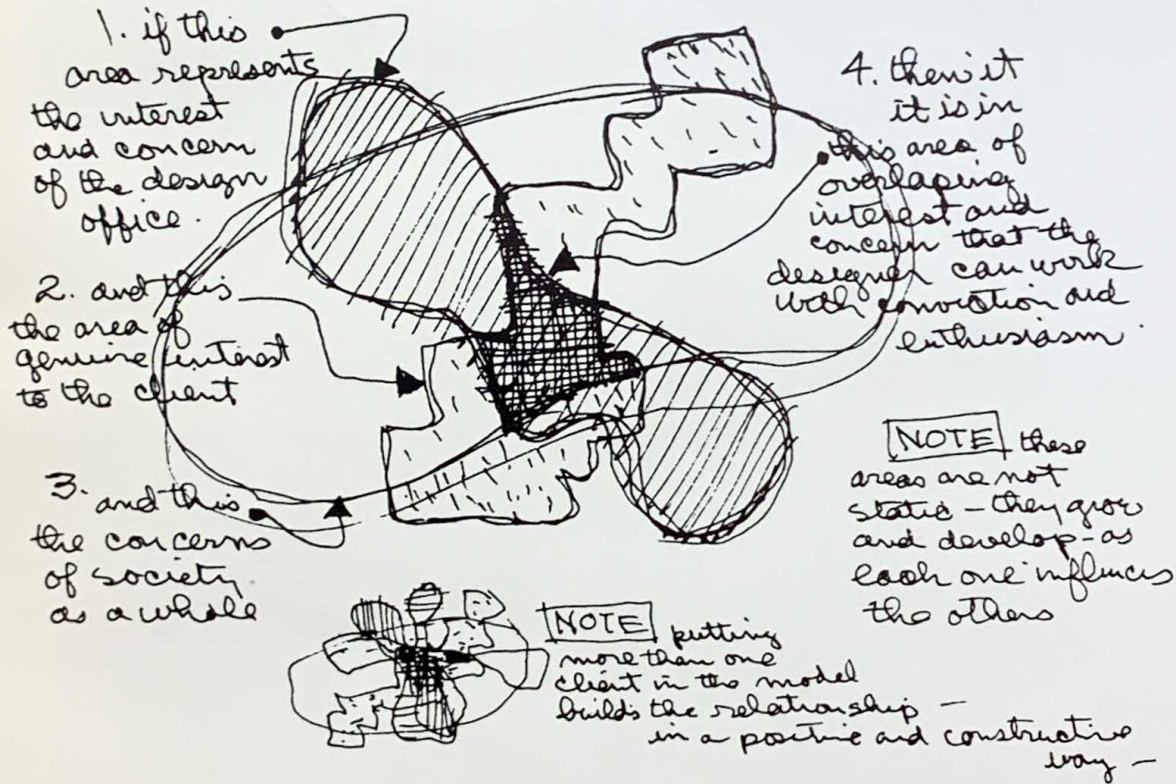


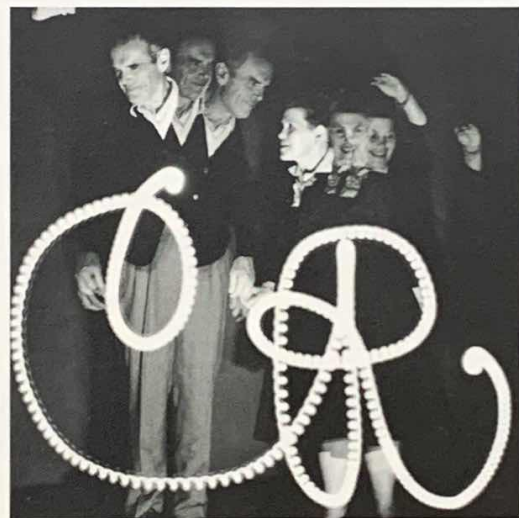
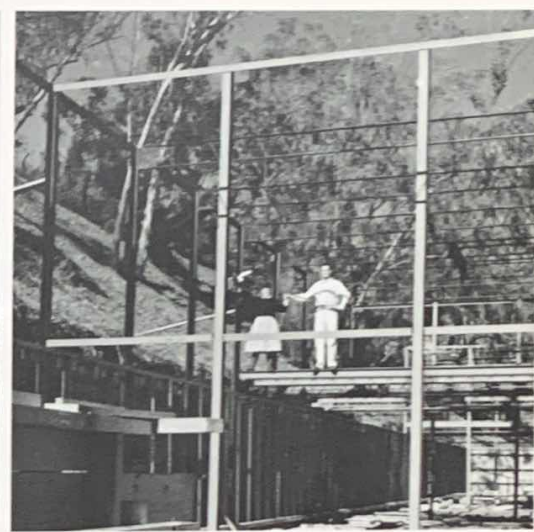


Connections:
The Work of Charles and Ray Eames



Statement of the Eames Design Process by Charles Eames for the Louvre Show, "What is Design," 1969

Over: Eames Work Spaces



Introduction



Five hundred yards from the Pacific surf, you are on inland streets, marked by quiet little houses, empty sidewalks, the long-abandoned tracks of the big interurban trains. A couple of gasoline stations are the only centers of street life: essential Los Angeles. Sky haze and salt scent might still recall the ocean next door there in backstreet Venice. The big high-bay old fleet garage stretches nearly windowless along the tracks. It too is outwardly quiet; even the graphics are muted. A yard-high 901 is the only hint that something notable dwells here: an organism which, like Los Angeles itself, holds a hidden mastery. When the door opens to your ring, you walk into another universe. Facing you is the wall-sized painting of arched and columned palaces, in the manner of the chivalry of Rajasthan, the backdrop favored by Bombay storefront portrait photographers a decade or so ago, commissioned



from its painter by the Eameses in the normal way of the Indian photographer's trade. The bays invite you to the right, down a long axis whose passage takes you from the street past forms and fragments of our world to the furniture shop at the far end, workmanlike with jigs and tools elegant through use.

Your eye might catch the plywood bulge high on the ceiling, big as a room, a wartime essay in scaling up a designer's idea, which took an improvised (and no doubt illegal) hook-up to the high line to give it enough heat. For a while one could enjoy in its marine tank, the small clever octopus dancing on eight tiptoes and graciously fashioning a peacock spot on its body to celebrate the arrival of its human friend with dinner. An octopus is fastidious; it will pine without living hermit crabs to pounce on swiftly. So if you would keep so marvelous a

beast, you need a food chain of tanks: one for the octopus, one for the crabs and their shells, and one to feed them in their turn: all in the careful balance of the tidal pool. Or you may be diverted to look at color slides, stored by the ten thousand. The close-up shots of the manuscript of Copernicus might represent that rich treasure. Its proud custodians did not believe you could shoot half the day from only a few leaves of the sparingly opened volume, but that way Charles brought home an evocative harvest.

Such is the nature of the Eameses' work, and of the display which celebrates it. The good technician, engineer or scientist must work at depth, for he is disciplined by the thing itself. But he typically neglects to examine his work in search of beauty. He leaves the surfaces careless, the details slighted, the context taken for granted. The good designer does not make that set of errors, but he does not often enter the depths. His limits lie there: where he falls short, he is likely to remain superficial, his beauty a gloss, his comments graceful, but without penetration. It is the painstaking genius of the Eames Office to enter the depths of understanding and control, without once forgetting the eye of the beholder. Roots, blossom, and fruit: all three.

The center of concern is the matter itself, but it is never left out of focus, or the wrong color, or without history and surround. I carry with me very often a print of the film "Tops." It shows among fifty shots, a thumb tack spinning on the blue-line print of a familiar drafting board and two of the ponderous painted-metal humming tops out of a high Victorian Christmas dream. But because it intimately shows real tops, so carefully set spinning, so diversely searched out, it can stand in my world for

something it can not show at all: the unseen enormous tops of the stars, pulsars and quasars far in space. Because the film is beautiful, visually and humanly, in engaging color, with a score which enchants the ear while the eye is fed, it is never tiring, never commonplace. It brings flower and fruit from honest roots.

If there were an earth resources satellite which could pick up the most valuable of earth's resources, the human ones, it would record a bright glow every time it passed over Electric Avenue! I am glad we celebrate the Office of Charles and Ray Eames here in this exhibit; I hope the people who are that Office find pleasure too, but I expect they will not be able to take much time out of their busy schedule. Never mind: it is we who have to learn what we can about a process which insists that the building of human delight is a high, serious and yet playful matter.

Phillip Morrison
Massachusetts Institute of Technology
September 1976

Making Connections: The Work of Charles and Ray Eames

by Ralph Caplan

In the narration he wrote and recorded himself for a film he and Ray made to explain a storage system they designed, Charles Eames says, "The details are not details. They make the product. The connections, the connections, the connections."

Nothing he or anyone else has ever said or written comes closer than that to the heart of the work, and thinking, and convictions. And nothing anyone has ever said or written comes closer to describing the pattern of the Eames design practice, which might be defined as the art of solving problems by making connections.

Connections between what? Between such disparate materials as wood and steel, between such seemingly alien disciplines as physics and painting, between clowns and mathematical concepts, between people—architects and mathematicians and poets and philosophers and corporate executives.

Perhaps this is as good a place as any to call attention to the connection between Charles and Ray Eames. They are husband and wife and they are full collaborators, as they have been since the early forties. This in itself is hardly remarkable: design is rarely a solitary activity, and husband and wife teams are not uncommon. But the collaborative nature of the Eames work is easily obscured

by the enormous public recognition of Charles as an individual designer and thinker. While he and Ray have justly shared many honors, many others have justly come to him alone. He is the spokesman for the two, the public figure, and that fact dictates the use of masculine singular pronouns at times. Ray Eames, however, plays a personal and essential role in every design decision. They design together, and with their staff.

There have been great designers whose professional lives were bound up with the search for a unified field theory of design, a single underlying explanation of the designer's role in society. I doubt that Eames has ever thought in these terms. Instead of an umbrella effect he has sought an umbrella form—that is, an assembly of components that have had to be forged and linked in his own shop.

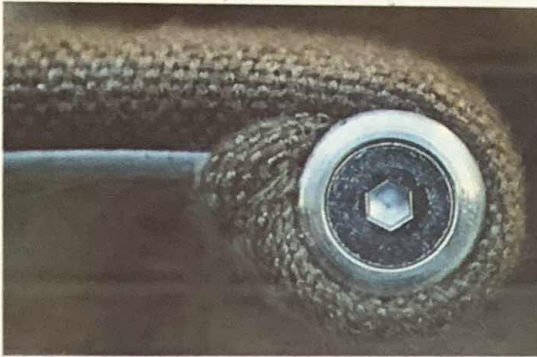
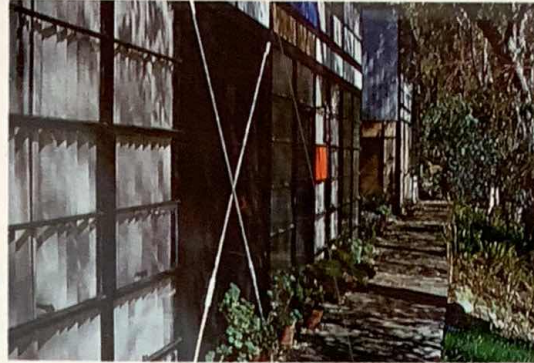
Eames designs are anything but ambiguous. They are characterized by the kind of clarity people looked to photography for when the art was new. This clarity is never confused with severity; there are no easy geometric solutions. Rather the designs have a quality of being "in focus" that may derive from the defensibility of each detail. The film called "Think" contains a scene in which a group



Charles Eames, George Nelson, Jack Masey

Alexander Girard, Robert Staples

Exterior of Eames house



Aluminum chair detail

Franklin and Jefferson Exhibition, Paris

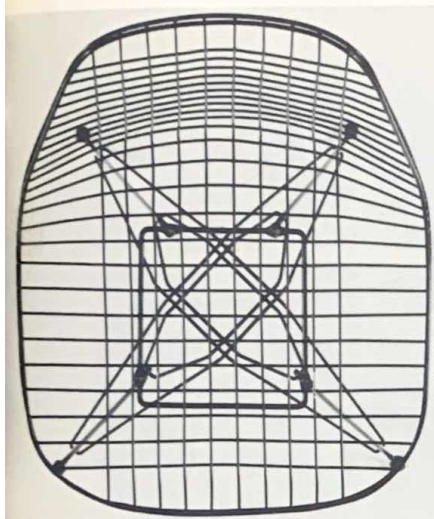


Ray Redheffer, Charles Eames

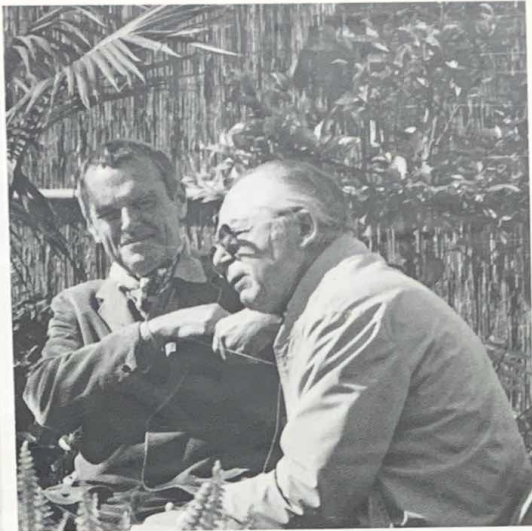


House of Cards

Plastic chair with Saul Steinberg drawing



Wire chair



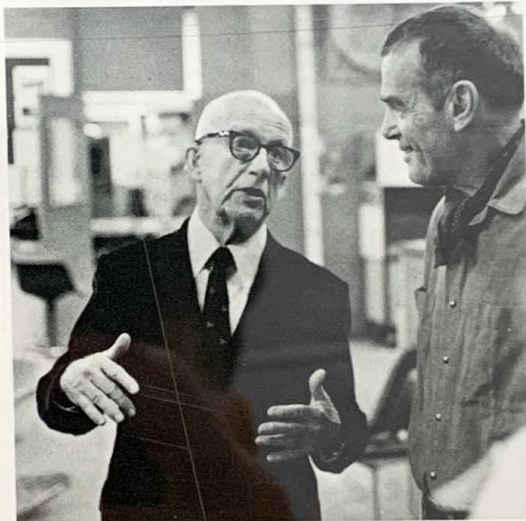
Charles Eames, Billy Wilder



Eli Noyes, Ray Eames, Charles Eames, Deborah Sussman, Glen Fleck, Eliot Noyes.



Ray Eames



Buckminster Fuller, Charles Eames

Alvaro Saarinen, Charles Eames

Eames house interior



Charles Eames, Elmer Bernstein



Charles Eames with Herman Miller

Charles Eames, Don Albinson



of scientists are discussing the role of computer technology in scientific inquiry. Some of their discussion is certainly too abstruse for lay viewers to follow in detail, and it is not necessary or even desirable that they do; the film's point comes through at least as well without it. But if they *could* understand it in detail they would recognize it as the real thing and viewers sense that.

In product design as well, the rigorous attention to detail results in a formal clarity that can be betrayed by exhibition. When a large number of Eames products are shown together just as products, the effect is surprisingly undramatic. The whole seems less than the parts. Each design, as one recalls it, was startling at the time it appeared; each was received almost as if it had been sent for. Yet because they have been so thoroughly assimilated into our lives and culture, they are almost anti-climactic on show. Even the Quadraflex speaker, considered too extreme, too visually dominant for the high fidelity market in 1959, is absorbed comfortably into exhibit surroundings. To truly see the products it is essential to see the process, and that means seeing the connections.

The concept of connections is, according to Eames, intrinsic to design and architecture. It is also intrinsic to understanding the work of the Eames Office, but not to defining it. The "Connections" exhibition, surely the fullest public display of the work ever presented, is not definitive. It is, as far as I can tell, designed *not* to be definitive. Designers John and Marilyn Neuhart have resisted the curatorial urge to "place" Eames and have tried to do something much more difficult, but much more rewarding if they pull it off: to show how the work goes—which is to say, how the work goes *together*. It is,

then, an attempt to exhibit process. The most important thing to say about connections is that they are made. The most important thing to show about connections is where and how they are made.

So while the show is divided into the categories of furniture, films and exhibitions, these divisions are less interesting as a description of how the work breaks down than as an opportunity to see how it builds up. The work of the Eames Office is both broader and narrower than those classifications indicate. Broader because it includes a great many designs that do not fall into those categories; narrower because Eames's concern is never furniture, film or exhibition as such, but always the problem underlying them. In that sense there is a unifying theme: problem solving.

Although the stuff is spread out through the galleries to be seen and experienced, what the exhibition displays are not goods and services but signs along a continuum of process. A good deal of the connective tissue is photographic, appropriately since the subject itself is largely pictorial. Charles Eames is one of our master photographers and the skill and taste and imagination he brings to that discipline inform all of the designs shown here. Cameras are as common in the Eames Office as pencils are. People and events within the shop are photographically documented as a matter of course, not just to record but to enhance experience; the care of the art photograph is here combined with the immediacy of the snapshot.

We are not accustomed to considering art as a problem-solving process. That's just as well, because usually it isn't. The craft and art of Charles and Ray Eames solves problems without trying to obliterate all trace of them.

plained that, after seeing it, they still didn't know how a computer worked. Others complained that it carried a subversive message: "the human brain is just another IBM machine." Still others claimed that now, at long last, they knew how computers worked.

Perhaps they did, but not from that presentation. A major problem in exhibition design is the extent to which audiences come prepared to get the information they expect, on the basis of the exhibition's sponsorship. It is natural to expect IBM to explain computers and say nice things about them. Frequently IBM does both, and frequently Eames helps. (Other Eames exhibits in the pavilion did explain how computers worked and why having them is desirable.)

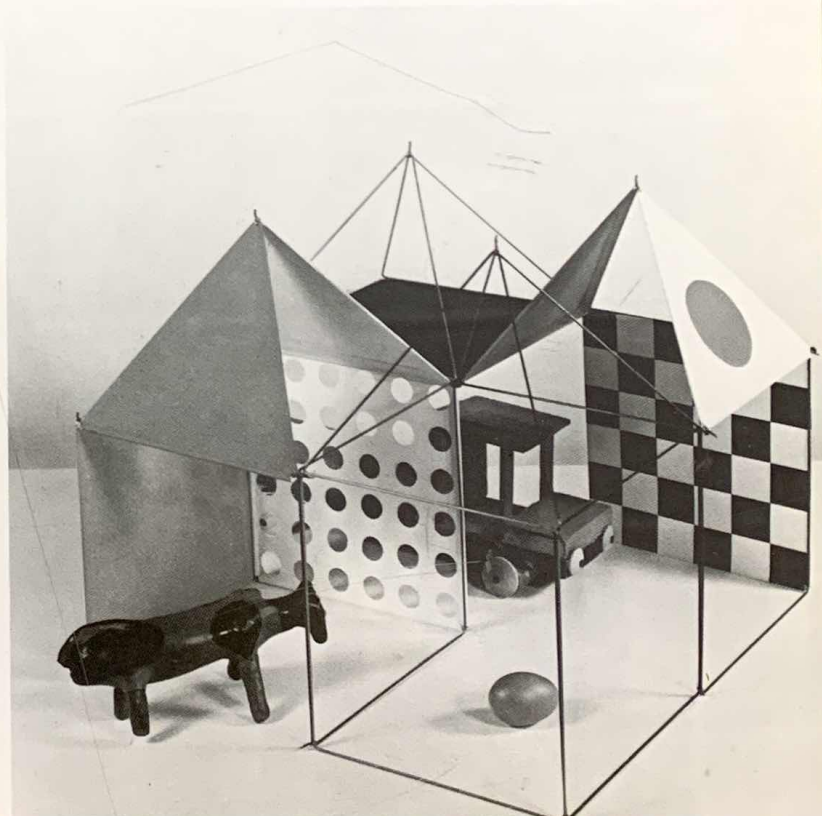
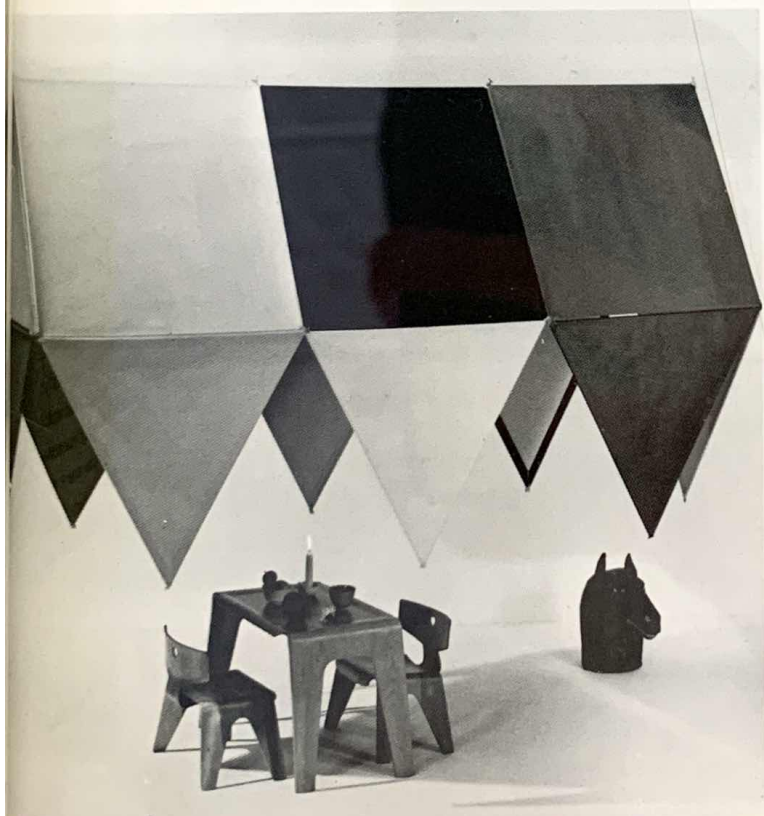
Just as their chairs are so strongly influential as to obscure the fact that they are not primarily chair designers, Eames science films and exhibitions are so strong as to obscure the fact that they are not primarily interpreters of science. Their films have dealt with such subjects as: how Mexican culture comes to terms with death ("Day of the Dead"); the spirit of the 1950's (a series of short films encapsulating a decade for CBS television); a fully developed proposal for a national aquarium, elevating the project from a Washington tourist attraction to the opportunity for a sustained experience in aesthetic and ecological sensibilities ("National Fisheries Center and Aquarium"); an examination of what happens when two cultures are knocked together, as with Commodore Perry's 1853 "opening of Asia" ("The Black Ships"); the life of Nehru and its meaning for India ("Nehru, his life and his India," an exhibition); a proposal for a central guide to the Metropolitan Museum of Art (conceived in terms of the Museum's initial mandate); and

the thinking of Benjamin Franklin and Thomas Jefferson (U.S. Bicentennial Exhibition: "The World of Franklin and Jefferson").

The connections, the connections. It will in the end be these details that...give the product its life.

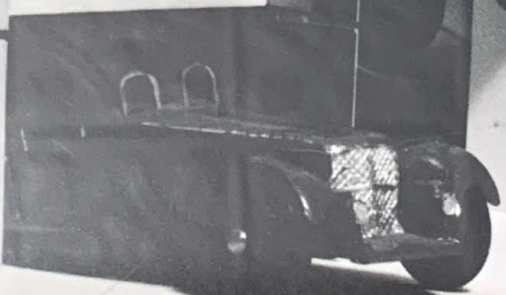
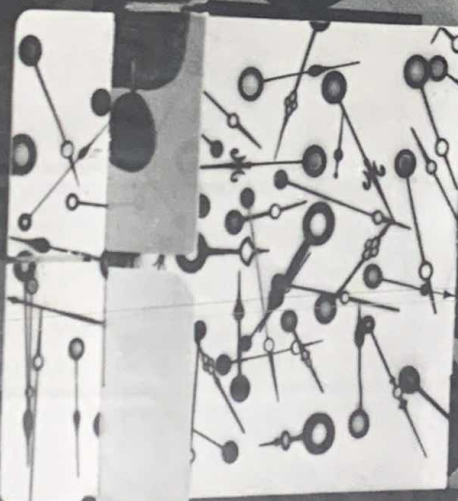
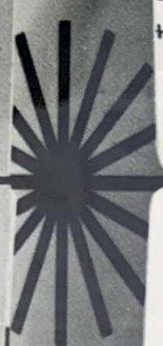
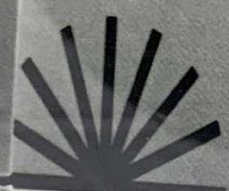
Again, Charles Eames talking about furniture. Again, the message applies equally to the work of the office as a whole. In the aluminum group chairs the seat pad's two outer layers of fabric and an inner layer of plastic foam are combined through electronic welding. The entire seat pad is stretched across a two-sided die-cast aluminum frame that is cylindrical at top and bottom. The ends of the seat pad are turned up over the cylinders in each corner and held by tension. Supported by metal only at the corners and sides, the fabric seat is a slung bolt of softness juxtaposed against the elegant hardness of the frame. Both qualities are visible and palpable; end and means are equally discernible and almost indistinguishable from each other.

Their designs for play — the House of Cards, The Toy — are never prescriptive play products; they are invitations to connect. You (child or adult) accept the invitation at some risk. There will be difficulties, limits, pains as well as pleasures of discovery. (Life may be modular but it isn't neat.) Things fall apart; the center will not hold until the parts are put together in a disciplined way. Because play is intrinsic to meaningful work, the toys are not separate. The earliest plywood furniture included children's furniture. The toys are objects for living and are





D X J T
H A W
S N R



not subordinate to other objects for living. They work.

The payoff in these toys is simply the *understanding* of payoff, the realization of rewards that are not immediate. To perceive that may be, in educational terms, to make the most important connection of all.

And the payoff is a *connection*. No arbitrary reward for good behavior, it is tied inextricably to the experience that generates it. This is why, when consulted by a Massachusetts Institute of Technology as to the best way to infuse their technologically heavy curriculum with art, Eames rejected the idea of additional art courses or fine arts programs as "an aesthetic vitamin concentrate." Instead he designed an alternative situation, a program for enriching the student's (and the university's) communicative capabilities to the point where they could experience the aesthetic possibilities of *their own discipline*.

The situation he designed had two essential parts. The first called for each academic department to include a unit of teaching assistants whose first allegiance was to the departmental discipline but who also were gifted and trained in film, graphics, and writing. Their responsibility was to produce packets of current information that would keep everyone within the department aware of what was going on. The best of the packets would be made available outside the department, and the best of those would be distributed outside the university.

Work done by these units was to be "insight motivated, *arriving* at as well as *conveying* insight," thus precluding the creation of still another campus media center to prepare slides on demand from instructors who wished to beef up non-visual material. Not that no technical service center would be needed; clearly one would. But it would be designed to service the twenty-five or so professional



Child's molded-wood furniture and animal, 1943



units.

The beauty of the scheme is that it allows for the introduction of aesthetics as required for pleasure and communication, not just as another base to be touched before a student is home safe.

The second part would involve each student; for each, near the end of his M.I.T. career, would join one or two other students in teaching something of their major specialty to an elementary school class for a semester. The teaching could take the form of films, exhibits, lectures, games, models—whatever the team needed to make what they knew and understood meaningful to children. "...If the M.I.T. student is going to learn anything about art," Eames argued, "he will learn it here."

The entire design repudiates conventional approaches to the same goal. These mainly consist of three kinds of programs. One gives students massive doses of high art (no one gets a diploma without taking "appreciation" courses to guarantee that he has heard, if not listened to, Beethoven's Ninth Symphony and looked at, if not seen, a Dutch Master or a reproduction of one). Another is an egalitarian attempt to "reach the student where he is" by running him through courses in rock and roll, horror movies, great graffiti of the sixties, etc. A third is the studio approach of encouraging the student to "do it himself" on the grounds that his "it" is as aesthetically valid as anyone else's. (It may be, but it is not as aesthetically rewarding.) The Eames design calls for appreciation through the experience of searching out the aesthetic character of the student's own discipline. It also includes another favorite Eames idea: the university as a found object, a collection of traditions and facilities already on hand that can be transformed by fresh perception.

The M.I.T. proposal, although difficult to exhibit, is no less a designed product than the chairs, the tables, the chests, the splints, the house, the toys, the films, the exhibitions. And it is characteristic of the direction in which both Eames and design generally appear to be moving. Much of Charles' current activity has to do with designing situations rather than products, dealing with social issues in India, the economy of Puerto Rico, the public responsibility of the Metropolitan Museum of Art, the structure of "Headstart" programs.

Yet don't the hypothetical situations designed by Eames call for actual Charles and Ray Eameses to carry them out? Not necessarily. All the years they have been dazzling us, they have simultaneously been instructing us. Twenty years ago it looked as though the design legacy of Charles and Ray Eames was going to be an approach to furniture and architecture that, like the semi-conductors it anticipated, used advanced technology to achieve lightness. The lightness in turn made mass-produced objects personal not by "personalizing" them but by incorporating free individual use into their design. As the English critic Peter Smithson wrote, "Eames chairs are the first chairs which can be put into any position in an empty room. They look as if they had alighted there...The chairs belong to the occupants, not to the building"

However much contemporary design owes to such Eames influences as that, I suspect that the design *thinking* is an equally important contribution and will be acknowledged as such. Eames has never written a book (although the "Computer Perspective" exhibition was adapted to book form). However, his highly original thinking has been deepened and refined through the years in



Circus Images from the Charles Eliot Norton Lectures, Harvard, 1970

the form of lectures supplemented by films or vice versa.

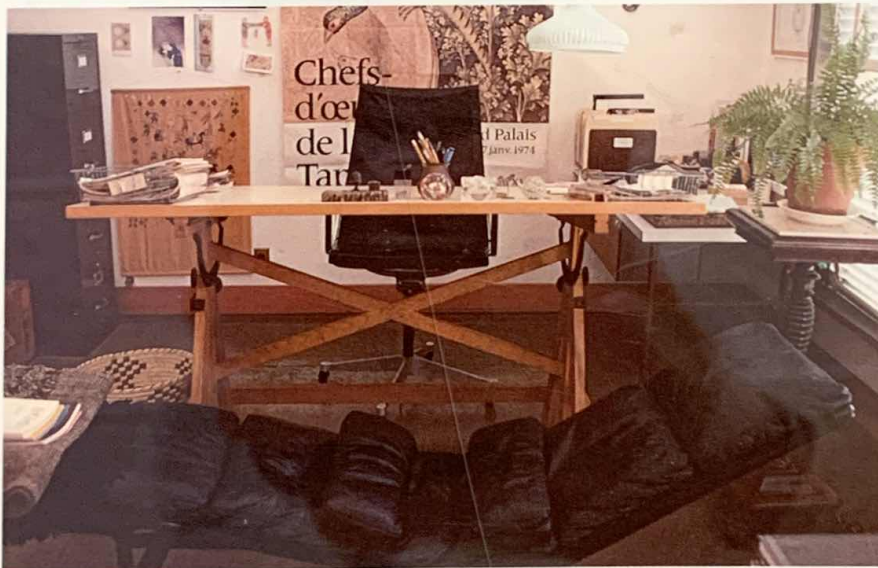
During 1970-71 Charles was the Charles Eliot Norton Professor of Poetry at Harvard, an honor that gave him an opportunity to distill his thought into six illustrated lectures, each loaded with nuggets of film and anecdote. Among the best of them, and central to his philosophy, was a consideration of the circus as an example of apparent license on the surface of a phenomenally tight discipline.

In the *Bulletin of the American Academy of Arts and Sciences* Charles wrote:

The lay-out of the circus under canvas is more like the plan of the Acropolis than anything else; it is a beautiful organic arrangement established by the boss canvas man and the lot boss. ...The concept of 'appropriateness,' this 'how-it-should-be-ness,' has equal value in the circus, in the making of a work of art, and in science.

Charles and Ray once considered giving up design and joining a circus. While it is good for us that they did not do so, it is also good for us that they considered the matter so carefully and put their perception of circus lore and philosophy on film. The circus is the perfect example of the tenets they most prize: it looks like self expression and is not; it pushes against limits; it derives an aesthetic out of a disciplined mastery of details, and of the connections between them. More important, it is, for all those reasons, fun in a very high sense. Because it is performed by people who do what Eames recommends we do: take pleasure seriously.

The circus is the epitome of situation design, a classic situation that has evolved as a chef's knife has. It is a lucid and responsive model for understanding what business these two master designers really are in and why it matters so much.



Ray Eames' desk, Charles Eames' desk, 1976

