FULLER

BIOGRAPHY

Driven spontaneously by the brain's
Experience assessing and sorting mechanisms
Billions of children start collections --
Coins, seashells --.
My brother collected stones.
I collected papers with my name on them
As written or printed by someone else
Letters, post cards, pictures
Bills, programs, school reports.
My collection, though weighty,
Was less bulky than my brother's
And easier to transport
Between our summer and winter homes.

As a consequence of surprises
Emanating from my collection's
Progressive patterning
In 1917, at the age of 22
I made a grand strategy decision

"BUCKY"
by Buckminster Fuller

Beginning in 1917, I determined to make myself the guinea pig in a lifelong research project; i.e.: -- documenting the life of an individual born in the "Gay Nineties" (1895), the year automobiles were introduced, the wireless telegraph and the automatic screw machine were invented and x-rays were discovered; having his boyhood in the "Turn of the century"; and maturing during humanity's epochal graduation from the inert, materialistic nineteenth into the dynamic, abstract twentieth century.

Had I perceptivity at that time equal in magnitude to the scale of my intuitive prospecting of forward events this case history's era might have been more accurately identified as that which terminated Sir Isaac Newton's normally "At Rest" and myriadly isolated hybrid world cultures, to which change was anathema, on the one hand; and, on the other opened Einstein's, normally "dynamic", omni-integrating world culture to which change has come to seem essential and popularly acceptable.

Though I lived within seven miles of Boston's center, so new and rare an object was the automobile that I was seven years old when I first saw one. I first drove one when I was twelve. When I was nine years old, the airplane was invented but I did not see one flying until I was fourteen and I did not fly one until I was twenty-three.

Along with millions of other boys, I had been trying to invent that airplane, first, with paper dart models and then with box-kite-like multi-planed gliders. Despite our elders' doubts and engineering's down-to-earth negatives, imminent invention of the "airplane" was everywhere present in the mind-wind of my pre-Wright Brothers knee-breeches years. It is interesting that our latest supersonic and 2000 mile-per-hour planes are beginning to take on the overall shape perfection of those early, paper darts. Children's intuitions are keen.

My extraordinary experiences with the U.S. Navy's World War One galaxy of new tools -- oil burning turboelectric ships, aircraft, diesel engined submarines, radios, automatic rangekeepers, etc., convinced me that the experience pattern of my generation was not to be just one more duplicate generation, in a succession of millions of generations of humanity, with an approximately imperceptible degree of environmental change, as compared to the immediately previous generation.

I was convinced that, unannounced by any authority, a much greater environmental and ecological change was just beginning to take place in my generation's unfolding experience than had occurred between my father's and my grandfather's or between that of my great grandfather's and my great great grandfather's successive generations. I had (and as yet have) their diaries, expense accounts or letters containing descriptions of their lives in their successive undergraduate days at Harvard. They all told of day long trips walking or driving from Cambridge to Boston via Watertown Bridge. I realized intuitively that the subway, which opened to connect Cambridge and Boston in seven minutes in 1913 during my freshman year at Harvard, was a harbinger of an entirely new space-time relationship of the individual and his environment.

It was clearly the environment that was changing and though the environment changes might not alter man's genes changes in his external conditions might permit man to realize many more of his innate capabilities. Dwellings are environment modifying machines. So are automobiles. Automobiles are little part time dwellings on wheels. Both autos and dwellings are complex tools. Both autos and dwellings are component tools within the far vaster tool complex of world embracing industrialization. Life continually alters the environment and the altered environment in turn alters the potentials and realities of life. Environment embraces a complex of non-simultaneously occurring but omni-integrating, or inter-stimulating and therefor inter-regenerating mutations of man's integral, internal, metabolic regeneration organisms on the one hand, and on the other of his external, invention realized metabolic regeneration organism which we think and speak of as industrialization.

Even though our Harvard freshman class of seven hundred members boasted only three automobile owners, one of whom was Ray Stanley, whose father had invented and produced the Stanley Steamer, it was even then at least wishfully clear that mankind in general might sometime acquire automobiles. Since that time I have owned successively fifty-six automobiles, three of which I invented and built and have personally driven the fifty-six cars a total of one million and a quarter miles. I have lived long enough in various places to have had my cars registered in ten states. I have flown one million and a half miles, part of that distance in three of my own planes. I have owned many boats, traveled in many others and have commanded several ships in the United States Navy.

My total travel, by land, sea and air, aggregates more than three million miles to date and I now find my work taking me annually around the world. This is in no wise a unique record. It is fairly average for millions of men who have responsibilities in the general frontiers of technology, business, and statecraft of evoluting world man.

Three million is paltry mileage for any senior Pan American Airways pilot or for Pan American's founder-president, Juan Tripp, or for Howard Hughes, or the late John Foster Dulles.

Pre-1900 average world man covered only 30,000 miles in his entire lifetime which is only one percent of my mileage to date. There is no longer valid dissent to the concept of an accelerating change in the affairs of man on earth. The average U.S.A. family now moves out of town every four years. My present official address for passport and taxation accomondation is in Carbondale in Southern Illinois. Illinois is the sixth state within which I have had successive voting privileges. Whether I am "in residence" or not my land, my house and I whirl constantly around the Earth's axis together at about 800 miles per hour as all the while our little space ship Earth zooms around the sun at thirty thousand miles per hour while at the same time our solar system rotates in its nebular merry-go-round at hundreds of thousands of miles per hour.

In all reality I haven't "left home" as it is usually said of me. My backyard has just grown progressively bigger until now the world is my backyard. "Where do you live?"

and "What are you?" are progressively less sensible questions. "At present I am a passenger on the space ship, Earth", and "I don't know what I am. I know that I am not a category, a hybrid specialization, I am not a thing -- a noun. You and I seem to be verbs -- an evolutionary process. Are we not integral functions of the Universe?"

In 1917, in the U.S. Navy, I had intuited that an inter-multiplicative acceleration of technical events was beginning which would bring about a fundamental reorientation of human life in universe. This concept of accelerating-acceleration which had been discovered by Galileo circa 1600 in respect to the first "Laws of Motion" had not been conceived of however as accelerating our ecological evolution -- up to the date of my intuiting and acting upon its arrival. Discussion of economic and ecologic evolution acceleration does not begin in the intellectual publications until more than a decade later. Nor did my 1922-1927 discovery that -- ever higher tool performance per units of pounds, time and energy as fallout from the weaponry industries into the domestic consumer economy -- when erstwhile weaponry support contractors, sought to exploit their advanced technological position, after their war goods contracts were terminated by progressive obsolescence -- was resulting sum totally in doing ever more with ever less in the domestic economy. The domestic economy had theretofore thought only in terms of more security -- only to be accomplished with more weight -- the more the better. This reversal of affairs seemed to me to suggest that Malthus' dictum that only a few could survive successfully might be wrong. Conversely, it seemed that it could come to pass that all of humanity might become both physically and economically successful even within the foreseeable future. I identified this progressive doing-more with-less as ephemeralization. Though FORTUNE Magazine published my 1922 concept of ephemeralization in 1940 in a prominent manner, and despite ephemeralization having subsequently wrought epochal advancements in the standard of living for two billion previously deprived humans, ephemeralization is a fact which is as yet -- in 1966 -- largely unknown to, or overlooked by the world's professional economists. Nonetheless the combination of accelerating-acceleration and ephemeralization have now brought 40% of humanity into the paradoxical state of bewildered, ergo apprehensive, physical and economic success.

I decided in 1917 to contribute to the scientific documentation of the emergent realization of the era of accelerating-acceleration of progressive ephemeralization. I determined to do so by methodical and chronological inventorying of all the communications in which I was personally involved -- i.e., all in-bound and out-bound correspondence as well as correspondence and documentation concerning me transacted by others. I have kept this life-long file which I call the Dymaxion Chronofile and in 1960 presented it to Southern Illinois University's Morris Library, where it is now installed in a special room in their rare documents' archives.

The Chronofile consists, so far, of two hundred and fifty volumes (half of them now bound in leather), containing (circa) eighty-thousand letters, i.e., 300-400 pages per volume.

The first important regenerative effect upon me of keeping this active chronological record was that I learned to "see myself" as others might see me. Secondly

it persuaded me ten years after its inception to start my life as nearly "anew" as it is humanly possible to do. Thirdly it persuaded me to dedicate my life to others instead of to myself not on an altruistic basis but because the chronofiled first thirty-two years of my life clearly demonstrated that I was positively effective in producing wealth only when I was dedicated to others. Further chronofile observation then showed that the larger the number for whom I worked the more positively effective I became. Thus it became obvious through the chronofile that if I worked for all humanity I would be optimally effective.

In setting about to start life all over again I did not try to make myself a new or different man -- another man. I sought only to allow myself to articulate my own innate motivational integrity instead of trying to accommodate everyone else's prefabricated credos, educational theories, romances and mores as had occurred in my "first life".

One basic tenet of my new volition was that whatever was to be accomplished for anyone must never be at the cost of another. Robin Hood whose story my father read aloud to me when I was very young, and not long before my father died, became my most influential early years' mythical hero. This meant that in my "first life" I had improvised methods in general to effect swift moral and romantic justice for those whom I found in trouble or danger. Foolishly self confident in my "first life" I had often rushed thoughtlessly to assume responsibilities beyond my physical or legal means. This rashness led me into complex dilemmas for in attempting to keep my assumption of responsibilities legal I inadvertently involved my unwitting family dragging them into preposterous financial sacrifices. In inaugurating my new life I took away Robin Hood's long bow and staff and gave him only scientific text books, microscopes, calculating machines, transits and industrialization's network of tooling in general. I made him substitute new inanimate forms for animate reforms. I did not allow Robin any further public relations professionals or managers or agents to "promote" or "sell" him. It seemed obvious that if the new tools which the "new" Robin Hood developed could provide valid man-advantage increases they could inevitably be adopted by society in general as the inexorable emergencies which dictate the proper rate of regenerative gestations of evolution took place.

Along with the Dymaxion Chronofile, I have kept all the tear sheets of newspapers, magazines and programs, etc., in which my work was reported. I have never subscribed personally to a clipping service. Others have done so for brief periods. What clippings I have came into my hands by my own discovery or as a consequence of friends and acquaintances spontaneously sending clippings to me. This record now contains over 3,500 unique items. It begins in 1917. Half of the 3,500 unique items have occurred in the last eight and one-half years.

I am enclosing a curve showing the precise number of separate and individually written news items per annum from 1917 to-date. As you will see, it is a curve of many peaks and valleys. Altogether it constitutes a wave pattern of ever increasing magnitudes, with the valleys never going quite as low as previously and the peaks going ever higher. "Smoothed-up", the record patterns into a ski-shape curve -- an initially long, almost horizontal pattern with its nose finally rising ever more swiftly. It is an accelerating-acceleration curve. The successive peaks relate to my Navy days; my 1918 publication of "Transport" magazine; my 240 Stockade buildings of 1922-27; the 4-D monograph of 1927-28; the Dymaxion House; my publication of "Shelter" magazine; the Dymaxion Car; the Dymaxion Bathroom; my book "Nine Chains to the Moon"; Industrial Man's Ecological Transformation Charts; Energetic/ Synergetic Geometry; Dymaxion Airocean World Map; Fuller House in Wichita; University visiting; Geodesic Domes; my U.S.A. Pavilion for the 1967 Montreal World's Fair; the World Students Design Science Decade; Inventory of World Resources, Human Trends and Needs; my computerized game for Southern Illinois University's Centennial "How to Make the World Work" -- known as the "World Game"; The "World Man Territory Trusteeship" inaugurated on Cyprus under joint auspices of Arch Bishop Makarios and World Academy of Science and Art, Caresse Crosby and myself; scientific publications by others identifying my work with discoveries at various levels of the microcosmic structures of nature; and most latterly to a general admixture of editorial realizations that the separately experienced fundamental disclosures all relate to a total and unified philosophy which emerges as pertinent to the unfolding historical reality.

The preponderance of latest items published relates clearly to my general philosophy and to my world redesigning strategems. There is a dawning awareness that I am saying something realistic when I say "Reform the environment, don't try to reform man". There is a dawning awareness that I may be right in saying we have been asking the politicians to do what only we can do ourselves by cooperative use of our intellects and our innate and politically transcendental integrity. Let automation take over the metabolics and lets go to work with our brains and wisdom.

All these published items are now in the Southern Illinois University Morris Library and the Library has just finished micro-filming them in their chronological entirety. Prints of the micro-film have gone to the New York Public Library, 42nd Street and Fifth Avenue branch. Prints may be had by other libraries and institutions at cost from the S.I.U. Morris Library. All of the items have been indexed by dates, authors, titles and brief summaries. As typical examples, I am enclosing summaries of the one-third century record of items that have appeared in the New York Times, New York Herald Tribune, New Yorker, Time Magazine, Architectural Forum, and the St. Louis Post-Dispatch (to introduce a mid-American continent note into the record). I myself, have been surprised by the shape of the results. For instance, I would have expected that the Architectural Forum would have had many more items than the New York Times, which surmise turned out to be wrong. The score is as follows:

record.) I myself, have been surprised by the shape of the results. For instance, I would have expected that the Architectural Forum would have had many more items than the New York Times, which surmise turned out to be wrong. The score is as follows:

New York Times	220 items
Architectural Forum	86 "
New York Herald Tribune	62 "
Time Magazine	56 "
St. Louis Post-Dispatch	38 "
New Yorker	20 "

I said that by my 1917 determination, I undertook to treat myself as an historical guinea pig and I assure any who may be interested that my files include as many unflattering as flattering items, such as notices from the sheriff, letters from those who thought me to be a crank, a crook, a charlatan, etc. I will say that these negative charges are fortunately infrequent, and to the best of my knowledge--untrue, though the record discloses the ease with which items taken out of context could be negatively inter-related and interpreted.

Because the data constitutes a faithfully comprehensive record, I am now able to comment objectively upon my subjectively disclosed self, approximately as critically as though the subject were another man. As with any book when my subject is prospering I am glad and when he is unprosperous I am sad. That is the extent of my prejudice. I think that the curves may be acceptable as: -the realization of a scientifically disciplined marshaling of the case history, deliberately and methodically undertaken a half century ago. Incidentally, the New York Times was surprised to be developing over so long a period. They have kept an active file on me only during the last eight years.

The curve seems to document that my 1927 prognostication of the ensuing 25 to 42 year unfoldment of the evolutionary patternings in economics, technology, sociology and mathematics, are not only proving valid but are also trending further to accredit my present prognosticating. My 1961 prognostication covering world developments to 1982 as contained in "Education Automation", as published by the Southern Illinois University Press (now in paperback) is trending to be far more spontaneously assimilated than was for instance my "4-D" monograph of 1928.

Possibly a more interesting trend is the acceleration in the curve of the rate at which books by others refer to my work. Books represent a certain amount of research filtering and retrospective processing. The curve of books with references to me, or my work, is accelerating more swiftly than is the general publications curve.

I also keep a record of hearsay items published about my work and reported to me as having occurred over and above the items which I have actually received and entered into the record. There is a fairly constant percentage in the average of uncollected but reported items as ratioed to collected items. Reliable reports of the existence of uncollected items average 25 percent of the number of items collected. The largest

States. There is less and less tendency of the uncollected items to get into my hands as my friends no longer look upon such published treatment of my work as news and therefore do not realize that it might be "good news" for me to receive and thefore worth their taking the trouble to send to me. As it is, the curve of collected items about my work is now averaging better than one individually written news item or story each and every day of the year being published somewhere around the world.

All the while my long, sparse items curve had been developing there also occurred spectacular news eras of famous individuals and events that rocketed into saturation prominence. "Time" magazine has made many studies of the top frequency items. Curves such as the Hitler curve represent tremendous rocket bursts which when super-imposed on my chart, render the peak magnitudes of my "notices" invisible. What is interesting however, is that my curve has been steadily growthful throughout all those spectacularly prominent yet relatively short duration news explosions. It is at least interesting that my kind of curve could go on and on without my ever approaching "popularity" magnitude either as a positive or negative subject. I am well-known in certain limited circles but my wife Anne agrees with my surmise that we will never register in a motel in which the man at the desk will recognize either our "name" or our "face" when we sign the register nor connect my name with any of my work, even if he does vaguely remember that there was a U.S.A. golden "Dome" in Moscow.

I have discovered that one of the important characteristics of most economic trends is that they are too slow in their motion to be visible to man. We cannot see the motion of the stars, or the atoms, or a whirling airplane propeller or even of the hands of a clock. As with the electro-magnetic spectrum, most of the frequencies and motions of the universe are ultra or infra to man's apprehending tunability.

I think I am saying all this because I want to fortify any glimpses and impressions derived from it with some knowledge regarding the reliability of my prognostications, which may have more appropriateness than whether a sampling of people who know about my work shows that the people like or do not like it. I am firmly convinced that I can see clearly regarding a number of coming events and am therefore vitally eager that people should not be hurt by the coming of these events, particularly when I can see ways in which it would be possible not only for them to avoid hurt but even to prosper by and enjoy what now seems to me to be inevitable. Much that I see to be inevitable is unthinkingly opposed by various factions of society. Reflex-conditioned society, facing exclusively towards its past, backs-up into its future, often bumping its rump painfully but uncomprehendingly against the wealth coffers of its future years' vastly multiplying capability to favorably control its own ecological evolution and the latter's freedom multiplying devices.

The publishing world can play a great part in helping people to turn around, to comprehend and assimilate favorable aspects in what has up-to-now often been looked upon as unfavorable -- though often to prove favorable later, but frequently too late to have avoided the (unnecessary) pains of fearful incomprehension which develop into active apprehension and evolutionary debilitation.

CHRONOLOGICAL INVENTORY OF PROMINENT SCIENTIFIC, TECHNOLOGICAL, ECONOMIC AND POLITICAL EVENTS - 1895 TO DATE

upon which has been superimposed the utterly personal chronology of Buckminster Fuller, his family, his discoveries and his inventions, both philosophic and technological.

The integration of the prime world history events with those of one individual and his family at first exaggerates the infinitesimal stature of the individual in respect to humanity's integrated, news processed and arbitrarily classified experience.

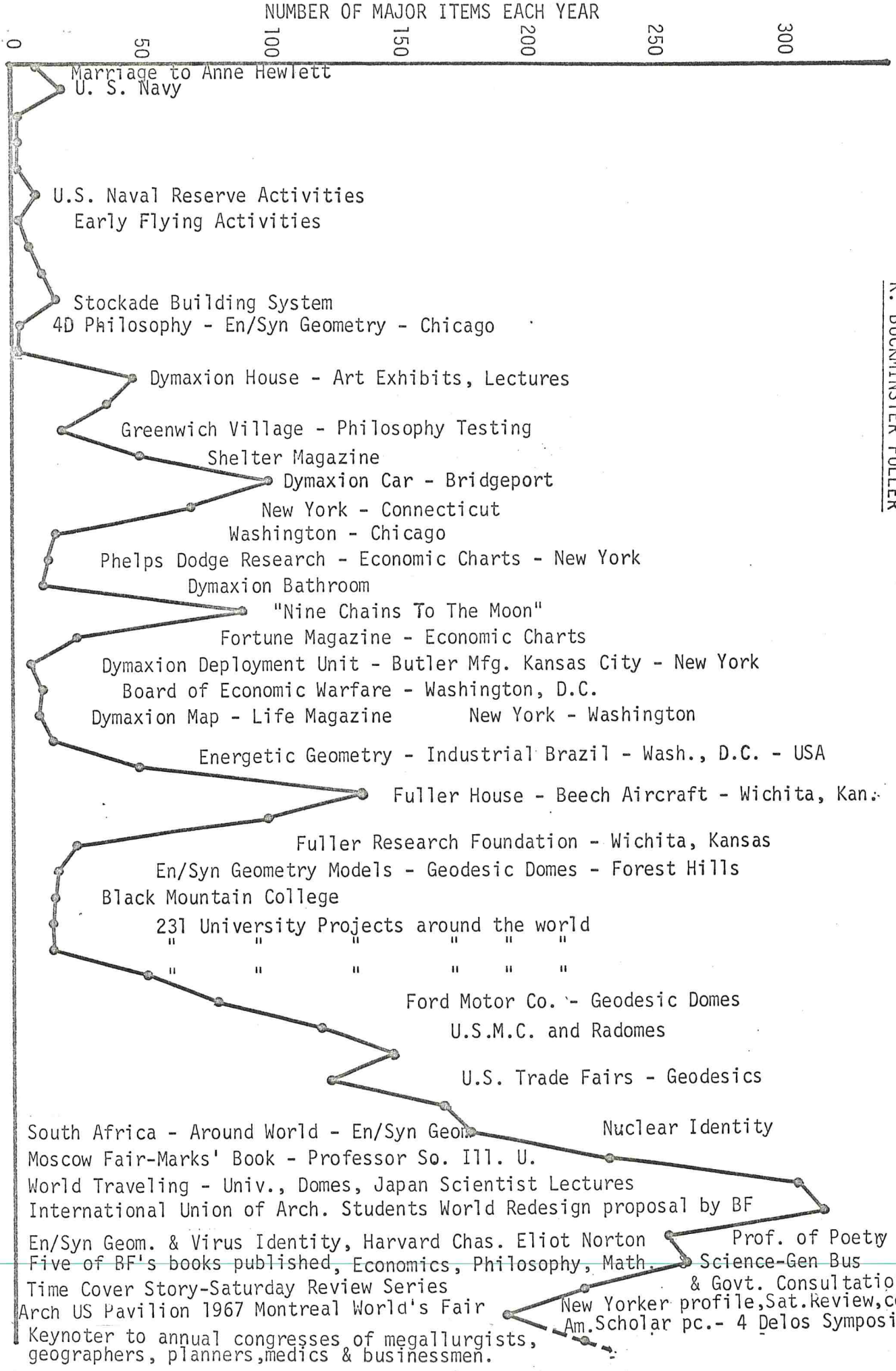
But this exaggerated relationship of the minute individual in respect to the whole is none the less the only possible common direct experience of each and every human being. All else is hearsay.

The inventions of the single individual at first seem irrelevant and preposterous as associated with the great legends of the publicly accredited historical accounting. Gradually, however, the relevancy of the philosophy of the individual to the comprehsive evolution may become visible and his inventions may gradually appear feasible, even logical if he persists and learns how to perfect them both by inclusions and refinements.

If the individual were not moved by the seeming significance of his undertakings as exaggeratingly disclosed in this chronological juxtaposition of men and man he would not have an adequately sustaining drive to reduce his inventions to commonly inhibitable practice and possible common advantage.

Taken out of the context of scientific search for data apparently governing and motivating the individual inventor in the era of the massive corporation and the massive state and the latter's apparently staggering economic and political starting advantage over the prime design initiative of the individual the following record could only be classified as egotistical. However, it was compiled and is submitted in scientific earnest, by its only possible direct observer.

R. Buckminster Fuller



MAJOR NEWS ITEMS
ABOUT
R. BUCKMINSTER FULLER

Because the lag between the dates of invention and common public use average 22 years, the dates of the inventions listed must be considered only as harbingers with their effective industrial realizations and public advantaging variously postponed.

1895 Automobile (first U.S.A. gasoline engined) designed under Charles Duryea's U.S. patent; wireless telegraph; automatic screw machine invented; X-rays discovered. First diesel engine. R. Buckminster Fuller born, July 12, Milton, Massachusetts, U.S.A.; Cleveland, President. At this time Flat Iron Building, 22nd St. & Broadway & 5th Ave., N.Y. City, was tallest occupied building in world and Eiffel Tower, built in 1889 and 1056 feet high was tallest man-made structure in world and remained tallest until Empire State Building of 1250 feet erected in 1930.

1896 Steam turbine, disc plow; Anne Hewlett (B.F.'s future wife) born, January 9, Columbia Heights, Brooklyn, New York, U.S.A.

1897 Electric trip hammer drill; William McKinley becomes President.

1898 Electron discovered; Spanish American War begins.

1899 Flotation of ore (oil); B.F. enters kindergarten, makes octet-truss.

1900 Escalator; Caterpillar tractor; dirigible baloon (Zeppelin); electric steel making; mercury lamp; Quantum theory, by Max Planck; President Cleveland elected (second inauguration)

1901 Wright Brothers' glider; gas welding; Marconi's trans-Atlantic radio telegram; yellow fever vanquished. B.F. enters elementary school. President McKinley assassinated.

1902 Radio telephone; photos by wire, (both in lab. only). Mt. Pelee erupted Martinique destroying 30,000 people, powerful impression B.F.

1903 Around the world telegram 12 minutes; Wright Brothers' gas engine propelled airplane flight, Kitty Hawk, N.C.; airplane 'super-charging', turbo-generator; ultra microscope (arc light); oil burning steamship. Ford Motor Company founded beginning of mass production automobiles.

1904 Theodore Roosevelt elected president; reinforced concrete; Russian-Japanese War; N.Y.C. Electric Rapid Transit "Subway" opened 42nd to 14th Streets. (B.F.'s Uncle Waldo Fuller a chief engineer of project. Uncle Waldo Fuller, a Harvard football great of 1883, who had gone to Klondike in the gold rush was Bucky Fuller's boyhood's

greatest living hero.) B.F. enters Milton Academy, lower school. His parents travel to Europe and South America. B.F. and family go to Penobscot Bay, Maine, buy Bear, Compass and Little Spruce Head Islands.

1905 Einstein's relativity. B.F.'s family occupy Bear Island, Maine as summer home.

1906 Sperry Gyrocompass; radio vacuum tube; crystal radio detector. BF enters Milton Academy, upper school. San Francisco earthquake and fire.

1907 Ford's model "T" automobile inaugurates major world mass production industry; demountable tires; Bakelite (phenolic resin plastic); B.F.'s father has stroke, brain clot.

1908 East River (LIRR) and Hudson railroad tunnels; President Theodore Roosevelt re-elected. Fire destroys Chelsea, Mass., witnessed by B.F.

1909 Bleriot flies English Channel; North Pole discovered by Admiral Peary, April 6; Typhus vaccine discovered.

1910 Salversan discovered; Albany to New York Curtis flying boat flight; B.F.'s father dies.

1911 South Pole discovered by Amundsen, December 14; atomic nucleus proton discovered; hydro-plane; pulmotor; gyrocompass servos. (Sperry)

1912 President Taft elected; vitamins. (President Taft rode in a "White" Steamer Automobile made in Cleveland, Ohio). S.S. Titanic sunk in collision with iceberg; first S.O.S.; New Orleans music - "Alexander's Ragtime Band", Turkey Trot, begins, U.S.A. new type music and dance, displacement of classical and European dances.

1913 Tungsten incandescent lamp; gasoline "cracking" process; B.F. graduates from Milton Academy and enters Harvard University in class of 1917. U.S.A. internal monetary system goes off gold standard and establishes Federal Reserve System (as private banker's gold becomes inadequate to implement new industrial mass production magnitudes of trade. But Federal Reserve as yet in private banker management,as the Alexander Hamilton U.S. constitutional interpretation or the dogma persisted that U.S. government had no fundamental wealth initiative and must borrow all wealth from private bankers and repay them through collection of taxes, tariffs and excises. B.F.'s Milton home sold.

1914 Military tank; regnerative radio circuit; chrome-nickel-steel; Panama Canal; World War I begins. B.F. expelled then reinstated at Harvard College after intensive experience as a millwright in cotton mill at Sherbrook, Quebec.

1915 Transcontinental telephone; gas warfare. radio telephone. B.F. expelled from Harvard second time. Employed in New York City by Armour and Co. worked in 28 branch houses throughout greater N. Y. City, working 3 a.m. to 5 p.m. daily. Woolworth Building, New York City, 792 feet high, 60 stories, succeeded Singer as world's tallest occupied building and remained tallest until exceeded by Empire State Building fifteen years later (1930).

1916 Stainless steel (secret World War One accomplishment) does not get into commercial use until 1928.
Depth bomb; President Wilson elected.
S.S. Lusitania sunk by German submarine.
B.F. and .AH.F. engaged, B.F. corporal at U.S. military training camp, Plattsburg, New York.

1917 U.S. into World War I; Russian Revolution; U.S.S.R. born; Anne Hewlett and Buckminster Fuller married at Rock Hall - which was Hewlett family homestead at Lawrence, Long Island, New York, for one hundred and thirty years. Rock Hall built by Josiah Martin, British Governor of Antigua and his son Josiah Martin, British Colonial Governor of North Carolina as their joint summer mansion about 1750. Rock Hall used by English as Tory Headquarters in Battle of New York during American Revolution. Rock Hall now a public museum of Nassau County, New York, given by Hewletts to the public in 1946. B. Fuller enrolled March, 1917, Ensign U.S.N.R., Ensign U.S.N., Lt. (JG) U.S.N. B.F. to U.S. Naval Academy, Annapolis, Maryland special course. Then to active war zone Atlantic tropp transport duty as personal aide Admiral Gleaves, who commanded cruiser and transport forces U.S. Atlantic Fleet. Service in U.S.S. Great Northern, U.S.S. Seattle.

1918 World War I Armistice Nov. 11; Buckminster and Anne Fuller's first child, Alexandra Willets Fuller, born December 12. Electron employed and development of mass spectroscopy.

1919 U.S. Navy flying boat NC-4 flies Atlantic in three jumps, Newfoundland, Azores, Lisbon, Spain, May 16-27; trans-Atlantic two-way radio telephone conversation; U.S.S. Geo. Washington in Brest Harbor, France, to Arlington Tower, Washington, D.C., U.S.S. Geo. Washington was transport which carried President Wilson to France for his Versailles

Treaty and inauguration of League of Nations. B. Fuller assigned temporarily to U.S.S. Geo. Washington at this time; Alcock and Brown fly Atlantic in airplane non-stop, Newfoundland to Ireland, June 14-16; British dirigible R-34 crosses Atlantic, England - U.S.A., July 2. Nov. 1 - B.F. resigns from U.S. Navy as his admiral assigned as commander-in-chief Asiatic fleet and B.F.'s daughter Alexandra successively contracted infantile paralysis and spinal meningitis in N.Y.C. B.F. became assistant export manager of Armour & Co. in their N.Y.C. headquarters in new Equitable building at 120 Broadway. B.F., Anne and Alexandra live in house on Pearsal Place, Lawrence, Long Island, N.Y.

1920 Neutron discovered; commercial radio broadcast of voice; President Harding elected; League of Nations began, Geneva, Switzerland, (minus U.S.A.)

1921 Alcoholic beverage prohibition begins in U.S.A. B.F. resigns from Armour & Co. to become National Acct. Sales Manager of Kelley-Springfield Truck Co. with office in Equitable Bldg., N.Y.C.

1922 Practical automobile self-starter (Bendix); air conditioning; insulin; radar; B.F. resigns Kelley-Springfield Truck Co. and starts career as independent enterpriser. Stockade Blocks invented by B. Fuller's father-in-law, J.M. Hewlett and manufactured by Buckminster Fuller; Bucky and Anne's only child, Alexandra Willets Fuller dies, November 14, just before her fourth birthday. A.H.F.'s mother dies, and her brother, Willets, killed in auto accident.

1923 House oil burners. B.F. and Anne live in apartment. East 95th St.,N.Y.C.

1924 President Coolidge elected. First dynamic loudspeakers on radio sets, using Major Armstrong's regenerative circuits; First inter-city auto bus line's established - Chicago to Detroit. Fageol twin coach - Greyhound buses. B.F. and Anne have apartment East 94th St.,N.Y.C.

1925 First commercial airline Detroit to Chicago; phototelegraphy.

1926 Transcontinental airmail carried cloth-covered wing, biplanes. Electric refrigerator; talking, moving pictures; Amundsen, Nobile fly to North Pole in Italian Dirigible; Richard Byrd flies Norway to North Pole and return, May 9, in airplane. B.F.'s five Stockade Building System companies have their blocks and building system employed in total of 240 homes and commercial buildings between 1922-1927. B.F. resigns as President of the Stockade Company.

1927 Television (laboratory only, not in popular use in U.S.A. until 1947); Photo electric cell; Lindberg flies airplane "Spirit of St. Louis"

across Atlantic, N.Y. to Paris, non-stop, May 20-21. Heisenberg's indeterminism; Holland Tunnel under Hudson River, New York to New Jersey; B.F.'s and A.H.F.'s second child, Allegra Fuller, born August 28, Chicago, Ill.; B.F. and family live on Belmont Ave., Chicago. B.F. writes book, 4D, privately published; B.F. founds "4D" company for research, development and patent protection of his Dymaxion house and car. Energetic/Synergetic geometry discovered by BF.; Dymaxion House invented as part of his concept of air-deliverable, mass producible world-around, new human life protecting and nurturing scientific dwelling service industry as means of transferring high scientific capability from a weaponry to livingry focus, thereby to render successful all world's people instead of only a few, on the premise that a comprehensive anticipatory design science could through increased technical efficiency and upping of over all performance per pounds of world resources bring about physical success for humanity -- never to be obtained in political reform -- thereby eliminating fundamental causes of war. i.e., "you or me to the death -- on behalf of yours or mine for there is not enough to sustain both" a seemingly scientific fact established by Malthus in 1835 and classified as secret until the twentieth century.

1928 Teletype; President Hoover elected; dirigible "Graf Zeppelin" flown across Atlantic by Dr. Eckner; Amelia Earhart flies Atlantic, June 17; Sir Charles Kingsford-Smith flies Pacific, Oakland, California, to Brisbane, Australia, in airplane"Southern Cross:, May 31. Both Amelia Earhart and Sir Charles Kingsford-Smith became warm friends of B.F. Ford Introduces Model A, with stainless steel headlight trim.

1929 Aston's closest packing-effect; BF & family move from Chicago to N.Y. World Stock Market crash, "Great Depression begins. Night airmail inaugurated out of Chicago in cloth covered biplanes. BF and family take house Woodmere, Long Island, New York; Coaxial cables; rocket engine (Goddard).

1930 Cyclotron (atom smashers) and jet engine invented and neoprene rubber developed. "Fortune" Magazine, conceived in pre-1929 boom days to service the boom's millionaires and frustrated by the crash comes inadvertently into being as protagonist of the (hopefully) emergent enterprise concept of a self-perpetuating industrial management capitalism, surprisingly escaped from Finance Capitalism's 1929 shipwreck and death, by "drowning", of International Banking as the world's economic master. BF and family have house Johnson Place, Woodmere. BF also has apartment on the roof, Leehigh-Starret Building, NYC. BF sells Navy life insurance policy to finance taking over "T-Square" Mag. in Phila. and renames it "Shelter" Magazine.

1931 Piccard's stratosphere balloon flight; Post and Gaty fly around world by airplane in succession of refuelling short hops; George Washington Bridge opens, 3500 foot span; Ford Trimotor Stout aluminum airplane flown.

1932 Economic depression depth in U.S.A.; President F.D. Roosevelt elected; Boeing and Douglas DC-3 all-metal passenger airplane; inauguration of trans-continental U.S.A. airline services established; 92nd isolation of a chemical element; X-ray diffraction. B.F. closes "Shelter" Magazine after Nov. election of F.D.R. and inauguration of New Deal hoping that economic illls which "Shelter" cited might be corrected. "Fortune" Magazine publishes "The Industry that Industry Missed" sighting BF Dymaxion House as prototype of new mass production house industry.

1933 Dymaxion car (invented in 1927), built and successfully demonstrated by BF in 1933 in old plant of Locomobile Co. at Bridgeport, Conn., as first stage experimental vehicle leading to eventual omni-medium wingless transport propelled and maneuverably controlled by twin, orientable, rocket and jet-stilts. Alcoholic beverage prohibition ends in U.S.A.; Adolph Hitler becomes chancellor of Germany, Jan. 30; U.S. banks failing at rate 5,000 per day; Bank moratorium declared by President of U.S.A., Mar. 6; Mar. 9 Congress gave President power to control money; law upheld by U.S. Supreme Court, February 18, 1935. Approximately all of world's monetary gold paid over to U.S. Government and put back into Kentucky Mountain vaults. World completely off gold standard of exchange. BF, Anne and Allegra live in house, Darien, Conn.

1934 N.R.A. (U.S. National Relief Administration); W.P.A. (U.S. Work Progress Administration); R.F.C. (U.S. Reconstruction Finance Corp., world's largest capital); R.E.A. (U.S. Rural Electric Adm.); T.V.A. (U.S. Tennessee Valley Authority); S.E.C. (U.S. Security and Exchange Commission); and H.O.L.C. (U.S. Home Owners Loan Corp.) B.F.'s mother dies. Sulfanilamide discovered.

1935 B.F. completes Dymaxion Transport #3 -- Displayed at Chicago World's Fair.

1936 Cortisone; First trans-Pacific airplane passenger service. Pan Am. flying boats. BF joins Phelps Dodge Corporation, Research Department. B.F., Anne and Allegra have apartment East 87th St., N.Y.C. B. Fuller as guest performer of Gilbert Seldes - Director of frequent experimental broadcasts of C.B.S. television from Grand Central Station office building studio to 100 experimental sets of C.B.S. executives. Television broadcasts in England.

1937 Atomic fission theoretically envisaged Hahn and Stressman in Germany. Nylon produced. B.F., Anne and Allegra move to apartment 105 East 88th St., N.Y.C.

1938 R. Buckminster Fuller's book, "Nine Chains to the Moon" published. BF joins Fortune Magazine as technology consultant. Munich. Hitler.

1939 World War II begins. Sikorsky helicopter invented.

1940 Plutonium fission. Meningitis vanquished. B.F. leaves Fortune Magazine. Inaugurates Dymaxion Deployment Unit of Butler Mfg., Kansas City. Used as first radar shacks and as air conditioned dormitories of U.S. flyers and mechanics making fly-away delivery of war planes to Russians at head of Persian Gulf.

1941 Penicilin; Pneumonia vanquished; Japanese attack Pearl Harbor, U.S.A. enters World War II. Commercial T.V. inaugurated in U.S.A. but held up until war's end.

1942 B.F. joins U.S.A. Bd. of Economic Warfare, Washington, D.C. Uranium fission. B.F., Anne and Allegra move to 2222 Decatur Place, N.W., Washington, D.C.

1943 Sikorski helicopter successfully flown; R. Buckminster Fuller's Dymaxion projection Airocean World Map published Life Mag., March 1.

1944 First jet airplane (fighter), English; real prototype Dymaxion House manufactured by aircraft industry, Wichita, Kans., under joint auspices AFL-CIO Labor, War Production Board, War Manpower Commission, Aircraft Industry Production Board, Beech Aircraft's Executive Administration; B.F. as Chief Des. Eng. B.F., Anne and Allegra move to 6 Burns St., Forest Hills, N.Y.C. apartment, but B.F. goes to live Wichita, Kans., '44, '45, '46.

1945 Franklin Delano Roosevelt dies, President Truman succeeds; Mussolini executed April 28; Hitler committed suicide April 29; United Nations meets April 25, chartered June 26; first atomic bomb, Alamogordo, (secret) New Mexico, July 16 - Hiroshima, Aug. 6 - Nagasaki, Aug. 9. Streptomycin developed.

1946 Regular trans-Atlantic airplane passenger service begins with prop-driven Douglas DC-4 trans-oceanic "Work Horse" of World War Two; League of Nations dissolved.

1947 Geodesic domes invented by R. Buckminster Fuller. Commercial television broadcasting gets underway in U.S.A. B.F. Black Mt. College.

1948 President Truman re-elected. Aureomycin developed. BF to Mass. Inst. Tech.

1949 Giant electronic computers introduced to implement complex stockpiling

and anticipatory arming and preparation for 3rd World War under title "Cold War"; general industrial automation emerging.

1950 DC-6 airplane passenger service inaugurated. Brink's robbery of million dollars - Boston, Mass. B.F. in heavy university visiting.

1951 Korean War begins. DC-7 propeller driven airplane introduced. B.F. & A.H.F.'s daughter Allegra Fuller marries Robert Snyder.

1952 President Eisenhower elected. Ford Motor Co. River Rouge Geodesic Dome project started - Dec. 26.

1953 Ford Motor Company's 50th Anniversary, Dearborn, Michigan, 93' diameter geodesic Rotunda dome installed as first successful industrial acceptance of R.B. Fuller's concepts quarter century after his 1927 prediction that first realization would be in 1952. Alexandra Fuller Snyder born Nov. 1 (Bucky and Anne Fuller's first grandchild). Polio vaccine (Salk)

1954 Peak Mt. Everest climbed; first atomic powered submarine (U.S.A.) launched; U.S. Marine Corps' family-house-size geodesic dome helicopter air-lifted and delivery at 60 knots, geodesic domes adopted by U.S. Marines for all advanced base enclosures.

1955 DEW Line geodesic radomes installed in Arctic; Salk polio vaccine effective; Jaime Lawrence Snyder, born April 28 (Buckminster and Anne Fuller's first grandson).

1956 Transistor discovered and developed. First trans-continental helicopter flight, 37 hours; first trans-Atlantic telephone cable; U.S.A. International Trade Fairs adopt geodesic domes as main pavilions. First geodesic 100' diameter trade fair dome flown to Kabul, Afghanistan in one DC-4. Dome erected by Kabulians led by one U.S. Engineer in 48 hours. Eisenhower and Khruschev meet at Geneva, with their atomic scientists followed by U.N. Food and Ag. Org. at which time it became publicly known that scientists conceded that Malthus was wrong and there could be enough of everything for 100% of humanity to live at highly successful standard of living but for time being obviously frustrated from realization by world political sovereignties. B.F. first appointment as visiting lecturer So. Ill. Univ.

1957 European Economic Community established; first civilian nuclear power station; history's largest clear span structural enclosure, 384' diameter geodesic dome, Baton Rouge, La.; First Russian Sputnik orbits earth every 1 1/2 hours.

1958 Laser discovered. Geodesic domes go to Arctic and Antarctic and all around earth; first U.S. satellite orbits earth; English inaugurate first trans-Atlantic jet propelled airplane passenger service; first U.S.A. domestic jet airline service inaugurated; U.S. nuclear submarine Nautilus, Commander William R. Anderson, crosses Arctic Ocean and North Pole from Pacific Ocean to Atlantic Ocean submerged below ice cap; R.B. Fuller's Energetic/Synergetic Geometry discovered by nuclear physicists and molecular-biologists to mathematically explain nature's fundamental structuring at the atomic nucleus and virus levels. (See John Grebe, N.Y. Academy Sciences and Dr. Klug Birbeck Col. London U.) B. Fuller makes first of his subsequently multi-annual circuits of Earth in course of fulfilling his regular university appointments in S. Africa, India, Japan, England, etc.

1959 Russian un-manned rocket crash landed on moon; Sputnik II circled moon and radioed photos of 'far side' back to earth; world-around air jet passenger service network established; first nuclear powered commercial motor ship launched; Lunik I, Russian Rocket into orbit around sun as first man-made planet; 200 ft. diameter Fuller-Kaiser gold anodized aluminum geodesic dome as U.S.A.'s International Exhibit Pavilion, Moscow, Russia acclaimed by Khruschev and after fair purchased (full cost) by Russia from U.S.A. Dome now permanent structure in Moscow's Sokolniki Park. B.F. appointed by State Dept. to visit Russia as representative of Engineering in protocol exchange. Russians, in giving dinner for him, stated they had been following his work for 29 years. St. Lawrence Seaway opens; U.S.A.F. Major Rogers flies airplane 2455 mph. B.F. appointed as University Professor (Research) at Southern Illinois University. B.F. and Anne erect geodesic dome home 407 So. Forest, Carbondale, Illinois and move to new home from Forest Hills, N. Y.

1960 President Kennedy elected; 114' diameter 10,000 sq. ft. floor space geodesic dome of Ford Motor Co. delivered by helicopter fully erected; Bathescape navigates one mile inward to bottom Pacific; U.S. Nuclear submarine 'Triton' circumnavigates earth submerged whole way, in 84 days.

1961 Russian Gagarin orbits Earth as first human space man. Men (Russian) orbit earth in hourly cycles in co-rocketing vehicles; 2000 geodesic domes produced by over 100 industrial corporations licensees of R. Buckminster Fuller, primarily air-delivered and speed installed in 40 countries around Earth and in North and South Polar zones between 1951-61. B. Fuller proposes to 2000 architects of Int. Union of Architects at 5th World Congress at London, England to officially initiate Phase I of Design Science Decade 1965-75 which will put world on notice that making world work is an invention initiative and not a

political responsibility and is only solvable by a world design revolution which is the only revolution universally tolerable to diverse political interests of the world; and that the design revolution must be conducted by world-around students under university auspices and supported by professional degree accrediting boards and visiting committees of all the architectural, engineering and scientist professions and officially underwritten by their professional societies.

1962 B.F. appointed by Harvard University as Charles Eliot Norton Professor of Poetry - a one year appointment. 1962 year of transition of comprehensive technology going from dry land into sea and into sky, from visible to invisible because more-with-lessing, through transistors, et al, transfers all basic controls to invisible ranges. One Telstar weighing only one quarter ton displaces trans-Atlantic cables weighing seventy five thousand tons. B.F. establishes "Inventory of World Resources, Human Trends, and Needs" at Southern Illinois University with John McHale as executive director.

1963 World Congress of Virologists Meeting Cold Spring Harbor, Long Island, New York, announced comprehensive discovery of protein shells of viruses as anticipated by B. Fuller's mathematical formula of frequency to second power times 10 +2. Limited Atomic Test Ban Treaty U.S.S.R. and U.S.A. President John F. Kennedy assassinated Nov. 22. Lyndon Johnson becomes President of U.S.A. B. Fuller member of Doxiadis Delos Symposion #1. B.F. delivers world student discourse on Design Science Decade as Int. Union of Architects convene their Sixth World Congress in Mexico City. Seven million dollar railway train robbery Cheddington, England. Telstar communications satellite put into orbit around Earth. Syncom, communications satellite put into 24-hour orbit holding flight position over one point of spinning Earth. B. Fuller made consultant to advanced structures phase of Advanced Research Program of NASA (National Aeronautical and Space Administration). B. Fuller subject of 5 half hour television broadcasts on National Educational Television Network on national hook-up.

1964 Jan. 8 - B. Fuller "cover story" TIME Magazine. U.S. Civil Rights Act, July 2. Khruschev ousted. Lyndon Johnson elected President of U.S.A. B.F. subject of B.B.C.'s first science program on their new wide range Channel Two network on recommendation scientists at Cavendish Laboratory of Cambridge University because T.V. is visual and B. Fuller had discovered the conceptual model bridging between science and the humanities. B. Fuller's serial articles, "Prospects of Humanity" appears in "Saturday Review" Magazine. Anti-Poverty Programs. B. Fuller commissioned as the architect of U.S.A. Pavilion for Montreal's 1967 World's Fair, "Expo 67".

B. Fuller member of U.S.A. team in Dartmouth-Leningrad meeting of "Leading Citizens of U.S.S.R.-U.S.A." assembled by U.S.S.R.'s Academy of Sciences with U.S.A.'s Norman Cousins, Arthur Larson, etc., to discuss all known points of contention between U.S.S.R. and U.S.A. B.F. on Delos Symposion #2. Four volumes of Design Decade and World Inventory of Resources, Human Trends and Needs published by Southern Illinois University.

1965 World's longest tunnel 71/2 miles completed through Mt. Blanc, Switzerland. Churchill dies. First commercial satellite put in orbit to relay inter-continental electro-magnetic wave programs as telephone, television, etc. First space walking by both Russians and U.S.A. astronauts. U.S.A. satellite photos Mars from 7000 mile passing distance and sends pictures back to Earth. Japanese put Geodesic Radome on top of crater's edge at summit of Mt. Fuji and issue memorial stamp of "Pearl in the Crown of Fuji-San". B.F. member of Delos Symposion #3.

1966 Jan. - Russians make first successful instrument package soft landing on moon followed few months later by U.S.A.'s successful duplication of feat as both radio pictures of moon's terrain back to Earth. July - B.F. persuades Arch Bishop Makarios to cede token land of 200 acres from Cyprus sovereignty to World Man under 50-year trusteeship of World Academy of Art and Science, a supra-national organization. B.F. member of Delos Symposion #4.
Jan. 4 - B. Fuller 19-page profile in "New Yorker" Magazine.
Nov. - B.F.'s U.S.A. Pavilion, a 250 foot diameter geodesic sphere,completed at Montreal - to open in April 1967. Plasma propulsion and ion propulsion engines for space travel and ultra high speed first flown by Russians. B.F. inaugurates computer game at Southern Illinois University called "World Game" how to make world work in such manner all of humanity become physical and economic success and all humanity can enjoy all of Earth without one interfering with the other and without any one advantaged at expense of other. B.F. asked to give lecture to scientists, engineers, contractors at Cape Kennedy which explained that fallout from space technology into domestic economy would bring first scientific house in history to world man on Earth which would catalyze physical success on Earth for all humanity.