

## **A. WORLD GAME SCENARIO**

### **A.1 Preamble and Memorandum to those interested in playing World Game**

#### **Preamble**

All those who have attained high scholarly capability assure us that real education is self-education. They also say that this self-disciplining is most often inspired by great teachers who make it seem apparent that it will be excitingly worthwhile to take the trouble to bring one self to apprehend and then comprehend variously pertinent data, phenomena and derived principles. The intimate manuscript records of many great self-educated individuals show that they discern intuitively when and what it is that they want to learn. Thereafter they arrange to do so by four main strategies. The first is by self-conducted experiments, if they are scientists. The second is by going to those live humans who have educated themselves from direct experiences. The third is to contact through books those who have discovered and learned by direct experience but are now dead. Fourthly, they sometimes have recourse to the esoteric and often exquisitely valuable information contained within the word of mouth information system relayed almost exclusively from generation to generation by the directly experienced craftsmen artists.

I am certain that none of the world's problems-which we are all perforce thinking about today-have any hope of solution except through all of world around society's individuals becoming thoroughly and comprehensively self-educated. Only thereby will society be able to identify, and inter-communicate the vital problems of total world society. Only thereafter may humanity **effectively** sort out and put those problems into order of importance for solution in respect to the most fundamental principles governing man's survival and enjoyment of life on Earth.

#### **Memorandum**

**To: All those inquiring about or concerned with the World Game**

**From: R. Buckminster Fuller**

We are grateful for your interest in the activity which I have developed and identify as The World Game. I have described this branch of my work in considerable detail in several instances. My World Game testimony before the United States Senate's Subcommittee "On The Next Fifty Years" was recorded in the Congressional Record.

The published reactions to my World Game have been favorable, but demonstrably confused. As with all such "news" events, some accounts are accurate but inadequate, some are inaccurate, and a very few are

excellent. The articles stress the potentially favorable results to be had, but fail to clarify the scientific process by which they may be arrived at.

. As a consequence of the publicity, a very large amount of inquiry is coming to this office asking for details about The World Game. In many instances, individuals ask to be allowed to carry on World Game seminars in their geographical or scholastic areas.

In view of the foregoing, I find it necessary to state that The World Game is a precisely defined design science process for arriving at economic, technological and social insights pertinent to humanity's future involvement aboard our planet Earth. The processes consist of mathematical procedures not only as incisive and complex as those involved in celestial navigation, or astro-ballistics, or the space program, but even more so-for, in addition to all the variables common to those sciences and The World Game, the latter involves also all the variables governing the planning of the 25-year programs of the industrialization of both Russia and China.

When the Russians' five-year-stepped, 25-year plan was instituted, the Communist party's leaders were dealing with 150 million illiterate, impoverished, non-communist party people. Dealing with 750 million people makes China's problem much more complex. As compared to China's problem, the relatively greater complexity of The World Game ratio of China's 750 million people to the world's five billion human beings of 1985, for that is the probable number of world inhabitants fifteen years hence. That is to say The World Game is seven times more complex than China's quarter century industrialization and thirty-five times more complex than was Russia's industrialization problem. The World Game must find the specific means of making five billion humans a total economic and physical success at the *earliest possible moment without anyone being advantaged at the expense of another*.

The World Game deals in all the terrestrially available quantities of the 92 regenerative chemical elements and all of their isotopes. It deals with all that man has learned in all history regarding the generalized principles operative in the physical universe and all the vast ramifications of technology, industrialization, the behavioral sciences, ecology, *et al.*

The World Game is as meticulously geared to priority scheduling of "first things first" as is the gestation of a human being, or as is the gestation of any of the most scientifically implemented procedures of humanity's sometimes vast undertakings, such as world wars or moon landings.

Unfortunately, in the past, man has applied his vast resources and his most incisive capabilities only to the waging of great wars-, or in preparation for such warring-the space programs having been undertaken by all nations strictly on the basis of the wartime advantages to be gained by ski-spying and astro-ballistics.

The great 25-year industrialization struggles of Russia and China could only be held socially and ideologically together through the paramount working assumption of an ultimate show of arms with the rest of the world. The common assumption of ultimate war by the major political powers of our planet brought about the development of *World WAR Gaming Science* by the great powers' respective military strategists. World War Gaming Science involved all terrestrial resources. My *World PEACE Gaming Science* changes the basic assumption of fundamental inadequacy of total life support and applies total capability toward the success of all humans.

While all the foregoing seems far too formidable to be coped with by an individual or cooperative groups of individuals, operating entirely outside the great national sovereignty establishments I was able, in 1927, to realize that these great capabilities could be mounted to all humanity's advantage if adequate economic support were mustered. What struck me profoundly at that time was that man's greatest productive and scientifically informed capability was being focused only on war simply because all the major governments in the world were convinced that Earth could not sustain the lives of the many humans that were born on the planet and, in fact, could sustain but a minority.

The great sovereign powers' world struggle game was that of "musical chairs" to decide, by warfaring at its ever most modernly lethal, who would be the fortunate ones to survive. But my 1927 thoughts were inspired by my 1917 observation of the first faint dawning streaks of technological information, which indicated ever-increasing capability to accomplish ever greater and more incisive tasks with ever less weight

## World Game Scenario

of material, kilowatts of energy and minimum of time per each given accomplishment-while all the energy of universe-associative as matter and disassociative as radiation intertransformed without loss and the human intellect's "knowhow" continually increased.

This technological dawning, was first manifest in the swift increase of the horsepower of airplane engines, accomplished with ever less pounds of material per horsepower and in the wireless radio communications across oceans displacing the earlier vast tonnages of cable. Malthus could not foresee that refrigeration and hermetic packing would hold foods in good condition for indefinitely prolonged periods, which foods in his time often rotted in the fields because there were not enough local consumers, and would perish before reaching the masses who dwelt at too great a distance thereby to be sustained. Starting in 1917 the visibility of hundreds of such indicators urged me to inquire and preoccupy myself with research studies which might disclose whether the trending to do more with less could make possible the employment of the total resources of planet Earth in such a manner as to be able to support all of humanity at a sustainable level superior to any heretofore experienced or dreamt of by even the most successful of humanity's of the past or present. If this could be done, how long did my studies indicate it would take? By what series of design science strategies and steps was I able to discern that this total success for all humanity was feasible and chronologically predictable?

This self questioning, answered by experimentally disclosed data, was the beginning of what today I call The World Game. My 1927 studies did discover the feasibility of high standard and continuable sustenance of all humanity. They did disclose that unprecedented design science strategies could bring about such results. Those involved in the 25-year industrial plannings of the Russian and Chinese programs have retrospectively found my World Game disclosures of 1927 to be widely congruent with the priorities, design science techniques and stages of development that emerged as essential in their experience.

For all the foregoing reasons, it is important that any who are seriously interested in my World Game read with care exactly what it is that I have disclosed as evolving, and much that I have written about my disciplines in so doing.

By 1927, at the age of 32, I had inadvertently acquired a widely variegated background of technological, scientific, U.S. Naval, construction, management, and economic experience which spontaneously and synergetically produced my philosophy which assumed that experience taught that all physical behavior problems of humanity could be solved best, most expeditiously and lastingly by competent rearrangement of the physical constituents of the environment and in such a manner as to induce human behaviors which, in turn, would be productive of overall and local advantage for all of humanity.

I had a powerful experience in primitive living on a small island located ten miles offshore in the State of Maine. I was a proficient sailor, woodsman and technical device improviser.

I had been well-schooled in physics, mathematics, biology, having entered Harvard from Milton Academy with top honors in those subjects, and good grades in languages, history, *et al.* I had been captain of five successive small U.S. Navy craft, had completed a special course at the U.S. Naval Academy at Annapolis, had been a Watch Officer on large troop transports of World War One, and had been confirmed as a Lieutenant with number in the "Line" of regular U.S. Naval Officers. I had been personal Aide to the U.S. Admiral commanding the World War One overseas transports and personal Aide to the Commander of the U.S. Asiatic Fleet. I had become Assistant Export Manager of Armour and Company, the great packing house which produced basic foods and distributed them around the world. I had been national Account Sales Manager for one of the five leading U.S. truck manufacturers. I had organized six companies and built and equipped five factories in five states to produce the materials with which I built two hundred and forty structures ranging from factories to residences.

When I invented and inaugurated World Peace Game playing and comprehensive anticipatory design science I had been married ten years (my wife and I celebrated our fifty-third wedding anniversary in 1970). On our tenth wedding anniversary we had experienced the infinite anguish of having our first child afflicted with the then "incurable" infantile paralysis, spinal meningitis. She died at the age of four after our three-year struggle to save her, all the while living under the conditions imposed by a weekly salary of fifty dollars. Two trained nurses took all the salary and this led me into deep debt. Five years after our first

child's death, our second child was born in 1927 just as all of my attempted production and building enterprises had been maneuvered by others "out from under" my economic control. Immersed in these environmental conditions and with no further economic support available from any other human beings, I undertook to do what I have described in this two-hundred word, unpunctuated sentence which, forty years later, was published by the Saturday Review:

### **What I Am Trying to Do**

"Acutely aware of our beings' limitations and acknowledging the infinite mystery of the a priori universe into which we are born but nevertheless searching for a conscious means of hopefully competent participation by humanity in its own evolutionary trending while employing only the unique advantages inhering exclusively to the individual who takes and maintains the economic initiative in the face of the formidable physical capital and credit advantages of the massive corporations and political states and deliberately avoiding political ties and tactics while endeavoring by experiments and explorations to excite individuals' awareness and realization of humanity's higher potentials I seek through comprehensive anticipatory design science and its reductions to physical practices to reform the environment instead of trying to reform men being intent thereby to accomplish proto-typed capabilities of doing more with less whereby in turn the wealth augmenting prospects of such design science regenerations will induce their spontaneous and economically successful industrial proliferation by world around services' managements all of which chain reaction provoking events will both permit and induce all humanity to realize full lasting economic and physical success plus enjoyment of all the Earth without one individual interfering with or being advantaged at the expense of another."

It was my deeply and personally experienced familiarity with World War gaming, as played by the United States Navy and with large scale operations such as the handling of the fleet of 130 large ships which transported one million men over and back across the Atlantic Ocean, and with the Asiatic Fleet operations and world around food distribution management, broad building experience and factory operation that taught me of the necessity to do whatever you do with as greatly combined hindsight and foresight as humanity progressively may muster. I had learned the futility of "hot air" sessions and on the general public's ignorance of the essentiality of *intuition*, *competence* and *integrity*-the three biggest words in my vocabulary.

Since that 1927 period of self-examination, resolve and evolvement of a philosophy, I have reduced many problems solutions to practice and my many problems solutions to practice and my many reductions have come into the everyday environmental use of people all around our planet Earth.

All those who are inspired to look into The World Game must swiftly learn to realize that without such experience, self-examination, conceptual enlightenment, and highest resolve, my World Peace Gaming Science may not be entered into with any humanity-benefitting effectiveness.

All who intuitively feel the urge to participate competently in it should first read all of my books in which my philosophy, my experience and self-disciplining strategies are clearly disclosed.

A list of these books and related magazine articles, an excellent glossary of my personal disciplines, philosophy and techniques, has been prepared in my office and can be obtained upon written application.

In 1969 I was asked if I would be willing to make a moving picture documentation covering the many technologic and philosophic facets of The World Game. Feeling it timely to multiply the number of individuals who might share my knowledge of the research disclosed, feasibility of attaining all of humanity's physical and economic success, and assuming that the documentary film medium and its eventual televised ability constituted the best means of such literacy and hitherto unenvisioned success, I agreed to make such a documentary film. It was my intuitive assumption that the most effective means for producing such a document would be by the filming of my disclosing to university students who chose to convene with me what the ramifications of my strategy of World Gaming consisted, and thereafter leading them in the design science implementation to a meager but sufficient degree for the students as a group to confirm my major data regarding world resources, human trends and needs, and thereafter employing my

## World Game Scenario

“first things first” priority scheduling of design science formulations to explore both by numerical and graphic mathematics, whether the design science innovations were comprehensively tolerable to terrestrial man and what the magnitude of comprehensive advantage for humanity would be if they were instituted; also what the many side-effects would be of each design science move.

This documentation was first instituted at Yale University. Finding the term time and other requisites too limited, a group of applicants from 26 universities and 16 disciplines were chosen from a nationwide influx of applicants who were convened in a workshop in New York City during the summer of 1969.

Fifty hours of documentary film footage were recorded, this being the minimum amount of time within which I was able to inform and instruct the students in sufficient degree so that they might experiment in organizing themselves into the first stage of simulated exploration of my design science strategy in World Peace Gaming. The 26 students verified my general World Resource Data through the United Nations and other World Planning authorities situated in New York and made enough simulated explorations of my design science strategy (in my order of priority of “first things first”) to realize individually by personal experience that they, too, were suddenly realistically envisioning that all of humanity could become not only physically and economically successful, but that this could be accomplished within decades.

Never again would they believe or disbelieve something somebody else had told them; they would henceforth start from experimentally disclosed data-no more axioms! It was as if they had come from a vast desert of ignorance and thirsty for knowledge had come upon a body of potable water sufficient to sustain all human life.

The repercussions of the publishing of the World Game findings has tended to mislead many people into the feeling that they could undertake to play it without any special experience or preparation. A number of such hopefully initiated “World Game Seminars” have made it clear that individuals not properly led by myself soon become aware of their own inadequacy of experience and thought and become deeply and completely involved in self-examination with all its truthful and comprehensive thinking.

Such group preoccupations in self-examination someday could lead some of those individuals to gain the experience and knowledge which would qualify them to participate in the design science complexities of World Game.

Because many of these important excursions into self-examination were undertaken with the purpose of trying to play World Game, their detours were improperly identified as World Game. Because World Gaming does have high potentials for humanity, and does tend to stimulate interest and enthusiasm of increasing import that any activity which is not World Game as specifically defined by me should not be labelled World Game. Such activities may be appropriately identified as World Game Philosophy Seminars.

I invented the name World Game to identify my 43-year-long developed comprehensive anticipatory design science exploration. I have applied for copyright and trademarking of the name. Henceforth, the only activity to be identified as World Game is that which I have described in the earlier mentioned Congressional Record.

The Southern Illinois University Edwardsville campus installation is not yet funded. The University may go forward with buildings to house the activities on the basis that the wired integration of the many university computers may obviate the need for an additional computer at S.I.U.’s Edwardsville campus. There is only the need for proper housing of the design science moves and their consequences.

The use of accelerating and decelerating moving picture film to bring into human cognition those trends and processes which, at present, are nondirectly apprehendable by humans, as well as my world map to display the computer comprehensively processed data are all outlined in my Senate testimony.

Several of the students who participated in my 1969 World Game documentary film-making have become so enthusiastic as to commit themselves to illumination of others regarding the human potentials they now envisage. On their own initiative, they have become proliferators of popular awareness of feasible hopes for humanity which had not previously existed. Far from wishing to dull this spontaneous enthusiasm, I admire extraordinarily the initiative of those individuals. I realize, however, that vast public misapprehension of what the World Gaming consists may have deleterious effects. I, therefore, wish to

exercise whatever credit my fellow humans may accord me by asking that all concerned make it clear that the full implementation of World Gaming, as I envisage it, has not yet occurred. I **also** ask that only those activities which I identify in writing as World Gaming be so identified to the public. To those who have been my students, who are attempting to follow my strategies meticulously in initiating studies outside of my direct work, I suggest that they identify their activity as inquiry into the strategies which I employ, but avoid professing that they are engaged in World Gaming.

To those who have studied my:

- (A) **Priorities of the Design Decade (1962); Universal Requirements of a Dwellable Environment (1928)**, or,
- (B) My series of developments of a means for conceiving the integrated significance of the **Conning Tower (1932)**, the **Mini Earth (1951)**, the **Geoscope (1959)**; or,
- (C) My series of Sky Ocean World Map projections as first published in 1938 in "Nine Chains to the Moon," and then in LIFE Magazine in March, 1943, which I attained as a topological transformation of the spherical Earth's surface data displayed as a World Map on a plane surface without visible distortion of either the proportionate size or relative shape of any of the data, while also avoiding any breaks in any of the continental peripheries, while projection altogether provides a non-distorted total world background upon which to show the disposition of the relative percentages of resources per capita and where they exist (either in mines or in recoverable scrap) in relation to where the various percentages of all humanity exist; or,
- (D) My series of world economic charts developed progressively since 1927, as they appear in my "Nine Chains to the Moon (of 1938) or in my Fortune Magazine's tenth anniversary issue of Feb., 1940, or in my Six Volume Series of publications of "The Inventory of World Resources, Human Trends and Needs," 1951-1970,

It is comprehensible that the communications aspect of my work can be vastly augmented by the use of computers and by the use of television, video and the miniturizing trend of cassettes of video communication. It is also clear that millions of people and multi-billions of dollars are at work in developing just such equipment, personnel and know-how, all of which will swiftly catapult the World Game's results into the most important spot news of our next quarter century. Therefore nothing needs to be done, other than responsive servicing by my associates, students, spontaneous colleagues and myself to keep this aspect of World Game evolution in high gear.

While a special computer of unique capability would have been of great advantage yesterday to my World Game work,-today the wired integration of the leading universities' computer facilities provides tie-in capability to an ever more effective total machine to accommodate the World Game at any one headquarter's locale.

What is **not clear** to 90% of those enthused over our insights-regarding total humanity's potential success,-which "long hand" World Gaming over the last forty-three years without a computer has empowered me to select the most effective scheduling of my time, thought and actions and make many multi-decade ahead predictions-now "come true."-**IS THAT THE WHOLE STRATEGY OF WORLD GAMING IS ACCOMPLISHED BY SIMULATED EMPLOYMENT OF MY COMPREHENSIVE, ANTICIPATORY DESIGN SCIENCE WHICH ALONE HAS SHOWN ME HOW TO PROGRESSIVELY ALTER THE FUNDAMENTAL CONDITIONS UNDER WHICH HUMANITY EXISTS AND TO DO SO BY FEASIBLE AND LOGICAL MEANS.**

Fall, 1970