

SKY ART CONFERENCE '82

September 24—29, 1982

CHAIRMAN: Yash Pal

Secretary General, Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space

CONFERENCE DIRECTOR: Otto Piene, Director CAVS/MIT

SENIOR CONSULTANT AND EXHIBITION COORDINATOR: Lowry Burgess, Professor, Massachusetts College of Art

CO-DIRECTOR: Elizabeth Goldring, Fellow CAVS/MIT

Center for Advanced Visual Studies, Massachusetts Institute of Technology (CAVS/MIT)

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Salute

The Sky Art Conference '82 will continue to explore the cultural mission in sky and space. It is dedicated to the peaceful use of the widening world—the universe made tangible by imagination, science and technology.

It is dedicated to curiosity, creative vision and expression; to play, wonder and communication; to integration of human efforts, to sanity and measure; to things lighter than air; to messages which travel far because they are lanky, with a fine tip, to the elegant energy of the kite string; to cranes, to the man in the moon, to Paul MacCready, Harold Edgerton and our daily oatmeal at the end of the rainbow.

Otto Piene, Dusseldorf, 1. September 1982

Thanks

We sincerely thank Brucknerfest Linz, Ars Electronica, LIVA, ORF and their directors and cooperative coworkers for inviting and hosting us. We would like to add thanks to many sponsors and supporters, notably the MIT and the US Embassy in Vienna. We welcome enthusiastically to the Sky Art Conference '82 the CAVS Fellows and graduate students, our invited guests and collaborators and a host of special guests, friends and visitors curious about current manifestations in art and technology and sky art and telecommunication

O, P., E. G.

Calendar of Events

Friday, September 24th, 1982

11:30 a.m., Brucknerhaus, Grand Foyer

Opening Ars Electronica with SKY ART CONFERENCE'82 (CAVS/MIT)

2:00 p.m., Danube Park

SKY ART '82–Sky Events

Otto Piene: Icarus

Charlotte Moorman/Otto Piene: Sky Kiss

Jose Maria Yturralde: Box Kites

Dale Eldred: Line of Fire (daily)

Saturday, September 25, 1982

From 10:00 a.m., Danube Park

SKY ART '82–Sky Events

Jose Maria Yturralde: Box Kites

Howard Woody: Linz Sky Buoy

Tal Streeter: Linz Line

8:00 p.m., Brucknerhaus, Great Hall

"ICARUS"—Laser Opera for Multimedia and Eletronics

Composer: Paul Earls

Visualization: Otto Piene, Ron Hays, Betsy Connors

Director: Ian Strasfogel

Conception: Otto Piene, CAVS/MIT

Sunday, September 26, 1982

10:00 a.m., Brucknerhaus, Great Hall

"Icarus"—Laser Opera for Multimedia and Electronics

12:00 a.m., Danube Park SKYART'82—Sky Events

Kites by Tom Van Sant, Lisa Van Sant, Tal Streeter, Jose Maria Yturralde

2:00 p.m., ORF-Landesstudio Oberösterreich, Foyer

Nam June Paik/Charlotte Moorman: Concert

Elizabeth Goldring / Edward le Poulin: "International Alarm"

Monday, September 27, 1982

10:00 a.m. through 6:00 p.m., ORF-Landesstudio Oberösterreich—Public Studio

"SKY ART CONFERENCE '82" SKY ART (public forum)

Presentations: 10:00 a.m.—4:00 p.m.

Panel: 4:00—6:00 p.m.

4:00 p.m.

Stan VanDerBeek: "Computer Animated Film and Video of Stan VanDerBeek"

Tuesday, September 28, 1982

10:00 a.m. through 6:00 p.m., ORF-Landesstudio Oberösterreich—Public Studio

"SKY ART CONFERENCE '82" Telecommunication (Public Forum)

Presentations: 10:00 a.m.—4:00 p.m.

Panel: 4:00—6:00 p.m.

Vera Simons: "Drift Linz"—Balloon flight with art events, in collaboration with Peter Moll

Aldo Tambellini/Sarah Dickinson: "SKYGRAM" (for Marconi)—telecommunication event

SKY ART

Otto Piene

(Excerpted from a paper for the (1982) 33rd International Astronautical congress in Paris.)

... The Bible and Greek mythology can be considered handbooks for sky art and its expressive power and potential (and aspirations), particularly, and most colorfully, St. John's Revelations. Archeologists, historians, scientists are making great efforts to decode the

ciphers of Nasca, Stonehenge and New Mexico. Observations of the sky and human reactions to them have been translated into art science since humankind learned to express itself in recorded thought.

An essential belief pervading many religions is that the human soul is ethereal and that it flies. The efforts made to regulate ethereal traffic, i.e., to permit but also restrict the travels of the soul, in ancient Egypt may have strained the national economy with pyramid-building more seriously than NASA weighs on the U.S. economy. We know about the absorbing medieval efforts to build Gothic cathedrals. We can look at their results, such as the spires of Chartres, Cologne, Ulm, as filigree mock-ups of space-penetrating rockets—an example of the dialectics ruling the relationship between physics and metaphysics. Angels are "model fliers". Icarus is a prince of occidental mythology but his father, Daedalus, appears to be most fully incarnated by "the man of MIT".

... Clear examples of how artists use the results of scientific and engineering work in new media are to be found in such new artistic fields as holography, laser image projection (Rockne Krebs, Paul Earls), computer music (Barry Vercoe), computer graphics (Ron MacNeil) and computer programming for multimedia performance (Bernd Kracke). However, the artists' influence on the development of media is considerable, such as Harriet Casdin-Silver and white-light holography, and the development of video synthesizers, originating in part from the (Nam-June-) Paik/Abe Synthesizer.

Artists have rediscovered the importance of tele-communication: their individual, private, subjective (often playful, or seemingly playful) communication (Aldo Tambellini, Stan VanDerBeek) is juxtaposed with network communication of national and international purposes. Not only questions of style, technique, implementation, not only questions of newsworthiness and ratings are on their minds but media and network capacity for carrying emotion, nuance and understatement. The vehicles for such concerns are either developed in straight interdisciplinary collaboration, or common or advanced technology are modified or "tampered-with". Whether the theme be "love" versus "war", "intimacy" versus "publicity", "heaven" versus "space", or "green" versus "red-white-and-blue, private and expressive telecommunication requires collaboration among artists, scientists, engineers, and often industry.

I was the first resident Fellow invited from outside Boston to work in a field then oft-described as art-and-technology. My first public project at CAVS /MIT in 1968 was entitled "Light Line Experiment". It involved twenty human participants, approx. 1,000 feet of helium-inflated polyethylene tubing and a two-searchlight truck. I called it a "sky event". It was the initial occasion at which I worked with the astrophysicist, Walter Lewin, of the MIT Center for Space Research, a collaboration which would be continued in subsequent years. In 1969 I wrote a book, MORESKY, and published a 25—lithograph portfolio, SKY ART.

Ken Sofer in ARTNEWS: Elizabeth Goldring, co-director of the Conference, describes (it) simply as 'art that flies' "; ... present at the conference was a wide range of luminaries: laser artist Rockne Krebs; Paul MacCready, inventor of successful human- and solar-powered flying machines; sculptor Heinz Mack, cofounder with Piene of the Zero Group; scientist Louis Friedman, executive director of The Planetary Society, an educational group promoting the idea of space exploration; Harold Edgerton, a pioneer in the field of stroboscopy (ultra high-speed photography); Stephen Crites, a Wesleyan University professor of religion who delivered a stunning lecture, "On Sacred Space and the Haevenly Sublime"; writer and video artist Douglas Davis; and architect Paolo Soleri, among others ...", and then follows a quote

from my introductory catalog text, "Space is—quite mysterious still —inner and outer space, the space of the soul embedded in geographic space and geographic space contained in the soul ... Artists aspire to lead us, wherever humans go and wherever the human mind and soul go—on excursions imaginary and excursions real."

... The 1981 conference revealed an urge to communicate in almost every participant, no matter which camp of work or philosophy he or she came from. Among the artists a man whose sayings, writings and actions are far removed from scientific and engineering shop talk, received attentive recognition: Lowry Burgess, who during the past five years sunk agglomerations of artistic magic in such remote places as the Afghan desert near Bamiyan and the Easter Islands. His belief in a meaningful, coherent, spirit-directed universe commands him to demonstrate a pantheistic attitude with objects and suggestive connections revering the All as the supreme miracle. His projects have poetic names, such as "Inclined Galactic Light Pond" and "Gate into Aether (to be placed in outer space above the 'Utopic Vessel')". They are part of his personally established "Quiet Axi" in his reference system of stellar, universal constellations involving all humans and all matter believed to be animate (represented by for example pigments, holograms, prisms, and etched images contained in carefully crafted "urns"). He refers to this work as universal "poetry extended by means of images and 'charged' objects."

A statement I wrote for ZERO 3 in 1961 reveals affinity to Burgess' romantic pathos: "... The man who uses his body to enclose his mind and his mind to lift up his body, who lives this timeless moment, this heavenly reality, in order to stride freely through space, this man has paradise in him." However, a few lines further I pick up a sentence directed to future reality: "Why is there no art in space, why do we have no exhibitions in the sky? ... Up to now we have left it up to war to light up the sky ..."

As art can be understood to be humankind's perennial attempt at crisis management with creative, non-violent means, a narrow but justifiable view of sky art would term it antinuclear effort in the domain of nuclear strife. The nuclear theater provides us with largescale images of hell which are as fascinating as Hieronymus Bosch's are in their pocket scale. Sky art labors for "positive" imagery in a world (including a sky) mesmerized by proliferating war implements. It labors to commensurate with what little the nation spends on all arts (which is a pittance compared to what the nation spends on defense, research, physical health and Pac Man). My own most dramatically exposed sky work to date has been the "Olympic Rainbow" for the closing ceremony of the 1972 Munich Games (XX Olympiad). For close to 12 hours, a 2000-foot-long helium-and-Stratofilm piece was elaborately lighted and "revealed" according to protocol and media dramaturgy. Most of its physical parts were executed by Winzen Research, a predominantly science-oriented inflatables company. The Rainbow proved how even low-level sky scale can address more people and a broader audience than traditional art works and how on the other hand air space does not have to be reserved only for flying equipment and calamitous projectiles. It proved further how large physical scale lends itself to dissemination on a "third scale", the scale of wide media distribution.

Tom Van Sant is a distinguished Los Angeles sculptor who has used flight imagery in many types of artistic media. He has built kites of traditional, oriental elegance and he is developing plans for a mile-long "Jacob's Ladder" chain (dragon kite) on which a man could ascend skyward. His projects also include considerations of high-altitude, energy-collecting giant kites. For the Los Angeles Bicentennial celebration he suggested "Reflections from Earth" (not executed) which he thusly described: "... a space-age educational and festival program

...

A mirror reflection kit has been developed which will allow a school child or citizen, using careful settings, to create and see an act of his own hand from space."

When it became evident this public version of "Reflections" would not be realized, Tom Van Sant, with his wife, Lisa, and a crew, laid out a mirror formed "Shadow Mountain Eye" in the California Shadow Mountains (1980) which was successfully recorded by Landsat. The ensuing imaging process led to beautiful photographic prints—images which could become visible only with the help of the satellite's "eye". The explanation (by Tom Van Sant):

"... taken from space 600 miles above the earth by the NASA satellite Landsat II on June 11, 1980 the image represents an eye gazing skyward, measuring 1.4 miles across. Ninety mirrors, each 24 inches square, were arranged on the desert floor and carefully adjusted to reflect sunbeams into the satellite's path. The radiant energy from each mirror was reflected by the appropriate sensor at the moment the satellite was scanning its picture of the earth. Though each mirror is small, it saturated a square the size of an acre. The entire image is made up of these one acre units ..."

The artist was supported and advised by Dr. William Evans. The collaboration inspired a paper by Peter Bormann and Juan José Tasso entitled "Marking of satellite imagery: A means to improve image registration for mapping purposes and to accomplish 'space art' designs."

Lowry Burgess has maintained contact to NASA officials for several years in order to place and distribute in space an ice-encrusted sound hologram representing the earth's greatest rivers. However, he has not yet signed a payload contract because NASA stipulates scientific worth as the ruling value for space shuttle programs.

The first artist with a shuttle flight agreement is Joe Davis, a 31-year-old sculptor from Gulfport, Mississippi, "whipping around the planet on a peg leg he's used since a motorcycle accident; talking technology as if it were his mother tongue ...".

Whereas Burgess' project could easily be called conceptual art—its material *modus operandi* will not instantly affect our physical vision and hearing after its proposed deployment—Davis' initial space piece, "New Wave Ruby Falls", is intended to become visible although it, too, has been labelled "a piece of conceptual art". "It would be", he says, "a curtain of color in the sky, composed of inert gases shot with an electron beam that causes them to glow."

Some MIT scientists remain skeptical as to the mode of deployment—whether it be "vented" or "chemical", etc. Nevertheless the project has been accepted into the Small Self-Contained Payload Program, or as NASA officials like to call it, the "GAS" (Get Away Special), and within the next 12 or 18 months we expect to see Joe's beginning of a "Las Vegas in the sky" (his quote). His vigorous listing of further projects: a scale model Chevy on the moon operated by two-pound robots; a war monument on Mars—"a Trojan horse from an adobe made of Martian soil and liquid carbon dioxide"; an orbiting, inflatable Stonehenge, and more. Honest money has been paid for a considerable number of further GAS payload reservations by Joe Davis, myself, Lowry Burgess and the CAVS

The artists' exuberance, the scientists' skepticism and the engineers' implementing pragmatism constitute the very nature of art-and-technology integrated efforts. (In one case in which I was involved twelve years ago I cautiously responded to a Nobel Prize winner's "impossible" with an, "I've done it already" -which was very true!). Davis' answer to the "why?" question: "...

for surviving, for hopes and dreams and imagination, for whatever it's all about." We are led to remember that steely Michael Collins called his moon-book, "Carrying the Fire".

Sky art as we practice and envision it is an extension of environmental art. It has physical, generally three-dimensional-in-time components. Although it is also often ephemeral – passing events rather than solid, lasting materialization – it attempts visibility, an audience and wide distribution. Two-dimensional imaging, i.e. image collection and illustration may be part of it but only as stones in a mosaic, roles in a theater. Sky artists do acknowledge the impact which science's turn to visual exploration has made, and we seem to be heading for another renaissance of the artist-scientist.

Such authorities as Yash Pal, secretary general of the '82 Unispace Conference, and Paul MacCready, victor of the ancient-times-to-present muscle-powered-flight race, have termed the earth-from-orbit photo "the most important picture since pictures". We enthusiastically welcome Voyager and other missions to continue the contest for their sky art, "1D, 2D, 3D, 4", for information, beauty, science, religion, art; by artists, scientists, engineers, fliers; men, women, children now and to come, "for whatever it's all about".

*Listing of literature according to the succession of asterisks in the text:

Otto Piene, MORE SKY, Migrant Apparition, Inc., Cambridge, Massachusetts, 1970 and MIT Press, Cambridge, MA, 1973

Otto Piene, SKY ART, Tamarind Lithography Workshop, Los Angeles, California, 1969

Ken Sofer, "Dante and the orbiting asteroids", ARTINEWS, February, 1980, pp. 148—49

Otto Piene, "The SKY ART Conference", with Elizabeth Goldring, Lowry Burgess and Bernd Kracke (editors), SKY ART Conference '81, CAVS/MIT, Cambridge, MA, 1981

ZERO, originally published in Germany in 1958 and 1961 by Otto Piene and Heinz Mack, reprint by Ivi Press, Cambridge, MA and DuMont Schauberg, Cologne, 1973

Tom Van Sant in SKY ART Conference '81

Peter Bormann and Juan Jose Tasso, "Marking of satellite imagery: A means to improve image registration for mapping purposes and to accomplish 'space art' designs", unpublished paper, New York, New York, 1982

quotes from Lynn Darling, "Joe Davis' Stars for the Space Shuttle"; The Washington Post, Monday, May 24, 1982

Phillip Morrison, "1 D, 2D, 3D, 4", lecture at the SKY ART Conference '81, Cambridge, MA, 1981

Otto Piene
Center for Advanced Visual Studies
Massachusetts Institute of Technology (CAVS/ MIT)

(Excerpted from an interview)

The CAVS was founded in 1967 by Gyorgy Kepes as a workshop and forum for outstanding artists. He has promoted this idea since the late 1950's, while he was a professor at the MIT in Cambridge, Massachusetts. I had heard of Xepes when I was an artist in Europe. Then I came to the United States and in 1965 had my first one-man show, "Light Ballet", in New York; one day a group of distinguished-looking men walked in, among them Gyorgy Kepes. He told me that he had known about my work, and he asked me to lecture in Cambridge. After the lecture, he invited me to his office and said that he was about to form the CAVS and would I like to be a Fellow. We corresponded for two years until the Center opened. Thi first resident Fellow at C.A.M.S. was Harold Tovish, a Boston sculptor, who was at that time struggling with the idea of human beings affected, tortured, as well as propelled by technology. I was the first Fellow at the Center from outside the area. Later on others followed—there were only four or five Fellows at the Center for the first two years.

One could imagine a sort of family tree, a geneology of the Center, which refers to the history of 20th century connections between art and technology, art-science-technology or art-science-technology-industry. Kepes came from Budapest via Vienna to Berlin to become Moholy-Nagy's assistant. Moholy invited Kepes to follow him to London and then to Chicago, where the New Bauhaus was formed. Kepes became the head of its Light Department in 1938. In 1946 Kepes went to MIT's School of Architecture and Planning. He had a great influence on generations of architects and other visually or artistically oriented people. After World War II, MIT became more and more of a university rather than a technology and science school, so it was logical to consider the arts part of a general education and orientation. In the 1960's, when there was much political unrest in the U.S., MIT was inclined to respond to the spirit of free creativity as represented by the artists. It was the right time to establish a research institute that would combine the artistic creative spirit—this spirit of investigation, imagination, invention and intuition—with methodical research in the sciences and advanced engineering techniques.

MIT is a technical university with research institutes which range from large, powerful centers, such as the Centers for Space Research, Cancer Research, or Theoretical Physics, to our rather small center. Thus CAVS is in fact a research institute attached to the mother university. Out of the 25 Fellows roughly 15 are artists; the others are scientists and scholars. The number of residents who have formal academic degrees is rising—currently we have seven or eight Ph.D.'s. There are artists who make objects and projects, and who work environmentally. On the other hand, we have research scientists who pursue goals somehow related to the arts, but not necessarily focused in the arts. All of the artists generally find partners in science and engineering at MIT with whom they work on their programs.

There are some basic areas of interest. We do much developmental media work which attempts to expand the influence and accessibility of art. We study the interaction of art and technology to master the increased role of communication. CAVS deals with environmental art and design on a large scale, to enhance the physical and psychic environment. Another area of our activity may be called "the art of celebration". We practice and promote education toward the new arts and toward a broader, as well as specific, environmental understanding. Some of the CAVS activities since I became its director in 1974: participation in a new, interdisciplinay MIT graduate program leading to the degree of Master of Science in Visual Studies; "ARTTRANSITION", a conference with events on expansive art of public scale; "Centerbeam" and "Centerbeam, D.C.", a large, CAVS-group-generated media-sculptures-cum-sky-events in public places, such as the National Mall in Washington, D.C., next to the National Air and Space Museum; and the first Sky Art Conference (1981) at MIT with further Conferences happening in Austria (1982) and planned for Paris (1983) and Los Angeles

(1984), to be co-hosted by the Olympic Games and transmitted to Japan via teleconference arrangements.

Yash Pal

For me the real meaning of this conference was to see an integrity in the business of living with the wide open universe and using the sky not only as wide, beautiful colors of heavens and astronomy, but also folding back as a connecting channel between not only what is outside but what is at different places on the earth. Think not only in terms of science or beautiful pictures or poetry or philosophy, but forget these distinctions and enjoy all aspects of this.

With the coming of space technology, particularly space communication, a new opportunity would open, particularly for countries which are large and which have lagged behind in communication. I was intrigued by the possibility of very quickly setting up a system to reach people in far off villages and to be reached by them and possibly to try to see whether this system could be used for a meaningful education. I got involved in the space program because of this and one thing led to another. At the moment I am dragged into the responsibility for helping to organize the Second United Nations Conference on Peaceful Uses of Outer Space. This has given me an opportunity to see a lot of the world and a lot of places. As a piece of sky art I have taken some pictures but they haven't been processed.

I have just recently come back from a visit to Frachino, Italy. This is one of the largest tracking stations. When we talk of special directions this has about 60—70 antennas at an altitude of about 200 meters, 4 or 5 thousand feet in the Apennines in Italy. Most of these antennas seem to point in a certain direction upwards and some are large, 30—35 meters, some are only 10 meters, some are 5 meters and look like birds looking up in the sky, staring idiotically. One after the other can be seen as you drive past, together creating a vast landscape.

Of course they are all looking towards that arc in the orbit at 36,000 kilometers in various directions where these satellites exist. The whole space is populated with these satellites and through them people are talking from the west to the east and from the north to the south. From everywhere messages are going through, pictures are sent and, I hope, communication is adequate. There are pictures coming from satellites, all kinds of things are passing through and going to every possible place in the world—all happening quietly.

Somehow these parabolic antennas of various sizes and shapes sitting there have always looked beautiful to me, but if one looks at what they are doing, it provides more of a connection. In the midst of this, in Frachino there is the piece of a hollow of the yacht which Marconi used—the yacht "Electra"—to send his signal across the oceans. One of them was to light up the Sidney Opera House and the Sidney Town Hall by pressing a button in Italy. The remnants of that sitting in the middle of all this makes a beautiful sculpture.

Excerpt from "Unispace", lecture at "Sky Art Conference '81", September 29, 1981

Gyorgy Kepes **Excerpts from "Icarus, Daedalus, Antaeus"**

lecture at "Sky Art Conference '81", September 25, 1982, C.A., V.S./MIT (edited by Elizabeth Goldring)

First what I would like to mention, because everything has its ancestry and everything has its future, is Friedrich Nietzsche, a great German poet who was a troubled man, but also a man who had great dreams. He wrote, "He who one day teaches man to fly will have shifted all landmarks. To him will all the landmarks themselves fly into the air. The earth will be christened anew as a light body."

I think this is a beautiful thought on the issue that we are all involved in. The astronaut William Anders made a comment after he landed, "The earth looks so tiny in the heavens that there are times during the Apollo 8 mission when I had trouble finding it. If you can imagine yourself in a dark room, with only one clearly visible object—a small blue-green sphere about the size of a Christmas tree ornament—then you can begin to grasp what the earth looks like from space. I think all of us subconsciously think that the earth is flat or at least almost infinite. Let me assure you that rather than a massive giant, it should be thought of as a rather fragile Christmas tree ball, which we could handle with considerable care or should handle with considerable care." It means to me that there is a certain assumption in our knowledge and spiritual conviction, that we assume certain things which are proven right when they are wrong. If we are able to reevaluate our frame of reference and to look at ourselves in terms of these extended horizons, we may have a better chance to resolve our rather unresolved human existence ...

Many circumstances tend to obscure without altering the connection between art and science. Artists and scientist are almost meant as the same person, although each is a specialist. The times emphasize science far more strongly today. At other times the relative positions of art and science were more obscure. In 1596 in a letter to Baron Harberstand, Kepler complained, "Must one measure the value of the heavenly object with dimes as one does food? But pray one will ask what is the good of knowledge of nature, of all astronomic, for hungry stomachs? Painters are allowed to go on with their works because they give joy to the eyes. Musicians, because they bring joy to the ears though they are of no other use to us. He who fights against the joy fights against nature. With what is a very different climate of humanity, the scientists had to beg for help and the artists, they were the cream of the cream, the lords and masters of cultural life."

The reason I mention these few odds and ends is because I feel we are on a kind of threshold where we have to resolve these two aspects of our interdependent existence: what we call artistic sensibility and their values and scientific technological competence, without giving up the quality of either.

Tom Van Sant

Excerpt from "An Artist's Landsat Project", lecture, "Sky Art Conference '81 September 26, 1981

Tom Van Sant:

"... I think we'll start right in with slides of the 'Reflections From Earth' project. This is the view from my house in the Hollywood Hills in the third week in May of each year. The buildings in downtown Los Angeles are a large reflective mirror system. Two weeks prior to this occurrence I had started thinking about a project for a Los Angeles bicentennial celebration... I think we all kind of fell in love with the idea, seeing it active, our hand from space. As soon as it was possible, it was irresistible. I don't think it ever entered anybody's mind that we wouldn't be able to do the program with the schools because they were all enthusiastic about it. My 'Reflections' project was basically a demonstration. We had a little

mirror package which would allow any school child to follow the instruction. We would break the city up into a grid and we had a television station that agreed to show the grid and give the numbers, so that every school could pick up their location and get their settings for that particular area."

Dale Eldred:

"... I happened to be working on a project in Mexico City when the Pope was here ... the traffic stopped in the whole city, taxicab drivers got out, everybody got out. The Pope's airplane circled Mexico City and everybody ran out with a mirror and flashed it at the Pope's airplane—the whole of Mexico City flashing the Pontiff."

Tom Van Sant:

"That's wonderful. That's what we were hoping possibly some day to do with the Shuttle. I was talking to Dr. Edgerton about it yesterday, whether or not we might be able to trail smoke or use a strobe—something so that hand held mirrors could be used. In the future we might be able to do something like that."

Appeal

The Reflections from Earth project by Tom Van Sant energetically used the capability of satellites to receive light signals from the ground and translate intensity into planar size—thusly magnifying and integrating sunlight reflections from thoughtfully placed mirrors into coherent sensor-transmitted patterns which were processed into large photographic images via digital signal transport. His collaboration with scientist Dr. William Evans, and with NASA stands out as a successful, inspired teamwork of artist-scientist-space administration.

His use of Landsat could be complemented by geostationary and other satellites. The image quality and image character could thereby be varied and modified as to clarity, modulation, expanse covered and image-processing systems employed. After my long conversations with Tom Van Sant and finding myself in agreement with him, and after reviewing my own reservoir of ideas and that of Group Zero, and after remembering and then re-reading Heinz Mack's "Sahara Project" of the 1961 ZERO 3 generation—I proposed the following:

To lay out mirror configurations in deserts and other preserved areas of the earth to compose sacred images of peace and human integrity, of nature intact and history compelling. The images will be seen through satellites and re-composed to form a tapestry of peace and creative vision as well as a video map or video projection spheres to regenerate and represent the earth as an eidon of commanding dignity and suggestive wholeness. In this way Aldo Tambellini's design of a "communication sphere" could gather momentum and reality. Satellites would transmit true messages rather than defense trivia, eco statistics and news chatter.

An international effort at creating and implementing reflection images will be continued by our MIT CAVS. It will be further propelled by the 1983 Sky Art Conference in Paris and by the 1984 Los Angeles/Tokyo Sky Art Conference.

Tom Van Sant's presentation at this conference will render his vision. He will generously offer his experience and invaluable technical expertise to further inspire this heraldic project. We owe him for "Shadow Mountain Eye" and future "Reflections from Earth".

Otto Piene

Nam June Paik

"The moon is after all the first TV."

Basic time units of composers arranged according to boxing classifications:

"Fly weight composer (HIGGINS) works with seconds. Feather weight composer (WEBERN) works with minutes. Light weight composer (BEETHOVEN) works with ten minutes. Middle weight composer (BACH) works with hours. Light heavy weight composer (WAGNER) works with days. Heavy weight composer (N. J. PAIK) works with days, weeks, YEARS, CENTURIES, Megayears..."

Nam June Paik, "New Ontology of Music", Videan'Videology, p. 3

JOE DAVIS

"LIGHTNING PROJECT"

"Lightning Project" will be a lightning-activating sculpture designed to change or modify lightning color, to be placed on Spoil Island in the Gulf of Mexico.

Height: 96 feet

Weight: 24.4 metric tons

The island sculpture will activate lightning by triggering the lightning-propagating or "stepped leader" process between thunderstorms and the ground. There are two types of lightning discharges. The first is initiated within the cloud and propagates toward the ground—a cloud-to-ground flash. The second is initiated or "triggered" by a tall conductive object on the ground and propagates toward the cloud—a ground-to-cloud flash. This latter type is called "triggered" since it would not occur in the absence of the tall conductive object.

In both cases, lightning strikes are initiated by faint 'leader' discharges which propagate in a stepwise fashion from the cloud, and from any convenient conductor or tall object on the ground. The sculpture will facilitate this 'leader' process.

JOE DAVIS

"NEW WAVE RUBY FALLS"

To the artist, the sky is a place for machinery of enormous power and scale; a place to pit human will against awesome forces that shape the landscape and drive the wind. More importantly it is the stage for struggle with the slavery of gravity that has always stood between the earth and sky.

"NEW WAVE RUBY FALLS"

Getaway Special #266A

Small self-contained Space Shuttle payload

Weight: 200 lbs.

Volume: 5 cubic feet

Launch date: September 1983

Purpose: Artificial auroral phenomena

The "Ruby Falls" payload will contain materials intended for use in the production of artificial auroras. Two genres of artificial auroras are planned. One will be accomplished by chemical release, the other by creating inert gas plasmas. The triggered auroras are of environmental scale, readily detectable from the ground with the naked eye and timed to be visible to the maximum number of peoples and cultures.

Joe Davis

Excerpt from interview on "All Things Considered", National Public Radio, Washington, D.C., 1982

Artists and scientists are really after the same things. They're striving towards controlling the forces of nature to improve human life. We have different vernaculars and microlanguages and different technologies to deal with those problems but in fact we deal with the same problems. A lot of the technical advances in history can be attributed to the arts and sciences. Samuel Morse for instance, was professor of painting and sculpture at the University of New York for forty years. The inventor of the first photographic emulsion was Louis Daguerre who was a landscape painter. The inventor of the first camera was Leonardo, etc. If there is an artist ethic it has to be to tell the truth. In order for me to tell the truth, then I have to really reflect my experience directly. I have to paint as clear a picture of my own world as the cave painters painted theirs. They used the top end of their technology, too. Because my life is full of radio waves and micro waves and satellite links to Washington, these things naturally become part of my vision and therefore they are a component of my work. If I use a technology that's two or three hundred years old then I really can't tell the truth. I can't paint that clear a picture.

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January 8, 1979

Capt. Chester M. Lee, Director, STS Operations, NASA HO, Washington, D.C. 20546

RE: The acceptability of a "remote control deployable sculpture /experiment
as a small self-contained payload on the Space Shuttle"

Dear Sir,

Although I hope to provoke some consideration on behalf of my own proposed payload, and those doubtlessly proposed by other artists, I am certain NASA is already preoccupied with sweeping considerations of which only one aspect is deciding whether or not to restrict small shuttle payloads to purely technical projects.

Still, remember that NASA has its deepest roots in the American free enterprise system in general, and in uncounted hosts of fiercely competitive support contractors, janitors, clerks, writers, and artists in particular, opportunity to any and all of the above who could develop a

meaningful, ethical payload, and pay the same price as other STS customers. I do believe that it NASA seeks to inhibit financial exploitation of Space Shuttle by all parties, including science and industry, then by all means, artists should likewise be separated from "financial killings" by some method such as pre-designated public, or non-profit ownership of recovered artifacts. On the other hand, this profit-killing idea seems somehow inconsistent with the fact that the Space Agency is actively trying to encourage development of cost-efficient shuttle applications. No doubt NASA policy-makers are already aware that the arts comprise a booming international industry with assets including billions of dollars AND the world's most cherished treasures.

When we consider the relative benefits of typical shuttle payloads, even if we choose to ignore the history of underdeveloped peoples whose lives have been destroyed or severely exploited as a part of the planetary cost of technical advancement, at least we can agree that the history of human suffering, and the depletion of natural resources has had little or nothing to do with art. Indeed, if the priorities for allotting shuttle payload space allow for projects that contribute to the improvement of the human condition and quality of life, then the arts represent a very humane and universal practicality.

Even if the existing priorities relate exclusively to technical research and development, it should be remembered that many of the technical advances vital to our way of life are, in fact, directly attributable to development in the arts. A few among these are the invention and development of practical photography (including the basic camera and photographic plates), lost wax casting, lithography, silk screen printing, pigments chemistry, and color technology—all of which technology as we know it could little do without. There could be no weather, earth resources, or military reconnaissance satellites without cameras to fly in them. The computer age would have stopped short without screen printed circuitry. And there would have been no industrial revolution in the first place without metal casting techniques developed originally for sculpture. The point is that technological development is not, and has not traditionally been the private domain of science and industry.

Despite all of the practical reasons why NASA should permit unrestricted arts payloads, my own particular payload is developed as a synthesis of science and art.

With the generous support and cooperation of distinguished scientists (some of whom I understand have already contacted your office), I have attempted to develop a proposal which could satisfy "human benefit" criteria through its scientific and technical merits alone—thereby excepting NASA from any aesthetic evaluation, save perhaps to see that it is not obscene or offensive.

On the matter of development, I indicated in earlier correspondence that if there should be any problem here, I would develop an alternate, completely containerized payload until there is a hard decision on the deployability of small self-contained packages. This, of course, could save time that is otherwise irreplaceable.

Your kind offer to refund my \$500.00 earnest money is appreciated. However, I do not expect or desire a refund unless there actually is a decision to specifically prohibit art, even in payloads that comply with prescribed technical criteria. In the meantime, it may help contribute to the need for a reasonable solution.

Todd Siler

Can it be, that the philosophical "first-aid kit" we now use to construct our world and to define our purpose is borrowed from the Age of the Scientific Revolution? If so, it contains a lethal drug or belief (advocated by Francis Bacon) that nature be "bound into service" and "made a slave" and that scientists must "torture nature's secrets from her." With the empirical methods providing the tools of torture, man began to whip away. As a result of his success at measuring and quantifying everything he interrogated, his ambitions swelled.

Now look at us—the representatives of the twentieth-century who no longer believe in testing the "certainty of scientific knowledge", only its applications. This includes "exploring" the creation of: our F-5 and F-111 warplanes; our MIRV missiles (Multiple Individually Targeted Re-entry Vehicles) and cruise missiles; our ICBMs (Intercontinental Ballistic Missiles) and SLBMs such as those aboard the 36 Polaris or Poseidon submarines which are equipped with warheads equivalent to over 700 Hiroshima bombs; our B-52H bombers each armed with hydrogen warheads equivalent to over 3,000 Hiroshima-type atomic bombs); our biological and chemical weapons such as toxic nerve gases composed of Tabun, Sarin, and Soman that attack the sympathetic and parasympathetic nervous system causing convulsions, paralysis and death ... and our space surveillance systems that bear many opportunities for developing "bomber satellites which could take full advantage of radar, infrared or line-of-sight methods of guidance" (Nels Parson, Jr., "MISSILES and the Revolution of Warfare").

In 1977, "the Defense Department's Civil Preparedness Agency reported that a single megaton nuclear weapon detonated one hundred and twenty-five miles over Omaha, Nebraska, could generate an electromagnetic pulse strong enough to damage solid-state electrical circuits throughout the entire continental United States and in parts of Canada and Mexico, and thus threaten to bring the economies of these countries to a halt." (J. Schell, "The Fate of the Earth").

Consider the facts: "the USA and USSR possess 50,000 nuclear weapons, or 25 billion tons of TNT. In half an hour, a fraction of these weapons can destroy all cities in the northern hemisphere. Yet between 1980—1990, the leading men of these countries are planning to produce more than 20,000 warheads, along with a new generation of nuclear missiles and aircraft. This will pull the tipwire tighter. (from "CALL TO HALT THE NUCLEAR ARMS RACE, Proposal for a Mutual US-Soviet Nuclear-Weapon Freeze")

Can we afford a central strategic exchange, an all out war, where a small percentage of our nuclear weapons could destroy 70 % of the ozone layer in the northern hemisphere and 30 % to 40 % in the southern hemisphere, blinding all creatures on earth and completely destroying the ecosphere? If we don't open our decision-making programs and reverse our policy of "Peace Through Strength" to one "Strength Through Peace", then the only thing remaining of humankind will be the debris of civilizations compacted like sedimentary deposits over time, forming the new foothills and mountains of the moon called Earth.