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The Editor
Encyclopedia Britannica
425 North Michigan Avenue
Chicago 11, Illinois

Dear Sir:

Colonel H. C. Lane, USMC, has written us that you will include in your 1954 Yearbook a picture and comment about the helicopter lift of a fifty-foot magnesium Geodesic Dome.

Although the Marine Corps news releases did identify the dome's authorship, the reprocessed National Defense releases dropped out all names but that of the Marine Corps. A Sikorsky HRS-3 helicopter, Marine Corps "Workhorse", effected the airlift. Fortunately for the record, the Army-Navy-Air Force Journal, 2 October 1954, and other service papers did carry the authorship identity.

The magnesium was given for this project by the Dow Chemical Company, at the instigation of the Magnesium Institute, in the form of sections extruded from designs invented by R. Buckminster Fuller. The license to use Mr. Fuller's Patent No. 2,682,235 for Geodesic Domes, including the specific stress engineering calculations and its manufacturing drawings for this 50-ft. unit, was granted to the Marine Corps, at Colonel Lane's request, free of charge for this one dome. All rights to the invention and its technical information were reserved by Mr. Fuller.

The two dome airlifts of 1954, - that of the 30-ft. diameter plastic personnel shelter furnished by Mr. Fuller to the Marine Corps, prepared for its successful airlifting 28 January 1954 at Orphan's Hill, Raleigh, North Carolina, by students of North Carolina State College, and the 50-ft. magnesium hangar of 4 August at USMC Base, Quantico, Virginia, - were flown by the USMC as a result of Mr. Fuller's suggestion to Colonel Lane that this was possible and appropriate to the Marine Corps' needs.

The airlifts were made possible by the gradual but orderly evolution of Mr. Fuller's research and development, initiated in Chicago in 1927, which set about in 1927 to find means of developing shelter of such high performance per pounds of invested resource that structures could be delivered by air and thus avoid the needle's eye dimensions of grounded traffic and their plurality of frustrating and uneconomic exigencies. If airlifted, they could enjoy complete assembly in jigs at preferred economics foci and under all the attendant effectiveness and economy that have for centuries characterized the science and art of ship building, first for the liquid ocean and secondly for the air-ocean launchings.

As this undertaking involved a program of more than a quarter of a century, its first decades were frequently characterized by critics, as "impractical". Now that its ultimate and long distance anticipated practicality has emerged on schedule into dramatic evidence, it is Mr. Fuller's vigorous conviction that it is another eminently practical matter that the attention of our economy should be drawn to the fact that quarter, one-third, and one-half century research planning on the part of individuals and private enterprise, in addition to customary short-term investigations, may be undertaken to broad profit. He, therefore, requests that if this event is to be reported, that it be so reported in context rather than as a "quickie" fragment.

On the day on which this 50-ft. magnesium Geodesic Dome airlift occurred, the first successful, vertical, untethered flight of the "Pogo Stick" Convair SFY-1 Fighter plane, was made by the U. S. Navy. Pictures of the dome lift and the "Pogo" flight were shown side by side on the front page of the Washington News, 5 August 1954. These two pictures also appeared side by side in the London Illustrated News, 14 August 1954. To their editors, this was coincidental. However, the fact is that the approaching probability of vertical flight occasioned the Marine Corps' advance base strategists to realize that vertical flight eliminated airstrip requirements and provided approximately instantaneous redeployment and greater dispersal, both winning advantages, - but there was one canceling factor of the advantage: the more vertical, controlled, and swift the flight, the more on-the-spot ground support, technology, technicians, science, and scientists were required to be present and housed.

Housing, whose overweight, laggard, inefficiencies has always straggled along with the tail-end expediencies rummaged from the priority cellars, was now in the emergency spotlight. As Colonel Lane's report will disclose, it was at this point that the Marine Corps contacted the Fuller research program which had had this problem specifically in treatment for the last twenty-seven years. The accomplishment of the dome airlift synchronously with the initial flight of the "Pogo" was, therefore, intimate beyond the knowledge of the editors who published them. Omni-deliverable housing by sky route was finally realized on schedule with the arrival of vertical flight, - and this no-air-strip vertical take-off, - as essential to practical servicing of the new ranges and remote installation of air-deliverable structures was a well documented and component function of the family of baaic assumptions adopted for his research program by Mr. Fuller in 1927.

Faithfully yours,

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Enclosures: "U.S. Marine Corps Light-Weight Shelter Study", and "Dymaxion Index"