signing On the Dotted Line*, a conceptual art work involving a light.

Summary

At noon EDT 4 July 74 in Princeton, New Jersey, on the top of a building, I set up a flashing light. For 24 hours while the earth made one complete revolution the light flashed. In doing so the flashes or points of light created a dotted line in the form of a circle or zero or 'o' whose radius was approximately 3,000 miles as viewed by someone looking at the work from a location above the north pole. This art mark was a sign/light/space work.

16 December 73

I conceived of a conceptual art work in which I would hold a marker at one place for twenty-four hours. Because of the revolution of the earth the marker would trace out a circular form. Of course, not precisely a circle (or zero or 'o') because of the movement of the earth about the sun, the sun's movement toward the star Vega, simultaneously the rotation and translation of our entire galaxy, and the expansion of the universe. However, for all intents and purposes, the gestalt image would be circular.

When I first began to conceive of this work, I was uncertain whether I could actually hold during the entire time a piece of chalk or other conventional art marker without falling asleep. Actually I considered simply tying a pencil or other similar object to my hand for the entire period. The gesture was ritually possible as an unusual binding ceremony, but I eventually dismissed it as too representational.

About 15 February 74

In the February *Scientific American* I read that twenty-five years after the first artificial satellite, a man-made object (Pioneer 10) will be on its way to the stars, having passed the orbit of the planet Pluto in 1983. This seems to confirm the appropriateness of the expanded scale of my conceptual art works.

On the way home from planning a show of my work at the New Jersey State Art Museum, I discussed my project with J.S., a kinetic sculptor. I asked him how I might make a small battery-powered flashing device which I could seal in plastic. In this way I would create a completely self-contained sculptural device for the project. He said he would send me the electronics diagram for such a device. In a few weeks I received the letter from him, but I procrastinated in undertaking its construction because it seemed too complicated to do, even though it was only a simple electronics circuit.

8 March 74

R.K., then Director of the Visual Arts Program in which I taught and organizer of 'Line as Language' exhibit in the Princeton Art Museum, delivered a short gallery talk in which she explained that the basic questions which the works she had selected attempted to answer were the following: if one is making shapes against a reference field, how could one 'find' shape? What would it be transparent to, that is, what would it mean? Her discussion of D.R.'s drawings developed the point that it 'takes time' to see the work, to understand it. I felt a dialectic was being posed between scanned versus gestalt perception. Enough said; I found the talk stimulating and corroborative.

21 March 74

I was discussing the concept of Time with S.R. who prefers to be known in artistic circles as R.F. He considers himself to be a 'time-time' artist, not a space-time artist. He maintains that such time-time art works do not concern themselves with the metrics of most of our (spatial) experience and language. According to him, time-time concepts involve the following:

waiting/impatience
unexpected/expected
temporal topology/chronology
early/late
remember/forget
souvenir/oblivion
novelty/boredom

They involve insight, anachronism, intuition, and all-over-flash. The changes that occur can be judged isomorphic, heteromorphic, or homomorphic. I ingested the terminology as best I could and attempted upon later reflection to sort it out in relation to my own work. However, my brains were pretty well fried after that session.

19 April 74

M.McL., the *Understanding Media* man, paid a visit to the campus. After a little reminding, he recalled my *An X on America* (1972) and *A Zero-Circle Around the Earth* (1973) pieces, documentations of which I had sent him. During the course of a dinner with him to which I was invited, a 'streaker', clad only in tennis shoes and a black mask, suddenly entered the room and shouted, 'What's your theory about this, Marshall?' and departed. Later in the evening Mr. McL. presented his by now well-known views that we are moving from the visual (implies God) to the acoustic (we are all God), from science,

to music, from geometry to topology, from objective truth to subjective truth, from unattached to involved states, from logic to intuition. I discovered in the course of the evening that his name, if one recited it very slowly, became 'marsh/all muck/clue-land'.

3 June 74

I discovered that my work is equivalent to 'wordsworks'. Therefore, my works were 'from out of the wordswork' and reflected an interest in Genesis, in which there is an underlying dialectic between saying and doing.

1 July 74

After dawdling with the project for several months, the impending first birthday of our son Joshua acted as a catalyst, and I suddenly found myself working feverishly to prepare the project for execution on our child's birthday, 5 July.

I decided that the appropriate marker could be a regular light bulb in a standard porcelain socket with a special small button-like device inserted into the socket to make it blink. For several reasons this new approach to the art marker delighted me.

First of all, I realized the marker was a variant of a 'light pen', a device which is used in computer graphics technology to signal the computer via a television-like screen. Normally the light pen is actually pen-like in size and shape.

Secondly, the actual physical objects I now intended to use recalled for me a time when I was in the fifth or sixth grades (8-9 years old) and constructed a machine which I called a 'radical hydroscopic lunar-dimensional sinaspectrum tabulating bi-trometer ratio

communicating radio, variable automatic neutron-operating computing calculator syncopated synchro-cyclotron.' A neighborhood friend several years younger nicknamed it simply the 'goo-goo machine'. The superstructure of this imposing artifact was merely a sturdy wooden crate. The machine's primary effect was achieved through ten or twenty colored light bulbs which blinked on and off due to the presence of the same little button-like device I now intended to use. I had not thought of them in approximately ten to fifteen years. Especially memorable in my images of the machine were the large green and violet bulbs which had a certain loneliness to them and which glowed mysteriously.

In my fantasies with this magical machine, I was able to fly to distant planets and to other times. Later I added supplementary 'machines' until I possessed a complete, official rocketship control panel similar to the one Captain Video had on television. I recall one episode, in fact, in the days of live television programming, when he bumped against his venerable control panel, and the whole contraption fell over on his foot. With true heroic aplomb he picked up the (?cardboard) construction whose pristine rear-end showed no signs of cable connections and ad-libbed something about how it was certainly lucky that none of the instruments had been hurt when the ship entered a sudden space vortex.

2 July 74

I now could easily purchase the necessary electrical parts for my light pen. However, I was hoping that I would be able to find most of what I needed in the garbage cans of Princeton University's dormitories. At the end of each

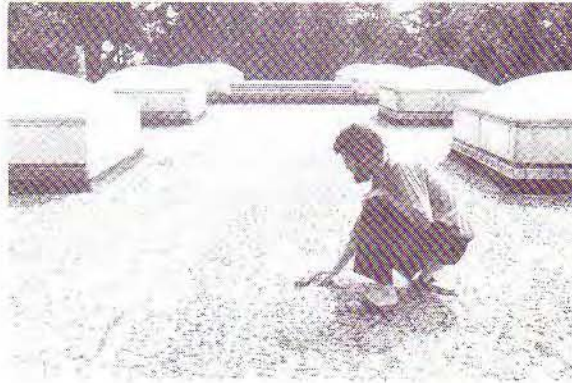
school year, many students who are in a rush to leave and who take their material comforts for granted casually toss away many objects which are still serviceable, destroying them instead of giving them away and recycling them. For as long as I can remember, I've always had a romantic attachment to trash cans. As far back as the third grade (eight years old) in an earlier location in my hometown of Omaha, Nebraska, my younger brother Stephen and I used to patrol the trash cans which lined the back alley behind our house. Probing the unknown riches of these galvanized steel treasure chests has become such an ingrained habit that at times my inclination has been almost embarrassing, or at least comical. Years later and reasonably well-dressed, I would be walking down the streets of New York with 'mature' friends of mine. Out of the corner of my eye, the unconscious segment of my mind would catch sight of a trash can approaching abreast of my body. In a flash my hand would reach in and withdraw, bringing up a hardly worn pair of shoes, a reasonably good sweater, or a collapsible umbrella which some unknown benefactor had thrown away for unknown reasons. It would almost come as a surprise to me that my mind had reconnoitered the environment, selected its prey, and returned with its trophies before 'I' knew what had happened.

This summer I decided to abandon myself to this old pleasure and had developed a tortuous but comfortable bicycle route that brought me past the most fecund of the large bins. Already my finds included an excellent portable am/fm radio (lacking only batteries and a bit of its plastic case), a set of unusual beautifully ornamented linen robes, and

Right: Documentation photograph by Aaron Marcus of the site for *Signing on the Dotted Line*, 9" x 6", 1974.

Next page: Documentation photograph by Aaron Marcus of the light pen for *Signing On the Dotted Line*, 5" x 7-1/4", 1974.

Following page: Detail from documentation diagram for *Signing On the Dotted Line*, drawing, 8-1/2" x 11", 1974.



a well-constructed balance scale to be used for weighing letters. I passed up as undesirable a GE Electric Oven, refrigerators, sofas, and rugs because of the fortunate difficulty in fitting such objects into my bicycle baskets.

At such times, when 'the pickings were good' I often fantasized to myself that I could drop out of the regular modes of my professional roles and simply become a picker-over of other people's supposedly worthless refuse. I carefully ignored the occasional stares which passers-by gave me as I rummaged among egg shells and book cases. I waited for someone who knew who I was to approach me and chastize me for acts 'almost obscene for an Assistant Professor of one of the most distinguished Eastern universities'. I had planned a powerful retort concerning the obscenity of such a wasteful society as the one in which this university was located, but alas no antagonist came forward upon whom I could vent my billious spleen.

As it turned out I did not find anything of immediate use. On the other hand, I did manage to locate a light fixture and cord among trash being discarded from renovations in the chemistry laboratories. Unfortunately I missed by ten minutes a carload of other goods being thrown out, because I was looking in the wrong place at the wrong time.

The light fixture was admirably stereotypical, like one in a comic book illustration by R. Crumb. From a local electrical store I purchased a bulb and a blinker-button. I debated between a frosty white 7-1/2 watt round bulb and a 15 watt translucent bulb. I made a crucial aesthetic decision and selected the latter because it looked more familiarly bulbous (a la Crumb), and its size was in good proportion to the socket.

3 July 74

During the day I tested the bulb and blinker and found that the light blinked approximately 100 times per minute. In the evening, my parents, who were visit-

ing from Omaha to help celebrate Joshua's first birthday, brought up the subject of my 'goo goo machine' of many years ago as they discussed my proposed work. It was interesting that, independently of my mentioning it, they, too, saw the connection with my childhood project.

4 July 74

The day was Independence Day. It was hot. I had decided to mount my light pen atop the School of Architecture and Urban Planning Building on the Princeton University campus, because my office/studio is in that building. In the morning I carried all of my equipment up to School on my bicycle. The campus was completely deserted. Only the intensely green trees and the blazing white sun witnessed my ride up to the site.

Included in my traveling bag was a large drinking glass which I thought I might use to cover the bulb and socket in order to protect them during the night. Later I decided against using it, because I feared that dew condensing on the surface of the glass might drip down and cause a short circuit.

From my office in the basement I

climbed up to the third floor with the apparatus and extension cords, entered a little-used room and scrambled up the ladder to the roof as I had done a number of times in past years to put up an antenna for my office radio. To my shock I discovered that someone this last year had bolted and locked securely the hatchway. I fiddled in vain with the lock trying to pry back the latch. It was dark up in this diaphoretic corner of the room where the heat of the entire building collected. It seemed to be over 100° F. and perspiration sprang out from every pore of my body. In only half a minute of fussing with the lock, my shirt was thoroughly soaked and sweat dripping down from my eyebrows was clogging the lenses of my glasses.

I decided to get a crescent wrench from the basement tool locker and simply unbolt the lock hasp from the side of the hatchway. Some minutes later I climbed the four stories from the basement for a second time, freed the lock, threw open the hatchway door, and placed the light pen on the gravel of the roof. Then I groaned. I had forgotten to bring a camera to document the event. I descended and ascended a third time, attached the extension cords, arranged the bulb, recorded several documentary photographs, and plugged in my marker. The bulb glowed, then blinked on, then off, and continued its luminescent heartbeat. It seemed to be winking to me in a very friendly manner.

The device was situated directly in the open center area between four skylights. From this rooftop position I could only see the tops of trees and an occasional building. Overhead was the



clear, open vault of sky, with the sun approaching its zenith. I said goodbye and good luck to the bulb. I had already grown fond of it.

While I was on the roof I repaired my hand-crafted fm antenna and support system which had collapsed sometime in the past two years. The weathered wooden beams of the supporting structure looked like the withered corpse of an old man, arms now splayed in the *orans* position, who had died while bowing not to Mecca or Jerusalem, but to miraculous sources of electromagnetic energy in nearby New York City.

I returned to my office and tested the radio briefly. I immediately learned at 11:03 am that it was 85° with 65% humidity, and the THI, whatever that is, was 79. I reflected a moment upon the absurd state of news reporting on most commercial broadcasting stations. So much ritually precise but banal information is provided, as if we had a powerful instrument that gobbled up these facts. We need to know only crude trends; after all, what possible distinction can I make between 83° and 85° or 60% humidity versus 65%? On the other hand, barely anything is supplied in depth concerning socio-political matters where one needs a great deal of information and has comparatively greater power to effect change.

Nervous and full of anticipation I arrived back home in our apartment. As with Jewish holidays, the work was tied to the movement of the sun. It was scheduled to begin ritually at 12:00 noon when the full-face of the sun would be directly overhead. The art work had now bloomed into a delicate flower with many shades of meaning: in relation to Independence Day, Joshua's birthday, Jewish ritual, and a 'purely aesthetic' artifact.

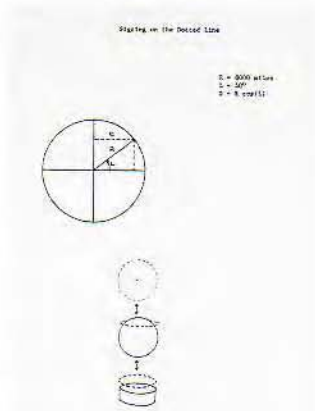
Shortly before noon I placed a *yarmelkah* or prayer cap on my head and my *tallit* or prayer shawl upon my shoulders. In the Jewish prayer book I found the blessings normally associated with the Havdallah ceremony that ends the Sabbath. From these I selected two prayers which bless the First Source for the creation of lights and for the separation between darkness and light, between the sacred and the profane. While reciting these out on our balcony under the sun and in the presence of the trees, I rotated slowly from facing east, to south, to west, to north, to east again. The twenty-four hour cycle had begun. I felt anxious but exhilarated, as though I had launched a satellite, and I wasn't certain that all of the systems would function properly. In my mind's eye I could see the displacement vectors which joined my present location to my previous location in front of the light pen. A diaphanous series of conceptual threads connected the two locations in space-time, or perhaps time-time, making a supplementary hyper-object to the main creation of the work. At lunch I drowned my concerns for the success of my venture in a very sweet, juicy

watermelon, the first of the season for me.

The twenty-four hour cycle would include a full moon that evening, as I had learned from our Jewish calendar. It would also include the moment of birth, 3:21 am, of Joshua's solar birthday. The work would conclude with another full-sun at 12:00 noon on 5 July. The date of Joshua's birth in the Jewish calendar is 5 Tammuz 5734, which had occurred 9 days earlier. This work was occurring during 14/15 Tammuz or half-way through the lunar month. I felt this was well timed and related very propitiously to the sun and moon convergence during Joshua's predicted (31 June 73 to 1 July 73) and actual birthday.

That evening my wife Susan, my parents, and I attended a local production of G.B. Shaw's *Arms and the Man*. This broadly played farce was notable for two wholly unexpected acts of binding ritual. When the lieutenant entered and swept off his huge fur cosack-like helmet, his wig came off in it. After he realized his predicament, he placed his helmet back on his head, but because the wig had shifted, the helmet sank down on his head to his eyebrows. He looked like Ben Turpin, and so ridiculous that his fiancée, who was supposed to be lamenting histrionically his momentary departure, began uncontrollably to break into muffled laughter. From the audience his ludicrous mien seemed perfectly suitable to his part.

At the end of the play, when the lieutenant rejects his fiancée and declares his intentions to marry her servant girl, he sweeps the maid around to implant upon her a grand Victorian kiss.



The pair righted themselves, and the dialogue shifted elsewhere on stage, but I noticed the lieutenant fidgeting curiously with the maid. It became apparent that the richly ornamented, braided, and bemedaled front of his uniform had become entangled in the webbed bodice of the servant's peasant dress. He struggled to free himself and tearing himself at last away from the girl, he whirled toward the audience to utter the uncommonly coincidental cry required by the script: 'I shall never be bound!' All the audience had a hearty laugh at these embellishments.

On the way home I sneaked quickly into the dark, silent hulk of the School building, climbed the familiar stairs and ladder and peeked out onto the roof. The bulb blinked sweetly, even passionately at the almost midnight sky. When I left the building I informally saluted the placid face of the full moon looking down on its tiny protege. As I prepared for bed that evening I looked at the clock as it marked twelve midnight and thought of the distant marker patiently tapping its signal to the clear, starry night.

5 July 74

Shortly after 12:00 noon I donned my prayer cap and *tallit* again and repeated the ritual blessings of the previous noon in order to proclaim the termination of the work. In the early afternoon I hastened to school to gather up the light pen. As I climbed the ladder I was worried about what I should do if the bulb had shorted out during the night. I opened the hatch door and found the light still blinking. With relief and happiness I took in the various pieces, rebolted the hatch door closed, and left the light pen on my desk in the basement. The work was concluded and completely successful.

I learned later (9 July 74) that the location of the light had been approximately $40^{\circ}20'39''$ latitude, $74^{\circ}39'33''$ longitude. These figures actually apply to the location of an antenna on the top of New South Building located approximately 1,800 feet due south. The lamp sat approximately 36' above ground level which was 200 feet above sea level. Consequently the radius of the circular form was 4,000 miles times the cosine of the latitude or about 3,000 miles.

The trivalent significance of the circular form has been adequately described in the documentation of an earlier work, *A Zero-Circle Around the Earth*, and I won't repeat it at this point. Upon reflection during that day, the following further associations became apparent.

The event took place simultaneously at 'home', and at 'work'. In this way these two poles of my life were symbolically unified. Clearly the on/off, light/dark states of the light pen can be related to a dialectic of sacred/pro-

fane which surrounds the work as a whole. Without being prolix, I mention briefly that the ancient Egyptians used stone implements for their sacred services long into the Metal Ages.

This blinking, circular form of lighted points in space-time also has connotations of Broadway and Times Square, show business, the ring of lamps around the star's magic mirror. In this case the face of the earth is the star's face. On another level this 'popping off' of light is like a large scale 'fire-works' show to help celebrate Independence Day.

I was pleased that the light had actually been plugged into a wall socket. It drew current from the local step-down transformer which received its energy from the regional power grid, which in turn took it from some distant generating station that used the latent power of fuels stored in the earth. Again this 'fire-work' in the open air drew its 'juice' from the sun and the moon via earth. In celebration of Joshua's birthday, the earth squeezed tiny tears of light into a halo around its head, or tiny jewels in a crown (*kether*) of light around its full face, or $100 \times 60 \times 24 = 144000$ candles in a cosmic, conceptual cake.

Aaron Marcus
5 July 74

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One-Man Exhibitions

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Erratum: The following text was omitted from page 26.

I felt that the work had been completed quite successfully and was satisfied with the development and execution of the piece in its many manifestations and in the form over time and space. Mr. C, now being the only representative of AT&T left, offered to treat me to a cup of coffee in the cafeteria nearby where I had so long ago sought change for a quarter. I graciously accepted. He paid for the coffee, and I left the tip.