

E A T N E W S

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Experiments in Art and Technology, Inc. 9 East 16th Street, N.Y., N.Y. 10003

The purpose of Experiments in Art and Technology, Inc. is to catalyze the inevitable active involvement of industry, technology, and the arts. E.A.T. has assumed the responsibility of developing an effective collaborative relationship between artists and engineers.

E.A.T. will guide the artist in achieving new art through new technology and work for the professional recognition of the engineer's technical contribution within the engineering community.

Engineers are becoming aware of their crucial role in changing the human environment. Engineers who have become involved with artist's projects have perceived how the artist's insight can influence his directions and give human scale to his work. The artist in turn desires to create within the technological world in order to satisfy the traditional involvement of the artist with the relevant forces shaping society. The collaboration of artist and engineer emerges as a revolutionary contemporary sociological process.

Initially, a successful working relationship between artists and engineers will require that each operate freely within his own environment. The function of E.A.T. is to create an intersection of these environments.

To ensure a continued fruitful interaction between a rapidly advancing technology and the arts, E.A.T. will work for a high standard of technical innovation in collaborative projects.

E.A.T. is founded on the strong belief that an industrially sponsored, effective working relationship between artists and engineers will lead to new possibilities which will benefit society as a whole.

Billy Klüver

Robert Rauschenberg

As a result of our first issue of E.A.T. News and word-of-mouth, we have had a constant stream of interested requests from artists, engineers, schools, universities, and private individuals from the world over. There are over 300 names of artists interested in Art and Technology in our files of which 250 have indicated need for immediate help. There is no question that the artist is firmly committed to moving into the field of technology.

The large interest on the part of the artist and the enormous difference between the worlds of the arts and technology has made it clear that a goal of E.A.T. must be to provide the artist with a permanent and organic access to the technical world. Conversely, E.A.T. will work for a situation where the engineer will find himself at home with artists. Many suggestions as to the function and operation of E.A.T. have been rejected on the grounds of not fulfilling these objectives. We feel that it is important that friends and supporters of E.A.T. take a determined and positive stand to avoid solutions which will degenerate the artist-engineering collaboration into trivia. This issue of the Newsletter will discuss the program of E.A.T. to make our goal clear. The difficulties and problems involved, social, personal and economic have to be overcome. Only by member engineers and artists can make the idea behind E.A.T. into a reality -- no matter what support we receive from other sources.

E.A.T. emphasizes the collaborative relationship between artists and engineers. Thus, the idea of making E.A.T. into a library of technical information has been rejected. Looking at the artists projects, it is quite evident that no single laboratory or information center could possibly satisfy the artists needs. Instead, E.A.T. will act as "matching agency" where an artist with a problem is matched to a member engineer whose qualifications are such that he understands what the artist is talking about. The procedures for the matchings will be described below. There are three other positive aspects of the collaboration approach. First, the personal meeting between artists and engineers tends to bridge the language gap faster and more efficiently; secondly, a group of engineers familiar with artists are being permanently established as part of industry; and thirdly, the artist will have direct access to the latest developments in technology. Few of the artist's problems are such that they can be simply and directly satisfied. In most cases, alternatives must be explored involving access to information and materials which staff engineers at E.A.T. headquarters could not possibly handle.

Many have suggested that E.A.T. should train artists in technical areas. Our strong feeling is that such an educational program would not serve the interests of either the artist or engineer. Giving the engineer an art education would be equally feckless. The differences between engineering and art spark the relationship. Bull sessions and demonstrations, with the idea of familiarizing the artist with new areas of technology seem to be more effective and will be persued as described below.

Our list of interested engineers now numbers 75. The recruiting of member engineers is a primary concern of the administration of E.A.T. Our experience so far has indicated that the professional recognition of the engineers contribution within the engineering community is essential to establishing the engineers role in the collaboration. To this end we are working to form an "Engineering in Art" group within the IEEE (Institute of Electrical and Electronic Engineers) and will encourage the publication of technical solutions to problems posed by the artist in the technical journals. E.A.T. News will also publish technical descriptions of collaborative projects by engineers. Much of the responsibility of developing and keeping the interest of member engineers lies with the artist.

As described in our organization plan below, member engineers will handle simple technical problems, give information and translate larger projects into technical, realizable language. Without the industrial sponsorship and responsibility for taking on and developing the artists technical projects, the artist engineer collaboration will quickly run into difficulties. The last four months has seen much activity in formulating our approach to industrial management. The response by industry to the program of E.A.T. has been very encouraging, and we have already obtained preliminary commitments from two large industries. These will be made public as soon as possible.

We are anxious that the relationship between E.A.T. and industry become an organic one. We are asking for yearly support from each industrial organization for administrative expenses and that a committee be established to oversee its relation to E.A.T. The board of directors of E.A.T. must have intimate contact with industry.

A number of pilot projects will be initiated as soon as possible under the sponsorship of industry. In relation to these projects, E.A.T. assumes the responsibility of presenting a technically interesting project and to act as an intermediary between the artist and industry. It is the function of the member engineers of E.A.T. to develop the projects.

Once it has achieved the change in the cultural and industrial climate so that industry can assume a more direct responsibility for the sponsorship of the artist-engineer collaboration, the function of E.A.T. as a mediator may well disappear.

The collaboration between artists and engineers should produce far more than merely adding technology to art. The possibility of a work being created that was the preconception of neither the artist nor the engineer alone is the *raison d'être* of the organization. The engineer must come out of the rigid world that makes his work the antithesis of his life and the artist must be given the alternative of leaving the peculiar historic bubble known as the art world. The social implications of E.A.T. have less to do with bringing art and technology closer together than with exploring the possibilities of human interaction.

POLICY OF E.A.T.

For reference and to aid our supporters and friends in explaining its operation, the policy of E.A.T. is this:

A. In Relation to the Artist-Engineer Relationship

The functions of E.A.T. which relate to its technical involvement, such as matching artists and engineers, evaluating projects, involvement in activities, etc. will be in the hands of engineers and scientists. E.A.T. should be regarded as an engineering society. The top paid administrator should have technical and industrial experience.

E.A.T. is open to all artists and engineers. Esthetic questions will be in the hands of the artist.

A one-to-one collaborative relationship will be established whenever possible.

E.A.T. will pursue an active contact with professional engineering societies and the technical community.

E.A.T. will handle projects in which support is obtained from foundations, industry, artists, galleries, and other institutions, and may seek such support to carry out projects.

E.A.T. will not directly give grants for materials, projects, or engineering salaries.

Except where obvious convenience and benefit is derived for the artist-engineer collaboration, E.A.T. will not establish an information library, a supply of materials or acquire equipment.

Requests for information will be handled by member engineers.

E.A.T. will familiarize the artist with new developments in technology through tours, demonstrations, and bull sessions.

E.A.T. will publish technical descriptions of projects in the Newsletter, or encourage such publication elsewhere.

B. In Relation To Industry

A committee should be established within each industry to oversee its relation to E.A.T.

E.A.T. assumes the responsibility of presenting technically sound and interesting projects for industrial support.

The procedure in handling of industrial projects should be flexible.

ORGANIZATION OF E.A.T.

The organization of E.A.T. should develop organically.

The technical responsibilities have been organized as follows:

Standing Committee will handle artists requests and relations with engineers, and will match artists and engineers. The following six subcommittees report to the Standing Committee.

1) Special projects, 2) E.A.T. equipment, 3) Connections with related technical interests (Computers, etc.), 4) Engineers membership, 5) Relation to IEEE and professional societies, 6) Artists relations; bull sessions, discussions, demonstrations. Members of these committees will be recruited from the member engineers and should be of high professional standing. They will serve as they do on committees within engineering societies.

The administrative portion of E.A.T. will:

- 1) Prepare proposals for support of projects for industry and foundations on the basis of recommendations from the Standing Committee, 2) Be in charge of headquarters, 3) Publish the Newsletter, 4) Forward artist's requests to the Standing Committee, 5) Handle public relations, mail and talks.

The board of E.A.T. will obtain support from industry and foundations, and govern and adjust policy within the spirit of E.A.T.

PROCESSING OF ARTIST'S REQUESTS

A. Matching of Engineers and Artists

A project coordinator (a paid administrator) will receive and initially sort the artist's requests into areas of needed technical guidance, and dispose of applications obviously inappropriate to the functions of E.A.T. Members of the engineering Standing Committee will examine the requests at regular intervals and suggest matches between engineers and artists. They will then place the request with a selected project engineer, (a member engineer).

B. Actions of the Project Engineer

The project engineer will contact the artist to discuss the project and provide information. He will acknowledge meeting the artist by sending a brief report on the project to E.A.T. At this point he will then either (1) help the artist if he can, or (2) write it up as a project for industry and forward to the Standing Committee. An attempt will be made to establish an anonymous nationwide group of scientists and engineers who will review and comment on industrial projects. The project engineer will become the promotor of the project in guiding it through industry.

FRIENDS AND SUPPORTERS

Many have given us help in our work to establish E.A.T. The positive interest we have met everywhere has been gratifying.

Mrs. Marion Javits has done invaluable work in our approach to industry. Others who have established contacts for us are Walter Allner, Stanley Posthorn, Seymour Schweber, Mrs. Marie-Christophe Thurman, Paul Le Percq and Howard Adams. Henry Dreyfuss

and John Powers have recently joined this team. Mrs. Vera List and Howard Wise have given valuable support.

Fred Waldhauer, Max Mathews and John Pierce have contributed to the formulation of the goal of E.A.T.

Howard Adams was assigned to give E.A.T. technical assistance by the State Council in January and has since contributed his time. Rubin Gorewitz and Jerry Ordover have taken care of economic, legal and other problems.

Sue Hartnett is our administrative coordinator handling mail, requests and other daily business.

Claudio Badal, William Ughoy, Sharpe and Alice Boston were mentioned in a letter Sue with the problems in New York.

Rose Petrock is our corporate secretary.

The Board of Directors will be announced in the next issue of the Newsletter. At present the board is headed by Billy Klüver (President) and Robert Rauschenberg (Vice President).

GRANT FROM THE NEW YORK STATE COUNCIL ON THE ARTS AND ADMINISTRATION

We have received a grant of \$8,000 from the New York State Council on the Arts for initial administrative expenses.

An interim administrator of E.A.T. will be appointed shortly. This administrator will set up the administrative part of E.A.T., coordinate the organization of the engineering committees and develop our relation to industry. He will be recruited from industry.

LOCAL GROUPS

A large interest in E.A.T. comes from people living outside of New York. We have decided to establish groups of interested people within certain areas. These groups would be helped with procedures, advice, contacts, etc. Eventually projects generated within the group could be handled through regular E.A.T. channels.

Such groups will be established in South Jersey - Philadelphia, Ann Arbor, New Haven, Boston, Albany and Los Angeles. More details will be given in the next Newsletter. Please, tell us if you are interested in joining such a group.

HEADQUARTERS

Our headquarters at 9 East 16th Street is on the sixth floor and has 5000 sq. ft. It will be used for meetings, simple technical work, try outs and experiments. An organizational meeting for engineers was held there on May 5.

We will have open house twice a week when you can visit. Although we have tables and chairs, some work is needed to make the place more hospitable. Member artists and engineers will be notified about the open house.

MATCHINGS

Thirty-five artists have been matched to 20 engineers. The engineers have been asked to send a report to E.A.T. on their meeting with the artist. This report will serve as a record of the engineers involvement. On the basis of these reports we will be able to evaluate more accurately how the system works.

The thirty-five artists were chosen on a first come, first served basis, because they had described a specific project in their application, and because of the availability of an engineer. The matchings will continue as engineers become available. More than half of the engineers in our files live outside New York. Others are involved in the organization of E.A.T. Some are unmatchable.

Artists who did not describe a specific project on their forms should send one in if they have one in mind. Some artists may want just to speak and meet with an engineer. Artists who are especially anxious for such a meeting should send us a postcard.

MEMBERSHIP AND APPLICATION

Membership in E.A.T. is open to artists and engineers. We consider as members those who have filled out our application form. Application forms can be found at the end of this Newsletter.

There appears to be a tendency among our friends not to send in the forms if they had previously informed us (at parties or elsewhere) about this or that problem or project they had in mind.

The engineers on the Standing Committee have probably never heard of our friends' and tend not to take notes on bits of paper in the files very seriously.

Artists who are already members and have new projects (even if they are matched and if the engineer cannot help) should send a brief description of the project such as: "I want to see if a poem can be inscribed on a hologram and what effect it will have" or "I want to make a solid form that floats in the air." If you want to be more specific, your match will be better.

ZIP CODE

As a tax-exempt non-profit organization, E.A.T. can mail its Newsletter at a lower bulk rate, but we can only use this lower rate if the zip code is included in the address. Please supply us with your zip code if you have not already done so. It will save us time, work and money.

PIN

A pin designed by Joan Kron of Philadelphia showing our symbol of the folded corner with E.A.T. on the backside of the fold will be available to anyone for 40 cents. If you mail us 40 cents per pin, Sue will send them to you hot from the factory.

E.A.T. EQUIPMENT

The E.A.T. equipment will be available for performances and projects within the New York area. Ralph Flynn is in charge of the available equipment and will continue to describe it in the next Newsletter. Artists who want to make use of the equipment should help in moving and setting it up.

SPECIAL PROJECTS

By special projects we mean performances or works which involve the efforts of the group of engineers connected with the Special Projects Committee. A special project is generally a

group effort. E.A.T. will sponsor such projects (although the funds must be obtained from other sources by the administration of E.A.T. or by the artist or artists involved). They should be experimental in nature, and involve new techniques and new art. An artist who feels that he needs the collaboration of E.A.T. engineers should forward information about his project to E.A.T.

The Special Projects Committee is headed by Robby Robinson, a veteran from 9 Evenings and other performances. Most projects have so far tended to develop without any specific mode of interaction between the engineers and the artist. In most cases, problems that have developed have been due to unfamiliarity with each other's way of working. A critical point in the artist-engineer collaboration centers around formulation of the requirements for the project. On the one hand the situation should be fluid enough that alternate routes can be taken if needed and on the other hand the engineer needs firm plans to be able to complete his end of the work. Difficulties arise if the artist over-estimates the engineer's capacity or if the engineer gives the impression he can handle situations he is not capable of handling. There is danger in over-emphasizing the difficulties and failures: the engineers may withdraw into a rigid position and the artists impression will be that the engineers are impossible to work with. In science, as in art, the failure of an experiment may become as illuminating as a success -- it all depends on the attitudes of the engineers and the artists involved.

The fact that art and technology are such separate worlds will result in many interesting and stimulating situations. We see as a possibility today that the technical work will become an integrated part of the performance. This opening up of the dynamics of the technical process to the audience will also bring them closer to the engineer's work. There is another aspect of this integration: granted limited time, number of engineers, and money, what will be the most interesting use of this resource? Broadway requires a slick performance that will run flawlessly; they have to spend time and money checking and rechecking simple systems. The opposite would be to introduce as many new technical elements as possible without ever spending time and money checking any of them. All of it may then fail. We can operate anywhere between these two extremes. The way technology is used does not have to follow historic norms. What happens in each case is a function of the personalities of the people involved.

The audiences should be introduced to the process of the collaboration. For instance, one may invite them during technical

rehearsals, setting up of technical equipment or describe the technical elements involved.

Robby has this advice to the artist who wants to make use of the Special Projects Committee: Give as detailed a description of your project as you can. The committee will, in most cases, not be able to deal with projects of a rush nature. Keep in close contact with the engineer during the development of the project. The engineer will appreciate your interest. Rehearsals should be set up so that the engineer can be present. Nothing is simple: even hooking up a speaker can run into time and problems. Listen to the engineer's suggestions and try to see what the consequences are in terms of your work. Allow for many technical rehearsals and tryouts if you want things to work with a reasonable amount of certainty. Since the engineer already has a job, this means that you must plan far ahead. Finally, help as much as possible with the equipment, wiring, transportation, etc.

CONNECTIONS WITH RELATED TECHNICAL INTERESTS

We have received a number of offers for use of space and equipment from individuals, institutions and theatrical equipment firms. We also plan to develop such connections with the idea of making use of specialized facilities and technical equipment available on a short term basis. Such equipment could include computers, various recorders, TV equipment and manufacturing equipment.

Fred Waldhauer is in charge of the Committee handling such interests. Send him a note if you have ideas on what connections we should concentrate on. In the next Newsletter the committee will give a report on already established connections.

RELATION TO UNIVERSITIES

We receive a large mail from art departments in universities and colleges with inquiries on how they can participate. We have the following suggestion: why not initiate collaborative projects between engineering students and art students on the campus? The engineering departments could encourage the interaction by giving credits or letting students count their projects as part of the curriculum. For the engineering student such projects could be of great value in that they are likely to allow room for technical creativity.

We will help in any way we can in developing this idea. This issue of the Newsletter will be mailed to the engineering faculties of schools both on our mailing list and to others.

PRESENTATION TO INDUSTRY

A presentation of material and information about E.A.T. for industry is available.

"ART AND TECHNOLOGY AT RPI"

Peter Schwarz is organizing an exhibition for late October 1967 on Art and Technology at Rensselaer Polytechnic Institute. Anyone interested in the exhibition can contact him at 609 429-5537.

E.A.T.-INS

A series of tours to laboratories will be arranged. The format will be visits in small groups during the day and direct meetings with engineers and scientists afterwards. Two such "E.A.T.-ins" are currently under consideration. Member artists and engineers will be advised by mail.

BULL SESSIONS AND DEMONSTRATIONS

We have decided to ask experts in fields of recent developments in technology to come to meet with and talk to interested artists. These bull sessions are not designed to give immediate information to artists about their current problems (which member engineers should do) but rather to present new possibilities. The first two sessions will take place shortly. We have chosen honeycomb materials and paper for the first meeting and poetry for the second. The second session will bring in experts from fields of technology which bear on poetry such as computers, holograms and tape recorders. Member artists and engineers will be advised about the sessions.

E.A.T. SPECIAL PROJECTS SINCE 9 EVENINGS

Sound and light modulations for Carolee Schneemann's performance Snows at the Martinique Theater. Engineers: Ralph Flynn, Per Biorn, and Robby Robinson.

Sound switching, TV projection, proportional control of projectors, and sound sources for Homage to E.A.T. A panel discussion at the Y.M.H.A. Engineers: Per Biorn, Robby Robinson, Dick Wolff, Fred Waldhauer, Jim McGee, Jim McGee, Jr., Bruce Robinson, and Ralph Flynn.

Special recordings of sound for Lucas Foss' Concerto for Cello for Rostropovich and The London Symphony Orchestra at Carnegie Hall. Engineer: Robby Robinson.

Soft neon tube for Robert Rauschenberg in a performance at N.Y.U. Engineers: Harold Hodges and Ralph Flynn.

Phase shift between four pianos playing same notes in Four Pianos by Steve Reich at Park Place Gallery. Engineer: Robby Robinson.

Photocells picking up light variations for Max Neuhaus' concert, By Product at Park Place Gallery. Engineers: Ralph Flynn and Ted Wolff.

Contemporary Voices Program at Rensselaer Polytechnic Institute. Engineer: Robby Robinson.

A number of projects have proceeded on a one-to-one basis apart from the special projects listed above. Per Biorn gives below a technical description of a collaboration with Marta Minujin.

BOOK AND FILM ON 9 EVENINGS

MIT press will publish a book on 9 Evenings, edited by Brian O'Doherty. A thirty minute film on the performances has been made by Alfons Schilling. A distributor has not yet been appointed for the film but those interested in showing it can write us.

TALKS AND ARTICLES

A number of talks on the artists-engineer relationship has been given by Billy Klüver. The talk given at MIT will be broadcast over WBAI on June 29 at 9:30 p.m.

Articles on Art and Technology are being written for a number of magazines. No less than three authors of books on the subject have contacted us.

We have in turn been in contact with International Science and Technology, Spectrum, Engineer and Scientific American for articles directed towards making the activity of E.A.T. known among engineers.

AUCTION

An auction of three giant model airplanes made by the Once Group from Ann Arbor will be held for the benefit of E.A.T. on June 8 at 10:00 p.m. at 381 Lafayette Street. The auction will be held by Christie's of London.

"ART IN ENGINEERING" GROUP OF THE IEEE

The IEEE is considering a proposal to establish a professional group of Art in Engineering. Such a group would mean a great deal for the success of the artist-engineer collaboration. Anyone interested in the specific problems of establishing such a group please contact us.

POST SCRIPT

This issue of the Newsletter has been put together by Billy Klüver, Fred Waldhauer and Robert Rauschenberg. It has been typed by Rose Petrock and Barbara Birkenmeier. With the next issue, a regular editor, Julie Martin, will take over. Please write her if you have anything you would like to see printed.

Our efforts during the last four months have been dedicated towards building up E.A.T. As we predicted in our last Newsletter, the process is slow: we are running a three ring circus; one ring each with artists, engineers, and industry; and we want the shows in all three rings to match. Much work has yet to be done to coordinate our efforts to recruit engineers. Our relation to industry is at this moment developing well. However, decisions and actions do not come about as rapidly from the big corporations as they do from individuals.

As our administrator takes over, he will be faced with the problem of understanding and continuing our work according to the lines we have set up. The artists are ready to go full speed ahead: they should hold back if they can so that we do not leave the other two areas underdeveloped. From the engineers

we need help right now with recruiting and service on the committees. Our "underground" of engineers is just as important as the positive attitude of top level management. The institutionalization of E.A.T. will be fought -- even at the expense of risking a few loose connections.

ASPECTS OF E.A.T. IN THE MAKING OF "SNOWS"

Transmuted reverie of Vietnam war photos, fury; drawings, notes-- beginning of "Snows:.. In September Paul Libin calls to offer the use of the Martinique Theater for a new work. I don't want a stage or theater for "Snows:.. Libin interested in other spaces too.

Look for a barge or boat to perform on (in the night, to be riding out into the Hudson... "Snows: beyond the three mile limit!) No boats.

Ruins. Spend three weeks exploring ruins in the city with Libin. Unable to get a permit to assemble an audience. All complications interfering with flow of imagery which attaches itself to each fantastic configuration of rubble and decay which cannot be utilized.

Rehearsals explore: crawls, grabs and falls, passing women, creation of faces (strobe), body sculpture (film projections), projections on women with snow?, body ball and pusher, crawl and capture, dragging bodies, hung up bodies, foil bodies (cocoon and walkers), rescue of walkers, body pile Viet-Flakes snowing.

Environment: some sort of huge flexible lens with prismatic properties; all actions, film projections to be enlarged, distorted, reflected by lens? Four suspended panels on which films ;will be projected (as well as on walls collaged white, ceiling). All subject to dominance of lens. Three planks which lead from performance area across seats into audience. Collapsible table for raised body groupings and film projections. Cut open stage, cover with transparent plexiglass, light from below. Two vertical light machines, eight feet high, behind lense, next to suspended panels: revolving lights, shooting light to be controlled by contact mikes set under certain seats in the audience. (Robert Schultz's color organ operated by sound source). Movement of audience in their seats will be amplified through contact mikes and control dimming and raising of certain lights.

Early in the morning, Schultz, Warshaw, Tenney and I drive station wagon out to Bell Labs. Lightly snowing. Robbie takes us to old house in New Providence which serves as storage for E.A.T. materials and is in itself a complex environment I would like to use. Bitterly cold. Picking and choosing like crazy in Woolworths: these transistors, those cables, these SCRs... the stuff all looks very junky, mute and utterly unrelated to the images it will go to realize. (They tell me we've picked \$4000 worth. Libin has set entire "Snows" budget at \$400 which we exceed as it turns out). Station wagon jammed with plastic boxes, cable, wire, power amplifiers, transceivers, photoresistors, tone controls, preamps, mikes, contact mikes, speaker matrix, huge speakers, motors, string! We can barely squeeze ourselves back in. The guys happy as monkeys surrounded by bananas; I'm brooding. The mechanical materials have a buried character; working parts all covered-- the boxing doesn't indicate the interesting things inside. These objects have a sub-visual domination over immediate time and space. All mysterious promise. Not maleable. (Unlike taking of hunk of plastic in my hands, some living arms and legs, a cranky projector with a fine shape. A preposterous journey about to unfold and where was controlling center after all)?

Magnifying lens would be impossible expense (Polymer dome!) Decided to try plastic bags filled with water, lit from behind. Plan to hang them. Discover their size, weight of water, prohibit hanging. Spend a week learning about industrial plastic bags. We'll have to build a structure, floor to ceiling cage to support bags. Peter Watts and Karl Schenzer will build it. No longer possible to keep "water lens" in center of performing area-- three sided stage exacts compromise; lens set toward back of stage, leave several sections without bags so that we can crawl in and out.

Tell Robbie Robinson we have special problems associated with use of E.A.T. equipment; each person now involved in technical realizations has very specialized, individuals work to do and I need help with over-all technical coordinations which need to be apparant to the performers; Warshaw and Schultz need assistance with their ideas which are complex, involving labor which could exceed time left to us. Robinson sent two technicians from Bell Labs, who had worked in the Armory Show. Per Biorn heard all our troubles while astride the water-lens structure- which he tested for strength - zapping practical solutions to us. He devised a gear system and perfected mechanical construction for Warshaw's light sculpture.

Robbie also sent us Ralph Flynn who came to the Martinique shortly after we had sorted E.A.T.'s equipment and found much of it damaged. Watching him handle a broken preamp I saw we had a "master" ("and I'm so young" he said.) As Robbie had promised, "Flynn will take care of everything he worked with us continuously. The "everything" had to encompass an enormous range of details-- mechanical, aesthetic, practical, visionary. His help was especially invaluable to me because of his own experience with theater while a student. At this point we had only two weeks until performance (Paul Libin had generously kept the theater empty for three weeks while we constructed, rehearsed "Snows"), the technical possibilities of the equipment we now had was generating ideas which we could take months to realize. I had to insist that we concentrate on what was immediate and possible, to give up many past and new ideas. Ralph assisted me in this crucial sorting. (Light and sound systems, special machines, strobes, films, environment and action were in the relationship I wanted before performance and everyone had time to feel free, clear and aware of the over-all rhythm of "Snows".) Fortunately my own metaphoric collage process with all materials-- which meant many changes and variations, was a matter of course to Flynn. It was finally, always necessary for me to see a thing to know if it was really what was needed; since each element transformed any other once it was visible or audible entire relationships would be shifted.

My problems with technology are concrete, personal; my difficulties with using technicians are mechanical. I want to work with the gestures of machines; to expose their mechanical action as part of any total environment to which it contributss its particular effect. I would like technicians to be interchangeable with performers wherever possible. The work of the technicians should become one other action parameter of my work, to be taken into the form of the whole thing explicitly. For myself this means greater familiarity with possibilities of available technology and time to explore: a diet of E.A.T.

Carolee Schneemann

"SNOWS" - TECHNICAL DESCRIPTION

"Snows", performed at the Martinique Theater from January 21, 1967 to February 5 involved primarily audio and visual techniques. A color organ was used to trigger lights on Laurence Warshaw's color machine. This color organ was

activated either manually or by sounds produced by the actors on stage. Silicon controlled rectifiers (SCR's) were used on most of the overhead stage lighting, and some were triggered by photocells picking up various light changes. Several of the audience seats were wired with contact mikes which picked up random noises from the audience movement and were fed to the speakers placed around the theater. Some of the noises were also fed to the color organ and SCR units. Strobes and movie projectors were used throughout the piece. All audio was controlled by a speaker distribution matrix which enabled us to distribute as many as twenty inputs into any of twenty audio outputs. A tape recorder was used for special music and background effects.

Ralph Flynn

DESCRIPTION OF "MINUPHONE"

The Minuphone is a telephone booth containing a push button telephone. Artist: Marta Minujin.

The purpose of the electronic circuits in the Minuphone is to control nine separate functions in a random sequence. Only 7 of the 9 functions will work during any call and the sequence is changed when the phone is hung up.

The circuit is activated when the phone is lifted and an audio amplifier picks up from 7 to 10 audio pulses from the push button phone and activates a stepping switch. When the first word is spoken in the phone after 7 dial tones the sequence begins. Each of the nine functions will run for a predetermined time and produce a turn-off pulse. When the phone conversation is ended the sequence is stopped and the circuit resets itself after the running function is finished.

The functions produce the following effects:

Wind in the face and siren sounds, shadow created on a fluorescent blind TV image of callers face in the floor of the booth and in front of a poloroid camera for a picture, black and green water in the walls, a 20 second tape recording and playback of the conversation, a 1/2 second echo, and two colored lights in the ceiling, each one corresponding to a pitch of voice.

The TV's are both turned on all the time and the picture on-off is controlled by the brightness. A tape recorder with solenoid switch provides the playback and the 1/2 second echo is produced by an extra tape head mounted 2 inches from the recording head. An SCR circuit preceded by audio fillers controls the colored bulbs in the ceiling.

Per Biorn

ARTIST

If you would be interested in working on a project through E.A.T., Inc., please give us your name, address and phone number.

If you care to, please provide the following information: What artistic medium (media) are you working in (film, dance, music, sculpture etc.)? What area (s) in science or engineering interest you as possible artistic resources (electronics, physics, chemistry, biology etc.)? If you have been considering any artistic project(s) that would involve technology, describe briefly.