

“Radical Curiosity. In the Orbit of Buckminster Fuller” is a journey through the universe of an unclassifiable investigator and visionary who, throughout the 20th century, foresaw the major crises of the 21st century. Creator of a fascinating body of work, which crossed fields such as architecture, engineering, metaphysics, mathematics and education, Richard Buckminster Fuller (Milton, 1895 - Los Angeles, 1983) plotted a new approach to combine design and science with the revolutionary potential to change the world.

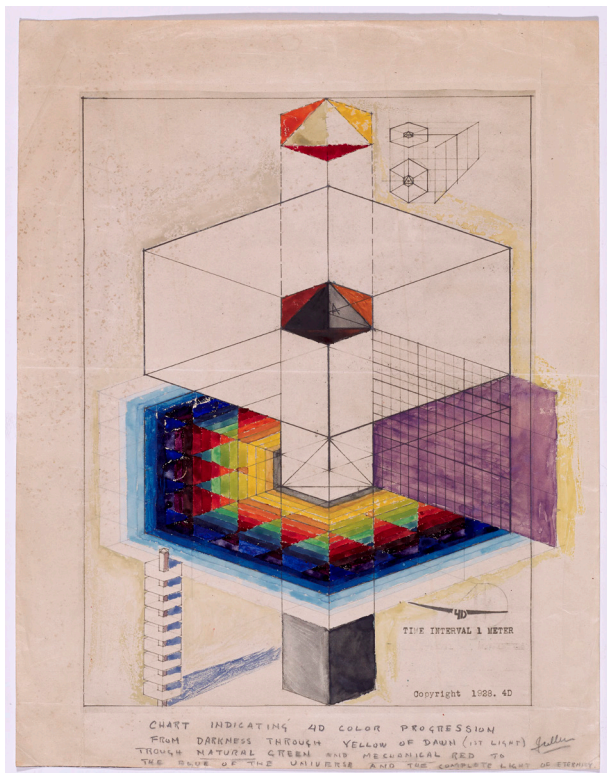


*Buckminster Fuller with the Dymaxion Car and the Fly's Eye Dome, at his 85th birthday in Aspen, 1980*  
© Roger White Stoller

The exhibition peeps into Fuller's kaleidoscope from the global state of emergency of year 2020, a time of upheaval and uncertainty that sees us subject to multiple systemic crises – inequality, massive urbanisation, extreme geopolitical tension, ecological crisis – in which Fuller worked tirelessly. By presenting this exhibition in the midst of a pandemic, the collective perspective on the context is consequently sharpened and we can therefore approach Fuller's ideas from the core of a collapsing system with the conviction that it must be transformed.

In order to break down the barriers between the different fields of knowledge and creation,

Buckminster Fuller defined himself as a "Comprehensive Anticipatory Design Scientist," a scientific designer (and vice versa) able to formulate solutions based on his comprehensive knowledge of universe. From that, he predicted contemporary, anti-disciplinary practices that operated with crosschecking, dissolution and experimental approaches of different areas of knowledge, such as science, art, architecture and design.



*Buckminster Fuller. 4D Tower, 1928.*  
Courtesy The Estate of R. Buckminster Fuller.

Forerunner and inspiration for the tech community of Silicon Valley, as well as reference for the hippie generation, Fuller (also known as Bucky) is a controversial and key figure for understanding the foundations of contemporaneity in all its complexities. His footprint can be seen in current processes such as the building of light, standardised,

emergency housing; the circular economy; architecture based on energy efficiency; biometrics; data visualisation; inspirational conferences and innovation based on multi-disciplinary design. As one of the first “visionary gurus” who travelled the world offering very seductive utopian talks, Fuller’s profound distrust of politics and his faith that technology could provide answers to almost all of the world’s problems are still being felt today on the ideology and discussions over the topic of innovation.

Taking up the concerns and strategies of Fuller and some of his peers, modern researchers still follow the vectors of his ideas. The exhibition includes works by artists, architects and designers such as Olafur Eliasson, Norman Foster, Chuck Hoberman, Andrés Jaque, Gyula Kosice, Joris Laarman, Tomáš Libertíny, Isamu Noguchi, Neri Oxman, José Miguel de Prada Poole, Cedric Price, Abeer Seikaly, Studio Folder and WASP.



*Expanding Fabric Dome, 1997.*  
© Chuck Hoberman, Inventor and Designer.

Many of Fuller’s maxims reiterate his belief that anyone can change the world if they put their mind to it and that we are all crew, not mere passengers, on this extraordinary spaceship called Earth. Taking this principle as a guide for his own life, the mission he set for himself and that he obsessively sought over five decades of work was to “make the world work, for 100% of humanity, in the shortest possible time, through spontaneous cooperation, without ecological offence or the disadvantage of anyone”.

Bucky advocated and led what he called “Design Science Revolution,” a revolution based on research, experimentation and design for the transformation of the world, articulated into three axes: housing (which he called shelter), mobility and education. He would also introduce new concepts, such as Dymaxion (a portmanteau of “dynamic”, “maximum” and “tension”), Tensegrity (neologism, which blends “tension” and “integrity”) and Ephemeralization (the ability of technological advancement to do “more and more with less and less until eventually you can do everything with nothing”). The example that would combine them all was his most popular project: the geodesic dome.



*Dome over Manhattan, 1960.*  
Courtesy The Estate of R. Buckminster Fuller.

To transform the housing system, Fuller developed a mass-produced house that would not depend on land ownership. They were standard, light, mobile and energy-efficient units. Based on tensegrity, a structural principle that consists of isolated components in compression inside a net of continuous tension, his housing model evolved from his Lightful Houses (1927), and the 4D House (1928), constructed around a mast and elevated from the ground, to the Dymaxion Dwelling Machine-Wichita House (1945), a circular aluminum house with 95 square metres of surface area and five metres high, weighing three tons (as opposed to the usual 150 of

a traditional house) and a price tag of 6,500 dollars per unit, the equivalent of the cost of a Cadillac at the time.

In mobility, Fuller offered the Dymaxion Car (1933-1935), a streamlined, three-wheeled vehicle with a length of six metres and capable of carrying up to eleven passengers. For its design, Fuller was assisted by Starling Burgess, a famous naval architect and aircraft builder, and the artist Isamu Noguchi, who crafted the first wood models. Learning based on the natural world was of great importance to Bucky. In this case, he took notice of fish and their navigation system, placing the direction control of the car on the rear flap. Fuller applied his maxim of "doing more with less," using a Ford V8 engine to reach speeds of over 140 kph and travelling 48 km on less than four litres of fuel.

With respect to education, Fuller believed that every child had an innate ability to understand the universe and how its systems work, essential to eradicating educational programmes that repress curiosity and the natural inclination to experimentation. Instead, he favoured an "educational metabolism" based on a transfer of elite knowledge to all children and young people through technologies that promoted concentration and communication, such as community television and two of Fuller's inventions: the Geoscope, a world globe that would show the evolution of data such as population, or resources such as copper or rice; and the Dymaxion Map, an essential artefact for understanding the world. with continents forming an almost continuous island in the middle of the ocean, dispensing with any notion of north-south, east-west.

These two devices are linked to the large project that would absorb Bucky in the last 20 years of his life, the World Game. Preceded by ideas that he had already presented during the 1940s with the World Resources Inventory, the World Game is an ambitious project which set the challenge of compiling data on the world's resources, with the objective of preventing its future evolution and being able to approach



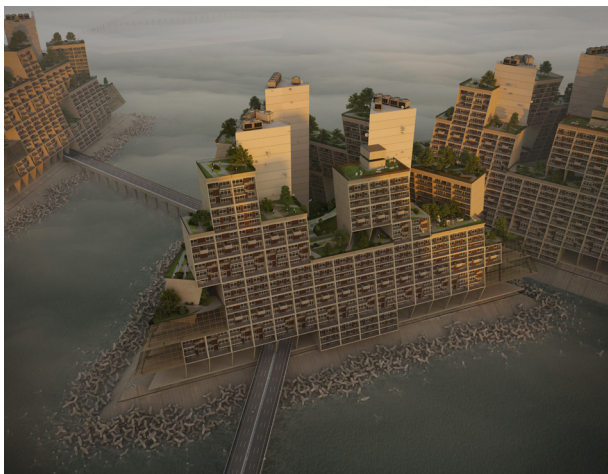
*Reggio School, El Encinar de los Reyes, 2019.*  
 © Andrés Jaque Office for Political Innovation.

a sustainable management of the planet. Bucky involved experts in economics, science, design, art and architecture as well as students from all over the world, in data visualisation and multi-disciplinary research more than four decades ahead of its time. The World Game also anticipated other firmly contemporary notions, such as digital democracy, and “gamification,” the application of typical game playing logic in non-gaming contexts.

A constant in Fuller was working to understand the position of humanity in the world with respect to nature and the universe as an active part of the same, starting from the idea that one could not approach everything without taking into account each one of its parts and interactions. It is the notion of Synergy that Bucky researched his entire life to foresee the world's problems and establish priorities.

Thus, Fuller had already predicted problems that exist in today's list of pressing world issues, such as the depletion of the world's resources and the





*Buckminster Fuller's Triton City, 1968.*  
© Jon Stone. Project interpretation.

need to establish a sustainable relationship with them through a way of life that does not produce its collapse or the inequalities that have led us to the Anthropocene.

The importance of information and data to understand global and complex processes, and anticipate problems by proposing future actions, is something that Fuller had already seen in the 1940s and resulted in him working alongside experts such as CIA consultant E.J. Applewhite with whom he wrote the *Synergetics Dictionary*. He also worked simultaneously to open new communication channels for popular audiences, such as the manuals for building geodesic domes, pocket size Dymaxion cut-out globes, or the *Tetrascroll*, a book-object where he poured in all his ideas about time, physics, synergy and the cosmos; he made it with printmaker and publisher Tatyana Grosman starting with the drawings which he made in 1931 for his then convalescing daughter Allegra, to explain Einstein's Theory of Relativity to her, with a very personal version of the tale of *Goldilocks and the Three Bears*.

*However, Everything I Know*, the series of conferences he gave over two weeks in 1975 has to be Buckminster Fuller's greatest compendium of work.

It is an extraordinary 42 hour- conference in which he recounts his own personal story in the context of the history of science and industrialisation. There, he draws on the infinite journeys of his most ambitious and comprehensive device: the Dymaxion Chronofile, his personal archive comprising over 140,000 documents detailing events from 1928 until his death in 1983. Thus, in the exhibition, both projects mark the beginning and end of a spherical itinerary in which, according to Fuller's way of thinking, everything is interconnected.



*Fuller witnesses Marine Corps helilift of his geodesic dome at Orphan's Hill, North Carolina, 1954.*  
Courtesy The Estate of R. Buckminster Fuller

**Rosa Pera and José Luis de Vicente**

Curators

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texts

