"INFORMATION SPACE"

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submitted to the Department of Architecture on April 9, 1979 in partial fulfillment of the requirements for the degree of Masters of Science in Visual Studies.

"Information Space" is a video installation consisting of four separate video tapes played simultaneously on four monitors. The monitors are arranged in a square, with each monitor on a base at the midpoint of each line in the square. Each tape has a duration of ten minutes and is recycled continuously throughout the showing. The distance between two monitors across from each other is twenty feet.

The tapes form a hierarchy of levels. Tape 1 is the most minimal of the four. It is composed entirely of light and dark, the primary elements of video. The appearance of the tape is a fading from black to white to black to white, etc. Tape 2 is created from natural objects such as rocks and shells. The images which these objects create are complex patterns of light and dark areas. Each of the objects is recorded in such a way that its identification as a rock or shell plays a minor role compared with its ability to portray the sensual qualities in the form of the natural object. Tape 3 is created from human forms. It bears similarity to tape 2 in its emphasis upon the suggestion of "humanness" rather than the specific definition of recognizable human parts. Tape 4 is generated on a video synthesizer. The images created are abstract forms and patterns, and are electronically generated in contrast with the images in tapes 2 and 3 which are recorded via a camera.

The images which compose each tape are organized and structured by fades. One image moves into the next through a fade lasting ten to twenty seconds, with the effect that the actual change from one image to the next is almost imperceptible. The result is an ever-changing superimposition of images which progresses from beginning to end. All fades within a tape have the same length. The effect of the fading is to create a continuous motion within each tape and throughout the four tapes.

A viewer positioned at the center of the installation is able to see three of the monitors. In order to see each tape more clearly, he/she is encouraged to move towards each monitor. In this way, the viewer begins to participate so that the fading he/she does in looking from tape to tape forms an analogy with the fading within each tape. Although the tapes have a conceptual order, it is not necessary that they be viewed in that order. It is hoped, that upon seeing

the tapes, the structure upon which they are built will emerge.

Thesis Supervisor: _____

Title: _____

Introduction

In this introduction I would like to present a description and overview of "Information Space". I will discuss the components of the video installation and their arrangement in the installation space. With the diagram I hope to create as clear an image as possible of the actual installation, short of actually seeing it.

The aspects I will try to cover in the body of this thesis fall into five categories: the conceptual framework of "Information Space"; an analysis of the framework's structure; technical considerations; the actual installation; and a brief overview of video installation as an art form.

"Information Space is composed of four video tapes with accompanying audio tracks. Two of the tapes are black and white; the other two are color. They are played on four separate monitors simultaneously. Each monitor is placed approximately two feet from the center of each of the room's four walls, with the exception of one monitor placed five feet from the wall. The distance between two monitors which are across from each other is twenty feet. The area described by the four monitors is four hundred square feet. Each monitor sits on a white base three feet in height. The monitors have twenty-five inch screens.

Each of the four video tapes is approximately ten minutes in length. Each piece is recorded six times on a

60 minute 3/4 inch cassette. The video tape recorders are recycleable so that the tapes are continuously playing. The four tapes are non-synchronous in the sense that, by virtue of the equipment, playing them they fall out of phase with respect to one another. Therefore, as intended, the tapes do not begin and end at the same time. Since the tapes' positions are constantly shifting with respect to each other, it is highly improbable that the same set of images would appear on all four monitors more than once.

The duration of each tape is arrived at through the consideration of a number of factors, one of which is the approximate length of time a viewer will spend in the installation. Since the tapes are constantly recycling, there is no starting point at which the viewer should begin to experience the work. One of the intents in creating this environment is to allow the viewer the freedom to enter and leave, and be able to return at any point throughout the duration of the showing. Each return is never exactly the same as a previous experience in the space since the position of the tapes and, therefore, of the images in relation to each other is always changing.

There is no preferred order in which to view the four tapes. However, the relationship between the tapes is based on a conceptual order creating a "tape 1", "tape 2", "tape 3", and "tape 4". I would now like to discuss the nature of each of the tapes and their mutual relationship.

Conceptual Framework

The tapes form a hierarchy in which tape 1 is the first level. In addition, each tape has an internal hierarchy. The internal hierarchy is consistent throughout all four tapes, i.e, the hierarchical structure is the same in each of the tapes. There are essentially three orders which compose the internal hierarchy. The first level is concerned with surface, i.e, how video -the technology- is used in each tape. By "surface" I am referring to the appearance of visual phenomena and their pattern on the monitor screen. The second level is concerned with the nature of the image and its effect. The third level is concerned with the relationship of the tape to its environment, a "cosmology". By using this model of levels in a hierarchy to describe the content of each tape, I am attempting to present the different operational modes of the ideas in each tape in increasing order of complexity.

In tape 1, the technological aspect of the video, the first level of the hierarchy, is represented in its most primary form, lightness and darkness. The surface represents the presence or absence of a signal. The signal is either there or not there, on or off. The appearance of the tape is a fading from black to white to black to white, and so on. Its purpose is to present the most primary elements from which all video images are created, and to use simply the

elements which manifest the binary nature of video, light and dark -the parameters through which information and form[1] are made available to our senses.

Image in tape 1, the second level in the internal hierarchy, is the most minimal representation of image among the four tapes. In looking at the black and white monitor surface, one might believe the aspect of image to be absent. However, the aspect of image present here is that of an image precursor. The black and white surfaces are not used to create complex images but are shown as the raw material from which video images are made. The image then is the whiteness and blackness of the monitor and the particular qualities that white and black display when "painted" in video.

The third hierarchical order of tape 1 reflects the contrasts which we perceive in our surrounding environment In this sense, tape 1 is metaphorical. We see the black and white images as a visual metaphor of states and events which we experience in the world around us.

It should be noted here that, while the experience of viewing the tapes is a holistic one, this breakdown into the three orders of a hierarchy is extremely useful, for the purposes of analysis and understanding, in isolating the

[1]In using the term "form" here, I am referring to the definition of shapes and their suggestion of depth which results from the arrangement of pixils that may be on or off on the monitor screen.

compositional elements of the tapes. In discussing the next three tapes, we will look at those same three aspects in order to understand how they form the basis of the relationship of each tape to the others.

In contrast to tape 1, the surface of tape 2 is pattern. It is a complex array of light and dark that creates a visual texture. As the pattern changes and one fades into the next, the relationship between the "abstract" patterns becomes clear. One can see where one image fades into another. Where tape 1 is concerned with simply stating the elements, tape 2 is concerned with using those elements to form and describe complex "images".

The images in tape 2 represent natural forms such as rocks, shells, and crystals. They are not recorded in the "documentary"[2] style. The intention is to suggest, rather than explicitly state, natural form. The effect is to create an ambience which arouses feelings that one might expect with the forms, shapes, and textures of natural objects. Therefore, the objects are not identifiable as a shell or

[2]The tradition of documentary in film-making to which I refer is the method and style used to create an objective record, most often narrative, of a particular topic. Typical of narrative topics are political issues, scientific investigations, social concerns, etc.

a rock but are suggestive in general of shells and rocks. In a sense, however, the image here is used as documentary, though not in the traditional sense of film, but rather as the recording and transference of images suggestive of sensations associated with experiencing the environment.

On the third level of the hierarchy, tape 2 concerns the theme of man looking at his/her environment; perceiving it, testing it, and abstracting it -seeing objects not only in their functional or causal relationship to himself/herself but viewing them symbolically as possessing abstractable qualities such as line, form, and shape.

Tape 3 introduces color; the colors in tape 3 create bounded forms, with these in turn forming patterns as part of the surface. This is in contrast to the overall patterns created by the more dispersed elements of light and dark in tape 2.

Image in tape 3 is human form. The intention here is to create through image the impression of human form rather than concretely display it. This attempt is similar to that in tape 2 where the feeling of natural forms is important. Where as image in tape 2 is "documentary", that of tape 3 is mirror, perhaps self-documentary. The images of human forms cannot be immediately distinguished as such, but rather appear as curves, shapes, and forms which suggest a feeling of "humanness".

In tape 2 , the theme of man's relationship to his/her environment is examined from the perspective of man looking outside of himself/herself, whereas in tape 3 the perspective is that of introspection, i.e., of man looking at himself/herself -the aspect of man's self-consciousness.

Tape 4 presents a surface determined by electronic impulses. In tape 1 the concern is with the electronics of the video signal while here the concern is with the electronic surface. the synthetic generation of pattern and color. The surface at which we are looking is pure electronics, originating from the electronic source of a video synthesizer.

Image in this tape is the visualization of electronically generated phenemona, expressed in line, form, and color. The image here is in its most abstract state. Where as in the other tapes one looks at natural or human forms which suggest abstractions, here one is looking at pure "abstractions" of a technical composition, suggesting form and idea.

The third level in the hierarchy represented in tape 4 is man as a creator. His/her relationship to the environment is his/her ability to change it. Not only is man a creator of images, but also of tools with which to create those images.

Because of the complexity involved in describing the conceptual framework of "information Space", I have separated the discussion of video from audio. The two components are not equally balanced with regard to following a hierarchy

and so it seems more suitable to have completed the section concerning video and then go on to the aspect of sound.

The sound in each tape is intended to work with the video in heightening and increasing the impact of the visual experience. The sound is neither competitive with nor as dominant as the video. Clearly, the visual aspect of each tape is easier to isolate from the complex environment than is the sound of each tape. For this reason, each individual sound track has been carefully composed. The sounds used in each tape are suggestive of the hierarchy in the visual aspect of the installation.

The sound in the first tape is silence. As "Information Space" took shape, there seemed to be two possibilities for the sound track of the first tape: either silence or an attempt to follow through with the binary concept present in its internal hierarchy.[3] The sound in tape 2 is composed from recordings of sound patterns mostly devoid of tone.

[3]Opting for the second choice would have resulted in silence when there was no video signal, i.e., "black", and white noise when there was a video signal, i.e., "white". Had tape 1 been intended to stand alone, the second choice would have been better. However, as a component in the installation, the presence of such a highly structured sound track would be too competitive with the other sound tracks as well as with the video tapes.

There is a variation in pitch. One of the considerations was to reflect in both the audio and video the same pacing of sound and image. The patterns in audio tape 2 originate from the sounds of dripping water.

The sound for tape 3 is also composed of sound patterns. Many considerations were similar to those in tape 2. As described earlier, the images for tape 3 are drawn from human forms. Although specific human forms may not be noticeable, the feeling of humanness, arrived at through the use of close-up lenses, is achieved. The audio for tape 3 is conceptually similar in that, although the original signal is generated by human sounds, i.e., breathing, chewing, heartbeat, the are not distinguishable as specific human sounds. Rather, they are only distinguishable as possessing "humanness".

The sound for tape 4 was generated on an audio synthesizer. The use of an audio synthesizer was necessitated by the same set of concerns which called for the use of the video synthesizer. The audio and video components bear resemblance to each other insofar as they both represent the amplification of electromagnetic waves as a tool for generating images. The ideal situation for the generation of tape 4 would have been to use one machine to produce both audio and video so that the sounds and images would have originated from one source. Unfortunately, the facilities were unavailable at this time to build or procure such a

synthesizer. In any case, it was also necessary to compose the audio tracks for tape 4 in relation to the other tracks, and the use of one machine might well have led to a more complex audio track than could be integrated into "Information Space"

Analysis of structure

The images belonging to each one of the four tapes have a common origin, e.g., all of the images in tape 3 use human form as their source. This relationship of the images within a tape to a common source accounts for the general structure of "Information Space". The relationship of each image to the next in each of the tapes is a more detailed aspect of the structure requiring further analysis.

All of the tapes share a common structure or composition. The same format -the method by which one image is linked to the next- is employed in each tape. The issue which is most important in the sequence of images in any one of the tapes is the compositional relationship of one image to the next.

The compositional relationship of the video images fall into two general areas: landscape and specific form. These general areas in turn have further compositional elements which contrast with each other. Images which are classified as landscape have a sweeping gesture. They cover most of the monitor screen and also seem to have a horizontal axis. Compared with specific form, their most distinguishing feature is the uniformity of texture, pattern, shape or color over the screen as compared with a mottled or less uniform distribution of the same features. Specific forms are more recognizable as a whole. They give an appearance of being further from the camera. They also define a shape more

specifically than landscape images do, and may occupy any portion or parts of the screen.

Both landscape images and specific forms have compositional elements in common. These elements are direction, depth, and color. The three elements determine the sequence of images in each tape.

So as not to divide the tapes into two halves consisting of these different types of images, and also to present a larger perspective than each of the two image-types allows by itself, the two types of images, landscape and specific form, are alternated with each other throughout each of the tapes. The decision, then, of which landscape images should follow other specific-form images was made on the basis of the elements which both share, i.e., direction, depth, and color. The attempt was to relate these three elements from image to image so that, say, the direction of one image was carried through in the succeding image.

The aspect of image-type applies most aptly to tapes 2 and 3. In tape 3, movement within each image becomes a fourth element of consideration when composing image sequence. While many of the images do not capture visible motion, others show pulse or breathing activities.

In tape 4, the most important factor in determining the image sequence is motion. The three other elements, direction, depth, and color, are also influential factors

but these weigh less heavily. In addition to the movement of the fade there is also movement in the image itself. Therefore, the relationship of one image to the next is determined to a great extent by the movement in each one of the images, i.e., images with complimentary and compatible motions are selected to follow in sequence.

As mentioned earlier, the method of linking one image with the next is a constant throughout the four tapes, and the technique used in all cases is a fade. The length of the fade varies somewhat between tapes, although not between the images belonging to one tape. The fade functions as a comparison of one image with the next. In all of the tapes, the fades are so slow that the actual separation of images -where one leaves off and the next enters- is extremely understated, if not completely unnoticeable. The comparison of one image to the next is made through a gradual superimposition. The fading is a continuous function carrying one image into the next with an overall effect of continuous movement.

The fades in tape 1 have a duration of twenty seconds. The change from black to white to black and so on is very gradual. The attempt is to compare the two states and the intermediary stages between them. The fades in tape 2 are also twenty seconds in length. Those in tape 3 have a duration of ten seconds, because the images themselves exhibit some movement and this is partially responsible for

creating the sense of motion throughout the tape. For the same reason, the fade length in tape 4 is also ten seconds.

The slowness of movement within each tape is partially based upon the complexity of the overall space. There is also an attempt to adapt the pace of each tape to an overall pace. The effect of this continuous motion in each of the tapes and of the uniformity in their pace should immediately create, on the surface, an undeniable relationship between them.

Technical Considerations

I would like to discuss the technical concerns of video and audio separately. The first consideration, in the order of production, is that involved with the origin of the video image.

The signals in tape 1, i.e., black and white, are self-evident. The images for tape 2, natural objects such as rocks and shells, are for the most part detailed and intricate. The aim was to capture the distinguishing features of each object. Therefore, high resolution of the image was desirable. Since the major interest was in the image detail, Norelco LDH-1s were used for recording.

Many of the same considerations involved in shooting the objects applied to the human forms. Color was a major difference, and it was also found that using the same cameras did not produce a sufficiently abstract image. The human images needed to be closer to the camera. Since close-up lenses for the Norelcos were not available, Panasonic WV2300s were used. These cameras would not have been sufficient for shooting the objects since their ability in producing quality images in black and white and in color varies greatly.

The images for tape 4 were generated through the use of the Paik-Abe video synthesizer. The synthesizer combines a number of functions, some involved in producing images

from sources such as cameras, and sine and square waves, and some involved with image minipulation, i.e., keying and matting. This synthesizer is an analog device. All of the images and their sequences arose from explorations with the machine. As I became familiar with it, a selection for preferred methods of image-making began to develop. Some of the images used were generated through a feedback loop and a constant manipulation of the elements in the loop. This is made by using the same surface on which a camera is showing its output as an input source for the same camera. There are a number of possible variations of this method. The synthesizer is also equipped with a crude colorizer though some of the images were colorized by a more sophisticated quantizer which allows one to add color to black and white tones in a paint-by-numbers manner, i.e., one could change all gray tones of one particular level to red and all of another particular gray level to yellow.

Because the fades in all of the tapes have a long duration it was extremely difficult to produce an even and consistent fade using a manual system. Any hesitation or fluctuation in the images as they faded into each other was extremely noticeable and antithetical to the intentions of fluidity and subtlety. This brings us to the second technical consideration of mixing, through fades, the camera and synthesizer-generated images.

All of the tapes were mixed with the aid of a computer which electronically controlled the fading from one image to the next so that, throughout the duration of each tape, the withdrawal and appearance of images are smooth and even. The computer-aided editing was done at the University of Massachusetts at Columbia Point. The images to be edited were recorded on two tapes from which the computer faded back and forth; all "even" images were recorded on one tape and all "odd" images on the other. Time code was laid on each tape. The time code was then made to appear visually on the monitor along with the images to be edited. Selection of the image segments for use in the final sequence was then made by looking at the images and recording the corresponding time codes. The advantage of this method of editing was in the accuracy with which I was able to select the images and their duration. A major disadvantage was my inability to see the effect of the superimposed images throughout the fade, until the final tape took shape. To get around this difficulty, slides were shot of all the images, from the monitor, so that they could be viewed simultaneously. Superimposition of the slides, through projection, then helped to determine the sequence of images.

The sound for tapes 2 and 3 was recorded and edited on a number of different tapes. Two to three sound tracks were recorded, and were then manipulated by changing play-

back speeds and mixing. The final sound tracks were then mixed on to the audio stripe of the video tapes. The final mix was made after the video tapes had been edited, so that the sound could be transfered while simultaneously viewing the video images.

The sound for tape 4 was generated and processed in a manner similar to that used for the generation of the sound tracks in the first and second tapes. It was created on an Arp 2500 audio synthesizer.

Due to his expertise with the Arp synthesizer and as a composer, the creative talents of Ron Wallace were instrumental in making all of the sound tracks.

The Installation

"Information Space" is intended to create a highly charged environment. With four simultaneously playing video tapes and sound tracks, there is much activity in the space. The ten-minute duration of each tape is based upon the approximate amount of time which a viewer may choose to experience the space.

Each monitor sits in a horizontal position on a white base. The viewer entering the space is outside of the actual installation created by the four monitors (see diagram). Once entering the installation, the viewer is surrounded by the monitors. They are arranged so that, standing in the center, the viewer is able, through peripheral vision, to see three of them. In order to really see each tape, the viewer must approch the individual monitors. Also, from the center of the space, one is able to hear the composite audio of the four sound tracks. When heard together, these form one sound piece. The audio tracks are played at low volume so that, as the viewer approches each monitor, the sound for that tape becomes dominant. It is hoped that the viewer will look at each of the tapes separately as well as experience them from the central position. The two ways of viewing the installation -each individual tape and the group of tapes- constitute a change in the order of magnitude, and it is hoped that the fades from

image to image within each tape form an analogy with the fading which the viewer himself/herself will do in moving from tape to tape.

Video Installations

Since the invention of television and the subsequent use of video as an art form, video has been associated with temporality. It is thought of as a temporal medium. Although this classification may be at least partially true, the nature of video display via monitor or projection also requires that it be dealt with in terms of space, scale, size, and physical relationship to the viewer. One aspect of video's temporal quality is its ability to manipulate periods of time so that present and past tense viewing with all of its expectations and connotations is possible.

Video installations which take advantage of video's manipulative ability with space and time have arisen in various forms from artists working with the medium. One such use has been to treat the monitor not simply as a play-back device but as a sculptural element relating to the other elements in the construction. The monitor is treated as a sculptural element which relates to our sense of scale, measurement, placement, and surface. Although there are many artists implementing video in these terms, I am here able to cite only a few. James Byrne has moved the activity inside the monitor out into the surrounding space in the form of drawings, props, and persons. Harris Barron has used the monitor in conjunction with painting, sculptural elements and performance. Nam June Paik used a whole floor full of

monitors in his installations, "TV Sea" and "TV Forest", as a means of involving the viewer physically with the unexpected and ironic situations which he created.

Another use of video's spatio-temporal nature is demonstrated by the work of Joan Jonas. As a performer in her tapes, she has treated the monitor as a second party in a dialog which she extends to the viewer.

> "Space was always a primary concern, and in considering the space of the monitor, I then dealt with its boxlike structure, positioning it in relation to myself. I tried to climb into the box, attempting to turn the illusion of flatness to one of depth."[4]

Incorporation of the viewer as an integral part of the installation space in which the image of the participant is in some way revealed through a monitor, a series of monitors, or projection is another means through which spatial and temporal considerations have been explored. One such work is Bruce Nauman's "Performance Corridors" in which a monitor is placed at the end of a corridor which the viewer is invited to enter. As the viewer/participant walks down the white corridor, not only is the space disorienting to him/her but, as the image on the monitor is revealed, it shows

[4]"Video Art, An Anthology", Ira Schnider and Beryl Korot, Harcourt Brace Jovanovitch, New York and London, 1976, p 73.

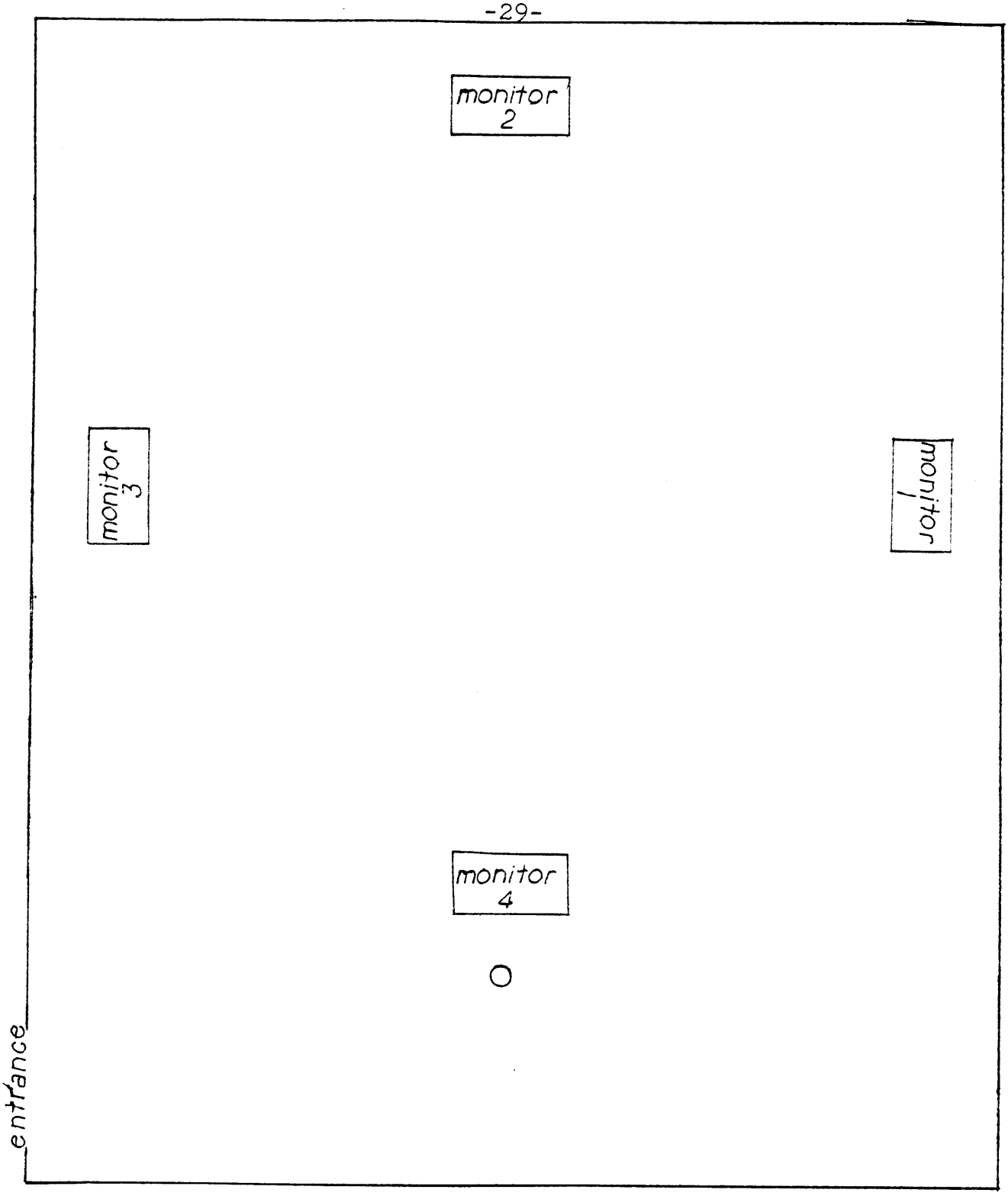
an entirely different perspective of the space and the viewer than is anticipated.

Peter Campus, who has created live video projection installations, has actually formed a "video space" in which walls or reflective segments are illuminated with an image which often poses a direct confrontation of the viewer with him/herself. The expansion of the image through projection leads to an interesting relationship in the scale of viewer to the scale of the installation.

In "Information Space", the four monitors are used as play-back devices. They are treated as objects possessing three and four dimensionality. As vehicles for display, the images shown exhibit a great sense of depth; they appear to extend inwards into the monitor, and do not just sit on the surface. The sequences are constantly recycling and proceed through time.

As objects, the monitors create a space which the viewer is invited to enter. Once inside, however, the standard position of frontal viewing is negated, and the viewer must interact by repositioning him/herself to observe the entire space. The clarity with which the images will appear is a function of the location of the monitors with respect to the viewer's central position. As a result of this, the viewer is requested to move towards each monitor in order to see it more clearly. In doing so, he/she is

enveloped by the space of each monitor largely extended by the sound from each audio counterpart. Spatial, temporal, and visual elements are incorporated in the installation. While the projection of a video image throws it out into the environment, creating a "video space", the play-back through monitors concentrates the images into objects. It is the relationship of these objects and their images through the multiple-monitor formation which creates the installation space.



"Information Space"

installation diagram

1 inch = 4 feet