

THE MUSEUM OF MODERN ART

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No. 83

For Release

Tuesday,

September 22, 1959

Press Preview:

Monday, Sept. 21,

11 a.m. - 4 p.m.

An exhibition of three revolutionary structures will open to the public in the Museum of Modern Art outdoor exhibition area on Tuesday, September 22. Designed by Buckminster Fuller the three structures are: a 100 foot long space frame of aluminum anodized gold; a green plastic dome 55 feet in diameter, and a 40 foot high aluminum mast.

These structures of unusual lightness, strength and beauty illustrate Mr. Fuller's patented construction ideas which are based on mathematical formulas and follow patterns found in nature to utilize in an unconventional way the forces of compression and tension on which all buildings depend. The application of his principles could lead to architecture of an entirely new appearance and character.

The exhibition, which will remain on view throughout the winter, is under the direction of Arthur Drexler, Director of the Museum's Department of Architecture and Design.

The space frame, contributed to the exhibition by Aluminium Limited, is a roof 100 feet long and 35 feet wide cantilevered 20 feet above the ground on a single support. It is made of 2,380 aluminum tubes fitted with cast aluminum connectors at both ends. Each tube and its connectors weigh only 3.7 pounds and can be handled by one man.

Fuller calls the space frame an "Octet Truss" because it is constructed by arranging the aluminum tubes in a combination of eight-sided figures (octahedrons) and four-sided pyramids (tetrahedrons). Because of the three-way distribution of stresses, this method of construction is extraordinarily flexible. Additions can be made in many directions and supports can be placed almost at random instead of being regularly spaced as in conventional buildings.

Airport hangers, shopping centers, sports arenas and factories are among the buildings whose design could be radically altered by using this method of construction.

The dome, lent to the exhibition by Lincoln Laboratory, M. I. T. is the only one of the three structures on view which is an actual building. Called a Geodesic Rigid Radome, it is used to house radar equipment on the Distant Early Warning Line in the Arctic. It is made entirely of triangular shaped plastic "pie pans" bolted together on the site. Although each single pan is light enough to be handled by one man, and the entire structure has no other frame or support except the pans

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themselves, it can withstand winds in excess of 200 miles per hour.

The dome was one of the first of Fuller's innovations to be widely accepted. More than 1,000 Fuller domes, made of various materials and designed for many different purposes from tank car storage to auditoriums, are now scattered around the globe, including Russia where a Fuller dome was used to house the main section of the American Fair in Moscow.

The third structure in the exhibition, is a mast built by Shoji Sadao and Edison Price, Inc. It is a beautiful web-like column of unprecedented strength in relation to its weight, which demonstrates Fuller's use of discontinuous-compression, continuous tension. He calls this a "Tensegrity" structure, a term he derives from the words tension and integrity. The mast, which weighs only 118 pounds, consists of aluminum and monel rods assembled in such a way that the compression members do not touch each other.

There is no immediate practical application of the "Tensegrity" principle. Theoretically, because Tensegrity structures would have the unusual attribute of getting stronger the larger they are, they could eventually be used in designs of fantastic size and shape, such as domes to cover entire cities.

Fuller, who has just returned from Moscow where he went at the invitation of the United States State Department, is widely respected and admired for a long series of creative ideas. His "Dymaxion" house and car were widely discussed in the 30's, his geodesic map showing the continents without distortion is the first map ever to be patented, and his Geodesic Domes are world-famous.

Future Tensegrity projects Fuller envisages include sky islands, space launching platforms, and underwater islands.

For photographs and further information contact Elizabeth Shaw, Publicity Director, Museum of Modern Art, New York. CI. 5-8900.

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