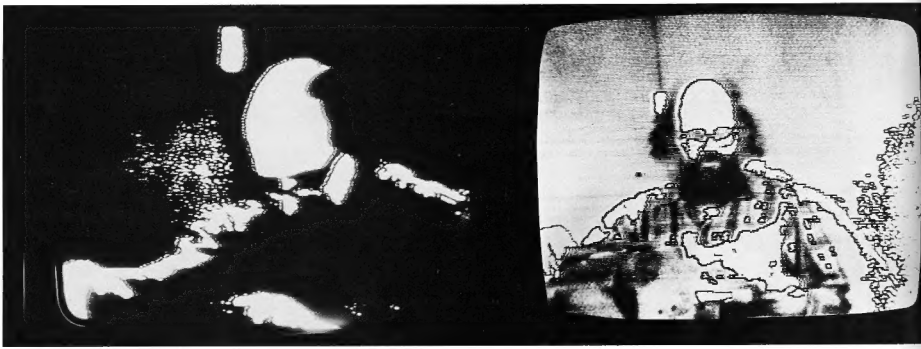
RANDOM ACCESS INFORMATION

Nam June Paik

We have a thing called art and we have a thing called communication, and sometimes their curves overlap. (A lot of art does not have much to do with communication and a lot of communication has no artistic content.) In the middle there is something like an appleseed, and that is our therne—maybe our dream, too. When we look back at the history of communication, the problem until recently has been how to record information. At first people recorded on clay plates or in stone. Before that "plus" information was memory, "minus" information was forgetting, and if we do not forget, we cannot record. There is a Chinese anecdote which says that there are these things called dreams. In the "plus" reality we have lots of frustrations. In dreams we have the same thing but in negative pictures, where the "minus" is discharged, and becomes zero: a balance of plus and minus. Now there are two problems. First, with electronic memories, we are not allowed to forget. If we remember everything, or much too much, we get an *idée fixe* and become paranoid. Then we have to go to an analyst (or artist) and be discharged. The thing with videotape is that we now have too many recordings. But the biggest problem is for video curators. When you are a curator of painting or sculpture, you can look at thousands of works a day. But in video, everybody makes 30-minute videotapes, because Sony makes 30-minute video cassettes. So the video curator has to look at thousands and thousands of hours of videotapes.

This problem with video is not in the recording, but in the retrieval. Richard Leakey[1] had several ideas that impressed me. One is that, for the past 50 million years, human beings have had color perception, but before that, monkeys used to be like owls. They were night people. Monkeys used to sleep during the day and walk around the forest at night. Then about 50 million years ago, monkeys came out of the forest to the edge of the woods and became daytime animals. As soon as monkeys became daytime animals they perceived color pictures, which leads to an interesting conclusion. The reason artists stay up late at night is because artists are more like monkeys—closer to roots. (It makes sense that artists are closer to the monkey than to the businessman.) Another extension of Leakey's ideas is about the honeybee having color perception. The reason flowers have color is to attract the honeybee. If the honeybee did not have color perception, by a chance of God or by mutations, then all the flowers would be black and white. (It is very nice to imagine black-and-white flowers throughout the world, for the shape of flowers would be much more exquisite than now.) The flowers would have to attract the honeybee by shape alone, not color.

Video is a very crude model of life. It is like doing your own anthropology, because through video you learn about life. For instance, before I worked in video, I never thought color was a function of time. People think that when you make a painting, you draw upon random access to color. You paint red here, or yellow, or blue, choosing this or that. But when you look at nature, every season has its own colors. Spring has certain colors, like light green. It starts out with light green, then April and May have lots of different flower colors, and summer is very blue. Autumn goes from yellow to red, and then winter is gray. Video colors were made on exactly the same principle. I think it was a genius, an artist, who designed the video color system. In television there are no pictures, just lines. It is like weaving. The difference between weaving and television is that television is constantly weaving, and that image can always be rewoven and woven again according to new patterns—that is how I designed a video synthesizer. Television also goes faster. In the



'50s a group of RCA engineers produced television with only one line. Because television space does not exist, all spatial information had to be translated into lines and dots with no width, so that the signal could be transmitted, without wires, on a single channel. They also had to put all colors into that line, so they devised a kind of social contract. There is one wave that is called the color sub-carrier wave, which is one second divided by three and a half millions. Although they are already very short, they are again subdivided by many phases: e.g. seven phases representing rainbow color bars. The first one-seventh of this short distance is called blue; the next one-seventh of this wave is called yellow; the next one orange; then magenta, etc. This circuit opens and closes very fast (21 million times a second), passing the colors in sequence. As in nature, in television the succession of very, very fast time makes color. It is a social contract. When you make films, you dye the chemicals with nature, through the lens. But in television, there is no direct relationship between reality and the pictures, just code systems. So we got into time.

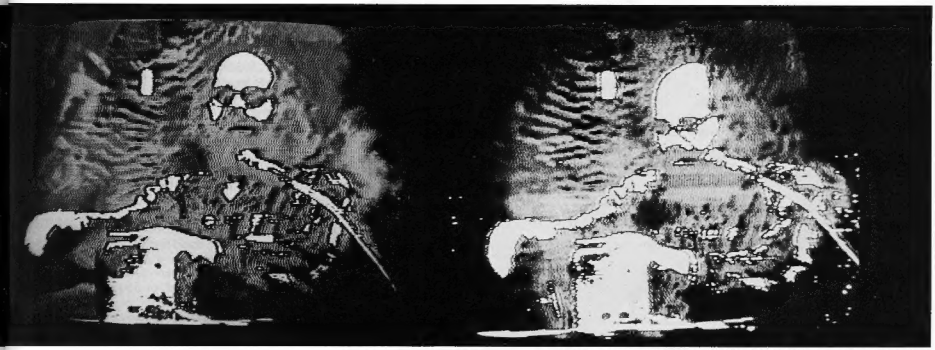
According to Plato, the visual arts are said to imitate nature. Music supposedly imitates the song of a bird, or according to Ambrose[2] the rhythm of working. What video imitates is the time component and the actual process of aging. For instance, when you work with video- or audiotape, at the beginning it decreases very slowly, and by the end of the tape it decreases very, very quickly. Everybody has that experience. When you look back at your own life, you see that when you were a child, the days were very, very long. At around the age of 30 or 35 the days get faster, and after 40 the days get faster still. Our time consciousness, how we experience the passing of time, is exactly like a tape. It is not new or unnatural that time consciousness imitates tape reels because tape has the same structure as trees. So tape imitates trees, and we imitate tape reels.

It was Shigeko who invented death for video.[3]

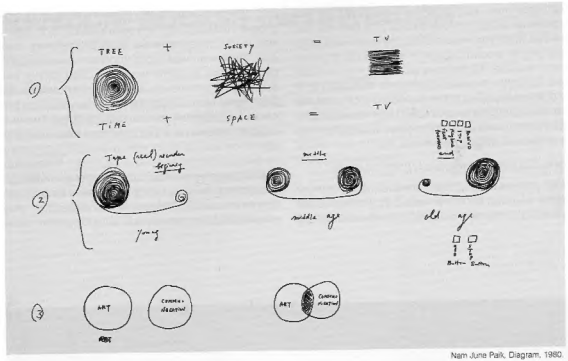
When you look back to music at the turn of the century, before the invention of the record as a multiplication system, only classical musicians, like Beethoven and Schubert, were known beyond their own villages. The vast industry of popular music did not exist. However, in different villages popular music existed as folk songs, which were never heard outside the village boundaries. Today classical music makes up only a small part of the music world, and to most people music means pop music. The quantitative relationship of classical music and popular music got turned upside down by the invention of the "record." Earlier there were a few geniuses, like Scott Joplin, who invented a musical style suited to multiplication. Joplin and other musicians thought about multiplication from the beginning, during the process of composition. (It is rather strange because no painter thinks while painting, about what his painting would look like in a color slide, even though the NEA panels often choose their grantees from color slides.) Scott Joplin was much more influential than Schoenberg, and even Mantovani was more important than Schoenberg in terms of social structures. You cannot put Schoenberg's music into an elevator. Who will be the Scott Joplin of the visual arts when the visual arts are made for television in the next century? This will happen because art is the oldest form of communication.

Many people make big paintings, but only a few get transported, because artists and dealers do not make very much money. The people who make the money are all of the transporters and insurance people. It has been like this since the '50s. Now, with the onset of the energy crisis, sculptors and the big color-field painters have to be very well known to have their work shipped around the world, and even for them it is getting harder and harder. There was a joke going around that the organizers of Documenta were going to drop all Americans, and show only West Europeans in Kassel, in 1982, to save money on freight. It is a concrete problem. Someone like Scott Joplin surpassed Schoenberg because he systemically made the music to be shipped out.

The artist who will make it big in the next century will be the one who is capable of programming big paintings into transportable shapes, because the energy crisis will go on and on until the year 2050. If



Nam June Paik, *Suite 212*, 1976, (revised version of *Suite 212*, 1972), video frames, color videotape, 30 min.



Nam June Paik, Diagram, 1980.

There are three kinds of lines in this world:

1) is the time-line: how a tree grows or how water ripples when you throw a stone into a pond;
2) is the space-line: how we meet each other in this society—the line of our interrelationship, causality and casuality;
3) is the TV scanning line.

Our problem today is how to make A+B=C; how to let this function work correctly.

Nam June Paik, *TV Buddha*, 1974. installation with television set, video camera, 18th-century Buddha sculpture. Photo: Kate Keller.

we succeed in fusion in the year 2050, we can again paint big old paintings and make big sculpture like Rodin. But nobody is sure about it, because we still have not reached the break-even point in fusion research.

The artist's job is to think about the future. Now, future projection is very difficult. Herman Kahn, the best-known futurist, failed in two major areas. In 1967 he published his study of the year 2000. A lot of foundation money was spent to make this book, but when the book came out in 1967, Kahn had not even mentioned ecology or environmental pollution. In 1967 the hippies were making a big thing about ecology. Kahn, the best-known futurist, was not even as good as the hippies in the street. Then in 1971 the same Mr. Kahn published a study of the '70s, and again he did not mention anything about the energy crisis. He is still making a living as a futurist.

When we think about the future, we have to make several different projections, one being whether we succeed in fusion or not. Of course, if we succeed in fusion we are back to 1962 with cheap energy (the only problem being pollution). If we fail at fusion, there is no future, really. Solar power will not take care of our kind of life style. Fusion is the only area where the Americans and Russians are working together, because nobody knows if it will succeed or not. Fusion is basically imitating God. With videotape we imitate God only half-way, in that we record everything. We can rewind videotape, but we cannot rewind our lives. The videotape playback machine has "fast-forward," "rewind," "go," and "stop" buttons, while our lives have only one button—go. Today there is Betamax, a God-defying device, because you can see the nine p.m. Public Television drama before the seven p.m. news. That sort of thing never happens in life. If I had known when I was 25 how I would feel as a poor artist in New York City at 47, I would have planned my life differently. There is no way to know in advance, because life has no "fast-forward" or "rewind" buttons. So, you go step by step, and if you make a mistake, you try to correct it with another mistake. We hire teachers and pay them because a teacher, like a Betamax, can go "fast-forward."

Back to random access. Time-based information and random access information are differentiated by the retrieval process. The "book" is the oldest form of random access information. The only reason why videotape is so boring and television so bad is that they are time-based information. Human beings have not really learned how to structure time-based information in recording and retrieval very well, because it is new. No one says that the *Encyclopedia Britannica* is boring, although it has lots of information, because you can go to any page of the encyclopedia, to A or B or C or M or X, whereas when you watch videotapes or television, you have to go A,B,C,D,E,F,G. While the comparison is simple, the difference is very big. That is why the book is alive and will be alive until electronic information conquers the random access problem.

Music and dance, which are time-based, are more successful, because both have, maybe, a half-million years of history (which makes them much older than

painting). As Leakey also said, the reason painting suddenly appeared about 20,000 years ago was not because people suddenly became smart, but because, before there were agricultural communities, everybody moved 2,000 miles every year. So even if you had the best paintings in The Museum of Modern Art, you could not carry them. The only art forms people could carry were music, verbal poetry, and dance: art forms without gravity, that could be stored in the brain. So the oil and the energy crises are problems of gravity. The reason we have the oil problem today is that for millions of years, when we moved a 60-kilogram body, we only moved a 60-kilogram body. But over the last 50 years, we move a 60-kilogram body by moving a 300-kilogram car. It is the most stupid system ever invented. The only way to conquer the situation and make oil obsolete, is to move our ideas without moving our bodies at all. I coined the phrase "stationary nomad," which we are not yet. You dig up ruin after ruin to understand the past, as if you understood the present. I call it a new phrase, "the archeology of NOW," which is what the Marpets' video documentary is all about.[4]

John Cage had an amazing idea in the '50s. The first electronic art was electronic music, which also was strictly a time-based art until 1958. That year Cage performed at the Darmstadt new music summer course, after which he said "It's as dead as a doornail." He said he wanted to make electronic music that is playable in either three seconds or 30 hours, without a definite retrieval time (similar to the encyclopedia). Cage is an incredible genius to have seen this problem, this audio- and videotape problem that there are particular lengths that cannot be changed. There are video junkies who watch whole videotapes, but most people refuse to watch whole videotapes any more. Combining random access with video is a major problem that needs to be solved. Of course, MCA and other video disc manufacturers are trying to solve it, and it seems likely that in video, the tape format will be gotten rid of completely. Now that people are talking about recording everything digitally on a sheet of magnetic paper, without tape, random access becomes immediately more plausible.

Paintings in the next century will most likely be electronic wallpapers, which can be programmed to be very complicated or very simple. There will be standardized electronic canvases, so that if you wanted to show your paintings in Iceland or the Republic of the Congo, you would just mail your program card. The card would be inserted and the canvas would light up from behind. This kind of system has to come, otherwise there will be no communication among artists at all. There would also be electronic still pictures (which are related to the same energy situation). As film becomes more and more expensive, there is no reason why photographs need exist. When you record a situation electronically, you can make a direct, high-quality paper print, thus skipping the chemical stage completely. The next stage will be electronic still cameras. It will be a low-light camera, so no one will have any secrets at all. Pocket-size video cameras are already really taking off. Combining a videotape recorder and a camera in one, similar to Super-8, these small cameras will record onto one-hour cassettes of quite good quality.

Since 1961, Joseph Beuys and I have had a wonderful kind of contact. I found out at one point that he was saved by the Tartars in Russia during World War II, when his plane was shot down. The Tartars and Koreans are very close, even though the Tartar lives in the Russian Crimea, almost half-way around the world from Korea. We compared the customs of the Tartar and the Korean shaman, and found that they are close, which is amazing. This supports Leakey's theory that music and dance are much older, because they were the only systems that could economically be transported. In the future, the only artwork that will survive will have no gravity at all.

There are so many interesting things that are not known. What I am thinking of is a kind of negative case of science fiction. Science fiction is where you figure out, from very little knowledge, the future and outer space. But what happened 20,000 years ago before records of any kind were made? It will be very interesting when we research and figure all of this out.

POSTSCRIPT

There are Yang people and Yin people. Yang people create mass art (like Rock music), and Yin people create aristocratic, elitist and snobbish art. These differences will continue even if the visual arts establish a multiplication system equivalent to today's music industry. The best part of Cage's creation is his LIVE electronic music, which is a whole TIME-SPACE art, which can never be made into either audio or video disc. Higher video art will take the form of video installations, and a kind of notation form will develop to "convey" certain kinds of artwork: the conductor Eugene Ormandy "interprets" Beethoven's *Third Symphony* from the score. A young video curator in the 21st century will "interpret" a video installation by Peter Campus from notations and photographs. ■

Nam June Paik, *Guadalcanal Requiem* (revised), 1977-79, video frame, color videotape, 60 min., WNET/Thirteen TV Lab Production. Photo: Kira Perov.

Nam June Paik, originally trained as a musician, is one of the innovators of video art. Paik began his artistic activities in connection with the German Fluxus artists who, in the '50s, were combining elements of music, dance, theater, poetry, painting and sculpture in their performance events. Paik lives in New York and Düsseldorf, where he teaches.

"Random Access Information" was originally presented as a lecture given by Nam June Paik at The Museum of Modern Art, New York, on March 25, 1980, as part of the "Video Viewpoints" series, curated by Barbara London.

1. Richard Leakey is an anthropologist who has led numerous expeditions in Africa. He was Administrative Director of the National Museums of Kenya from 1970-74, and has written articles for various scientific journals.
2. August Wilhelm Ambrose (1816-76), was a music historian.
3. Shigeko Kubota, *My Father*, 1975.
4. Bill and Esti Marpet are documentarians who live in New York City.