HUAS 7305-001 Critical Studies in Art and Science
Science Fictions: Art and Science Hybrids
Dr. Charissa N. Terranova
University of Texas at Dallas
Fall 2014
Monday 4:00-6:45
JO 3.536
Office Hours: Monday 1:00-2:30/by appointment
Office Location: TBA
Contact: terranova@utdallas.edu

SPACESHIP EARTH
Monday September 22, 2014

Richard Hamilton

"What Is It That Makes Today's Homes So Different, So Appealing?"

1956

The Blue Marble, December 7, 1972
Taken by the crew of the *Apollo 17* spacecraft at a distance of about 38,000 miles from earth

The ***Whole Earth Catalog*** was an American counterculture catalog published by Stewart Brand between 1968 and 1972, and occasionally thereafter, until 1998.

The 1968 catalog divided itself into seven broad sections:

Understanding Whole Systems
Shelter and Land Use
Industry and Craft
Communications
Community
Nomadics
Learning

Whole Earth Truck Store

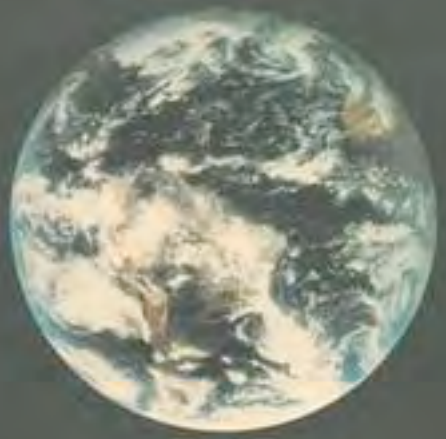
Hours: Monday—Saturday, 9 am - 6 pm

558 Santa Cruz Avenue, Menlo Park, CA 94025

Phone: (415) 323-0313

A major research source of ours is the Menlo Park Whole Earth Truck Store, which stocks most of the items in the CATALOG. We see who's buying what. We hear complaints and suggestions. We try out items that might be in the next CATALOG. We have a place where friends can come and see what's happening.

We can't put it together.
It is together.

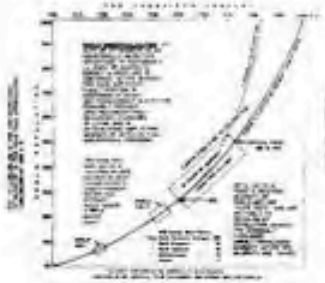


ACCESS TO TOOLS

Stay hungry. Stay foolish.

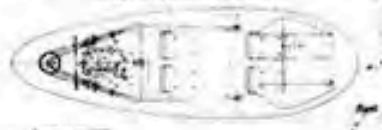
The Dymaxion World of Buckminster Fuller

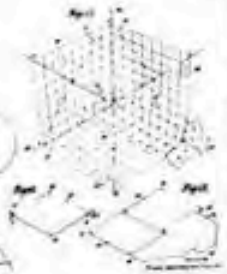
$10.00



Fuller Sun Dome

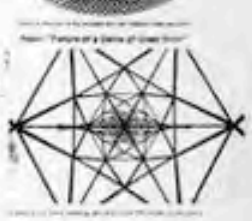
$5.00



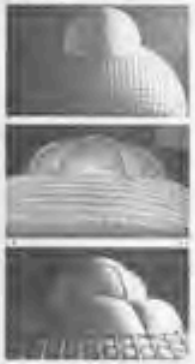


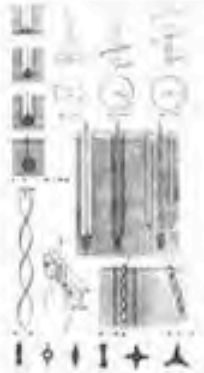
Space Structures

$46.50



Tensile Structures, Volume One





ITA ƒhare with CUISENAIRE Rods a he repūtaƒhon for ƒhanjiŋ the formerly gren tw the nw alfabet. Ūqueally kids lerniŋ tw reed and rit or tinsenided mw end bie the diodick ov normal iŋgliƒh speliŋ. With the ita alfabet, it's lodjicl and consistent. riten lengwidj becums a tool insted ov a drag; the kids comment reediŋ and ritiŋ on ther own term, lāter on the mack the ƒift tw normal ... speliŋ without perticuelar strain. Wun or thes jeneraƒhons ma not bother tw ƒift.

ita has uther applicaƒhons ie believ: for wun, yw can hav riten len-widj better with it. An ita translaƒhon ov Finnegan's Wake wwd be a reel servis.
(A BETTER INFORMED REVIEW OF THIS SUBJECT IS NEEDED.)

There's workbooks, manuals, library materials, etc. available.
Promotional literature is free.
The best how-to-do-it introductory text I've seen is:

The i.t.a. Handbook for Writing and Spelling

Mazurkiewicz and Tanyzer
1966; 60 pp.

$2.00 from:
postpaid Initial Teaching Alphabet Publications, Inc.
20 East 46th Street
New York, NY 10017 or WHOLE EARTH CATALOG

ƒhe iniƒhial teçhiŋ alfabet

devised in ingland bie sir jæms pitman and intrwdwsed in 1963 in the wenieted stæts, the iniƒhial teçhiŋ alfabet (i t a) iz ues'd as a transiƒhonal teçhiŋ tool tw help peepl lern tw reed. it has 44 symbols, eeçh representiŋ wun sound, whiçh tæk cær ov the fenetic irreguelæritis ov the tradiƒhonal alfabet. after haviŋ lernd tw reed with i t a, the beginner transfers with eez tw the tradiƒhonal alfabet.

the second yeer ov eksperimentaƒhon with i t a in this cuntry has ƒhen remarkabl effectivness, not œnly in meny first græds, but aulsœ in remedial reediŋ, kindergarten reediŋ rediness, and adult illiterasy classes.

From back cover of *Winnie-the-Pu*

$2.95 postpaid

published by E. P. Dutton
201 Park Ave South
New York, N.Y. 10003

ther wos nœ wind tw blœ him nearer tw the tree sœ ther hee stæd. hee cwd see the huny, hee cwd smell the huny, but hee cwdn't kwiet reeçh the huny.

after a litl whiel hee caulld doun tw yw.

"cristofer robin!" hee sed in a loud whisper.

"hallœ!"

"ie think the bees suspect sumthiŋ!"

"whot sort ov thiŋ?"

"ie dœn't nœ. but sumthiŋ tells mee that thæ'r suspiƒhus!"

"perhaps thæ think that yw'r after thær huny?"

"it mæ bee that. yw never can tell with bees."

ther wos anuther litl sielens, and then he caulld doun tw yw agen.

"cristofer robin!"

"yes?"

LIFE Science Library

LIFE Science Library
from:
Time-Life Books, Inc.
Retail Sales Dept.
540 N. Michigan Ave.
Chicago, Illinois 60611

Learn by leaving books around. These books anyway. They get picked up randomly, glanced into, and hours later you're still there on the john or wherever helplessly engrossed in diagrams explaining the design of musical instruments.

Rumor was, a few years ago during one of the Time-Life shuffles, that a lot of the best people there had gone into Time-Life books. I believe it. This series is well edited, illustrated, and authored. Man and Space, for example, is by Arthur C. Clarke; Water, by Luna Leopold and Kenneth Davis.

Most popular science books are badly behind the times. This series puts special emphasis on recent developments.

The books are only available by mail from Time-Life Inc.

A book comes every month or so, with a bill for **$4.73**, *and you either send the book back or pay up. Some are better than others, but we haven't sent one back yet.*

While the outermost reaches of Jupiter's atmosphere are extremely cold, the temperature deep inside is probably quite high, due to a "greenhouse effect," in which the atmosphere acts as an insulator to hold in heat from the sun. Water might exist there, permitting the formation of the "organic soup" which spawned the first earthly seeds of life. It is now believed, in fact, that Jupiter's hydrogen-ammonia-methane type of atmosphere is what existed on the primitive earth in the days when life made its first appearance.

Although Jupiter's cloud cover is constant, most of the cloud markings we see there are quite transient, and disappear after a few days or weeks. However, there is one puzzling formation which has remained visible, on and off, for at least 130 years. This is the famous Great Red Spot, an oval shaped mass lying parallel to the planet's equator and not far from it, in the Southern Hemisphere. The Great Red Spot is considerably larger than our entire earth, yet it drifts around Jupiter like a gigantic raft; it has made several revolutions of the planet during the century that it has been under intense observation. The most popular theory holds that the Great Red Spot is a huge meteorological disturbance.

PIECES OF A PICTURE
The object of this perception test is to fill in the missing pieces so that a familiar picture appears. If the test remains puzzling at normal reading distance, try it again from three or four feet before looking at the answer below.

(answer printed upside down)

Light and Vision

TWO LENSES IN ONE — Light and Vision
Bifocals—introduced to America in the 18th Century by Benjamin Franklin—help older people with rigid lens structures to focus at both near and far distances. The upper half of the spectacle lens gives slight correction for distant viewing. The lower half is for close-up work; it provides the increased refraction needed to compensate for the increasing rigidity—and the inability to focus—of the aging lens.

PARIS
IN THE
THE SPRING

WHAT'S WRONG WITH THIS PHRASE?
At first glance, seemingly nothing. But with closer reading the repetition of the word THE becomes obvious. Because we generally read rapidly in word patterns rather than slowly a word at a time, it is easy for the eye to skip over the extra THE and register the familiar phrase "correctly." — Light and Vision

Kaiser Aluminum News

Don Fabun is doing very well at his job of making Kaiser appear comprehensive and futuristic. The Kaiser Aluminum News that he edits comes out several times a year, each issue devoted to one large topic, such as communication, transportation, food crisis, etc. They are excellent compendiums of current thought, vividly illustrated and laid out. Best of all, they're free *if you write Kaiser for single copies.*

Inquire for their list at:
Public Affairs Department
Kaiser Aluminum and Chemical Corporation
Kaiser Center 866
Oakland, California 94604

American Boys Handy Book

Dan Beard's American Boys Handy Book was first published in 1882. Out of print for a long time, Tuttle has finally reprinted it. This is barefootboy-with-cheek-of-tan stuff, detailed lore on how a boy may make his own world. Extraordinary book, highly recommended for funky schools or communities, especially if woods are handy.

[Suggested by Arthur Beard]

The Paper Balloon

The American Boys Handy Book

D. C. Beard
1882; 391 pp.

$3.95 postpaid

from:
Charles E. Tuttle Co., Inc.
Rutland, Vermont 05701
or
WHOLE EARTH CATALOG

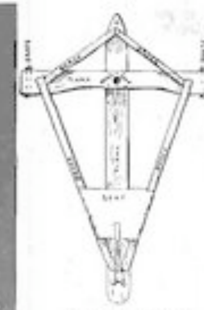
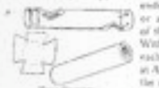


Fig. —Top View of Ice Boat.

Top View of Hoop and Cross Wire.

The Voice Disguiser

is made of a piece of corn-stalk about three inches long. After removing the pith cut a notch near each end, as shown in the illustration, upon opposite sides of the corn-stalk; upon the ends stretch a piece of fish-bladder, or any thin membrane; a piece of thin tracing-paper will answer. With a large pin make a hole in each piece of membrane, as shown at A in the illustration. Now cover the notch, cut into the corn-stalk, with your mouth and laugh; the noise you produce will set you laughing in earnest. By placing your mouth over either of the notches and talking or singing, the voice is so changed as to be perfectly disguised, and if you sing a song through this instrument it sounds like some one playing on a comb covered with paper. The voice disguiser is very handy in Punch and Judy or puppet shows.



Voice Disguiser.

Kaleidoscope.

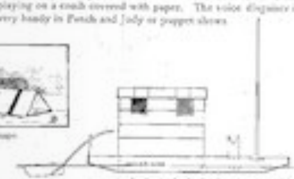


Fig. —Side View of Flat-Boat.

Set a seat in front of the cowlock with a hole in it for the "jack-staff" to pass through. The jack-staff should be made so that it can be taken out and put in at pleasure. This can be done by —

Pioneer Posters

Cheap, good, educational, weird. They're a whole other kind of history than book history and better posters than most posters. Immense variety.

Catalog **$0.10**

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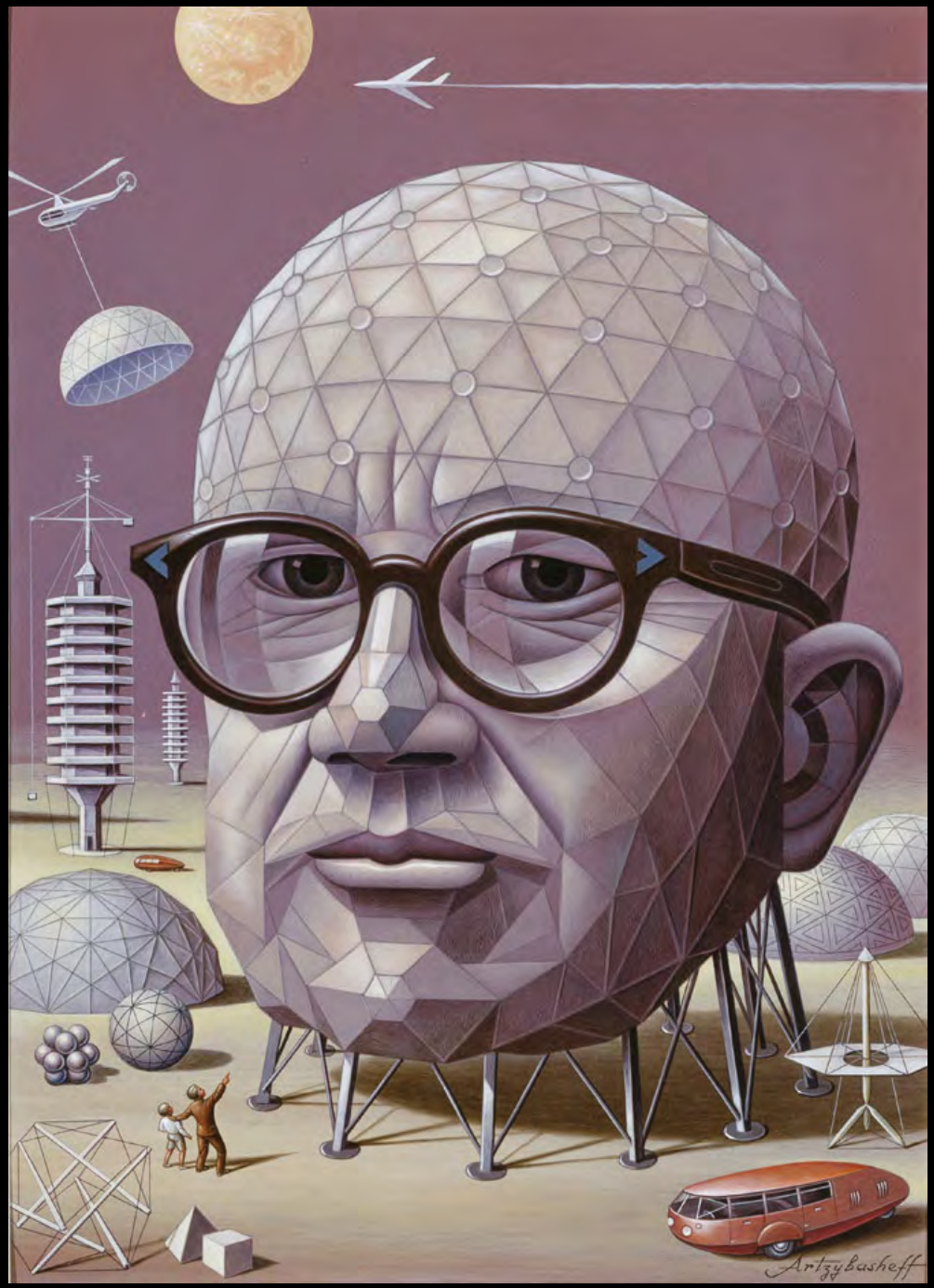
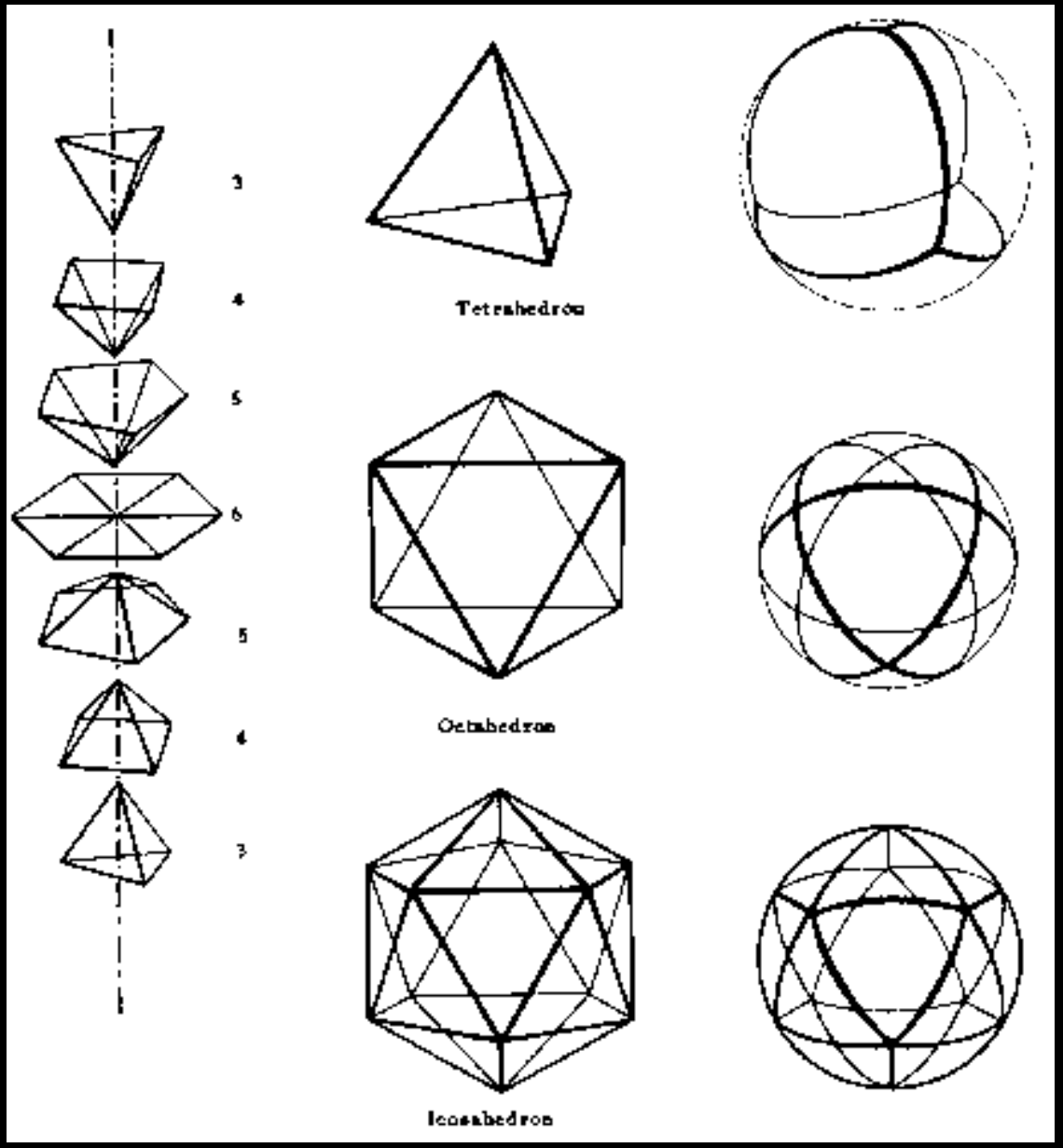
Pioneer Historical Society
Harriman, Tennessee 37748



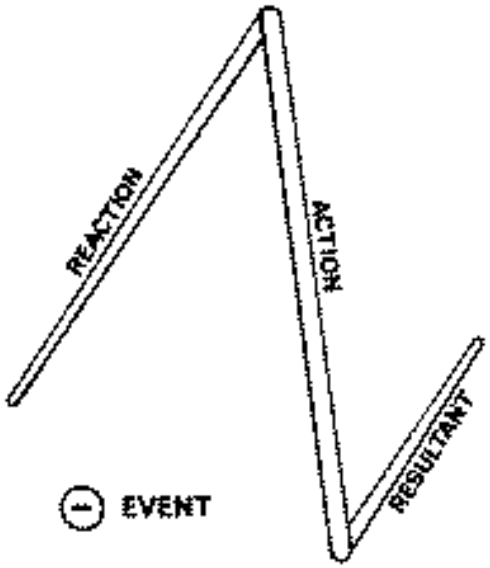
Boris Artzybasheff, R. Buckminster Fuller, 1963

Tensegrity, **tensional integrity** or **floating compression**, is a structural principle based on the use of isolated components in compression inside a net of continuous tension, in such a way that the compressed members (usually bars or struts) do not touch each other and the prestressed tensioned members (usually cables or tendons) delineate the system spatially. The term *tensegrity* was coined by Buckminster Fuller in the 1960s as a portmanteau of "tensional integrity".

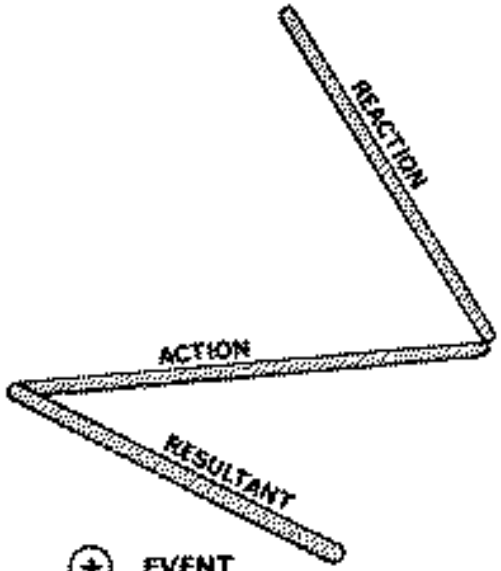


The Three Basic Structural Systems in Nature with Three, Four or Five Triangles at Each Vertex: Tetrahedron, Octahedron, Icosahedron

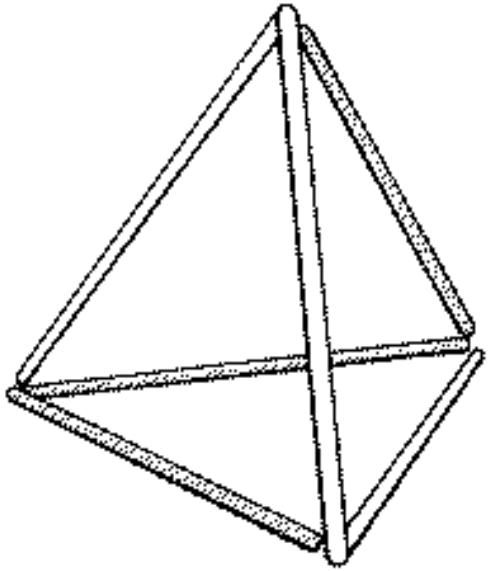
A TRIANGLE IS A SPIRAL
AND IS ONE ENERGY EVENT



⊖ EVENT



⊕ EVENT



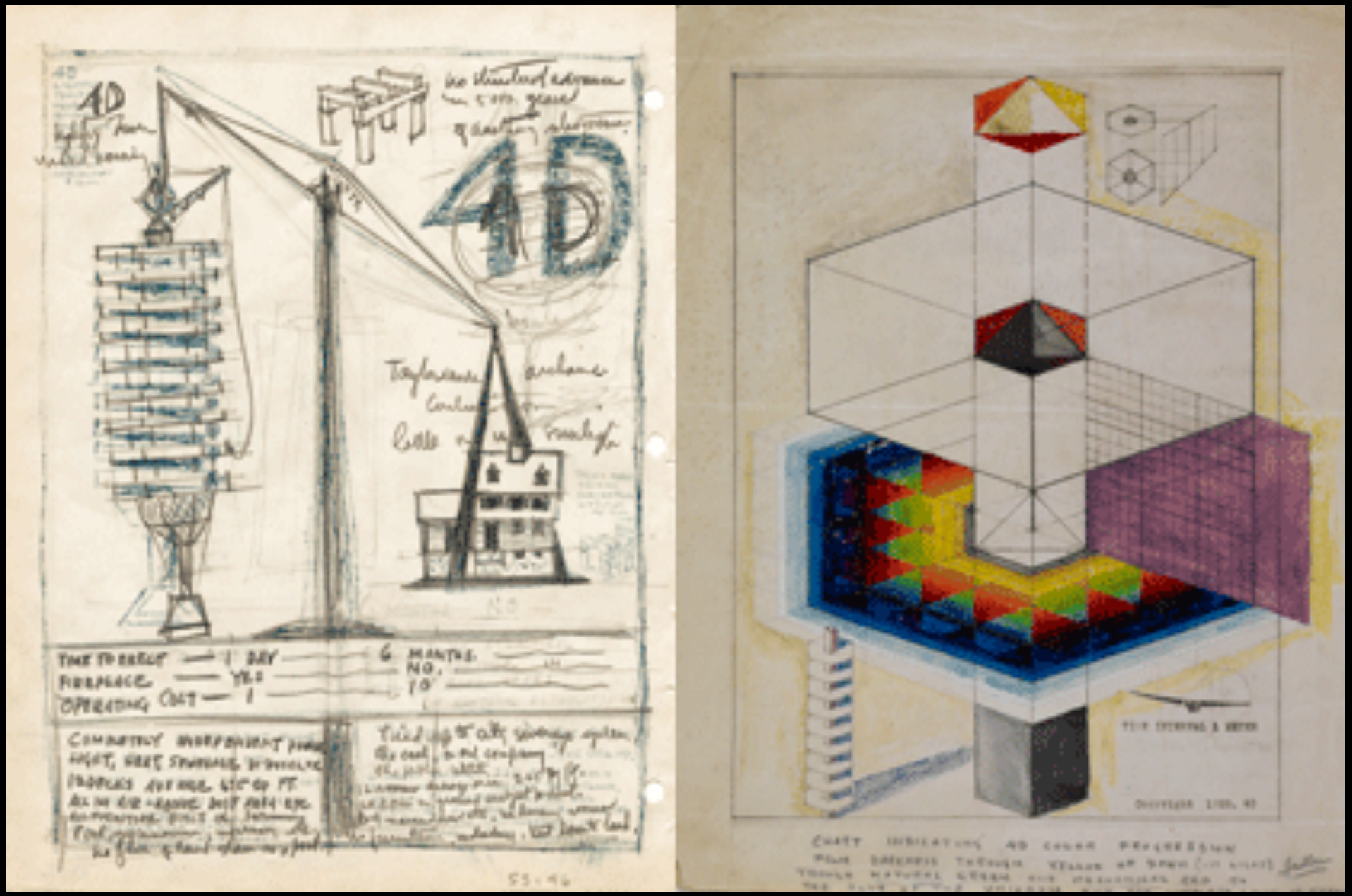
ONE POSITIVE + ONE NEGATIVE EVENT

= **TETRAHEDRON**

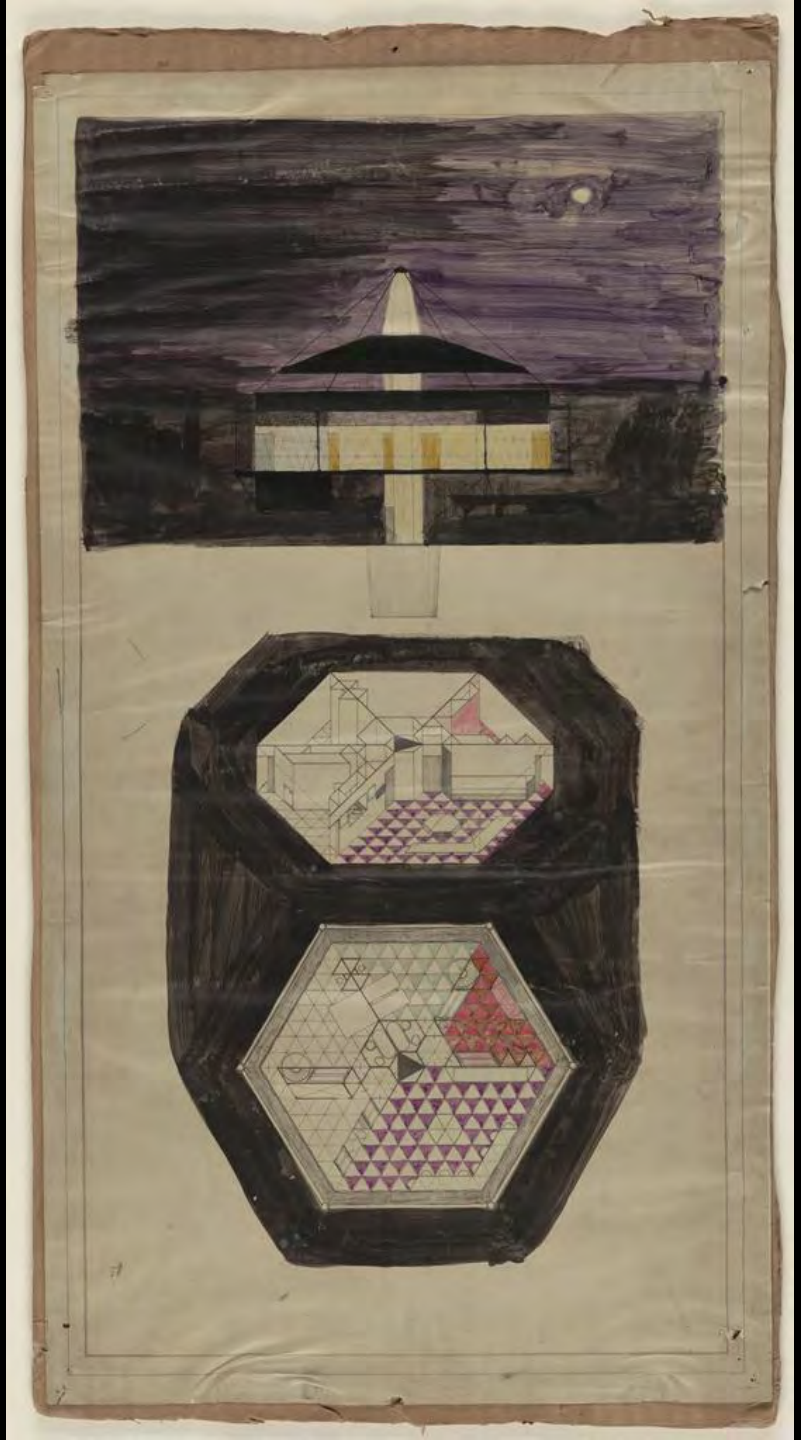
DYMAXION

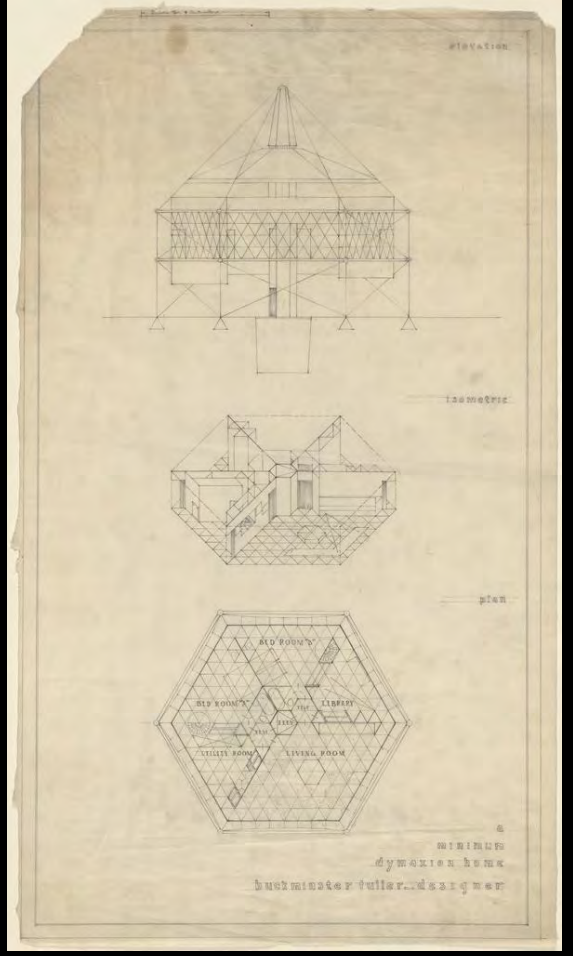
DYnamic -- **MAX**imum - tens**IONDYMAXION**

DYnamic -- **MAX**imum - tens**ION**

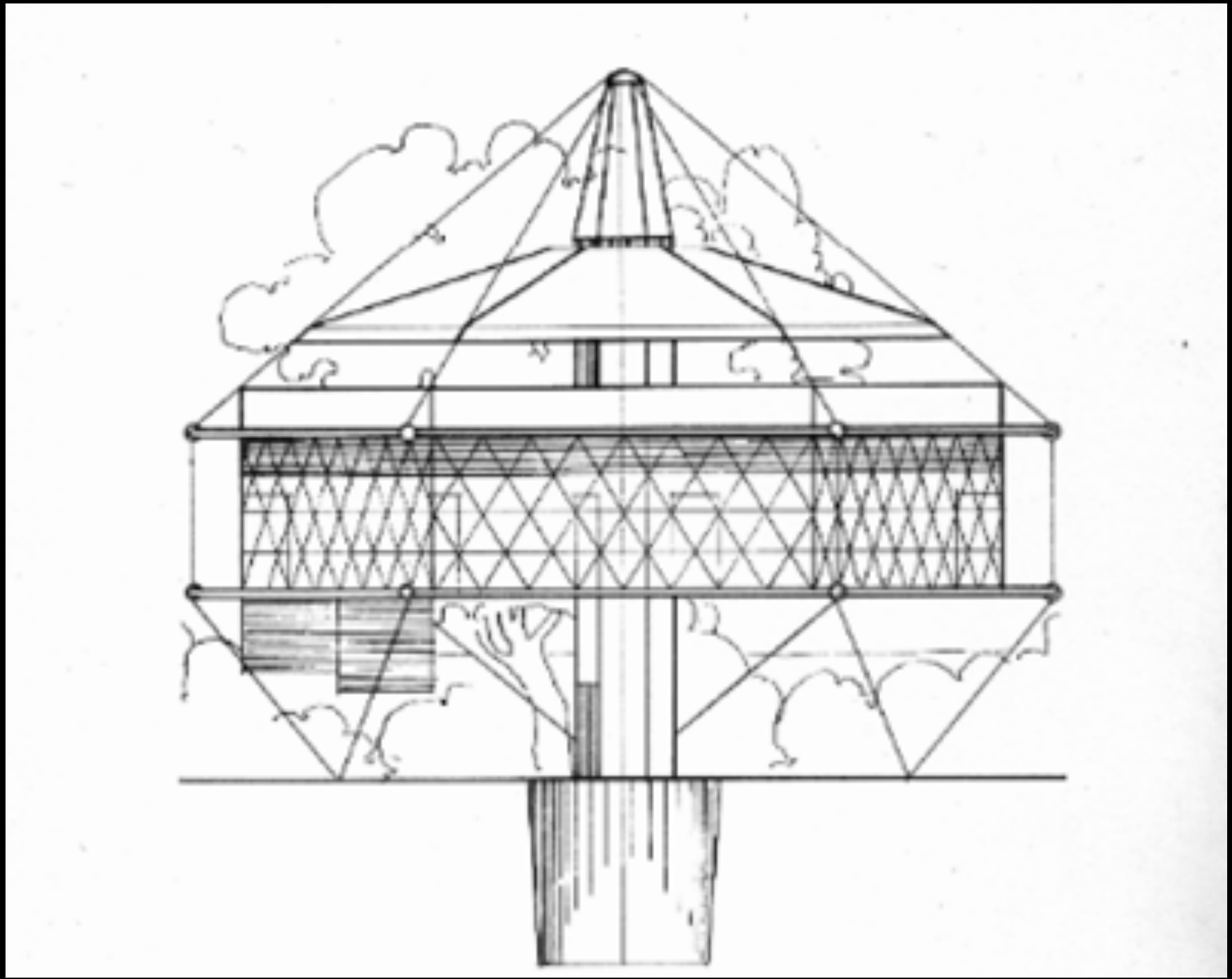


Buckminster Fuller, 4D Tower: Time Interval 1 Meter, 1928 / Comparison of Lightful Houses and Traditional Homes, 1928





Buckminster Fuller, Dymaxion House/Dymaxion Living Machine, 1927-1929



Buckminster Fuller, Dymaxion Car, 1933

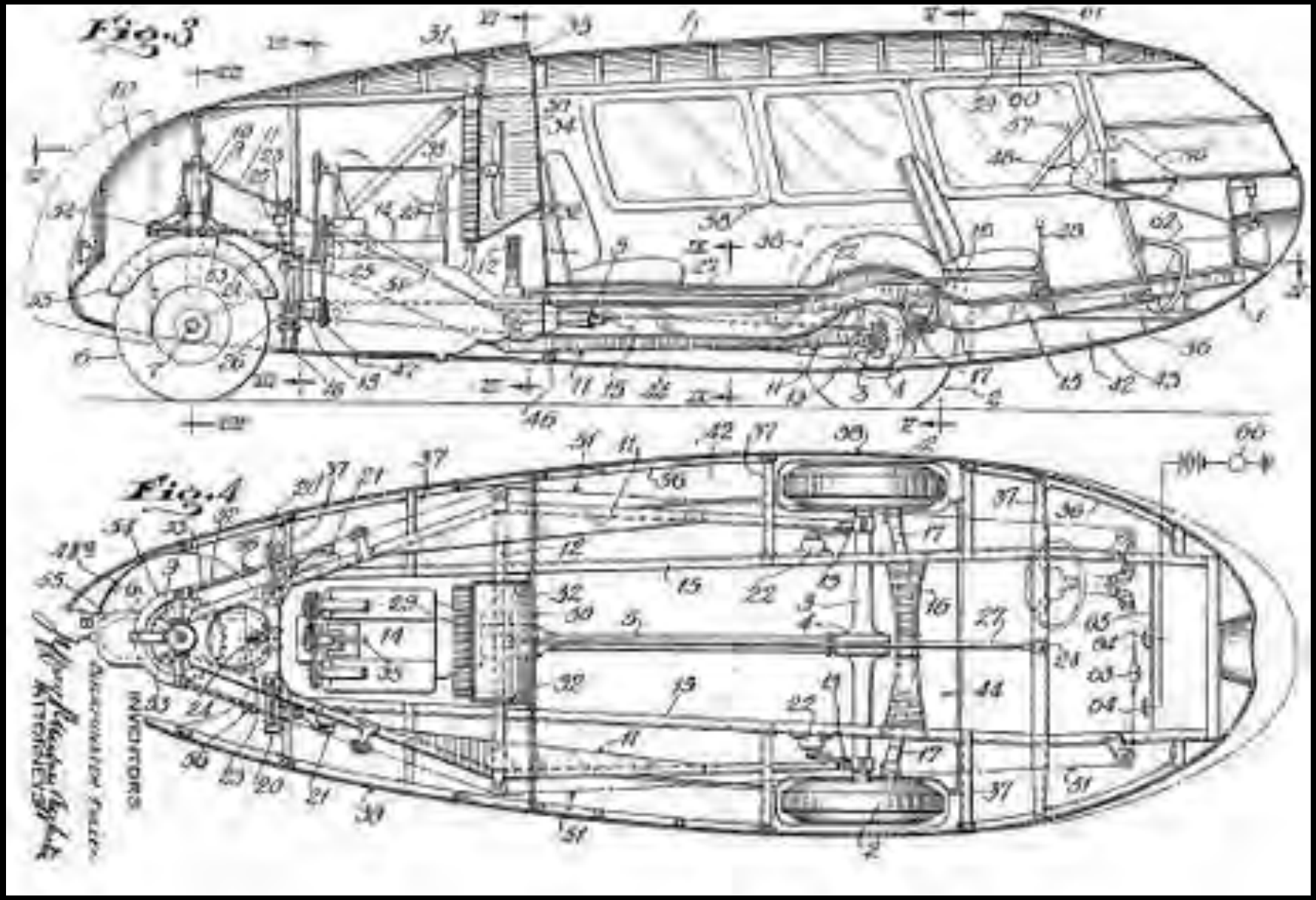
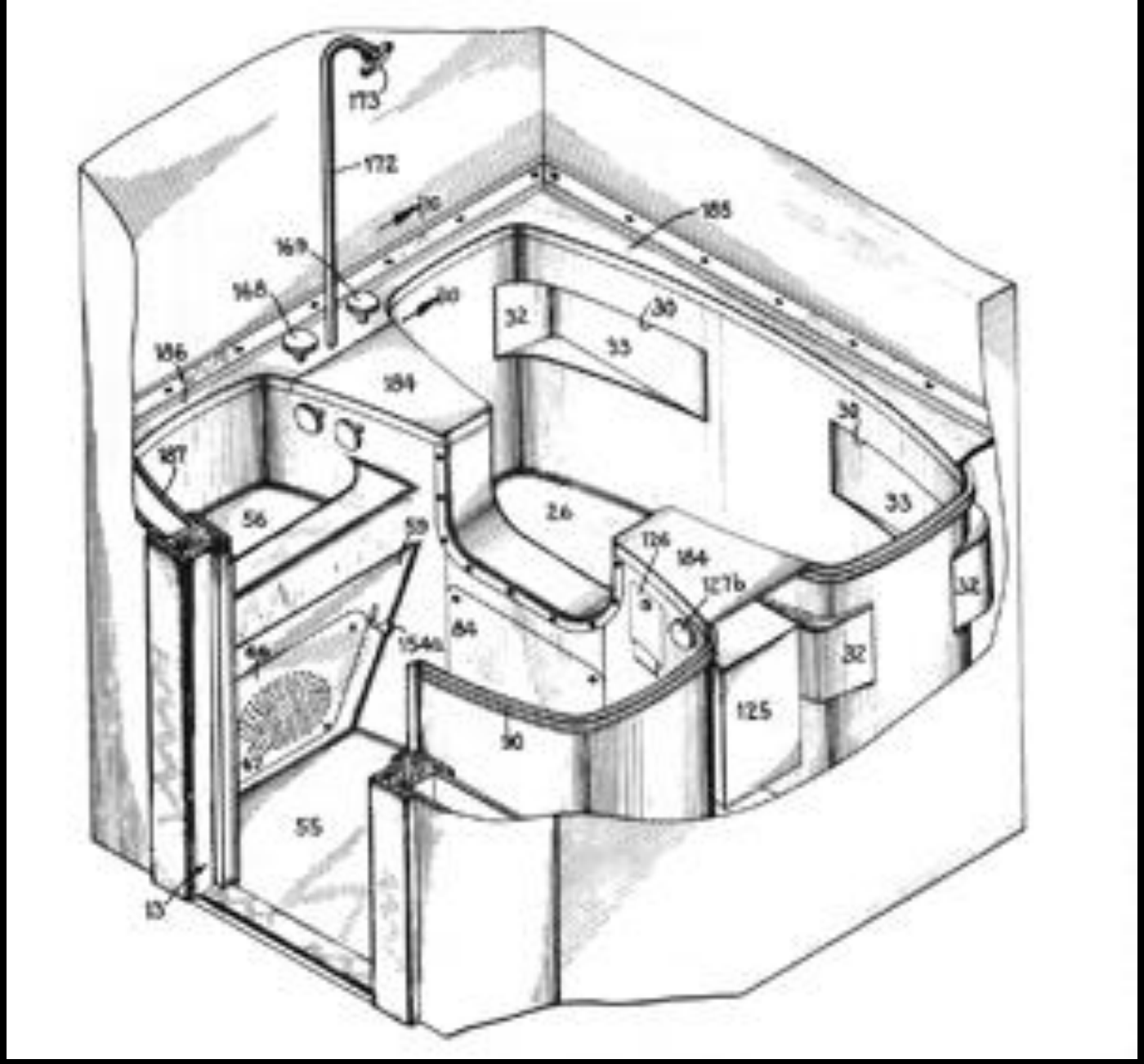


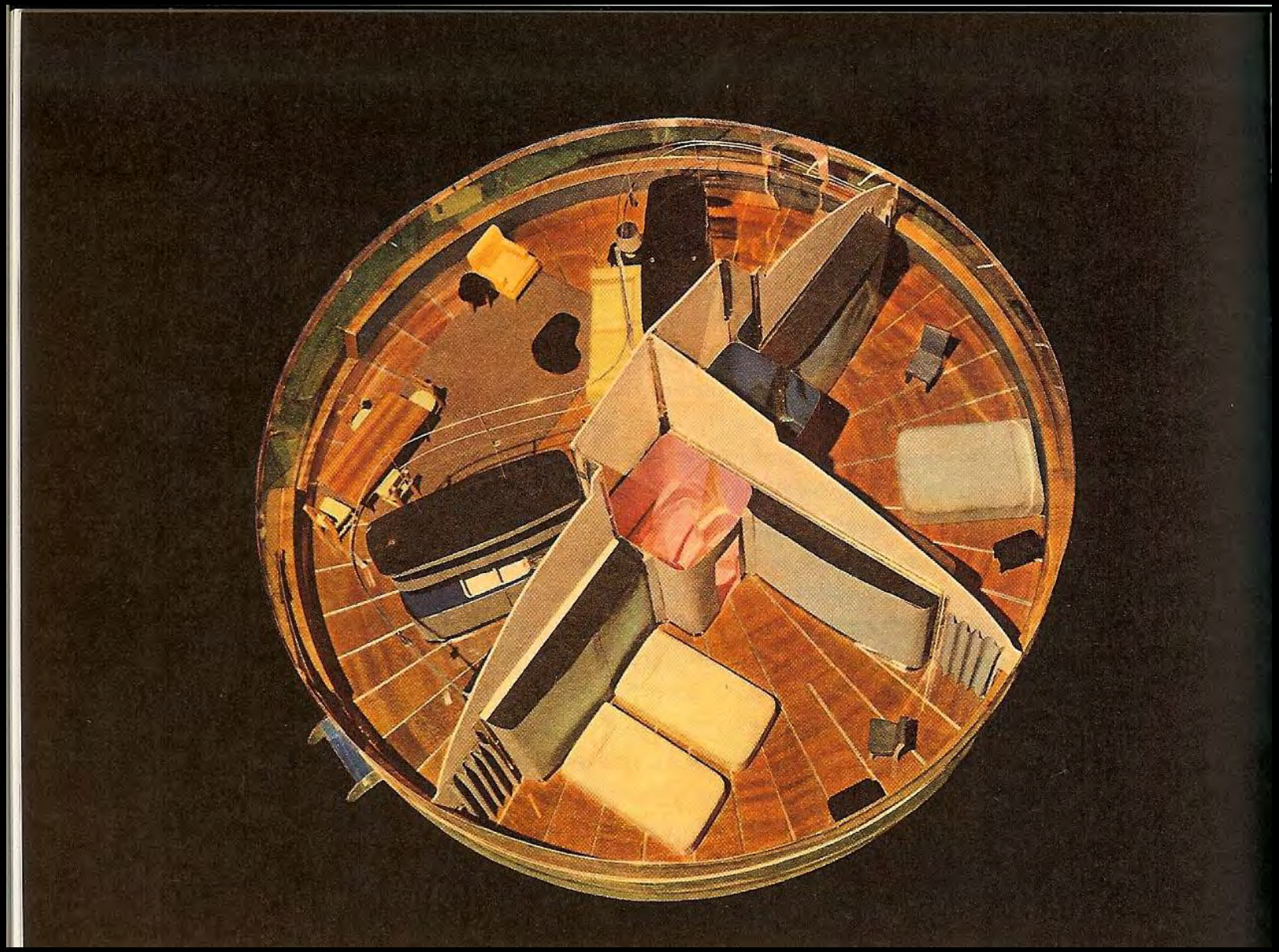
Fig. 3
Fig. 4
INVENTORS
ATTORNEY

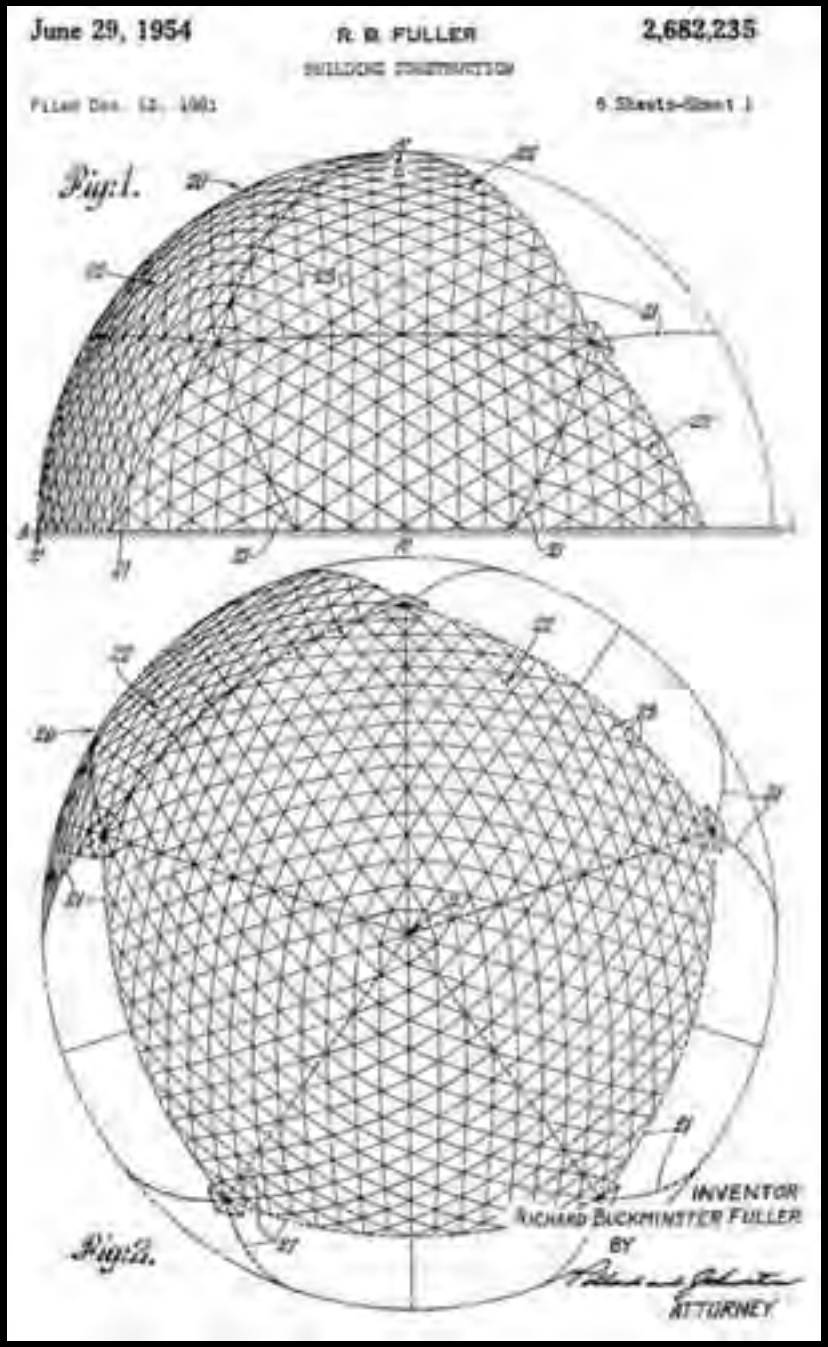


Buckminster Fuller, Dymaxion Bathroom, 1937

Buckminster Fuller, Building Construction – Dymaxion Deployment Unit, United States Patent Office no. 2,343,764, filed March 21, 1941, serial no. 384,509, granted March 7, 1944

Buckminster Fuller, Wichita House, 1944



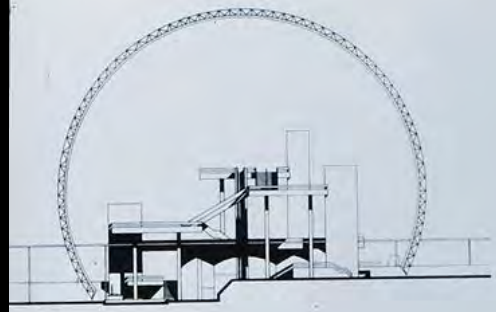


Buckminster Fuller, Geodesic Dome, 1950 (invented/Montreal dome being built at right)

Northland Center, Detroit, Michigan, 1954

Accordion Truss, Northland Center, Detroit, Michigan, 1954

Buckminster Fuller and Shoji Sadao, United States Pavilion, Montreal World's Exposition, 1967



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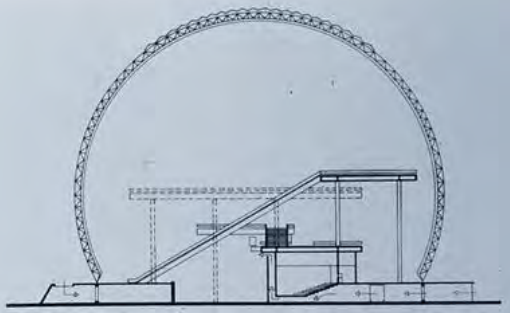

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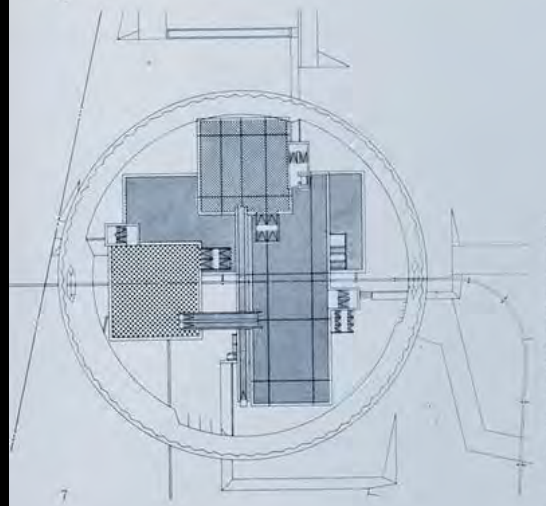

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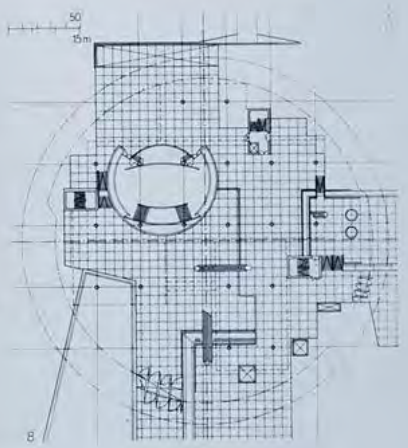
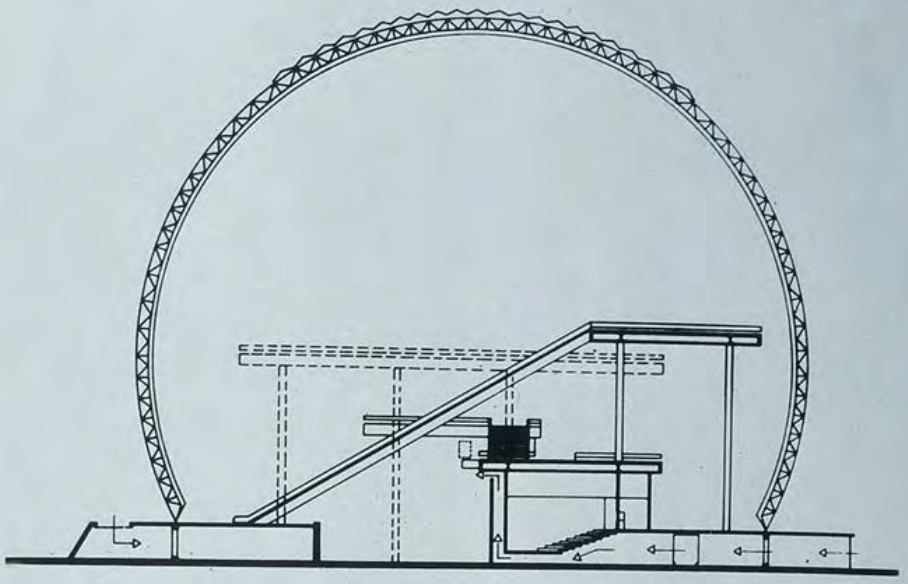


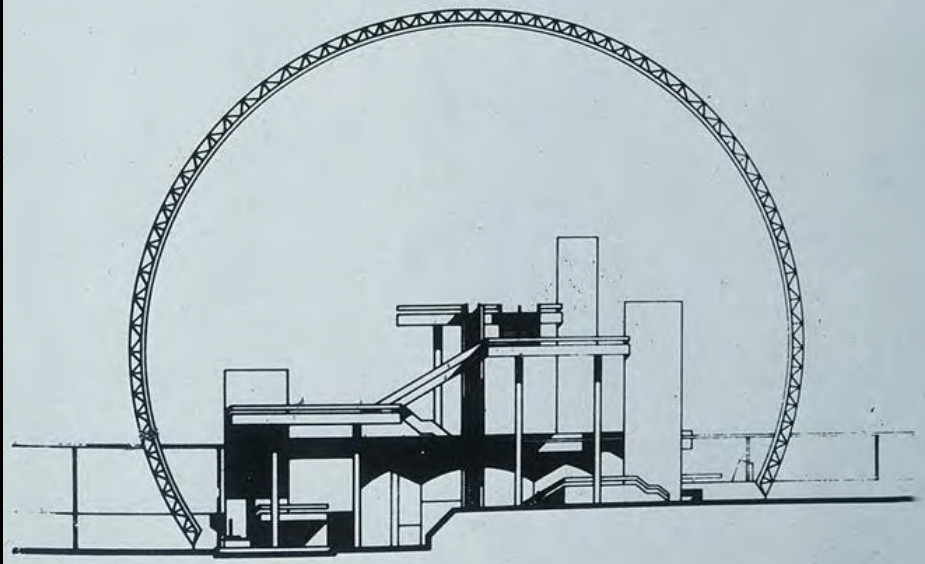
8

5. Indoor equipment, seen from the south.
6. Cross-section in the north-south direction, with the 123 ft. long escalator leading to the highest platform.
7. Plan with the four upper platform levels.
8. Plan with the three lower platform levels.
9. In spite of the manifold spatial interpenetrations and intersections of platforms, ramps and display boards (this photograph shows a view from the historic section upwards to the exhibition of contemporary paintings displayed on high, narrow wall panels), the dome was impressive from every vantage point. The dynamic effect was reinforced by the escalators and the 'Minirail' system which provided local transportation through the Pavilion.
10. Almost playfully, space travel was displayed on the highest platform. The dominant feature under the spacious dome was provided by the three orange-white striped parachutes of the Apollo capsule.
11. Instead of pedagogic pedantry, wit and self-deprecation were the dominating features. The section entitled "The American Spirit" contained selected samples of folk art: branding irons of cowboys, sprouting like flowers; guitars of pop singers, and a tower of home-made dolls.
12. In the "Film" section, Hollywood is gaily debunked: Among film stills Ben Hur's Roman chariot of 1925, Charlie Chaplin's garbage bin, and Greta Garbo's golden bed.

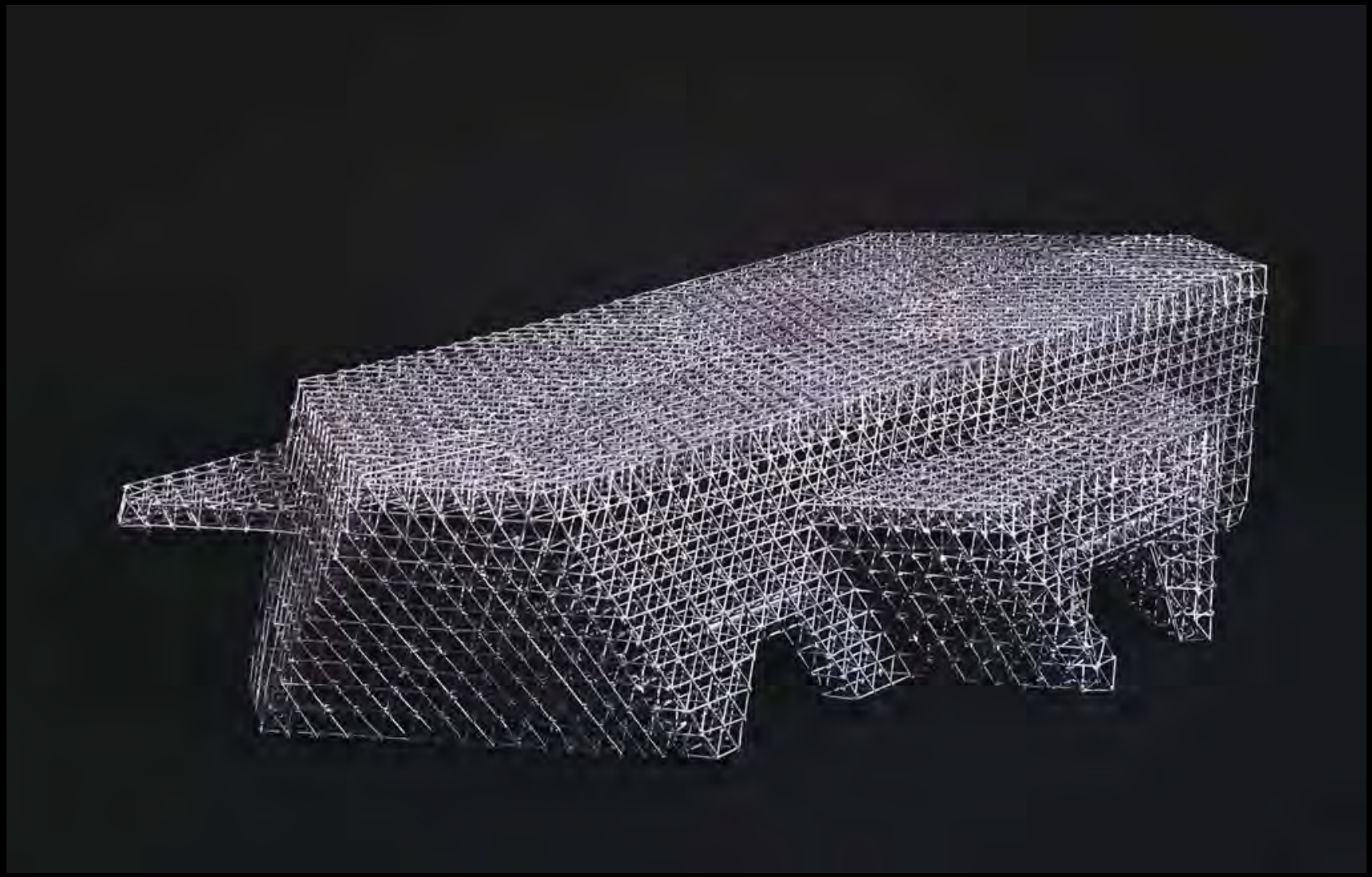
5. Ansicht der Pavilloneinbauten von Süden.
6. Schnitt in Nord-Süd-Richtung mit der 37,5 m langen Rolltreppe zur obersten Plattform.
7. Grundriß mit den vier oberen Plattformebenen.
8. Grundriß mit den drei unteren Ebenen.
9. Trotz vielfältiger räumlicher Durchdringungen und Überschneidungen von Plattformen, Schrägrampen und Ausstellungstafeln (hier ein Blick aus der historischen Abteilung hinauf zur Ausstellung zeitgenössischer Malerei, auf hohen schmalen Wänden) war die Kugelhülle von jedem Standpunkt aus erlebbar. Rolltreppen und die quer durch den Pavillon fahrende Minirail-Einschienenbahn verstärkten den dynamischen Effekt.
10. Fast spielerisch präsentierte sich die Raumfahrtschau auf der obersten Plattform. Stärkster Akzent unter der weiträumigen Kuppel waren die drei orange-weiß gestreiften Fallschirme der Apollokapsel.
11. Statt lehrhaften Ernstes dominierten Witz und Selbstironie. Die Abteilung »Der amerikanische Geist« operierte mit ausgesuchten Volkskunst-Beispielen: Brenneisen von Cowboys, wie Blumen sprießend, Gitarren der Volkssänger und ein Turm aus selbstgemachten Puppen.
12. Im Sektor »Film« heitere Entmythologisierung Hollywoods: zwischen Filmbildern Greta Garbos goldenes Bett, Ben Hurs römischer Wagen von 1925 und Charlie Chaplins Mülltonne.



Cross section in the north-south direction, with the 123-feet long escalator leading to the highest platform.



Indoor equipment seen from the south.



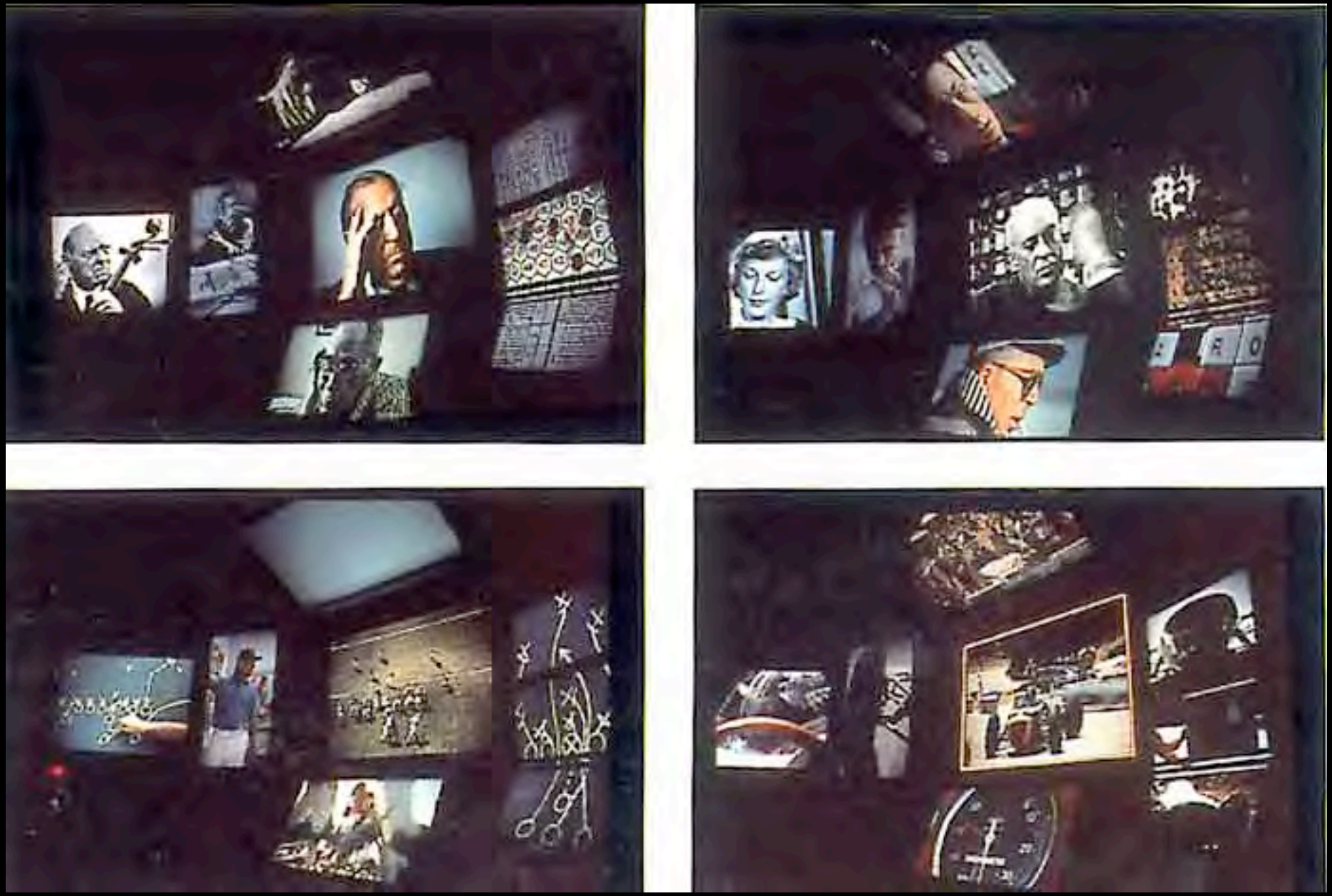
Model for an Airplane Hangar, 1955

Charles and Ray Eames Glimpses of the USA, American Exhibition in Moscow, 1959
http://www.youtube.com/watch?v=Ob0aSyDUK4A

Buckminster Fuller in front of the exhibition dome at the American National Exhibition, Moscow, 1959

Charles Eames and Eero Saarinen, Ovoid Theater, World's Fair New York, 1964


IBM



Charles Eames and Eero Saarinen, Ovoid Theater, World's Fair New York, 1964

Buckminster Fuller and Shoji Sadao, Dome Over Manhattan, 1960

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SIZE AND POSITION

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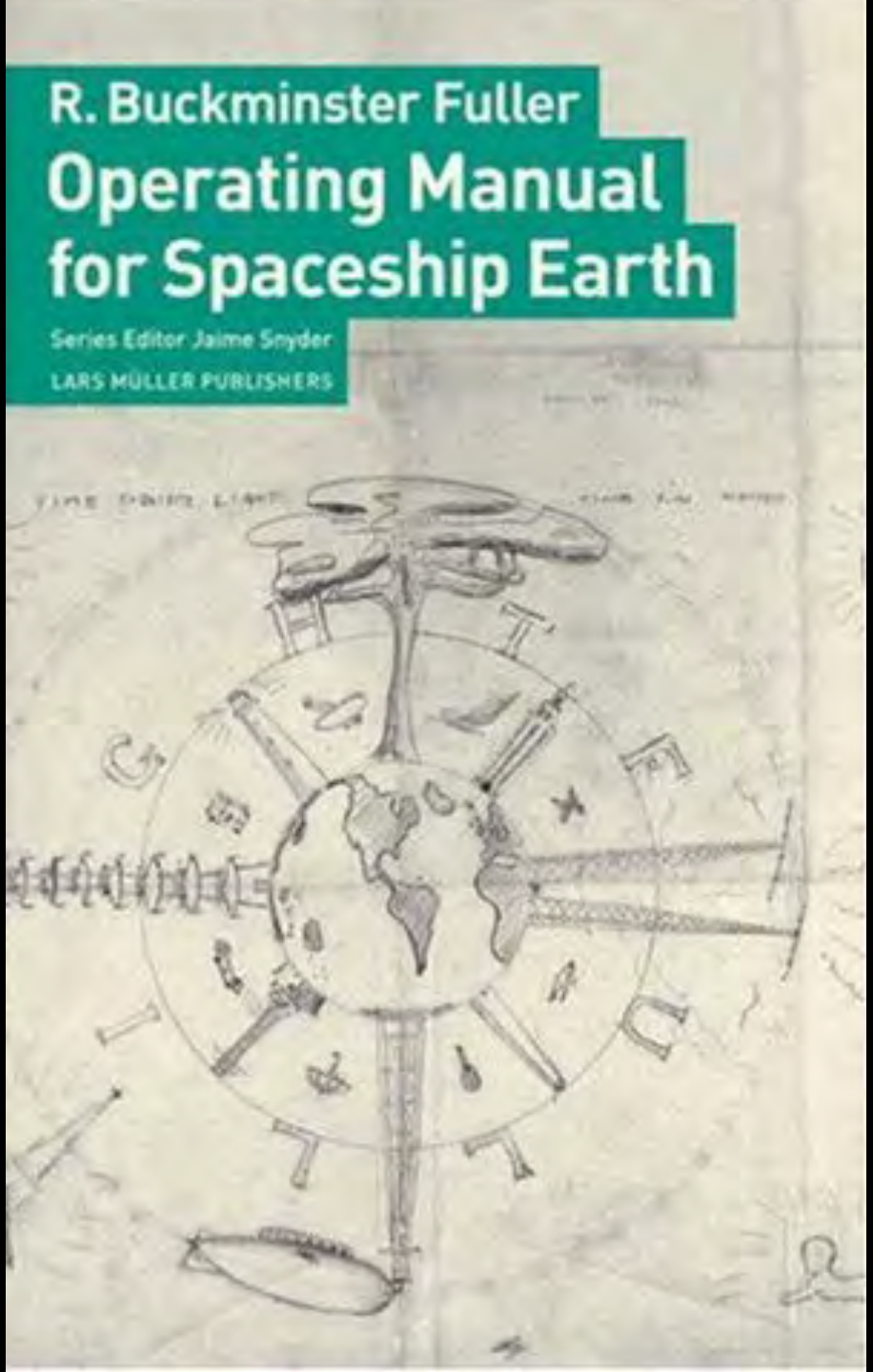
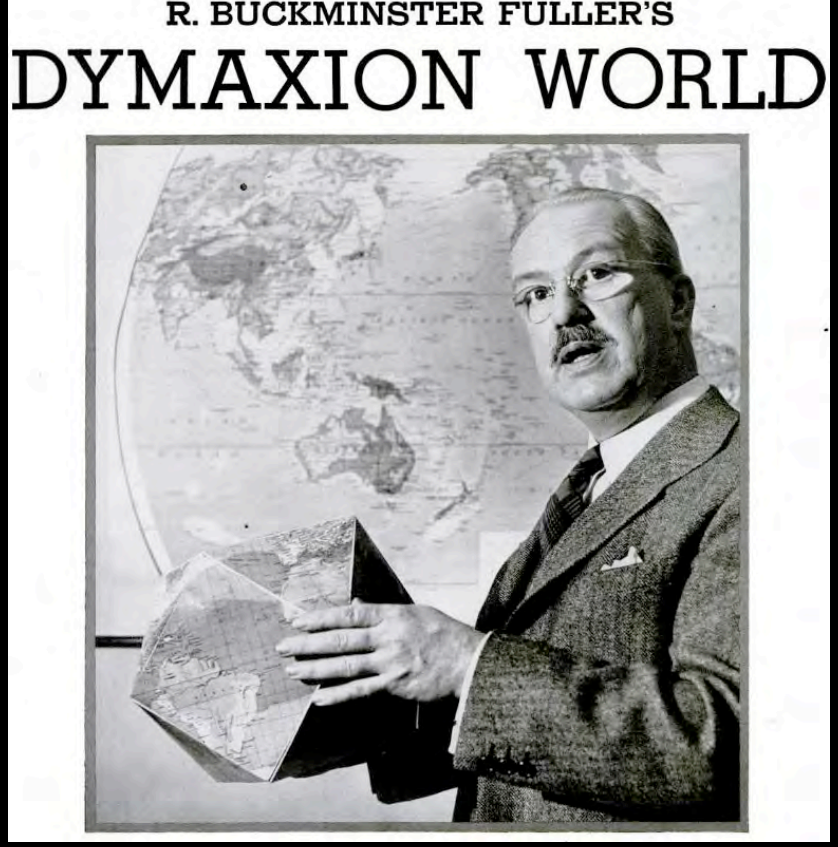
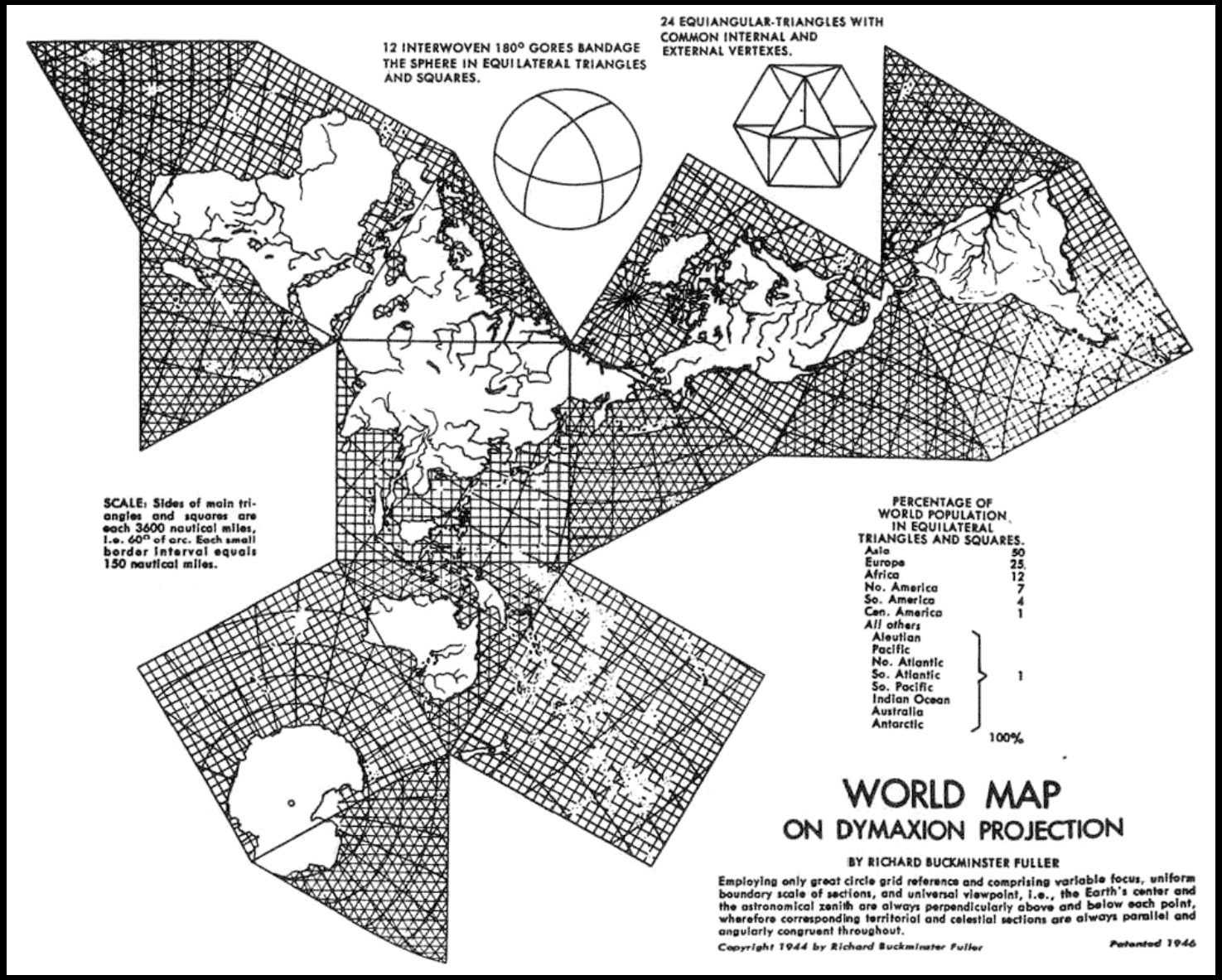
Tetrahedron City, **Yomiuriland, Japan, aerial perspective,** 1968





Life magazine, March 1, 1943, "Life Presents R. Buckminster Fuller's Dymaxion World"



The **Dymaxion map** or **Fuller map** is a projection of a world map onto the surface of an icosahedron, which can be unfolded and flattened to two dimensions. The flat map is heavily interrupted in order to preserve shapes and sizes.