

The Prescient Vision of a Gentle Revolutionist

By [ALICE RAWSTHORN](#) MAY 12, 2013



A simulation of the dome at Port-Viguerie, where it will be reconstructed for the Toulouse International Art Festival, opening May 24. Buckminster Fuller Institute

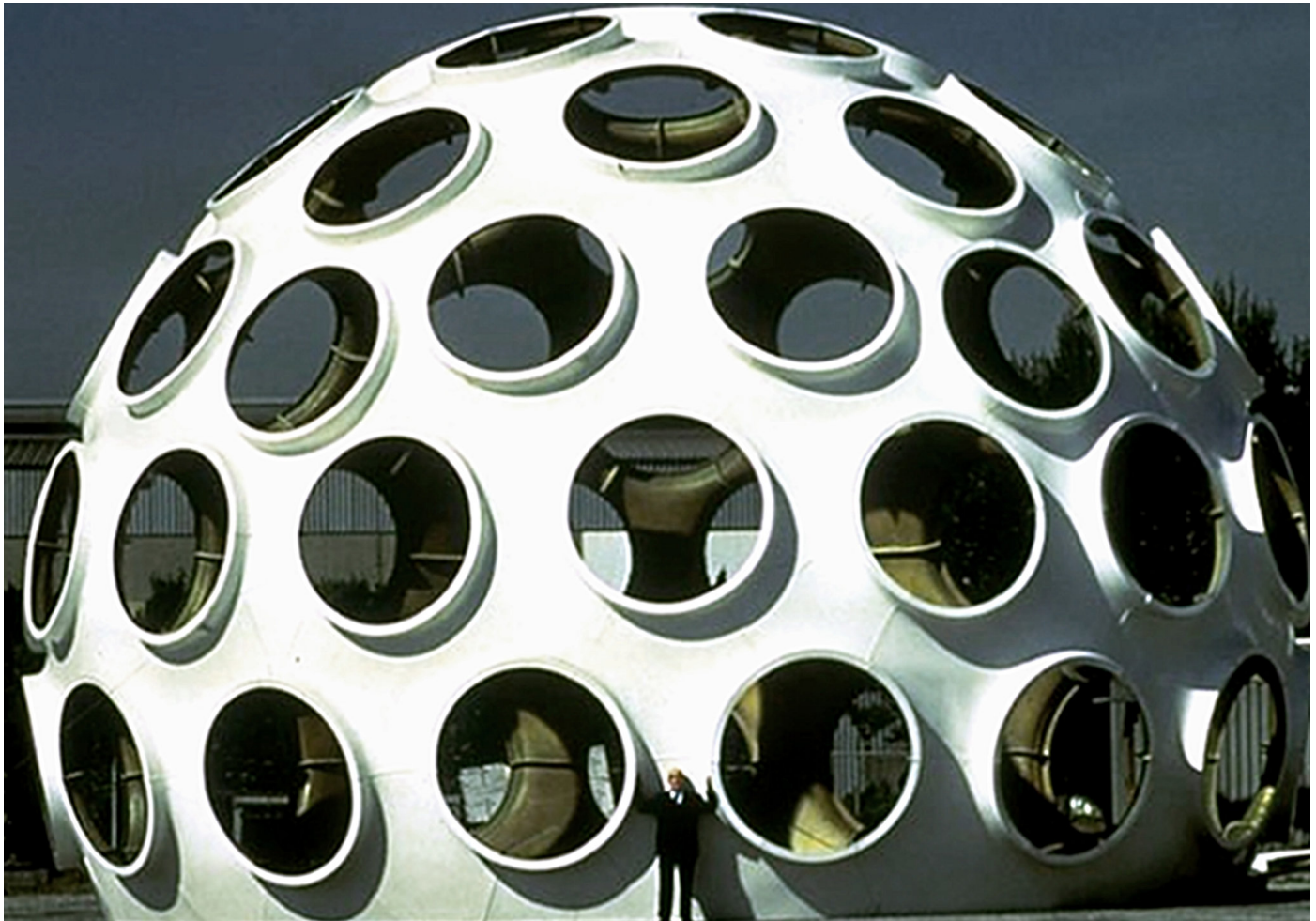
LONDON — If you were an ambitious young architecture student, would you risk sacrificing your summer to attend a course taught by someone described as a “substitute for a legitimate architect,” whose housing company had recently gone bust? Probably not, especially if you knew that he had been given the job as a favor from a friend, who happened to be the director of the art school, which was running the course.

Judging by the outcome of the first course to be taught by Richard Buckminster Fuller (alias the “substitute”) at Black Mountain College, North Carolina, in summer 1948, your skepticism would have been justified. Fuller’s

efforts to encourage the students to design and build a self-supporting spherical structure failed so dismally that his charges nicknamed it the “Supine Dome.” But when he returned there the following summer, his second course was such a triumph that the dome he created with the students marked the start of one of the most successful humanitarian design projects in history.

Fuller strove to improve the design of the “geodesic dome,” as he called it, for the rest of his working life, and completed three prototypes of what he considered to be the most satisfactory version — dubbed the Fly’s Eye Dome, because of the shape of the giant holes puncturing its surface — a few years before his death in 1983. The biggest of the three, a 50-foot, or 15-meter, dome, was exhibited during the 1981 Los Angeles Bicentennial, then disassembled and dumped in a field. Now fully restored, its components will arrive in the French city of Toulouse on Monday to be reconstructed for the Toulouse International Art Festival, opening May 24.

The dome has been lent to the festival by its new owner, Robert M. Rubin, a former Wall Street commodities trader, whose eclectic collection of Modernist design includes Pierre Chareau’s “Maison de Verre” in Paris and one of Jean Prouvé’s “Maisons Tropicales.” The dome is to remain in Toulouse for three years, providing a tantalizing opportunity to explore one of Fuller’s masterpieces.



Richard Buckminster Fuller standing in front of the Fly's Eye dome in 1980. Tom Vinetz/Buckminster Fuller Institute

Gutsy, eccentric, uncompromising and so loquacious that he once lectured for 42 hours on “Everything I Know,” Fuller, or “Bucky,” as everyone called him, was difficult to ignore, yet like many visionaries he was marginalized during his lifetime. One problem for the design and architecture establishment was the dazzling breadth of his interests, which defied classification. A 1966 profile in *The New Yorker* billed him as “an engineer, inventor, mathematician, architect, cartographer, philosopher, poet, cosmogonist and comprehensive designer,” while Fuller described himself as a “maverick thinker,” “gentle revolutionist” and “earthly astronaut.”

Many of his contemporaries were equally suspicious of his checkered track record. Possibly because Fuller came from a wealthy family, he appeared to

be unburdened by fear of failure, which was just as well, because the doomed housing company was one of a litany of flops that included dropping out of Harvard and ill-fated design proposals for a floating city and a flying car. When the students at his second Black Mountain summer school worried about the risk of another collapsing “Supine Dome,” Fuller’s riposte was: “You succeed only when you stop failing.”

Dreamy iconoclasts and heroic failures are more fashionable in contemporary design at a time when digital technology is liberating designers from their traditional commercial roles, enabling them to be increasingly entrepreneurial and idealistic. Many of Fuller’s obsessions, which seemed alien to his peers, are increasingly popular among young designers, especially his concern about the environmental consequences of design, which he first aired in the 1920s.

Omnivorous though Fuller’s interests were, a recurring obsession throughout his career was to optimize the earth’s resources by “doing more with less,” which now seems prescient rather than wacky. Few of his endeavors fulfilled this objective more effectively than his geodesic domes, and the Fly’s Eye Dome in particular.



Restoration of the Fly's Eye dome. Mark Lyon/Toulouse International Art Festival

The development of the domes was rooted in Fuller's mathematical research, but the underlying principles were that the most efficient means of enclosing the largest volume of interior space using the smallest surface area is a sphere, and that the strongest spherical structures are made from triangles. Spheres are also well equipped for use in the extreme climates where emergency shelter is likeliest to be needed, because air and energy circulate so freely inside them that the temperature can be regulated swiftly and efficiently.

By the end of 1949, Fuller had founded a new company, Geodesics Inc., to commercialize the geodesic dome, while taking steps to ensure that the basic design could be copied for free by people in urgent need of shelter. By the mid-1960s, when he began work on the Fly's Eye Dome, thousands of

geodesic domes had been constructed all over the world: from a colossal structure commissioned by the Ford Motor Company, to makeshift shacks cobbled together from scraps of wood, metal or fabric by disaster victims.

Thanks to the “eyes” that absorbed three quarters of its surface and could be used to install doors, vents or solar-energy-cells, the Fly’s Eye Dome did even more with less than its predecessors, and was light enough to be transported by air. Fuller proudly described the result in his 1981 book “Critical Path” as: “a beautiful, fully equipped, air-deliverable house that weighs and costs about as much as a good automobile.”

The 50-foot version has proved surprisingly resilient, even after lying abandoned in that field for years. Mr. Rubin sent it to be restored by Carlson Arts, the Sun Valley, California, company that specializes in fabricating the work of artists like John Baldessari and Paul McCarthy. Any damaged panels have since been replaced or repaired, and Carlson has constructed a new base to support the dome.

When the 50-foot Fly’s Eye was last put on public display in Los Angeles more than 30 years ago, Fuller was filmed perching proudly on the edge of an “eye.” “Sitting here, I suddenly realize that we are doing a very, very great deal with very, very little,” he said. “The dream is really coming true.”

Correction: May 13, 2013

An earlier version of this article incorrectly identified the architect of “Maison de Verre” in Paris. The architect was Pierre Chareau.