

TECH & ENV 1

M4X01974

COURSEWORK Part 1

ECOBRIKS PROJECT

**Design and Build a Shelter for the
Homeless**

Shelter for the Homeless Project

- It is our belief that architects and designers have an important role to play in addressing many of the most vexing issues of our time, including the shortage of affordable housing and making our cities and towns more inclusive.

Shelter for the Homeless Project

- **Aims**
- To provide the student with a basic knowledge of the principles of building construction and structural design.
- The Homeless Studio Technology and Environment Project, this part of the course is aimed at investigating the architect's role in homelessness, and devising solutions for a rapidly growing homeless population.

Shelter for the Homeless Project

- **Learning outcome**
- Describe accurately the principles that inform the selection of materials and structural strategies for buildings
- The project brief involves designing and building low-cost shelter

"Two thirds of rough sleepers say they have been insulted by a member of the public, and one in ten say they have been urinated on Homeless people are 13 times more likely to be a victim of violent crime than the general public, and are 47 times more likely to be a victim of theft."



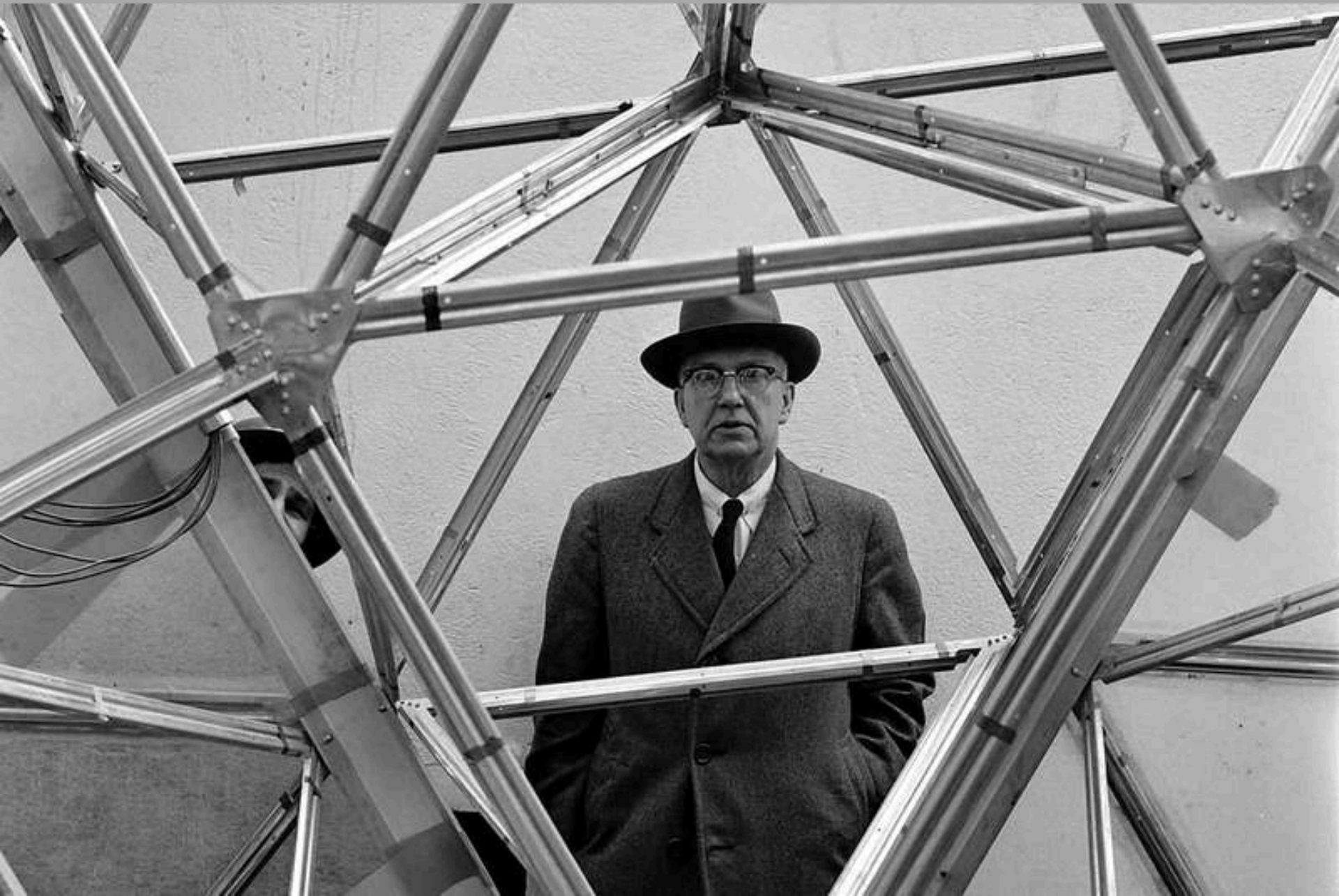
Parasitic architecture

"The proposal is to create lightweight modular parasitic sleeping pods that can be attached to the side of any host building or structure, allowing a safe haven for the homeless during a night's rest, sheltered from the harsh and unpredictable weather conditions of Britain," explained Furzer the designer



The steel-framed pods could be made from scrap materials to reduce production costs, and adapted to match the colouring of their host buildings.

Richard Buckminster Fuller



Richard Buckminster Fuller

- R. Buckminster Fuller was one of the most innovative thinkers of the 20th century.
- A Harvard dropout, unemployed, and grieving the death of his firstborn, he stood on the shore of Lake Michigan in 1927 and vowed to begin a lifelong experiment to determine how a penniless individual could improve worldwide standards of living through technology and design

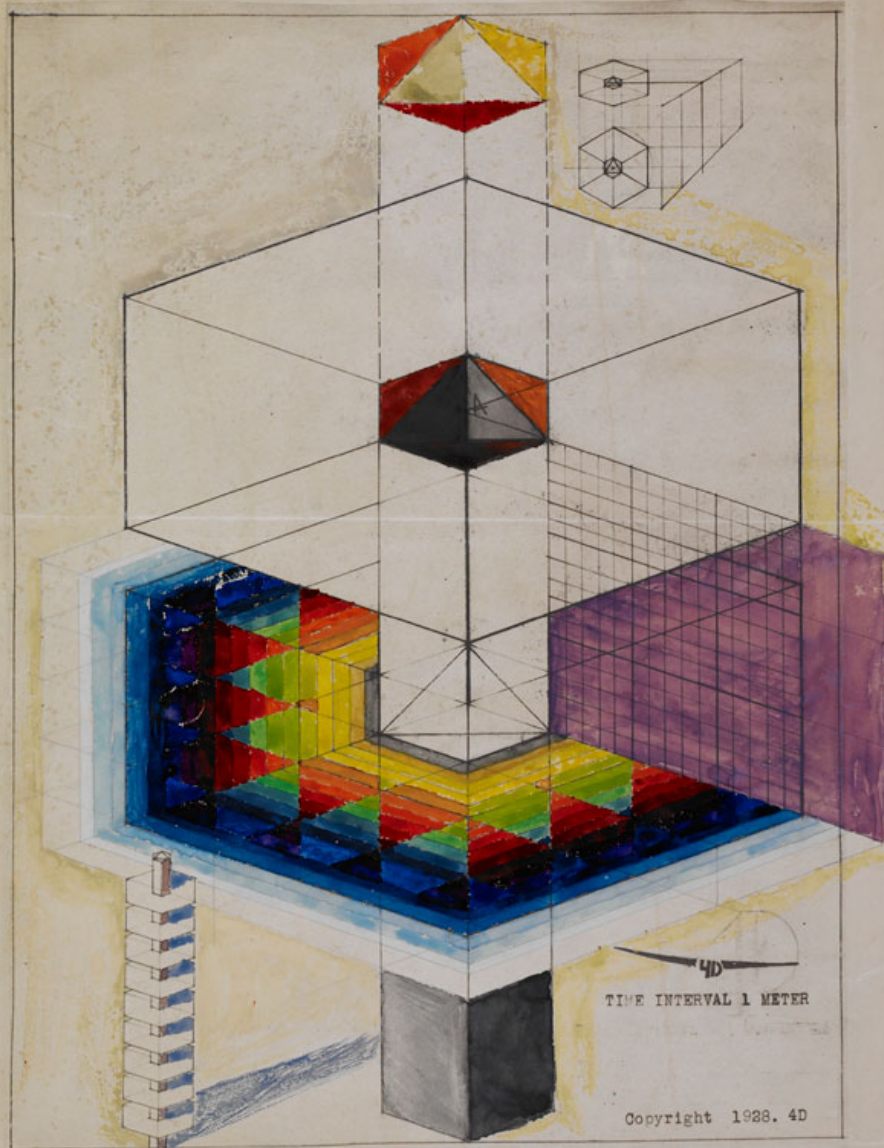
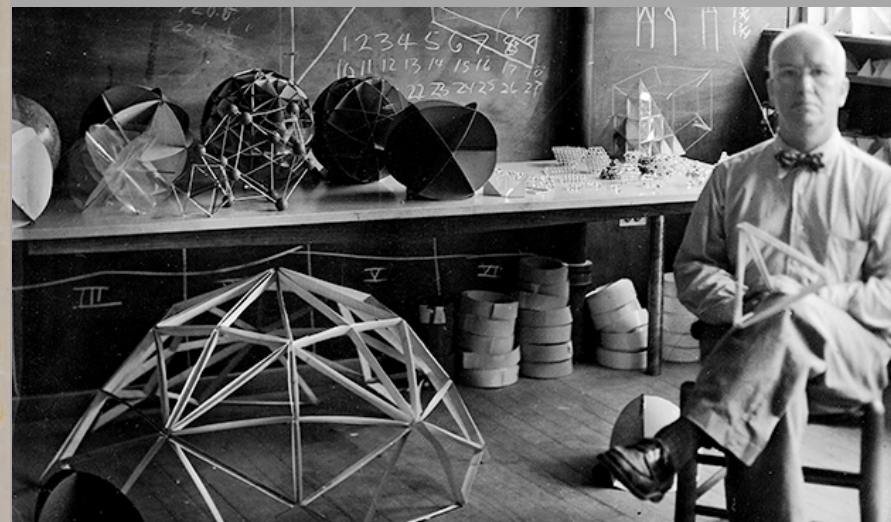
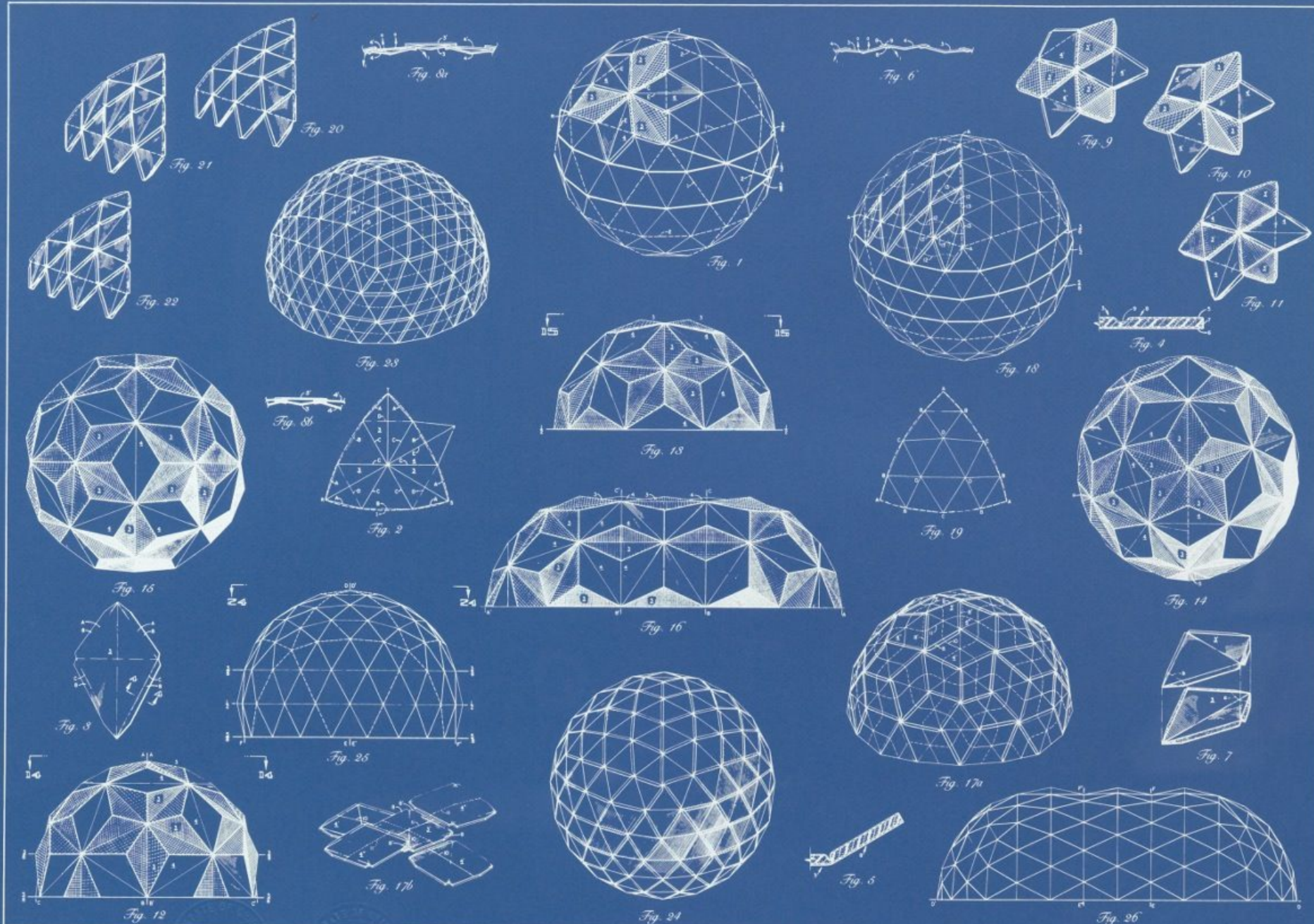


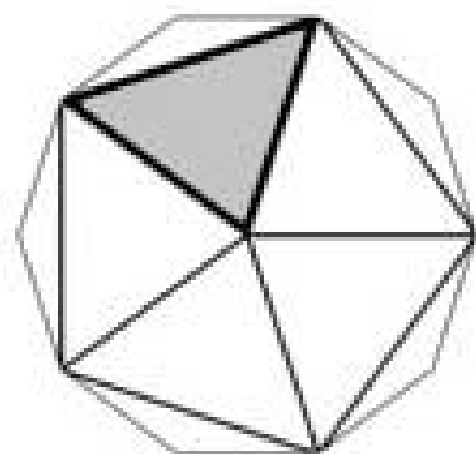
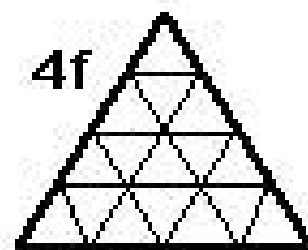
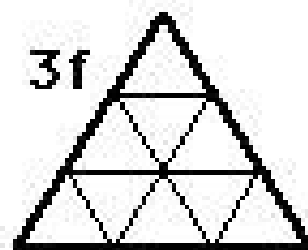
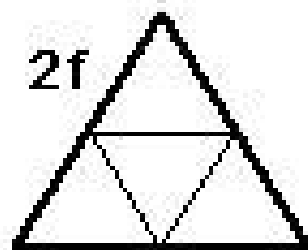
CHART INDICATING 4D COLOR PROGRESSION
 FROM DARKNESS THROUGH YELLOW OF DAWN (1ST LIGHT) *Fuller*
 THROUGH NATURAL GREEN AND MECHANICAL RED TO
 THE BLUE OF THE UNIVERSE AND THE COMPLETE LIGHT OF ETERNITY



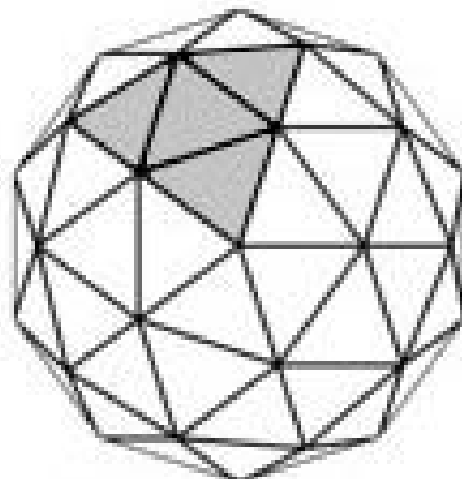
Richard Buckminster Fuller

- He would be renowned for inventing the geodesic dome—the lightest, strongest and most cost-effective structure ever devised—which he built with students from the Illinois Institute of Design,
- and for a map projection that accurately displays the earth's land mass. A prolific writer and lecturer, Bucky's goal of "doing more with less" inspired artists, engineers, and governments around the world.

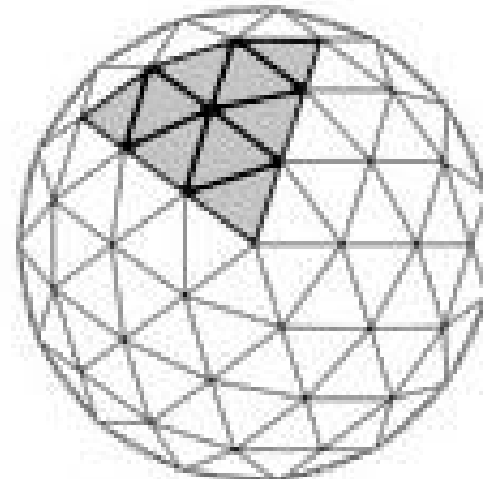




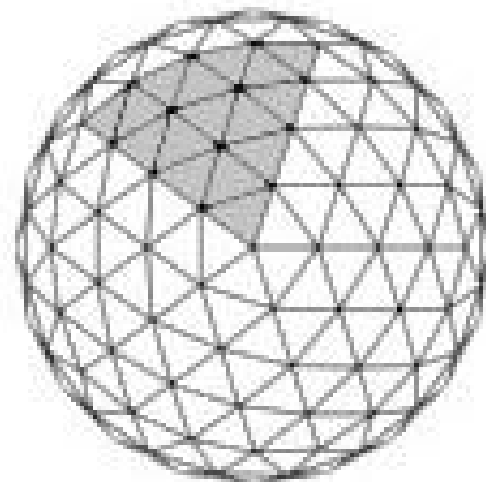
1 Frequency Dome



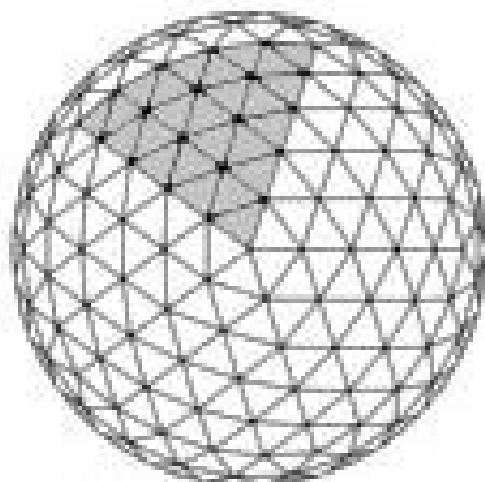
2 Frequency Dome



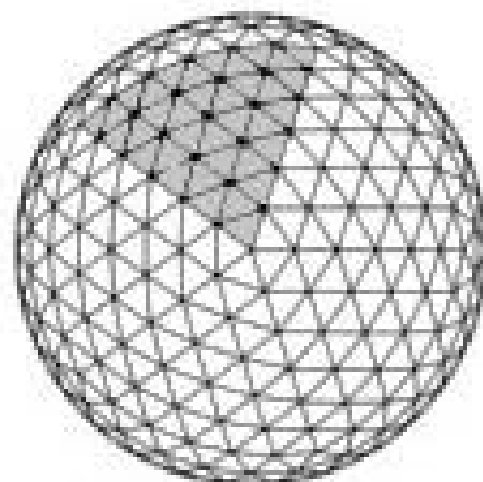
3 Frequency Dome



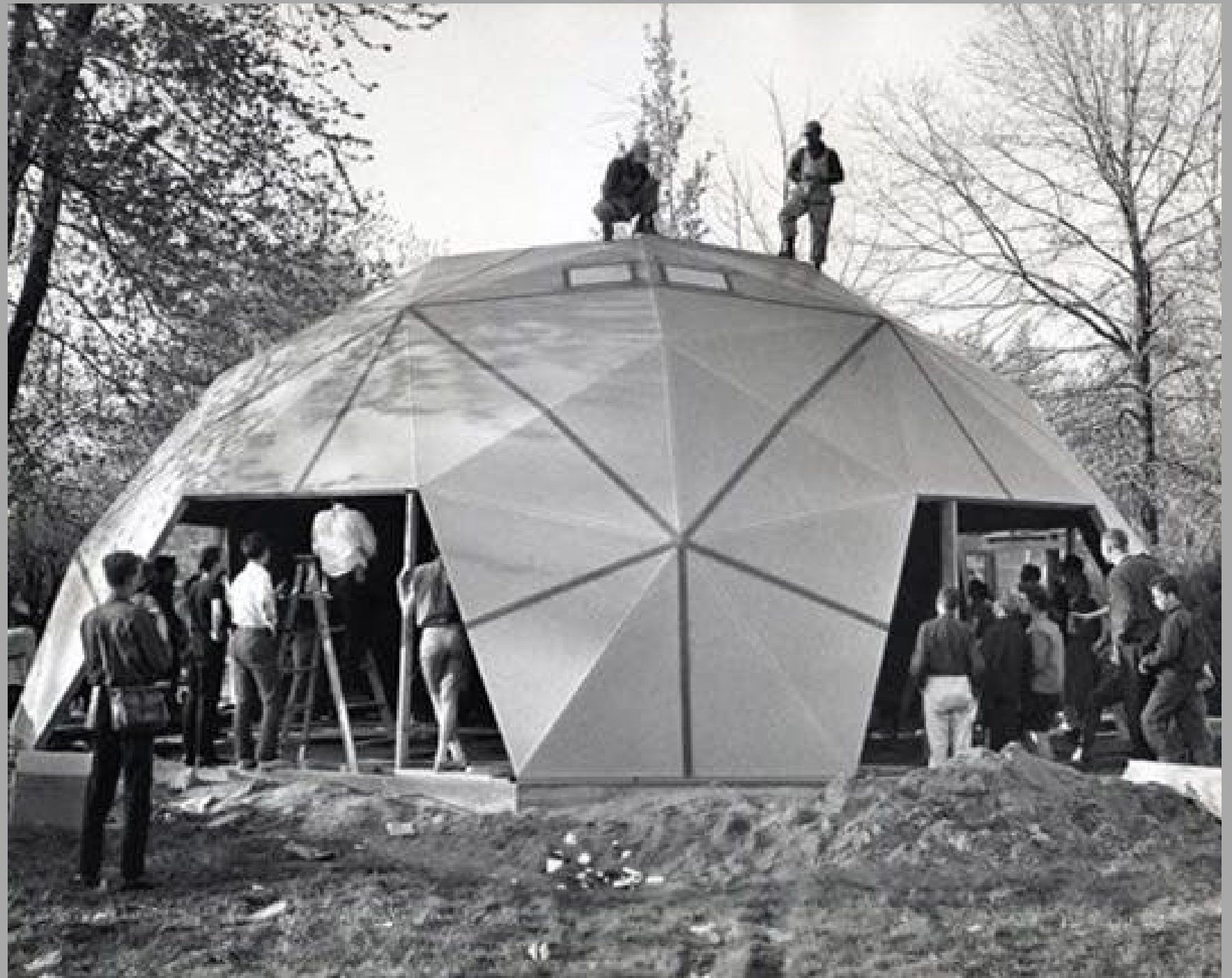
4 Frequency Dome

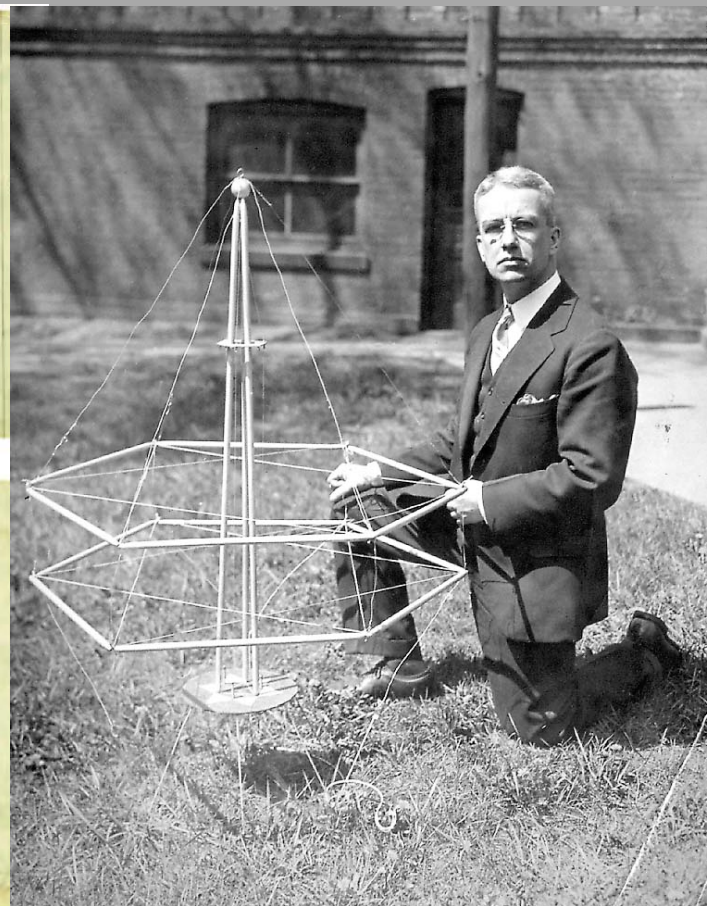
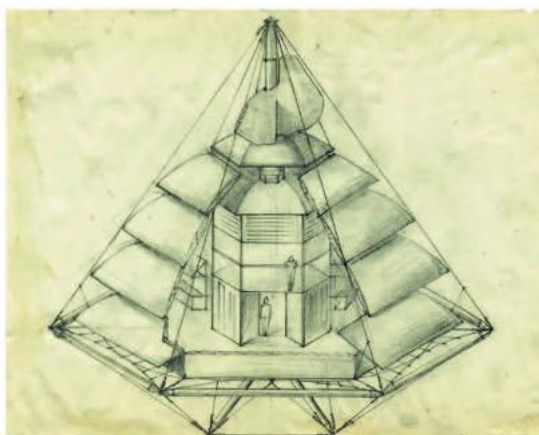
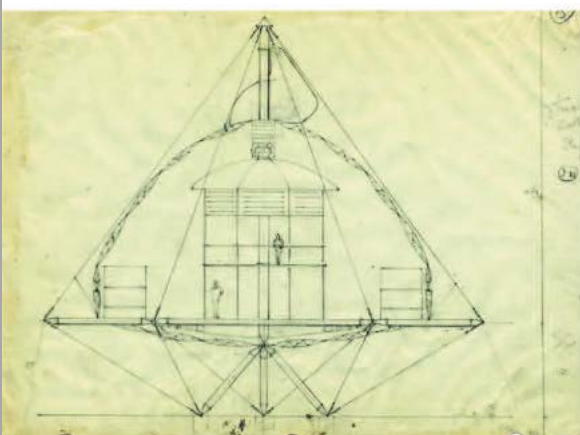
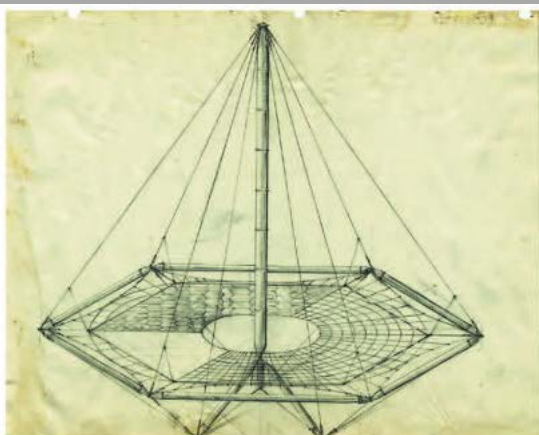
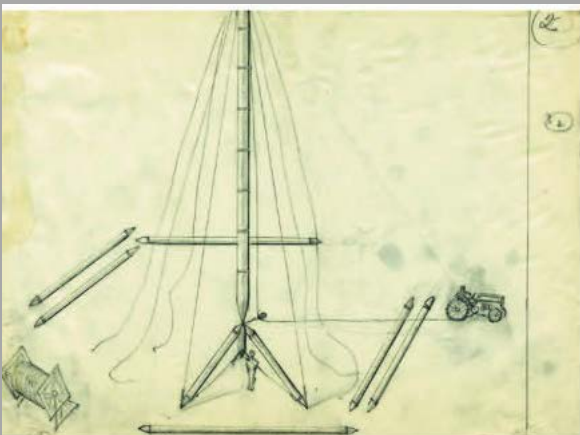


5 Frequency Dome



6 Frequency Dome



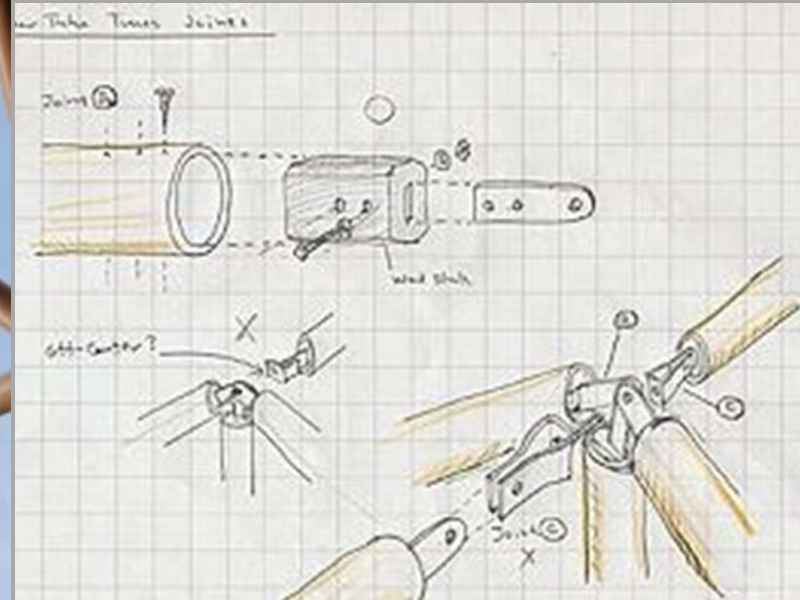




Most of the building was constructed using prefabricated elements, including exterior and interior walls, roof panels, floor assemblies and bay windows, which were made in a warehouse. "Prefabrication places a higher premium on planning, and students had to work down to the level of nails and fasteners to address issues that could normally be dealt with in the process of building, Students were charged with designing a "cost-efficient, flexible design that tackles replicability in material, means and method of construction and the design must "balance the needs of openness and privacy"



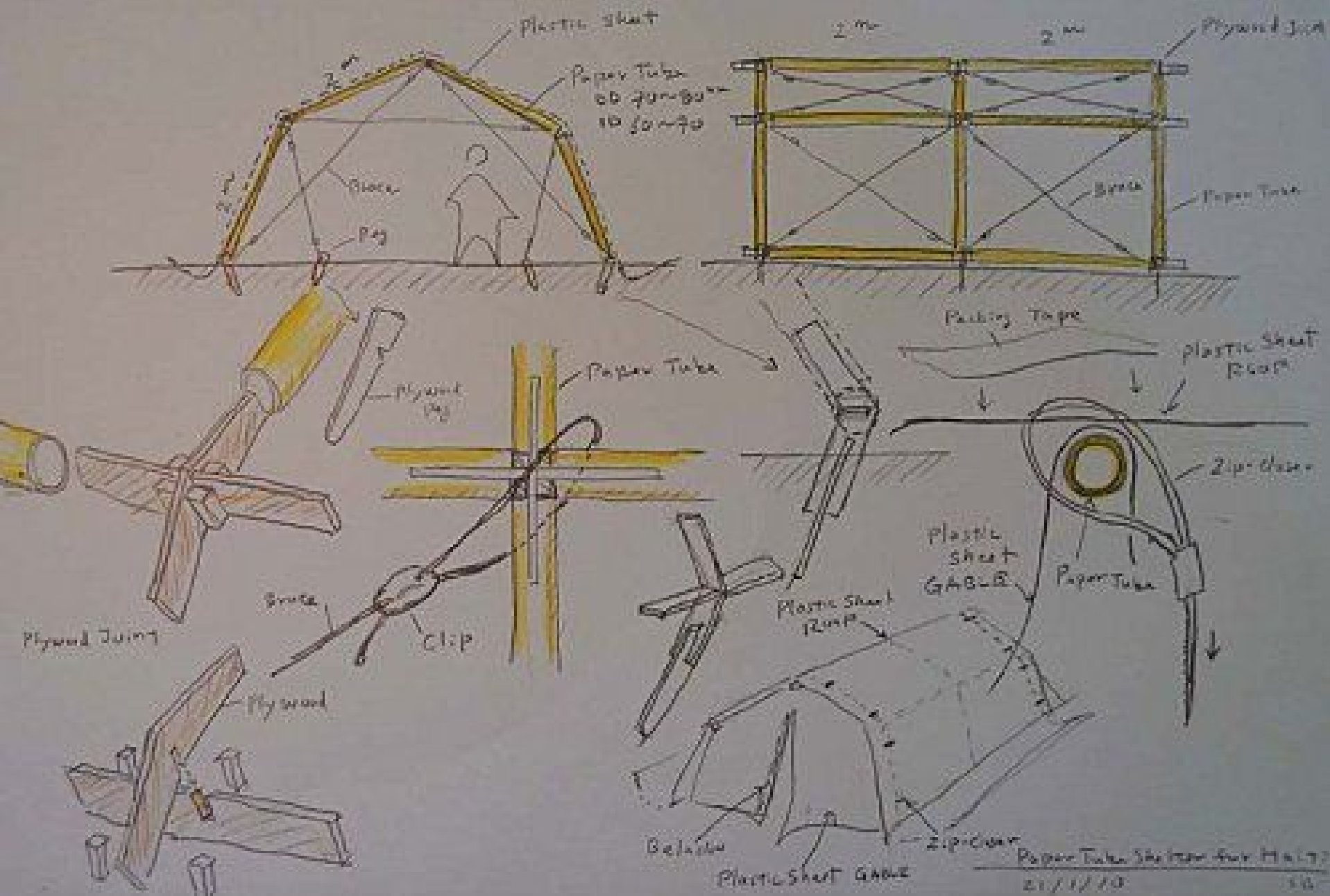
Shigeru Ban Architect

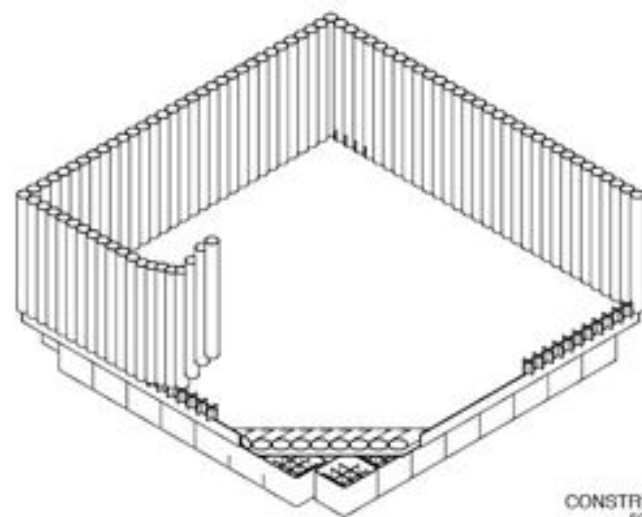
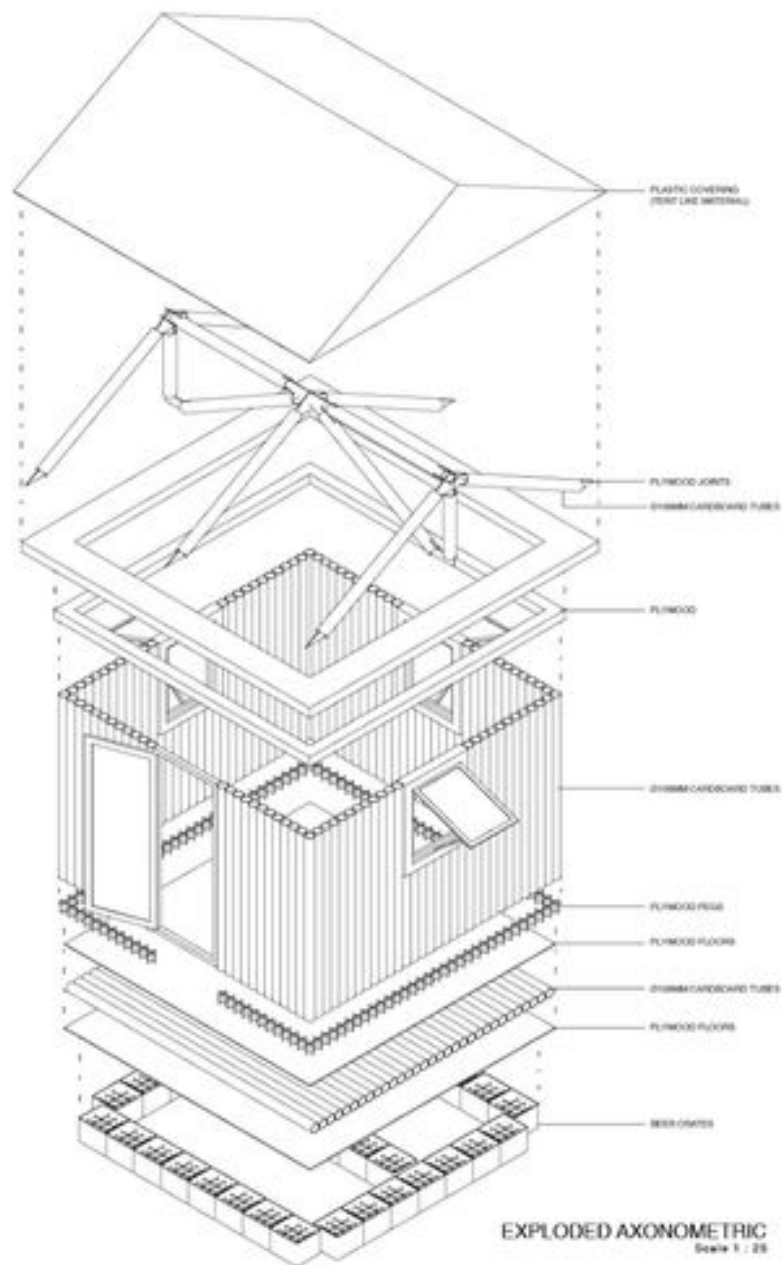


Shigeru Ban Architect

- Long before sustainability was a buzzword, architect Shigeru Ban was using ecologically sound building materials such as cardboard tubes.
- He uses them to build remarkable temporary structures for disaster-struck nations such as Haiti, Rwanda and Japan.
- Yet often, these buildings remain a beloved part of the landscape long after they have served their intended purpose

https://www.ted.com/talks/shigeru_ban_emergency_shelters_made_from_paper?language=en







Most people look at cardboard tubes and see something fit for the recycling bin. But architect Shigeru Ban turns them into beautiful buildings.







Students at the University of Southern California's School of Architecture have conceived a series of shelters for homeless people, ranging from a shopping cart converted into a tent structure to a tiny house made of scavenged material.







