

# Saturday Review

March 2, 1968 35¢

## MUST WE REWRITE THE CONSTITUTION TO CONTROL TECHNOLOGY?

By Wilbur H. Ferry



"Albert Einstein," by Joseph Scharl (National I

## GODDESSES OF THE TWENTY-FIRS

By Buckminster Fuller

43D R77000CRRB3PN564292522FE69  
MICHAEL CORBETT  
5642 PINEFOREST  
HOUSTON TX 77027



(Advertisement)



In 1911, a young Chinese boy applied for a school that selected and trained children for further education in the United States. Then and there, as here and now, the geographic origins of the applicant were a factor. Because this youngster was from the Yangtze River delta region, he lost out. His name was Chou En-lai and he went instead to a school in Tientsin where, rumor had it, they were breeding revolutionaries.

This episode is related in a surprisingly intimate biography, *Chou En-lai: China's Gray Eminence*, by Kai-yu Hsu, just published. The young man eventually went on to Paris, to deepen his taste for revolution and the Communist Party, and on to a commanding position in the land that we call Red China.

Chou En-lai is the one leading figure in the hierarchy who has remained above criticism in the recent "Cultural Revolution." (I prefer my cultural revolutions to take place at 8 p.m. at Lincoln Center.) More and more, China watchers point to Chou as not only a master survivor, but as the continuing power figure.

The biographer grew up in China and during World War II served as a liaison officer assigned to work with the U.S. Army in the China-Burma-India theatre. The liaison was a success. Dr. Hsu took his M.A. in journalism at the University of Oregon and his Ph.D. at Stanford. He is presently Professor of Humanities and Foreign Languages and Director of Area Studies at San Francisco State.

His biography of Chou is a painless and exciting way to learn the history of the Chinese Communists, the movement that began with a "whispering handful of political dreamers who gathered in a girls' school in Shanghai in 1921 . . ." and became the "regime that controls the fate of the largest nation on earth—all within 30 years."

**L.L. Day**  
EDITOR-AT-LARGE

*Chou En-lai: China's Gray Eminence* (\$5.95), by Kai-yu Hsu, is published by Doubleday & Company, Inc., 277 Park Avenue, New York 10017. Copies may be obtained from your own bookseller or at any of the 32 Doubleday Book Shops, one of which is located at 190 Post Street, San Francisco, California 94108.

# Saturday Review

Cover photograph by Peter Fink

March 2, 1968

## SR: Ideas

- 12 **Goddesses of the Twenty-First Century**, by Buckminster Fuller  
*Woman's path through history: Is the female destined for a new, central role in future civilization?*
- 15 **Museum Preview: A Camera Portrait**, by Margaret R. Weiss  
*Washington's new home for a nation's art heritage is revealed as a work of art in itself.*
- 18 **Is Dissent Necessary?: An Editorial**

## SR: Science

- 47 **Baptism of a Mountain**, by John Lear  
*The response of the oceans to creation of the earth's great peaks.*
- 50 **Must We Rewrite the Constitution to Control Technology?** by Wilbur H. Ferry  
*The case for modifying our basic institutions to cope with the consequences of sweeping technical change.*
- 55 **Packaging Pollution**, by David H. Killeffer  
*Technology as servant: The promise of constructive reuse of chemical wastes.*
- 57 **Letters to the Science Editor**

## SR: Books

- 21 **Literary Horizons: Granville Hicks**  
*William Cass's "The Heart of the Heart of the Country" reveals talent of a high order.*
- 21 **Index of Books Reviewed**
- 23 **European Literary Scene: Robert J. Clements**  
*Gleanings from Germany, Italy Cambodia, and Spain.*

## SR: Departments

- 4 **First of the Month: Cleveland Amory**  
*February balance sheet, from Grenoble to Gaffney.*
- 9 **Top of My Head: Goodman Ace**
- 10 **Trade Winds: Jerome Beatty, Jr.**
- 19 **Letters to the Editor**
- 20 **SR Recommends**
- 22 **Literary Crypt**
- 30 **Literary I.Q.**
- 37 **TV-Radio: Robert Lewis Shayon**  
*"Identity, Identity—Who Am I?" James Fleming's "The Actor"—a documentary of prominent British actors unmasked.*
- 37 **Wit Twister No. 49**
- 38 **World of Dance: Walter Terry**  
*Artist-Athletes: Indrani; James De Bolt in "Car Lot"; Suzanne Farrell in "Don Quixote"; Joyce Cuoco at Radio City Music Hall.*
- 39 **The Theater: Henry Hewes**  
*"Plaza Suite": Mike Nichols and Neil Simon strike again.*
- 40 **SR Goes to the Movies: Hollis Alpert**  
*Sidney Lumet's "Bye Bye Braverman"; Albert Finney's "Charlie Bubbles"; Kenneth Loach's "Poor Cow."*
- 41 **Booked for Travel: Richard T. Goodman**  
*With a Little Bit of Pluck: A Victorian invades Japan.*
- 44 **Music to My Ears: Irving Kolodin**  
*In Memoriam, Morton Baum*
- 65 **Kingsley Double-Crostic No. 1769**

Saturday Review published weekly by Saturday Review, Inc., 380 Madison Ave., New York, N.Y. 10017. Chairman of the Board, J. R. Cominsky; President, Norman Cousins; Vice President and Treasurer, Nathan Cohn; Vice President and Secretary, W. D. Patterson; Advertising Director, Harry T. Morris; Director of Advertising Services, Robert A. Burghardt; Director of Promotion and Research, Stephen E. Silver; Circulation Director, R. F. Goodman; Circulation Consultant, Bert Garmise; Assistant to the Publisher, Marion Urmey. Subscription \$8 a year. Member Audit Bureau of Circulations. Vol. LI, No. 9, March 2, 1968. Second class postage paid at New York, N.Y. and at additional mailing offices. Indexed in the "Readers' Guide to Periodical Literature." © 1968 by Saturday Review, Inc. All rights reserved under the Berne and Pan-American Copyright Conventions. Reproduction in whole or in part of any article (in English or other languages), without permission is prohibited. Printed in the United States of America. Unsolicited manuscripts cannot be returned unless accompanied by a properly addressed envelope bearing sufficient postage. Send all remittances and correspondence about subscriptions, undelivered copies, and changes of addresses to Subscription Department, SATURDAY REVIEW, 380 Madison Ave., New York, N.Y. 10017. BRANCH ADVERTISING OFFICES: Chicago, Richard K. Sullivan, 401 North Michigan Avenue, Chicago, Illinois 60611; Detroit, Bruce E. Miller, New Center Building, Detroit, Michigan 48202; West Coast Offices: San Francisco, Fletcher S. Udall & L. H. Sanford Heckinger, 417 Montgomery Street, San Francisco, California 94104; Los Angeles, Fred Beck, 3850 Wilshire Blvd., Los Angeles 90005; Southeast Office: Ray Rickles & Co., 3783 Pine Tree Drive, Miami Beach, Florida 33140. Printed by the McCall Corporation, Dayton, Ohio.



Buckminster Fuller

## Goddesses of the Twenty-First Century

Early civilizations worshiped woman, but the male became predominant. Evolution now seems to be restoring the female to a central role beyond any previous one.

**T**HE first census of population in the United States was taken in 1790. In 1810 the U.S. Treasury conducted the first economic census of the young democracy. There were at that time 1,000,000 families. There were also 1,000,000 human slaves. This did not mean that each family had a human slave; far from it. The slaves were owned by relatively few. The Treasury appraised the monetary value of the average American homestead—lands, buildings, furnishings, and tools—to be worth \$350. The Treasury appraised the slave as worth \$400. It was estimated that the wilderness hinterlands of America were worth \$1,500 per family.

Let us assume that the united American citizens of 1810—practicing supreme wisdom—had mustered their most reliably esteemed and farsighted leaders and had asked them to undertake a 150-year grand economic and technical plan for most effectively and swiftly developing America's and the world's life support and advantaging potentials—to be fully realized by 1960. At that time, it must be remembered, the telegraph had not been invented. There were no electromagnetics nor mass-production steel. Railroads were as yet undreamed of—

R. Buckminster Fuller—scientist, mathematician, writer, philosopher, inventor of the geodesic dome and other design-science innovations—is on the faculty of Southern Illinois University, Carbondale, Illinois. This article is printed by special arrangement with *McCall's* magazine, which is publishing a portion of Mr. Fuller's paper in its March issue.

let alone wireless, X-ray, electric light, power by wire, and electric motors. There was no conception of the periodic table of the atoms or of the electron.

Under those circumstances of an assumed capital wealth of the United American States—both public and private—amounting to only \$3 billion, it is preposterous to think of humanity's most brilliant and powerful leaders electing to invest their "all" of \$3 billion in a "thousand times too expensive" \$3 trillion undertaking. However, such an expenditure for these very purposes was circumstantially conceded during the ensuing century and a half, but only under the war-enforced threat of disintegration of the meager rights won thus far by common man from tyrannical powers of an often ignorant and cruel few.

In 1810, it was also unthinkable by even the most brilliant leaders that 160 years hence, in 1970, the gross national product of the United States would reach \$1 trillion per year. (This is to be compared with the meager \$40 billion of the world's monetary gold supply.) Assuming 10 per cent interest, this 1970 U.S. trillion-dollar product would mean that a capital base of \$10 trillion was operative within the United States alone—where the 1810 national leaders had accredited only \$3 billion of capital assets. That is, the wisest in 1810 recognized only 1/300 of 1 per cent of the immediate value of the United States's share of humanity's potentials. Of course, those wisest men of the times would have seen little they could "afford" to do.

Our most reliable, visionary, and well

informed great-grandfathers of 1810 also could not have foreseen that, in that meager century and a half of the billionsfold greater reaches of known universal time, the human life span would be trebled; yearly real income of the individual would be increased tenfold; the majority of diseases would be banished; human freedom of realized travel increased a hundredfold; humans would be able to whisper effortlessly in one another's ear from anywhere around the world at a speed of 700 million miles an hour—their audibility clearly reaching to the planet Venus; and human vision on Earth would be increased enough to see local pebbles and grains of sand on the moon.

**N**OW, in 1968, 99.9 per cent of the accelerating accelerations of the physical environment changes affecting all humanity's evolution are transpiring in the realm of the electromagnetic spectrum that is undetectable directly by the human senses. Because the prime evolutionary transformations are invisible, it is approximately impossible for world society to comprehend that the changes in the next thirty-three years—ushering in the twenty-first century—will be far greater than in our just-completed century and a half since the first U.S. economic census. We are engulfed in an invisible tidal wave that, as it draws away, will leave all humanity, if it survives, cast up upon the Island of Success, uncomprehending of how it has all happened.

But we can scientifically assume that



by the twenty-first century either humanity will not be living aboard spaceship Earth, or, if approximately our present numbers as yet remain aboard, that they then will have recognized and organized themselves to realize effectively the fact that humanity always can afford to do anything it needs to do even when it cannot see immediately how that is to be accomplished. A baby lying in the womb could not see how it could afford to be born.

As a consequence, Earth-based humanity will be physically and economically successful and individually free in the most important sense. While all enjoy total Earth, no human will be interfering with the other and none will be profiting at the expense of the other. Humans will be free in the sense that 99.9 per cent of their waking hours will be freely investable at their own discretion. They will be free in the sense that they will not struggle for survival on a "you" or "me" basis and will therefore be able to trust one another and be free to cooperate in spontaneous and logical ways. Clearly, man will have backed into his future as evolution, operating as inexorably as fertilized ovaries gestate in the womb, will have brought about his success in ways as unforeseeable to us today as they would have been to those wisest great-grandfathers of 1810.

**A**LL of this does not add up to saying that man is stupidly ignorant and does not deserve to prosper. It adds up to the realization that in the design of universal evolution man was given an enormous safety factor as an economic cushion—within which to learn by trial and error to dare to use his most sensitively intuited intellectual conceptioning and his greatest vision in joining forces with all of humanity to advance into the future in full accreditation of the human intellect's most powerfully loving conceptions of the potential functioning of man in universe.

It is one of those strange facts of experience that when we try to think into the future, our thoughts jump backward. It may well be that nature has some fundamental law by which opening up what we call the future also automati-

cally opens up the past in equal degree. Time is not linear, but probably consists of omnidirectional wave propagations.

There is the phenomenon known as the Doppler effect, of which humans took much note in the early days of the steam locomotive. The high tone of the locomotive's whistle as it approached changed to an increasingly low pitch as the locomotive went by. This is because the sound waves of the air coming toward us from the approaching locomotive at about 700 miles per hour are crowded together by the locomotive's approaching speed of 60 miles per hour. Similarly, the waves are thinned by the locomotive's speeding away. The Doppler effect may be operating in our his-

tory so that the relative frequency and wavelengths of approaching events are compacted, and receding ones thinned. It could be that by traveling mentally backward in history as far as we have, any information about humans could—like drawing a bowstring—impel our thoughts effectively into the future.

During my lifetime I have witnessed the beginnings of the automobile, the radio, the airplane, and all the myriad of fantastic technologies since then developed; the extent of our knowledge of man's presence on earth has been increased from 50,000 years to a 2,000,000-year range—a fortyfold increase; this range increase of history has been complemented by a future's-opening

*Buckminster Fuller, when asked by "Who's Who" last year to write a one-sentence statement of his life objectives on the model of de Tocqueville's 152-word "aphoristic declaration," in characteristic fashion wrote the following declaration about himself:*

#### 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 prototyped 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.

—BUCKMINSTER FULLER,  
Aboard our 1,000-miles-per-minute speeding  
spaceship Earth within the outer reaches of the cosmically  
spiraling and expanding Milky Way,  
the Galactic Nebula.

Modified from 152 to 200 words at the location on spaceship Earth where the first man-made atomic explosion occurred: Alamogordo.



40,000-fold increase of new chemical substances compounded and employed by man. I confidently predict that with the further expansion of man's physical-ranging capabilities and forward life and wealth extension, we will open up ever greater knowledge of man in the past.

I am confident, for instance, that twenty-first-century woman will be able to enjoy traveling not only to many places around the world but to many past times, living for hours, days, weeks, months, or years in New York City's Gay Nineties, in Shakespeare's England, or in ancient Babylon. There will be such true reconstructions of original buildings and artifacts in working condition in those places that many humans wearing the clothes and emulating the speech and social behavior disclosed by the very much better history of those times will be found sojourning in those historical spots. They may also be exploring cities at the bottom of the oceans of spaceship Earth as well as cooperating with other intellects of universe in a mutual cosmic colonization.

**I**T, therefore, is not surprising that my endeavor to think about woman in the twenty-first century brings an echo in my thoughts of a book called *Woman in the 19th Century*, written by my great-aunt, Margaret Fuller, in 1830—twenty years after the first economic census and

thirty years before the American Civil War. Woman's political and cultural position was very restricted, and Margaret's life as a writer, teacher, and speaker was fraught with social antipathy to woman's entry into public life. At the time of her writing, Margaret had already founded the *Dial* magazine with Emerson. It was she who persuaded him that his thoughts and writing should be published. She also was the first to publish Thoreau in the *Dial*. She most recently had become Horace Greeley's first literary critic on the New York *Tribune*. One hundred years later her successor to that task, the late Heywood Broun, said that Margaret was the first and last literary critic to appear in a front-page box of a U.S. daily newspaper.

She was a vigorous critic of her times. She felt that literature in America was so powerfully influenced by European writing that it could not as yet claim a fresh viewpoint that warranted its being called American literature. As the semantic concept, "New England"—designating a geographical entity—disregarded its being on a new continent, the writing also was simply "New Europe." Trying to foresee a time when a uniquely American literature might emerge, Margaret wrote in one chapter that not until a century hence, when America would be wired together by the telegraph and totally interlinked by the railroad, and

not until industrialization had very greatly advanced, would there come a time when an American literature of that new initiative might appear.

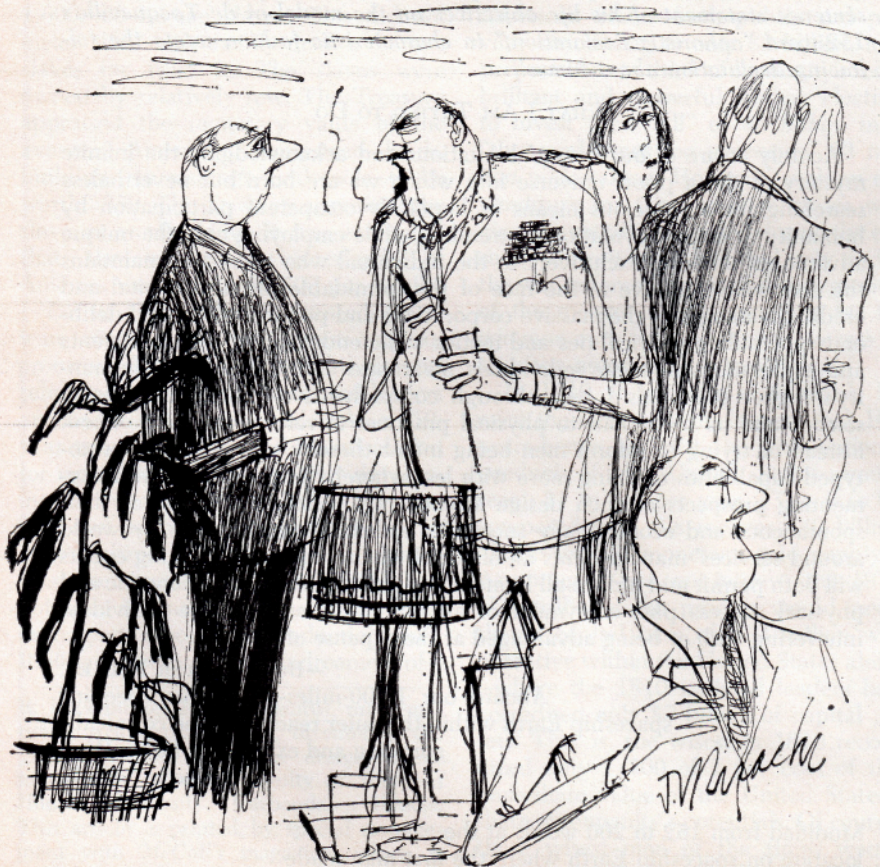
In 1830 she foresaw that this might occur around 1930. As she wrote, the telegraph had just been invented. Its wires were not as yet strung about the countryside. There were only two small experimental railroads: one between Albany and Schenectady, one between Washington and Baltimore. The quality of her prophecies was great. She foresaw woman free as she is today. Contrary to C. P. Snow's assumption that all the writers of her time felt an antipathy to the dawning industrialization, she hailed and welcomed it. Paradoxically, Snow cited Emerson and Thoreau—both of whom wrote of their enthusiasm for Margaret's views.

I am confident that the best predictions regarding woman in the twenty-first century will be arrived at through reviewing the largest possible sweep of woman in all history. Fundamental understanding of woman's uniqueness over all time will certainly give great insight into the realization of those characteristics under twenty-first-century conditions—which are not too difficult to foresee, simply because by then, in consequence of technologies' doing more with less, all economic privation of humanity will have been overcome.

Only in the mid-twentieth century did it become scientifically clear that unity is plural—and, at minimum, two; that all experimentally detectable phenomena have their unique opposites, and that the complementary opposite behaviors are never mirror images of one another. Science is remiss and unnecessarily prejudicial in calling one of a pair of complementary behaviors "negative." There are always much better descriptive terms. In structural systems' phenomena we have "compression" and "tension." As we tense a rope it tautens—that is, its girth contracts. This means that the rope is also compressing in a plane at 90 degrees to its tensed axis. But tension and compression always and only coexist, as do all the fundamental complementaries such as concave and convex, or associative and disassociative, proton and neutron, male and female.

**A**S an example of the non-mirror-image behaviors of complementary phenomena, we find that the structural capabilities of columns loaded in compression reach an early limit of what is known as their slenderness ratio, i.e., the relationship between the column's girth diameter and its length (usually vertical). When the columns get taller but no fatter, they bend, buckle, and fail, eventually breaking into two separate shorter columns. In contrast to the

(Continued on page 45)



"Listen, Mac. If you don't stop bugging me, I'll beat you into a ploughshare."



## Goddesses

Continued from page 14

generalized compressional behaviors of structures, their tensional ropes, wires, cables, and rods have no fundamental slenderness limit ratio of length in respect to girth diameter. As we get progressively stronger steel alloys, the central spans of wire-cabled suspension bridges are increased. The increased cable strength may be realized as either or both increased length and decreased diameter.

The central span of the Brooklyn Bridge is 1,400 feet; that of the George Washington Bridge is 3,400 feet; the Golden Gate's is 4,200 feet. Today alloys are so improved that a suspension bridge with central clear span of several miles could be realized without increasing the cable's girth over that of the Golden Gate. Due to its having a no-limit tensional-slenderness ratio, this trend approaches very great length with zero girth diameter. This may be thought of as absurd until we realize that the moon and Earth are tensionally cohered by gravity. The moon cannot get away from Earth, yet we can fly an airplane between the centers of gravity of the Earth and moon without severing their coherence. Obviously, the celestial bodies enjoy the zero-diameter-to-great-length tensional relationships.

In further demonstration of the non-mirrored complementary phenomena, we note that compression columns become more and more effective as we make them fatter and fatter going from long, thin cylinders to cigar-shaped systems. By increasing the compression member's relative girth and shortening its height still further, we finally develop a compression structure that is spherical. The sphere is compressionally ideal. As a slender column, it had to be loaded carefully on its neutral vertical axis to avoid eccentric bending. When it is a sphere, however, the compression loads applied from any direction are automatically opposed by one of an infinity of neutral axes. The sphere provides nature's optimum limit in structural opposition to compressive forces in universe—ergo, the stars and planets and atoms are all spherical islands of compression.

We find, then, that nature employs discontinuous compressions and continuous tension. For this reason, compressions are plural and tension is singular. That is, Earth and the moon do not roll around one another like ball bearings. The universe is cohered only by the continuous tensional integrity which is sometimes magnetical, sometimes gravitational, and sometimes produced by forces as yet unexplained by experimental science.

And what has all this cosmology to do

with woman in the twenty-first century? Answer: Just what it has had to do with women in all centuries—which is everything—as is manifest, for instance, in woman's tidal flows geared to the moon phases.

Women are tensional and continuous. Each new female as well as male life comes from the womb of the woman. We have, then, the new female life as a series of expanding waves, the new ever emerging from within the older wave. Women are thus continuous, like the single-cell creature, Hydra—the newer part breaking off from the older with its early life overlapping its mother's later life—ergo, never dying. Males are discontinuous. The new male life is non-contiguous to the previous male life. Men are, then, islanded, individual discontinuities.

**W**OMAN'S nature is attractive. She employs tension, playing her male fish, as does a trout angler, on a long, invisibly thin flexible line whose slackening allows the male to play himself out while being gradually reeled in. The male is compressional—a spear-plunging hunter, impelling his missiles as intermittent punches, arrows, or bullets.

Human packs behaved in earliest times as do packs of wolves and herds of deer even today. The males do the widely ranging hunting and fighting. The females, with the young and the de-

crepit, wander about in a much smaller circle and central area. In a similar manner, throughout our long human history the male has been the widely ranging hunter, fighter, fisherman, bringing back his catch to the woman, where, surrounded by the young and the old, she hovered near the central hearth. Here woman kept the fire going, cooked the meat, and organized the prolongation of the standby usefulness and viability of that which the hunting male brought home.

Women, aided by the many hands of the children and old people, developed many crafts. They organized the home crew to pound the corn, thresh grain, comb wool, and dry the skins, etc. They invented pottery and weaving, and discovered how to keep foods by cold storage or by cauterizing them with fire. Women, in fact, invented industrialization by differentiating out and coordinating the multifold regenerative functions and antiseptic tasks and anticipatorily developing the containing baskets, pots, and tools with which to work these items of environment-controlling. Woman, then, is the consolidator of gains.

The male hunter was also the fighter who protected and guarded the area. As woman's success in domestication became ever greater, the need for man as the hunter became less, but the need for him as a fighter increased. The successful domestication of land and animals and



*"You're driving yourself too hard, Ray. No creative artist can expect to be nihilistic every day of the week."*



the production of tools by the woman made the hearth-centered areas of the successful ones tempting to invasion by the less fortunate. Up to yesterday, man has been in high demand as defender of the less than 1 per cent of "haves" against the 99 per cent of humanity's "have-nots."

Men are the natural explorers, hunters, and have been secondarily conditioned to be fighters. Men are disassociative. Women are associative, but both participate in each other's proclivities to some degree, for their "drive" genes have been mixed. Men made their own hunting spears and fighting weapons that felt best to their own muscles and controls. As they discovered, first, the bronzes and, later, other plentiful metals, the men used these metals in making their hunting and fighting tools.

**A**S the industry of woman around the earth became ever more powerful and man's hunting grew progressively obsolete, his physical fighting ability was offset by the chemical energy of gunpowder and other mechanization. Thus men were progressively freed from their huntsman's cunning and brute muscle tasks to hang around woman's hearthstone industries and, bemusing themselves, they thought cunningly of a whole new hunting, fighting enterprise with which to compete with other home-commanding men. This enterprise idea came as a natural consequence of the recalled interaction of a complex of man's experiences. He saw that he could add his war-won prisoners to the labor force of his woman's manufacturing industries, and that by substituting his hard metals, the tools would be more incisive and powerful and would not wear out as frequently and thus could produce much more than the home group could consume.

This prospect gave man excess product with which to barter for the resources brought around from time to time by caravaning brigands politely known as traders. As a consequence, man began to take over woman's industry for his male instinct's competitive purposes. So the industrial production which they had invented and developed over the ages went out of the control of women. Production became a competitive weapon for augmenting widely ranging explorations and plunder. With this, the economic downgrading of women followed into the sad state in which Margaret Fuller found them in the nineteenth century. Woman had fallen a long way from her throne of earlier times, when the most virtuous and attractive Olympians were the goddesses. (Indeed, the earliest religions worshipped the fertility goddess.)

The twentieth century, however, has seen woman rising once more and in-

advertently taking over the fundamental ownership control of industry because she has unintentionally outlived her husband, who, bereft of fundamental frontiering tasks, vented his exploratory and fighting instincts on gambling, hard riding, boastful drinking, etc. For the last half century, the industrialized world's women have controlled the ownership shares of the great incorporated industries. Women have not, up to now, exercised much of their prime ownership prerogative over American and world industry, but have allowed their lawyers and other trustees to carry on, assuming that coping with the wiles of commerce is as yet exclusively within man's fighting province. Yet woman is now entering the ownership management of commerce and industry to ever more important degree. By the twenty-first century, she will have taken over full management of spaceship Earth.

The number of children that woman has relates to the success of the industry which she invented. The early seventeenth-century colonists of North America—according to the records in the family Bibles of those days—averaged thirteen children per family. As industrialization, waterworks, group sanitation, and, finally, electrical power and mass-production steel arrived, the life expectancy began to rise.

**L**IFE expectancy has almost trebled within the last century, due physically to science and its improved technology. As technological capabilities have improved and life expectancy has increased, down have gone the numbers of babies per family—demonstrating a constant balancing of evolutionary forces. After the U.S. Civil War and World Wars I and II—when large numbers of young and healthy were killed—the baby-making increased each time for approximately five years, until the score was rectified. All this happened without the conscious cooperation or even the knowledge of the specific humans concerned.

In all the industrial countries of the world today—including Russia and Japan—the birth rate is decreasing and life expectancy lengthening. Japan is the first nation to gain population stability. In the industrialized countries, the number of new babies each year has continually decreased, despite much larger opportunity of the young people to produce babies. Medical science has learned now

to exchange vital organs and has also learned how, in many instances, to make mechanical components to keep life going. There is high probability that by the twenty-first century the world birth rate will have attained approximate balance with the number dying, so that the population will be relatively stable but growing older on the average all the time, with the familiar aging of increasing years offset by the progressive elimination of effects which are primarily the consequence of parasites, diseases, and economic worries which will soon disappear. Birth-giving by women will be less frequently employed by evolution than it has been in all the centuries before.

There being enough sustenance and primary accommodation, both mobile and fixed, for all, yesterday's competition will be obsolete, and the competitive fighting urges will be important only in the world of lovemaking and of hunting in the abstract realms of poetry, art, and science. Twenty-first-century man will be preoccupied almost entirely in scientific and poetical research. The men's scientific findings will be converted to industrial production and world service accounts by women. Women will be the undisputed managers of our 60,000-miles-an-hour speeding spaceship Earth in our ever vaster exploration of the universe within and beyond the solar system.

Spaceship Earth will be not only the home base of the omniphysical exploration but also of the far more exciting and inspiring exploration of the metaphysical universe. It is probable that the twenty-first-century metaphysical explorations will have vastly modified not only the whole phenomenon of thinking, but the concepts of universe itself. We know that National Man is now potentially obsolete, but still active. By the twenty-first century, National Man will have been forgotten. Even the World Man stage will be as passé at the dawn of the twenty-first century as is ancient Greece's City-State Man in the twentieth century. Even Solar-System Man will have become boringly familiar as humanity will by then be penetrating greater ranges of the cosmos.

Twenty-first century woman will retain her tensional-integrity continuity and will yet cohere the universe. She will be extraordinarily attractive, but her metaphysical attraction will transcend her physical procreative attributes—though these will not have lessened. No longer will the medium be the message. What will count most is what she thinks about metaphysical, weightless you—man—and not what she feels about you physically. In this way she can and will be able to love you forever and you will be able to and will love her forever. Humanity will have verified immortality.

