

Born Kansas City, Missouri, 1931  
Resident, New York City

Robert Morris was one of the first artists we approached for A & T, and our efforts to effect a satisfactory match have continued to the writing of this catalog, still without success. Throughout most of this two year period, Morris had a specific project in mind: to work—hopefully in an aerospace firm—with environmental control systems. In September 1968 he sent the following proposal:

An environmental situation involving temperature control systems and utilizing the devices themselves which generate heat and cold. What is envisioned is not an entire room which gets hot, cooler, etc., but rather specific areas controlled by specific units. Certain amplification of sound from the devices producing temperature changes is also being considered, but the primary concern is to explore local changes of temperature within an extended spatial situation.

In attempting to locate a company working with temperature control, we contacted Litton Industries. Roy Ash, President of Litton, had requested, at the time the contract was signed, that the collaboration take place at Litton's Data Systems Division. We called Ralph Oliver, our public relations contact at Data Systems. We described the artist's field of interest, and Oliver eagerly and unequivocally assured us that Litton could "do anything" along that line. Encouraged by his willingness and optimism, we arranged to visit the facility with Morris on October 29.

On this occasion, we were first conducted into a conference room for an "S.O.B." (Standard Overview Briefing) of Litton Industries, consisting of a movie and a flipcard chart talk on the corporate structure. Oliver then took us through three major areas of the facility—the command and control display center for live radar testing, environmental testing laboratories and a microcircuitry manufacturing plant. Data systems *only* works with temperature control consisting of tiny humidity and heat-cold chambers used to test the endurance of microcircuits and other small electronic parts.

Morris maintained that such machines, having very limited capability in scale and versatility, would be of no help, and that he wanted to work in a department where research was being conducted in environmental (meaning on a scale relative to people, not computer parts) control systems; in reply the Litton management explained that *all* research at Data Systems was applied to specific contracts, usually military, and that no general research went on at any level. Oliver, however, assured us that there was another area of the division we had not yet seen that was working with air conditioning systems. The following day we returned to Data Systems to investigate this section, which contained a fabrication shop for aluminum quonset huts, housing tactical computer equipment called, in Data Systems' abbreviation system,



IFF (Identification of Friend or Foe). But it was a futile trip because the air conditioning "system" turned out to be merely self-contained units acquired outside Litton. We were to discover in the coming months that in being restricted to "DSD," where the military involvement of Litton was concentrated and where there prevailed a misconception about the nature of an A & T collaboration, our efforts to find an artist to work at this giant firm with its diverse potential would be repeatedly frustrated.

In the hope that Morris would be stimulated by other types of technological resources, and perhaps revise his proposal, Gail Scott took him to Ampex Corporation in Redwood City. They met with Dr. Charles Spitzer, and since it was the first visit by anyone from our Museum staff, they had a thorough briefing and tour. Although Morris found the tour interesting, he persisted in his desire to carry out the original thermal project.

After an abortive effort to interest Philco-Ford in Morris' proposal, we toured Lear Siegler, Inc., an aircraft corporation recently contracted to A & T as a Patron Sponsor. Two particular divisions seemed capable of implementing Morris' project: the Holly Division, a fabrication plant for home and trailer air conditioners; and the Hokanson Division, producing technically exacting systems for aircraft missiles. Both divisions were interested in the artist's scheme, and both claimed to be able to handle "any requirement." That promise was becoming familiar, but we were anxious to have Morris see both facilities first hand. We mailed him brochures,

and he responded directly with a letter on March 3:

Hokanson's heaters and coolers look sweet. Can hardly wait to get my hands on one of those 'Male, female cap duct coupling—MS 33562' or some skid mounted water chillers . . . . Then there's the whole world of 'Strongback mounted electric driven (Rail Mobility Concept) air conditioner that operates normally when strongback is in horizontal or vertical position or during transition for missile erection.' Each one sounds better than the next. I just had to close the book when I got to a device that supplies 'automatic head pressure control.' Zowie bang snort lemme at em.

Pretty big, hulking devices all of these toys. Want to ask only one thing: when the show that eventuates from all the collaboration takes place does it have to be inside? Because I want to do it outside. Want to bury all this technology right in the ground and have nothing there but a little more weather than was there in the first place—what miniature golf did for the game this piece might do for the National Parks.

Due to other commitments, Morris couldn't begin work until July 1, but we felt assured that the Lear Siegler collaboration would develop fruitfully. We therefore reserved that company for several months until Morris arrived. In June he sent a more detailed description of the thermal project:

**Site:** Want to make the installation outside in uninhabited land, any type of landscape, about one square mile to work within.

**Preliminary Studies:** Want to make and record some ecological processes in the site area—changes of temperature, rainfall, animal food chains, etc. Want to start this before installation of machinery.

**Technology:** Installation of several air conditioners and heaters underground. Outputs above ground, interface between technology and nature disguised with fiberglass rocks, etc . . . frigid rocks, hot wind coming out of a tree perhaps . . . etc.

**Additional Records:** Would like to make two films shot from helicopter traversing entire area at constant height. One film in color, one in infra-red (after machine installation). Have ideas for a particular way of presenting these films in the museum . . . a continuous showing. I'm at present working on a similar film for Kepes for Brazil.

On July 3 GS took Morris to the two LSI divisions, guided by George Moak from the general administrative offices. An account of that tour was recorded in the following memo:

GS went with Bob Morris for initial tour of two di-

visions of Lear-Siegler. First saw the Holly Division which manufactures residential heaters and air conditioners, but the capacity of these is not really sufficient for Bob's needs. Then went to the Hokanson Division (Santa Ana) where they manufacture large air conditioners for industrial purposes. These will be much more suitable for Bob's project, and he is confident that they will have all the equipment he'll need. We met with R.W. Rowlin (manager of Industrial Relations at this plant) who will be one of the main contacts and will introduce Bob to engineers. Bob will study their catalogs in the next two days, then contact Rowlin to begin work. George Moak made it clear that it was the division's responsibility to see through the project as far as they can. If we need approval for funds we should first contact Moak who seems fairly open towards Bob and the project in general.

For consideration:

(1) Bob wants a plot of land on which to do the project. He doesn't want to use the Museum's park; wants it to be near some foothills, on land which is not being used. He needs about ½ square mile.

(2) He will need to rent a helicopter and camera equipment to make the infrared and color films of the site.

Morris rented a house in Balboa, not far from the Hokanson Division where he went several times, trying to discover some engineer or scientist who might be doing research in environmental controls or the conductivity of metals and other structural materials, or at least someone interested, at a theoretical level, in his concept. But unfortunately, research at Hokanson was geared primarily toward quality control of specific products; as at Litton, there was no general R & D department. After three weeks, Morris finally found someone, William S. McKinney, Director of Engineers, who expressed interest in the proposal.

Meanwhile, we had made inquiries and finally located a piece of land on which to install the work—one square mile of a cattle ranch in Irvine, near Balboa, owned by Mr. and Mrs. Richard O'Neill, who are art collectors.

Morris had to leave for Europe in July and couldn't return until December to devote a long period of time to the project. He promised, however, to send William McKinney drawings, plans and diagrams of the necessary equipment, as well as a map of the site on the O'Neill ranch.

Morris wrote us on September 16,

The next step that has to be taken on the part of technology is the following:

How to get five or six heat sources, as varied as pos-

Born Fort Wayne, Indiana, 1941

Resident Pasadena

sible, into a natural environment and make them function and also conceal them.

How to get five or six cooling sources, as varied as possible, into a natural environment and make them function and also conceal them.

How to power these dozen devices, how to reduce the noise to almost zero, how to switch them off and on.

These are essentially the problems I presented to the several engineers I met out there. I realized that some authority had to come from the top for them to actually put in some time and solve the above problems. That is where we still are with the project—i.e., the same question exists: Will LSI provide the equipment, will the engineers solve the problem?

We called McKinney to forward Morris' message but were told that he was "unavailable"; successive attempts found him out of town or similarly unreachable. Mystified by this response we contacted George Moak in the head office. Several days later he called back to say that LSI wished to be dropped from Patron Sponsor participation, adding that McKinney had been assigned to some high priority engineering project and would not be able to assist the artist. He frankly admitted that there was no one else with sufficient "imagination" to carry on the collaboration. Obviously the project was verging on collapse, so we asked Moak to come to the Museum. At this meeting, it became apparent that LSI's main concern was the estimated costs for the project—including rental of a helicopter, cameras, film, installation of the equipment, etc. Further negotiations proved futile, and the collaboration ended precipitously.

In May of 1970, after Dan Flavin had ceased to work at General Electric, the company pressed us to find another artist; they were eager for concrete results from their participation in A & T. We contacted Morris to see if he was still interested in doing something in the program. He replied by suggesting that he and Craig Kauffman might tour G.E.'s Nela Park Laboratories in Ohio, and possibly collaborate on a project, but by October, 1970, when they were free to visit the company, G.E. maintained that they were no longer able to commit to an extensive collaboration.

Gail R. Scott

In March, 1968, after hearing about A & T from Ed Kienholz, Bruce Nauman wrote to us describing his interest in holograms:

I have made photographs and film loops of myself making faces and will do a set of 3-D pictures using the plastic lens material which I imagine you have seen as soon as Leo Castelli has enough money for an edition.

I would like also to do a similar set of holograms. I talked with TRW in Los Angeles and while they make a lot of the equipment and do a lot of the experimenting, they won't do outside work. They gave me Conductron in Michigan and they (Conductron) are supposed to make and reproduce holograms that can be viewed in white light so there is apparently not much display problem.

Basically what Nauman wanted to do at this point and when we later talked to him was to make holograms not only of his face, but also a set large enough to depict his entire body. He was able to accomplish both these goals without assistance from the Art and Technology program.