FURNITURE BY CHARLES EAMES AT THE MUSEUM OF MODERN ART

CHARLES EAMES, FURNITURE FROM THE DESIGN COLLECTION, an exhibition that traces his technological and design innovations from 1940 to the present, will be on view at The Museum of Modern Art from April 17 through July 1.

Drawn entirely from the Museum's own collection, the exhibition includes more than 50 objects -- 39 chairs as well as examples of multiple seating, tables, and storage units. It is directed by Arthur Drexler, Director of the Museum's Department of Architecture and Design.

"The most original American furniture designer since Duncan Phyfe, Charles Eames has contributed at least three of the major chair designs of the twentieth century," Mr. Drexler writes in the accompanying catalog.* "He has also given a personal and pervasive image to the idea of lightness and mobility. His work has influenced furniture design in virtually every country, and his mastery of advanced technology has set new standards of both design and production. The first of his chairs, executed in collaboration with the architect Eero Saarinen (1910-1961) emerged from a 1940 Museum of Modern Art competition. Since then furniture by Eames has been mass produced in quantities that must now be counted by the millions, and more than 50 examples of his work have entered the Museum's Design Collection."

The first prizes for seating and other living room furniture won by the team of Eero Saarinen and Charles Eames made use of plywood shells, not bent in one direction, as had already been done by Alvar Aalto and Marcel Breuer, but molded in two directions. The double curvature allows the use of thin

veneers laminated to layers of glue and achieves great strength with little weight or bulk. The molded shells were lined with layers of foam rubber and upholstery cloth. "Organic" in the sense that seat, back, and arms are all of one continuous element and cannot be altered without damaging the whole, only the legs are treated as separate interchangeable parts. The legs were originally intended to be joined to the plywood shell by cycle-welded flexible rubber mounts. The first models had to substitute more conventional details because cycle-welding was a new process reserved for war-time use.

The molded plywood side chair with which Eames achieved worldwide renown entered production in 1946 and has since been continually manufactured by Herman Miller Inc., along with his later designs. Charles and Ray Eames' own experiments in molding plywood continued from 1941 to 1948 (and led to a commission from the U. S. Navy to produce molded plywood stretchers and splints). The objective was primarily the resolution of technical problems but aesthetics played an almost equally important part. Eames and his associates seldom work from drawings: preliminary sketches, according to Eames, have consisted mostly of rough notes meant to indicate a general configuration. Designs are worked out at full scale, the compound curves of seat and back elements being developed over closely spaced templates. This method allows frequent tests for comfort, and construction drawings for the metal molds that will later be required for mass production are made from the templates themselves.

Other Eames chairs in the exhibition are of molded polyester reinforced with glass fibers, of formed wire, and of polished die-cast aluminum. Upholstered chairs include the lounge chair with ottoman and an upholstered lounge chair light enough to be lifted by a finger.

Usually referred to as the "aluminum group," these very light chairs
Eames introduced in 1958 use the thin, flat profile which first appeared in his sofa. But here the seat and back are made as one continuous plane slung between structural ribs of die-cast aluminum.

Perhaps the most interesting technical development is the seat itself, a "sandwich" consisting of front and back layers of fabric or vinyl, and an inner layer of vinyl-coated nylon fabric supporting a 1/4" thick layer of vinyl foam. This combination of materials is welded together through pressure and high frequency current. The welds occur at 1-7/8" intervals, appearing as horizontal ribs or stripes on both sides of the pad.

Although modern chairs are as comfortable as those available to polite society in the 18th century, few modern furniture designers have been able to invent new forms for the kind of comfort provided only by well-padded cushions in generous sizes. Eames is the only designer to attempt a lounge chair which would surpass in comfort anything an English club can offer, and to achieve this comfort in formal terms consistent with his lighter, more casual designs.

The lounge chair consists of three rosewood shells padded with leather cushions. These are filled with a mixture of down, latex foam, and duck feathers. The chair pivots on a five-pronged base of black aluminum with polished top surfaces. An ottoman of similar design allows the chair to be used almost as a chaise.

It is characteristic of Eames' furniture that it can be scattered or clustered but need not be formally aligned, affording a flexibility of use that has been much appreciated by his fellow architects. "I think of myself officially as an architect," Eames has said; "I can't help but look at the problems around us as problems of structure -- and structure is architecture."

Eames' approach to architecture is seen in photographs in the show of his
own California house built in 1949. This involves a cheerful acceptance of mass produced materials. Stock window and door elements, normally used in the construction of factories, were combined with steel columns and open web joists, all ordered from their manufacturers' catalogs. Notwithstanding minor modifications made to some of these parts, the house is a collection of ready-mades anticipating "The Whole Earth Catalog," that compendium of engaging and oddly useful products first published in 1968, Mr. Drexler notes, adding that this promising lead remains to be explored.

The Eames side chair, in both dining and lounge heights, employs steel rods to form both the front and back legs; another rod makes the connecting spine which also carries the backrest. Rubber shockmounts bolted to the metal frame and bonded to the wood give the entire chair a comfortable resilience which is part of its strength.

The 5-plywood panels, molded in compound curves, are less than 1/2" thick. Part of the elegance of this design must be attributed to the contours of the seat, and, even more, the back panel, Drexler observes. Eames himself cites the hundreds of studies discarded because the contours of these two elements somehow attracted undue attention. The back panel might be described as a rectangle about to turn into an oval, the transformation being arrested at a point midway between the two shapes. "Ambiguous but not bland, the shape is instantly seen as a whole, with no part of its contour catching the eye. The curve of the seat flares more emphatically and from certain angles gives the chair a curiously animated look," Drexler says.

Among the many experimental models in the exhibition which were not produced but are important in revealing the development of Eames' ideas are three-legged dining chairs and a low wood lounge chair on a tubular metal
till-back base. Drawings from the Museum competition in which Eames won
prizes in 1940 (with Saarinen) are also shown.

Charles Eames was born in St. Louis in 1907. After studying architecture,
he opened his own architectural office in 1930. In 1936 he accepted a fellow­
ship and later a teaching post at the Cranbrook Academy of Art in Michigan.

In 1941 he married Ray Kaiser, who had assisted in preparing competition
drawings for The Museum of Modern Art. In that same year they moved to
southern California, where they worked to develop low-cost techniques for
wood lamination and molding. Ray Eames has since been closely associated
with furniture design and the production of films and exhibitions which
have become a major activity of the Eames office.

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Checklist, photographs, transparencies, catalog and additional information
available from Elizabeth Shaw, Director, Department of Public Information,
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