

PART TWO: Planetary Planning: The Historical Philosophic Background

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PART TWO

Planetary Planning The Historical Philosophic Background

R. BUCKMINSTER FULLER

Before the pictorially graphic record of the presence of humanity aboard our planet began, there was no way for men to record their individual feelings and thoughts except as manifest in their tool inventing. Words are tools, but their sounds could not be made to last, under early history's conditions. Individually identifiable humans had no line of communication reaching directly to us today other than their massive group-work in carving, moving, shaping and building with stones plus the nonidentifiable individual's profuse handicrafting of small artifacts, such as vessels, arrowheads, beads, and so forth.

But from the beginning of the pictorially recorded history—on walls, vases, jewelry—we gain more information regarding general human experiences, capabilities, thoughts and motivation. For instance, it is evidenced that throughout all earlier times until yesterday the ruling social powers assumed the human masses to be universally ignorant and accredited them with having only muscle and dexterity value. The illiteracy of the masses was mistakenly interpreted as meaning that the commoner was inherently lacking in intellect—just a “poor wretch.”

As “the exception that proved the rule,” once in a rare while, by command of some god, a commoner apparently was endowed with creative powers and insights. The ease

with which the erroneous assumption could be made that the masses are *stupid* is manifest when we realize how easily a human of today, conditioned to speak only Americanese, could deceive himself into mistaking for an “inherently illiterate Mongol” some ill-clothed, war-bruised, Chinese Communist Ph.D. physicist, who had not learned to speak Americanese.

It has been only during the last few decades of the two million years within which humans now are known to have been living aboard our planet Earth that the behavioral clues have been multiplying sufficiently to suggest that all humans, including “spastics,” *et cetera*, are born with a far more comprehensive and superb inventory of subjectively apprehending, synergetically comprehending faculties—as well as objectively articulating capabilities—than have as yet been formally acknowledged to be the case by the present educational establishments' capability-accrediting boards, much less by the politico-social pressure groups, such as veterans' organizations and parent-teacher associations. We may soon discover that all babies are born geniuses and only become degenerated by the erosive effects of grown-ups' unthinkingly maintained false assumptions regarding their conventional ways of “bringing up” and “educating” their young.

It is possible to identify some of the known faculties that are coordinate in those whom society concedes to be adult geniuses. The publicly accredited characteristics of genius consist, for instance, of an actively self-attended *intuition* opening the

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conceptual doors for *innate, frequently and combiningly employed scientific, artistic, philosophical, idealistic, sensorially conceptive, physically talented, logical, far-sighted, imaginative and practical articulations*.

Leonardo da Vinci, who fortunately avoided the genius-eroding processes, manifested and coordinately employed all and more of such conceptual faculties and articulative capabilities. In the graphically recorded history of the last eight millenniums—as well as in the dim twilight of pre-Indo-Chinese, Mesopotamian, Egyptian, South and Central American graphic documentations of history—individuals appeared from time to time, who grew to maturity without losing the full inventory of their innate, intuitive and spontaneously coordinate faculties and therewith inaugurated new eras of physical environmental transformation so important that, in due course, the lives of all ensuing humanity were affected. I will refer to such comprehensively effective but largely unidentified articulators as the *Leonardo-type individuals*.

Since the dawning of the most meagerly revealed human history, there have been *ten* importantly distinct periods of historical transformations of both the physical and cosmological environments of society. In each of these periods the environment-reorganizing Leonardo-types manifestly have played the leading roles. There are two discernible periods of history as yet to come. I will deal with all twelve.

To each of us *environment* means: *Everything that is not me*. Environment is divisible into two parts, physical and metaphysical. The metaphysical environment consists of human thoughts, generalized principles and customs. The Leonardo-types seem to have avoided attempting to reform the metaphysical environment. They are documented only by their employment of metaphysically generalized principles to reorganize the *physical* constituents of the scenery, apparently assuming intuitively that a more man-favoring rearrangement of the environment would be conducive to humanity's spontaneous

self-realization of its higher potentials. Human travelers coming to a river and finding a bridge across it spontaneously use the bridge instead of hazarding themselves in the torrents.

Physiology and biology make it clear that, at the outset of graphically recorded history, a universally illiterate—but also probably *not* unintelligent—humanity was endowed with innate and spontaneously self-regenerative drives of hunger, thirst and species regeneration. The a priori, chemical, electromagnetic, atomistic, genetic and synergetic designing of these innate drives apparently was instituted by a wisdom and formulative capability, inherent in Universe, higher than that possessed by any known living man. These drives probably were designed into humans to ensure that the mind—long unacknowledged as the highest faculty—ultimately would discover its own significance and become established and, most important, operative not only aboard planet Earth, but also in respect to the vast, locally evidenced aspects of Universe. *If so*, mind will come not only to demonstrate supremacy over humanity's physical muscle, but also to render forevermore utterly innocuous and impotent the muscle-augmented weapons and their ballistic-hitting powers. Mind possibly may serve even the essential, antientropic function that eternally conserves the omniinteraccommodative, non-simultaneous and only partially overlapping, intertransformative, self-regenerating *scenario*—which we speak of as *Universe*.

Mind, operative aboard our planet Earth, and probably elsewhere in Universe, in a myriad of effective circumstances, can perform the paramount function of conserving the scenario "Universe." *If so*, it will have to be accomplished by apprehending, comprehending and teleologically employing the metaphysical, weightless, omniintercooperative generalized principles of Universe—to a strategically *effective degree* and within a critical time limit. This can be accomplished, to a progressively more effective degree, by Earthians competently "fielding" all those physical energy increments, entropically broad-

cast by the stars, that happen to impinge kinetically upon our Earth as it orbits the Sun. If Earthians employ the appropriate biological and physiological principles, these receipts could be collected, sorted, analyzed, synergetically comprehended and symmetrically combined into complex but orderly, macro- and micro-cohering aggregates, and added to the resource-conserving and storing inventory of the Earth's biosphere. For it seemingly is manifest that the task of metaphysical intellect is to cooperate with evolution as a major antientropic factor in offsetting the physical Universe's fundamental proclivities of becoming locally evermore dis-synchronous, asymmetric, diffuse, multiply-ingly expansive and disorderly.

The kinetic intercomplementarity of finite Universe requires that what disassociates here must associate somewhere else. High pressure atmosphere at one point is balanced by low pressure elsewhere. The stars are all radiantly dissipating energy. The Earth is a celestial center wherein energies from the stars are being collected and buried ever more deeply. When, after vast millions of years, enough energy has been impounded aboard our spherical space-vehicle Earth, it will become a radiant star. The discards of other burnt out and dissipated stars are concurrently aggregate elsewhere—some trillions of years again to become new stars. No factor operative aboard our planet is so effective in aggregating, reorganizing, concentrating and refining the disorderly resource receipts as is the human mind.

Period One

We can discern period one, of our twelve-period history, in the behavioral tracteries we have of the ancient, seafaring fishermen-farmers of Japan and coastal China who seem to have learned through experience of the unique ability of water-borne and earth-rooted vegetation to impound the Sun's radiationally delivered energy and also of the Sun's ongoing regeneration of more vegetation from the seeds of the fruits and tubers. They also found that, although the Sun's energy was

impounded in the vegetation, very little of the latter could be eaten by humans. Men could not eat bark, trunks, stalks and but few leaves. They found out, however, that animals, bugs, worms and other creatures could eat this vegetation and could discriminate, as man could not, as to which were poisonous and which were safe. Men could safely eat the live-killed flesh of animals, but the meat could only be kept viable in cold climates. In the tropics men learned by watching the animals which vegetables, berries, *et cetera*, were nontoxic and safe for cultivation. As hounds were used to track animal food in the cold countries, domesticated cattle were used as safe-vegetation "hounds," and their females were also milkable. (Despite any known later historical events impinging on the freely and safely wandering cattle of India, this is probably the most important single factor explaining this spontaneous social behavior.)

Sun energy thus converted into viably tender fruits, roots, shoots, seeds and nuts of safe vegetation, or into animal milk or flesh growth, was thence as food converted into human *growth*. The human growth was not only in size, but in muscular ability to do further work by investing available time in rearranging local environmental events and materials to produce an ever-higher human-life extending advantage.

The Universe and the immensity of everything that was not "self," and the locally permitted independence of action determined by man's will, as altogether manifest in nature, integrated in man's mind to infer a vast but obviously competent, pattern-formulating, a priori, *mysterious greatness* to be operative throughout all of nature. Humans referred to this greatness, singularly or plurally, with some voice-sounded word—such as God—or some counterpart of that economically vocalized term of vague but spontaneous acknowledgement of the presence in Universe of a knowledge, wisdom and power greater than that possessed by self or any other known humans.

Most prominent in God's total kingdom and most understandable of God's

major roles was that of His functioning as the Sun. As the Sun died each evening and was reborn each morning, death was assumed be only an invisible state and life was eternally regenerative. The natural water-and-land-occurring abundance, which the ancestors of the Sino-Japanese had the good fortune to find, and the life that it permitted, seemed good. That the Japanese national flag should thousands of years later be emblazoned with the Sun is testimony of their enduring and fundamental comprehension of the omniregenerative scheme of the Universe.

These people, from the earliest historically interpretable times, expressed their gratitude to God, who apparently had pre-fashioned the places most suitable for humans to express spontaneous thanksgiving (worship). These places were (and are) unusually beautiful and inspiring places, occurring randomly and unexpectedly around the world, wherein one is surprised to find oneself from time to time. In such "beauty spots," designated as *fung sui* by the Chinese, men spontaneously tend to feel mysteriously closer to a wisdom and grandeur of conceiving greater than their own. Such places are unexpectedly intimate to the comprehensively acknowledged mystery identified as God. At the threshold of such secretly beautiful places, Japanese-Chinese fisherfolk mounted the keel of a ship, spanningly, atop two posts as a doorway or gate (the *tori*) through which they stepped into their vast, invisibly walled cathedral. Their particular ritualistic way of thanking God, which has persisted through the millenniums, is known to us as the Shinto religion. Their people brought fish, fruit, grain crops and wine, sacrificially denying themselves this nourishment, which represented their own immediate personal wants, in order to show God that for which they were thanking him. When their sacrifice was prepared and displayed on some form of raised prominence (altar/alter: high), they stepped forward, one by one, and clapped their hands twice loudly to gain God's attention. Then the individual picked a fresh green leaf from a precut

tree branch and placed it on the altar. Thus having given thanks, the individual clapped his hands twice more to let God know he was through with his message of gratitude—so that God could get back to his great work of operating Universe and within it providing for the regeneration of all life. No words were spoken. In a universally obvious preword language, man said to God that he sensed intuitively the yet undiscovered photosynthesis operative in some mysterious way in the green leaf which was God's invention for transforming and transmitting the life-supporting energy of Sun to man on Earth. Often men's intuitions have identified and superstitiously employed and conserved for centuries—even millenniums—crude, hypothetical concepts regarding phenomena that are critical to the sustenance of life, concepts formulated before humans had made scientific discovery of some of the chemical and physiological details of such processes as, for instance, that of the photosynthesis accomplished by the green leaf's then only vaguely identified chlorophyllaceous-behavior.

As has been shown by Sir James Frazer in his book, *The Golden Bough*, the religions of the people around Earth, before the dawn of our eight thousand years of graphically communicated history, seem all to have been founded upon gratitude to God for the mysterious bounty of nature and in profoundly moving awe of the secrets of fertility—which still are fundamentally secret, despite man's having identified such genetic mechanisms as DNA and RNA, and their amino and enzymic realizations. Thus has much of human society recently come to be novelty-intoxicated and glib with scientific jargon. But much of Western society is now hungover with a specialization-obscured sense of the whole. Humanity, temporarily, has lost its spontaneous acknowledgement of a wisdom greater than its own "hepness."

Because society has physiologically discovered a considerable amount of data, it mistakenly assumes that it is only a matter of a few days, months or years before all humanity will know what "it is all about."

World youth, however, is beginning to intuit that this may not be true—either now or forevermore—for fundamental reasons inherent in the experience-manifest, synergetically-catalyzed intuition of the a priori existence of an integrity and competence that probably is forever decomposing and recomposing the scenario Universe.

To those in ancient times who found their prime sustenance in the sea, God was a sea creature; ergo, being God—and logically a magnificently awesome creature—he was imagined to be a colossal sea serpent whose vertically waving back could be seen moving along, and all the way around, the ocean's faraway watery horizon. Later, as men found that they could employ wind to propel their rafts by mounting spars and sails, God was imagined to be a dragon or the same sea serpent with wings.

Those who found life-support exclusively through the God-given abundance on dry land were of two prime categories: the hunters in the North where the flesh food could be preserved by ice and the agrarians of the South where the fruits, nuts and tender-leaved grains of rice, oats, wheat and corn were in abundance and could be dried and stored indefinitely to be later ground, dehydrated and baked back into viability.

The agrarians imagined their god to be female—to be the fertility goddess—because the new seed always came out of the womb of the old seed's fruit. The hunters and animal milkers tended to imagine their god to be a male, typified by the four-legged king bull of the animal herds roaming on the land. These early people must intuitively have sensed that the preprocreative battles of the bulls guaranteed the genetic inclusion of the physically strongest strains. The bull identity of the male fertility of god still inspires the life-drives of some of the dwellers along the Arctic Coasts. There the whales come annually and their meat, bones and oil supply the energies necessary for humans to survive in the icy barrenness of the North. Thus the Point Barrow, Alaska, Eskimos of today still think realistically of the bull

whale as being their Big Brother who returns annually to their Arctic waters to ask the Eskimos to kill him expertly and beautifully so that he may be released to return again next year in the familiar and useful form of another bull whale to fertilize again the school of female whales.

The people of prewritten history, who found ready sustenance and did survive, found no need for a walled-in, roofed, and thus deliberately isolated, environment for worship; the whole, visible Universe was their "house-of-god." They saw the living creatures and plants wither only to be replaced by more fresh life, and this amplified their concept of life as a scheme of eternal self-reproduction. Life was absolute and continuous and, as with the snakes' successive skins and the crabs' shells, only the fleshy vehicles that life employed in its successive manifestations were temporary and expendable. God was the *continuous* Universe.

We have, however, only the carefully perpetuated religious and superstitious customs of the men who were successful in those times to inform us of all the foregoing. Almost no records are left to tell us of the philosophy of those multitudes who did not find life successful and perished at an early age. We have only the subconscious, genes-triggered instincts that underlie the spontaneous adaptations to prevailing conditions, plus the spontaneously retaught mores that conditioned the postnatal attitudes of the successful tribal survivors, as handed on meticulously by word of mouth and pantomimic dance, from generation to generation, to guide our exploratory thoughts into the graphically undocumented past.

Northrop of Yale writes in his book *The Meeting of East and West* of the effects of the eighteenth-century impingement of the cosmological, highly-formalized, "Christian" dogma of (European) Spanish invaders upon the people of Mexico, at the midpoint of the North and South American continents, to which vast numbers of humans already had come, from Asia across the Pacific and from the Pacific Islands, during untold numbers of earlier

millenniums. These Pacific basin people whom the Spanish invaders found in Mexico showed a crossbred physiognomy embracing every physical feature and skin color known anywhere around the Earth. They were so crossbred that they could no longer be spontaneously differentiated into separate "color" races. This crossbreeding is most advanced in both Mexico and India today, but now embraces all the European features as well. All varieties of angular pattern in physiognomy, and every skin color and shade, from intensely dark to intensely light, are found in both countries. Hair ranges through every known variety between straight to tight curly, in every hue from black to platinum blonde, and all varieties of hair adorn all varieties of skin color in all degrees of shading from dark to light, which in turn adorn all varieties of facial features and head shapes. Few Mexican individuals can be identified as being of any hybrid race. They are simply worldians.

When the Spanish Europeans brought their official religion of Christianity, in its most arbitrarily dogmatic form of the Father, Son, Virgin Mary and the Saints, to Mexico's worldians, the latter seemingly accepted that Latinized Catholicism, but they went on in swift course, impelled by the momentum of their earlier conditioned reflexes, to worship only the Virgin Mary, who was obviously not the same lady as that honored by the Pope but was indeed their age-old fertility goddess with a new name—Guadalupe.

In a concept approximately identical to the Eskimo's whale worship, the earliest known religious lore of the Asian and Asia Minor hunters held that God was a male who reappeared in generation after generation—to eternity—in the form of the king bull and required of the hunter that he, God in the bull, be most skillfully and honorably slain so that God could be released in order that he might reinvest himself anew and reinvigoratingly in the next generation to produce the sustaining bounty of human food. In the same way the bull-god culture of the prehistoric hunters came westward by ship through

the traditions of the Asia Minor Phoenicians and was transposed to the Cretan Minoans (named for the Minotaur—which was the bull, their god). From Crete, the bull culture again went even farther westward by ship to Spain. Gradually, the ritualistic bull slaying was modified into the splendor of the bull fight. But today the toreador is more esteemed than the bull, for no longer does Spanish society think in the hunters' experience-generated terms that identified God in the bull.

This bull-slaying rationale was fortified in earliest time by the fact that the oft-repeated cutting back, or pruning, of the life vehicle frequently improved the growth. The concept of the prince hidden in a frog or larger beast, to be released only by the animal's being killed by the perceptively pure princess, is a typical fanciful by-product of the earlier pantheism (*pan-the-ism*). The linguistic tool known as an article, "*the*," meaning God, is also *the* root content of the Greek letter *theta*, omnipresent God. The male and female prefixes of the Latin world occurred because of the admixture of male-female god concepts halfway between the all-male god-bull whales of the animal-hunting north and the all-female goddess of the agrarian southlands. The root of the word, *pan*, means *everywhere*, as in pan-o-ramic. *Pan-the-istic means God is always present in every phenomenon.*

In all the pantheistic cosmologies coming over the threshold of prehistory, God, being everything, was also in man as one of God's myriad varieties of manifestations. Those who died were not looked upon as gone but simply as invisible, transmigrated or transformed.

The most prodigiously permanent record of the cosmology of those pantheistically rationalizing people exists today in the mistakenly named "temples" (wats) of Southeast Asia. For instance, the most recent centuries' Wats of Ankor in Cambodia are apparently replicas of earlier edifices. The wats are schematically-conceived cosmological models of humanity's most thoughtful representation of the structure of our world

as informed by travelers' tales of the total sensorial perception. These cosmological-symbol edifices apparently were designed under the following circumstances and observations.

Humanity, within any one average life-span, has seen less than one millionth of the total surface of our spherical Space-ship Earth. This holds true from the earliest known humans until the mid-twentieth century. Throughout the vast ages of recorded history, man's locomotion being limited to his, or his animal's, leg-coverable distances on land and by boats at sea, man thought it obvious that the world was geometrically a horizontal slab with various aberrations of mountains and valleys superimposed. Thus humans have been spontaneous victims of the illusion that their world is an infinitely vast, watery plane, surmounted centrally by an immense island of dry land. To understand further the cosmological design of these early Southeast Asian edifices, we must recall that artifacts of the seafarers make it clear, today, that ancient man had discovered the North Star as the axis of the easterly rising-out-of-the-sea of the Sun and stars, and their westerly splash-down disappearance into the water. Ancient sea people tended to think spontaneously of their world in the terms of North, South, East and West quadrants. Thus came about our, as yet prevalent, deep-rooted, cultural reflex expression, "the four corners of the Earth." The Khmer civilization's Ankor Wat or Ankor Thom are physical models of that concept of the world. They are vast, square-based, dry-land models completely surrounded by lakes or moats. To ensure that the concept of water completely surrounding the land was lastingly incorporated in their cosmological models, when no water was at hand or when the waters evaporated, the architects edged their great square models of the world with a serpentine rail with separate heads at both ends occurring at the entrance of the model. This serpent was "Naga," their sea-serpent God of the Sea.

"Everyone who has traveled at all"—the ancient pantheists must have said—

"knows that as one goes inland from the sea—everywhere surrounding the four-cornered world—one comes to ever higher mountains." This implied that, if one went far enough inland, one would come to a mountain reaching to heaven and therefore occupied at its highest point by God, with lesser gods at lower altitudes. Their living god-king was one of those lower-altitude gods who was residing temporarily at the even lower Earth level, where common mortals dwelt. So the pantheists' cosmological model of a "wide-wide," four-cornered world, surrounded by the sea, is a great edifice consisting of a concentric system of imitation mountains with each more central "mountain" pinnacle reaching higher toward heaven. Their first such models were constructed of wood, which could adequately accommodate their king during his return to a higher position among the gods. But it often happened that one new god-king replaced another within such short intervals that they began to use the same model for successive kings and gradually replaced the wooden parts with stone parts to make them more durable. The mistake should not be made of thinking of these edifices as having anything to do with ordinary people. They were not houses of worship in any sense.

These cosmological models of a wide-wide, four-cornered planar Earth surrounded by infinitely extensive waters, and surmounted by ever-higher central "mountain" pinnacles, disclose how the early humans explained the sum of their experiences to themselves regarding the structure and operating scheme of their real world from out of whose eastern watery extremity the Sun and stars rose, passed over, descended, plunged in and through again. Because the Sun and stars quite obviously passed *over*, and returned *under* it, the world was implied to be a thick, but penetrable, watery slab extending horizontally to infinity in all planar directions. All the perpendiculars to that slab's base plane were mathematically demonstrable as parallel to one another. Those perpendiculars then were extended in only two directions in relation to man's

erroneously conceived flat Earth. Those two exactly opposite, positive and negative, exclusively perpendicular directions in respect to the horizontal Earth plane were the seemingly obvious concepts UP and DOWN. Anyone who uses the words *up* and *down* is subconsciously reflexing to that old concept of an obviously flat Earth. And that means approximately everybody today. I always ask audiences that I am addressing for a show of hands by any who do not use the words UP and DOWN. No hands are ever raised. Science, of course, has found no single direction of Universe that can be logically designated as UP or any opposite celestial direction that is DOWN.

But we now know that we do not live on a flat slab and that we do live on-board an eight-thousand-mile-diameter spherical spaceship speeding around the Sun at 60,000 miles per hour, spinning axially as it orbits. None of the perpendiculars to a sphere are parallel to one another. The first aviators flying completely around the Earth within its atmospheric mantel, and cohered to the planet by gravity, did not feel *up* side *down*, when they had completed half their circuit. They had to employ other words to explain correctly their experiences. So aviators used the terms "coming *in*" for a landing and "going *out*," not *down* and *up*! Those are the proper directional words—IN and OUT. We can go only *in*, *out* and *around*. Anyone, spontaneously seeking to prove his "practical" sense, who says, "Never mind that theoretical stuff—LET'S GET DOWN TO EARTH!" probably banging the table with his fist as he says it, is disclosed as being insane. We must reply to him, "*Where and what* is that 'down-to-Earth' phenomenon?"

Only yesterday society spoke of an insane man as a "lunatic." Now history's first real luna-tics are history's most widely-known heroes; they are the Earthian astronauts who first landed on Luna—the moon—they are moon-touchers, ergo, Luna-tics. The moon viewpoint of Earth, first glimpsed realistically by humans through the television receivers at Christmastime,

1968, the sight of which was electromagnetically transmitted from the moon-circumnavigating astronaut's capsule-mounted camera via an Earth surface station and thence around the planet via the satellite relays, will soon become the natural way in which Earthians will think of Earth's celestial functioning. But on that Christmas occasion, the President of the United States, congratulating the moon-circumnavigating astronauts after their return to our mother spaceship, Earth, spoke of the astronauts going UP to the moon and back DOWN to Earth. And our senior tv commentator said as the astronauts' tv camera was aimed at the Earth, "There is our Earth floating there!"—there being naught to float in and no gravitational displacing of water. Our Earth planet was at that moment, and continues to be, flying a fancy spin-around formation in company with the moon. The two together orbit the Sun at a speed fourfold that which we impart additionally to our greatest space rockets. The Earth's position in space is kinetically maintained by a combination of its precessionally maintained, mass-velocity momentum and its orbital-radius restraints, provided most prominently by the Sun's gravity and secondarily by the other planets.

All those misconceptions of the long-ago Southeast Asians' cosmological models are deep-rooted in our own twentieth-century self-misinformed "common sense." Common sense was assumed by society to be the antithesis of lunacy. It still is. But now we know that the lunacy conforms strictly to the cosmological reality and that the "down-to-Earth" common sense of yesterday is fundamentally misinformed. Here we discover the basis for the intuitive discrediting of the older generation by world-youth who are directly informed by the astronauts as to the nature of celestial reality.

Thus, our exploration of the Southeast Asian edifices of the millenniums-ago nagas has begun to clarify our present era's great metaphysical revolution. The great edifices of the Central American Mayas and of the Incas were also the same four-square, cos-

mological models and were likewise constructed not to be occupied but to be either surmounted or underpassed by man. Thus also did it come about that the earliest Babylonian and subsequent Egyptian pyramids were also square-based and highly formalized, "single" mountain edifices.

No one knows of any specific individual personalities who discovered and inaugurated the acknowledgement of a greater authority than that of man in the first invisible, abstract, God-designed-and-built hallowed spaces for Thanksgiving, nor does anyone know of any specific individuals who designed those cosmological wats of Southeast Asia. Their inspiration and economic authority, however, were clearly that of a popularly spontaneous acknowledgement of a mandate from the gods to identify the conceptual scheme of the interrelationship of the gods to the world they had created, or that had been created possibly by an ever-higher god, a creative scheme that had structural and operative logic consistent with the experience-won information of contemporary humanity. The design-authority was probably that of priest-navigators, for the wats are found either near the sea or near to canals or rivers leading to the sea, and the conformation of their structuring, which was at first of wood, employed principles inherited from boat-building. We find the descendants of the navigator-astronomer-priests of those earlier times reaching weakly even into our times in the Polynesian chieftains' separation of the habitats of the navigators from the tribe, and also in the still superstitiously-heeded astrology. We also have clues of that world-around priest-navigator's cosmological authority in astronomical "observatory" structures of more recent past centuries still standing in India, Mesopotamia, Crete, Egypt, England and Central America.

In the early dawning of graphically chronicled civilization, the wats involved gods of the sea and gods of the sky, as well as gods of the underground land. The fire, smoke and lava of volcanoes, well known to men, indicated that *down* led through the horizontal plane of the world

into a hell of brimstone and fire, just as *up* led everywhere exclusively toward the serene blue heaven of the highest god.

Most important to our comprehensive cosmological survey of all-history is the reminder that these cosmological-symbol edifices had no direct personal relationship to humans. They were constructed only for the convenience of the visible god's (king's) reascension from Earth to become once more an invisible god of heaven, capable of returning at any future time to resume human or any other convenient form. Thus millenniums later, when Buddha became divinely inspirational to man, one generation of priests after another installed statues of Buddha in niches in the old "mountains" of the wats. But the wats, as originally constructed, symbolized nothing for the humans other than the existence of gods who, according to the priests, could be humored by sacrifices to bring about more favorable conditions for the momentarily living god-king. Humans were absolutely expendable either as slaves or as sacrifices. Thus we close period one of our *twelve-period world history*, which was constructed only inferentially by extending backward the first historically disclosed data. We can surmise that the economic authority patron of the Leonardo-type designers of period one was that of the gods or god-king.

Period Two

Period two of our overall twelve-period history—nine past and two to come—begins with the first graphically pictured history of world society as recorded in the stone carvings of Egypt and Mesopotamia. At this time humanity-at-large knew nothing of physics, chemistry or biology. Humans recognized but few safe edibles. Humans had witnessed many lethal poisonings by superficially attractive items plucked from the mysterious scenery. Infection was rampant. Average survival was in the neighborhood of twenty-two years or about one-third of the once-in-a-rare-while demonstrated, biblically mentioned, "three-score-and-ten" years life-span. Life was so fundamentally awful that no logic

could persuade humanity to believe that the living experience was intended by the maker of Universe to be directly *worth-while* and desirable in its own right. The only tenable assumption was that life on Earth was suffered only in preparation for a life-hereafter. It was reasoned that the worse that life on Earth proved to be, the better would be life-hereafter. Experience seemed to show that adequate sustenance in general was so fundamentally scarce that even in the hereafter there could be enough only for one.

Thus it came about in period two that the *economic authority patronage*, which employed and subsidized the efforts of the Leonardo-type—the intuitive artist-scientist, poet, inventor, engineer, and initiator of the early Egyptian eras—was exclusively the *life-hereafter of the pharaoh*.

The economic license to employ whatever capabilities he could visualize as existing in the nonobvious but intellectually conceptual resources hidden in the scenery went to the Leonardo-type to support his reorganization of environmental potentials for the advantage of the life-hereafter of the pharaoh and of his most faithful servants.

With all building there is a scaffolding activity—"a make ready." The Leonardo-type existing in the times of the earliest pharaohs conceived of the principle of levers and their use in moving great rocks. He recognized that he could vastly augment the muscles of whole armies of slaves, but that these slaves must be fed in order to put out energy. The Leonardo-type conceived that the waters of the Nile could be allowed to flow into man-produced irrigation ditches, to be dug by slaves, which would lead the Nile into the potentially fertile floodlands bordering the river. Thus the Leonardo-type rearranged the environment of the living in preferred ways, which increased in ever-multiplying degree the technological advantages as well as the human resources and their combined ability to adjust the environment to an ever-higher energy-producing degree.

When the pharaoh died, the Leonardo-

type was rewarded by being entombed with him, along with the other most faithful servants, so that they could enjoy the blessings of the "hereafter." But the irrigation ditch did not obliterate itself, nor was the principle of the lever forgotten by the people still living. These physical-scaffolding capabilities of this pre-after-life living society persisted and multiplied as one pharaoh after another was advantaged by the successive Leonardo-types of scientists, artists and environment-comprehending rearrangers, all combined in one man.

Finally, the "scaffolding equipment" employed in the pre-death days by the living slaves, as led by the era's Leonardo-types, became so prodigious that it became manifest that it would be possible not only to organize to maximum degree the advantages of the afterlife of the pharaoh but also to employ the excess environment-mastering capability to accommodate the afterlife of the nobles as well. Thus developed period three.

Period Three

During historical period three, the progressively evermore prodigious rearrangement of the living-environment technology, as temporary scaffolding for the eternal afterlife, multiplied to such a degree that it became spontaneously apparent to all concerned that the total of now-mastered workable energy-capability made possible the accommodation of the afterlife not only of the pharaoh and of the nobles, but also of the middle-class society. This inaugurated period four as determined by the economic patronage of the Leonardo-type artist conceivers.

Period Four

In period four, we discover the work of the artists preoccupied with the afterlife enshrinement of the prosperous middle class. Family mausoleums and burial urns abound. Eventually the environment-altering activity of the in-life, temporal-scaffolding technology, devised for the exclusive afterlife enjoyment of

kings, nobles and middle class, became so vast that surprisingly new thoughts were inspired and pronounced by several Middle East and Far Eastern prophets, such as Buddha, Mohammed and Christ, who found it logical to assume that there also could be provision for the afterlife not only of the king, nobles and middle class, but for *all humanity*, including the most lowly commoner. Thus was introduced period five.

Period Five

Period five is unaltered by any new overriding patronage of the Leonardo-type activity. Period five witnesses the anonymous Leonardo-types designing the great cathedrals of Europe. Their highly organized physical-resource capabilities all led society toward the realization of a divinely satisfactory afterlife even for the most lowly of free men. In period four slaves and indentured servants had been considered to be subhuman and in period five they still often were overlooked in the newly oriented considerations of humanity.

Unfortunately, holdovers of this viewpoint persisted here and there throughout period five. The "subhuman" status of slavery involved unfortunates taken in battle—of all colors of skin. Those who had acquired the darkest skin in multigenerations of environmental adaptivity in the tropical Sun areas had also enjoyed a clothing-free functional body development that produced a physical superiority that in turn brought the highest prices paid in the slave markets. For millenniums the majority of prisoners of war who were cast into slavery were predominantly of white or swarthy skin, but their work-value was so inferior to that of the black-skinned prisoners that in the great slave markets, such as that of Delos, the whites and the swarthy became obsolete as slaves. This reduced the slave ranks to an almost exclusively black variety until, as we shall see, in period seven of our history, the inanimate power-driven machines made even the blacks obsolete.

With the coming of inanimate power-driven tools, the automatons, both unpaid slaves and wage slaves, also became obsolete but have not even today been effectively conceded to be so by the lingering mores of an unenlightened, fearful society.

Finally, in period five, the enormous magnitude of technological development going into the scaffolding preparations for the sublime afterlife, of *all* those classified as humans, proliferated in life to such an extent that society began to realize that not only the afterlife of everyone could be accommodated but also the *living life* of the king.

Period Six

This opened period six. Its beginning is identified with the beginning of what became socially recognized as "the divine right of kings." God apparently had ruled that certain individuals should enjoy life itself as well as afterlife.

In period six the Leonardo-type was patronized by the *living* king as well as by the *life-hereafter* of the sovereign, nobles, middle class, commoners, and in most areas even of the slaves, both black and white.

Period Seven

As the temporal technology proliferated yet further in period six, it became evident that humanity could be organized to produce a bounteous *life* for the *nobles*, as well as for the king, while also accommodating the afterlife of all humanity. This inaugurated period seven, when artists made extraordinarily powerful and effective physical devices. Tools, weapons, painting and sculpture were all made by hand, to advantage and please exclusively the living kings and living nobles, as well as the afterlife of all humanity.

Period Eight

The multiplying proliferation of technical capability, material resource availability and investible man hours of society

finally permitted the temporal life-advantaging even of the *middle class* and that inaugurated the eighth period, which we know as the Victorian Era. It lasted through the "Gay Nineties," into the turn of the twentieth century and terminated with the beginning of World War I in 1914. But, as usual, the termination of a period overlapped the beginning of another. Period nine begins almost unnoticed in the midst of the "Gay Nineties."

Period Nine

With the 1895 invention of the automobile, radio, X ray, and automatic machine tools, and their subsequent twenty-two year gestation into full-fledged industries, the beginning of period nine had been clearly established by 1917. Before the beginning of World War I, in 1914, a vastly amplified resource realization had been established by the Leonardo-type, and especially the newcomer, crossbred, industrial-society Leonardo of the North American continent. These latter-day Leonardo-types saw that the total environment had become so effectively rearranged that it made possible the *advantaging* not only of the *afterlives of all humanity* but also now of the *living experience of all humanity*.

At this new juncture the Leonardo-types who had, for all the first eight periods, been producing the prime designs with their own minds and the realization of those designs by the fine crafting with their own hands and exclusively human muscle-powered tools, comprehended that there were not enough of their own Leonardo-type artists, scientists, philosophers or craftsmen to manufacture—manu(hand)-facture(make), meaning to produce with their own hands—all the physical items that could and must be produced for all of humanity.

It was at this historical twentieth-century dawning of period nine that the Leonardo-type realized that energies applied to the ends of levers—in the form of waterwheels connected by pulleys and belts to overhead rotating shafts of factories and thence by pulleys and belts to indi-

vidual machines, to which electric meters were directly attached by wire—made possible so much inanimate energy-driven productivity that the Leonardo-type had, of economic necessity, to preoccupy himself with the invention and production of special machine tools and forming dies operated from a central power-driven shafting. These tools would in turn *mass reproduce* the *end products* of their designing for the advantage of all humanity. Thus we enter into the ninth period of our history, the *mass production* industry age.

Mass production was first applied to materials for other contractors and manufacturers and not for consumer end products. (Mass-produced nails went to the carpenter-contractor to hammer into the final building.) The first direct consumer-distributed mechanical "end products" to be mass-produced were the pocket watches of Ingersoll and alarm clocks. Then came Singer's sewing machines and Gillette's razors.

Henry Ford, who thought of "art" as consisting only of Americana, fiddlers and twinkle dancing and gave little consideration to the art of other countries and times, thought of his own productive efforts as strictly classifiable only under the heading of prosaic "work," or, more specifically, as "hard" mechanics, engineering and commerce.

Ford was inspired by the needs of the farmer, having himself been born a farm boy. The great mass of humanity at that time continued to be farmers, as in the millenniums past. Ford gradually evolved an omnikinetic electromagnetically powered and intercommunicated network of industrialization, and most effectively employed the world-around, unevenly occurring, geographically remote resources that had to be integrated in order to permit ever-higher performance capabilities by metallurgical alloying, precision forming and synergetics in general.

Henry Ford introduced the era of employment of the ninety-nine percent invisible ranges of the electromagnetic spectrum reality. Man's eye cannot dis-

tinguish modular intervals of less than $1/100$ of an inch. Ford introduced measurement controls of $1/10,000$ of an inch in his automobile manufacturing technology. He was mistakenly identified as a stubborn old man who persisted in making just one type of black automobile—the Model T. While his General Motors competitors were preoccupied with customer-courting by improving primarily only the visible instrument panels, visible upholstery, shift levers, motor hoods, mud-guard shaping, and other sensorially pleasing modifications, Henry Ford was inaugurating the mass use of the invisible and ever-higher performance per pound alloys and the invisible controls of ever-closer measuring of invisibly operating parts of the machinery, structure and production tooling of his automobiles. He was also the first to mass-produce automobiles on moving assembly lines. Nothing bigger than sewing machines had previously been mass-produced. Ford also concerned himself directly as the prime designer of his evolving machinery and structural technology and all the other supporting activities of final pertinence to the success of the massively reproductive industry—he led in designing of his factories and tools, in mining, transporting of raw materials all around the world, and in railroad, ship, loading, communications and information-handling systems. Ford was personally and inventively concerned with each and every technoscientific and economic involvement from the raw resources situated in the scenery to the design and maintenance of the production equipment research evolution and, of course, with the design of the end-product automobiles and tractors themselves.

As a consequence of all the foregoing historical initiatives, when Henry Ford replaced the Model T with the Model A, he was employing fifty-four different alloys of steel in his Model T. These alloys were as unlike one another as diamonds are unlike pearls. But the electromagnetic, structural arrangements of those alloyed atoms were all invisible. Henry

Ford's establishment for humanity of all these invisible capabilities prevented his cars from suffering the swift deterioration of his competitor's only superficially more "attractive" vehicles. Although drivers were unable to see the alloys and were unaware of their existence, the cars lasted and lasted despite rough usage, with little maintenance and almost without any weather protection. They had far greater performance per pound, hour and kilowatt of invested physical resources than had any of the other contemporary vehicles. Most of Henry Ford's one-hundred-and-twenty car-manufacturing competitors of the first quarter of the twentieth century did not last, nor did their cars. But many of those earlier Ford cars still exist, particularly the Model A of 1928, and are demanding good prices, while most of the names of Ford's competitors are almost altogether forgotten and their cars are only to be found in museums.

By the mid-twenty-first century with the perspective advantage of time, it may come to pass that Henry Ford will have become recognized by world-around society as the Leonardo of the twentieth century, for it was Henry Ford, Sr., who first organized the mass-production effectiveness of science and technology and its comprehensive logistical revolution, as well as evolving the supporting new economics and world mass-distribution of the high performance products of mass-production industry, whose controls lay exclusively within the realm of the ninety-nine percent invisible, physical reality. He was the first to recognize that mass production was impossible without mass consumption and that that required much higher wages, which Ford was the first to institute. Through the great depression his operation continued as others closed and failed. Henry Ford thus introduced and held the prime initiative for period nine.

Henry Ford set the stage for period ten of that part of our overall evolutionary history in which man consciously participates and takes responsibility for the transformations of the environment and

the consequent social behaviors of adjustment to the successively new environments.

Period Ten

Henry Ford also set the stage for, but did not lead, the inauguration and development of period ten. Period ten was opened by a century-long succession of masters of the invisible reality—Newton, Hertz, Maxwell, Faraday, Boyle, Avogadro, Mendeleev, van't Hoff, Michelson, Planck and finally secured by Einstein. Ralph Waldo Emerson defined poetry as "saying the most important things in the simplest way." By that definition Einstein became and will probably remain history's greatest poet—for who could say so much so simply as did Einstein when he described physical universe as $e = mc^2$.

There are varying time lags in the rate of industrial gestation of the Leonardo-type's inventions. The least lag occurs between invention and industrial use in the electronics industry. Here the technical advantages are conceived of and realized only by the invisible, mathematical probing of scientists. The invisible improvements are adopted because their logic can be disclosed only by mathematics. There are no grounds for sensorially based and conditioned reflexive objections: that is, for exclusively *opinionated* arguments. Inventions in the aeronautical arts and their industrial support field are adopted within five years. This lag in the speed of adoption is occasioned by the spontaneously imaginable life or death importance involved in the practical employment of critical and most effective tools, all of which must be static-load tested, and so forth, before risking human life, either as test pilot or as ultimate passenger aboard the aircraft.

Inventions in the automobile arts are adopted by their industry within an average span of ten years, and railroad inventions take eighteen years to become standardly employed.

While buildings expand and contract physically, between summer's heat and winter's cold, and even between night

and day temperatures, those size changes are invisible to the human eye. While buildings are stressed by great wind loads and snow loads—great skyscrapers sway as much as a foot, but relatively slowly—the deflective motions are invisible to man. Invisible also are the motions of the hands of the clock, or of atomic components of matter, which move, hither and yon, radiationally and locally, at 700,000,000 miles per hour speeds. Also invisible to man are the vast, high-speed motions of the stars and the relatively slow growth of trees. When man cannot see the motion, he rarely thinks realistically about it. He is not prone to be usefully critical of the invisible yet real kinetics of design-function suitability, or of relative performance efficiency. Nor are humans inclined to put their experience to inventive advantage for others until they have had a long series of personal inconveniences and accidents to prompt them into comprehending the involved critical events that they cannot see. Humans tend to identify as machines only those complex devices that they can see move. Unable to see their buildings with seasonally slow, energy transformations functioning as machines, which indeed they are, humans fail to design their buildings with the same degree of scientific integrity with which, for instance, they conduct the ten million discreet but mostly invisible tasks that have to be completed from the outset of "count-down" to the successful "blast-off" of a rocketed, manned, extraterrestrially traveling capsule. As a consequence of humanity's inability to see the energy transformation motions involved, the structural design of their land buildings and their livingry mechanics (such as plumbing equipment) lag three thousand years behind the evolution in aerospace technology standards. Humanity's housing structures and livingry in general are, to a high degree, only superstitiously evolved, economic prowess symbols, inefficiently repetitious of all of yesterday's make-do mistakes.

We can say, in respect to the directly

recognized motion experiences of the average observer, that the higher the operating velocity of the art involved, the shorter is the invention-to-industrialization lag. Electromagnetic communication, operating at 700 million miles per hour, has the least lag. Astronautics operating at between ten and twenty thousand m.p.h., jetonautics at 200 to 1800 m.p.h., and automobiles at 0 to 150 m.p.h. follow one another in the rate of contraction of the relative magnitude of delayed invention adoption. They also rank in the same order in degree of nicety of design production and control: one quadrillionth of an inch in electromagnetic communications tuning capability, one ten-millionth of an inch in astronautic mechanisms, one hundred-thousandth of an inch in jetonautics, one ten-thousandth of an inch in automobiles and one sixteenth of an inch in the house building arts. Housing, which seems not to move at all, has the greatest invention-to-use lag. The lag between invention and commercial use in skyscrapers is about twenty-five years; in single family dwellings the invention-to-industrialization-use lag is about forty-five to fifty years.

Because of the widely differing lags occurring between invention and common use as disclosed by the different arts, the twentieth-century Leonardo's conception of mass-production industry, as essential to the gratification of the living needs of all humanity, has come into effective world-around use only in the omniinvisible electronic and semiinvisible aeronautical, and partially invisible marine, automobile and railroad technologies. Industrial mass production, which long ago produced nails, screws, bricks and small parts of buildings, is favorably affecting the production of many of the parts going into the skyscraper phase of the building arts. But none of the synergetic benefits of scientifically coordinated, high-speed, light-weight moving line production and general assemblage of final-user products (mass-produced, distributed, maintained and removed only under omniconrolled, optimum environ-

mental conditions), and of the mass delivery of fully assembled, ready-to-use, rentable-anywhere, scientifically serviced, complex-dwelling machine products, have been realized yet, anywhere. Such competence will never be realized by the utterly obsolete, "one-off" handcrafting, under uncontrolled field conditions, as practiced by an interplay of real estaters, banks, contractors, building lobbies and government subsidy. All that is now dead. It will be replaced by the high-priority air-space technologies of the world reoriented from a war to a peace-aimed economy.

Mass-production industry, as conceived and instituted by the modern Leonardos, will not affect its ultimate beneficiary, the common man and his home-life dwelling facilities, in important degrees, until the mid-1970s, when the forty-five to fifty year evolutionary transition lag following the 1927 invention of the Dymaxion House (the equivalent in dwelling machine, service industry facility to the "Model T") has run its course, and mass proliferation of scientifically conceived, produced, delivered, maintained and removed dwellings for all of humanity everywhere around the world will be realized in equal service satisfaction to that provided today by the rent-anywhere, leave-anywhere, automobile facilities.

In the 1970s we will see skyscrapers mass-assembled horizontally in the air-space industry's controlled-condition factories, vertically airlifted in their horizontal, low-air-drag attitude to a position over their installation sites, and then rotated into a vertical attitude, lowered and made fast to their anchored-piling foundations.

The 1970s will see air deliveries all around the world of semiautonomous dwelling machines belonging to the world around, computerized, universal credit-card managed rental service systems which will air-install, maintain and air-remove the dwelling machines within hours. Both the power to operate semiautonomous sanitation automation and the equipment involved will be mass produced from the experience gained in the moon and outer

space programs and equipment prototyping. The little black boxes that contain all the life-regenerating systems will dispense forever with the Earthians wasteful piped-in water supply and sewer systems. The only slowly and meagerly decreasing, essential chemistries of such recirculating systems will be replenished intermittently in small containers. Energy as electrical power will be beam-transmitted and satellite-relayed to humans operating anywhere within the solar system. Energy as Sun power will be universally employed.

In the first nine periods of the total history of the economic patronage of the creative individuals' initiatives, the hand-fashioning of the environmental rearrangements, advantaging both the afterlife and the living lives, occurred under the conditions of humanity's thinking of reality as consisting strictly of the phenomena that could be apprehended directly by humanity's senses of sight, touch, hearing, smelling and tasting. All invisible occurrences were considered to be either mystical, magical or trickery. Then came man's discovery of electromagnetics, atomic physics and chemistry, and, with these, humans could explore the vast ranges of the invisible, nonsensorially contactable reality. Thereby all of yesterday's mysteries were either logically explained or dismissed.

During the first seven historical periods, man thought of all men as totally conscious of themselves and consciously responsible for their every waking-hour's act. In period eight Freud and Mesmer, through hypnosis, shook humanity's complacent assumption of an exclusively *conscious reality*. Period ten's invisible electromagnetics, chemistry, biochemistry and mathematics ushered in by the initiatives of the mass-production invention of twentieth-century Leonardos—including the Einsteins, Bells, Wrights, Edisons and even earlier Hertz, Maxwells, Faradays, Boyles, *et al.*—made it evident to those who thought cogently about it, that reality is more than ninety-nine percent invisible. The swelling ranks of those

trained scientifically to cope with the ninety-nine percent invisibility of reality rendered humanity's exclusively visible, news-pictured undertakings almost negligibly important.

There is a clearly discernible successional order in which the various prime categories of humanity's capabilities come to employ—and to be, almost miraculously, advantaged by—the invisible realities' exquisite reliabilities of technical formulation. First was mathematical thought itself. Next came the communications arts—next the air-space transportation arts—then ground transportation. Last will come the world-around dwelling and living arts.

The latter evolutionary scheduling of events is a fact that ninety-nine percent of humanity has not as yet come to understand, but that fact underlies the students' mid-sixties intuitive rejection of all superficially based traditions.

Whereas the aesthetics of the first nine periods were sensorially apprehendible, the Leonardo-types' preoccupations in period ten have been predicted on an *utterly invisible aesthetic*. The aesthetics of period ten will probably govern the Leonardo-type initiations of all centuries to come and will be the most important ingredient of humanity's survival—if those of the human team now aboard planet Earth do indeed survive.

The great *aesthetic* that will inaugurate the twenty-first century will be the utterly invisible quality of intellectual *integrity*: the integrity of the individual in dealing with his scientific discoveries; the integrity of the individual in dealing with conceptual realization of the comprehensive interrelatedness of all events; the integrity of the individual in dealing with the only experimentally arrived-at information regarding invisible phenomena; and, finally, the integrity of all those who formulate invisibly within their respective minds, and invisibly with the only mathematically dimensionable, advanced production technologies, on behalf of their fellowmen.

This aesthetic of integrity causes the

new life now emerging aboard our Space-ship Earth to abhor any hypocrisy. Children are spontaneously truthful. They simply announce that which they observe. Lying and warping of information is an acquired capability. Panicking fear employs lying, in the mistaken hope that it will be advantageous. Because a lie is a fiction, it can be dispelled. Corruption by lying requires a mental self-deceit, a misconception, a visualization of imagined experience. The unimaginableness of the invisible reality precludes such manipulation.

In the cold warring, all that one side can do to the other is to jam, obscure or destroy information since its meaning cannot be perverted. The intuitions of the young are overwhelmed by the awareness of the utter essentiality of comprehensively operative information *integrity* to their present and future lives. They are forsaking all vain symbolism of pseudo "distinction."

The young are as imbued with idealism, harmonics, romance and awareness of the a priori mystery of "How come Universe?" as have been all generations before them. But their passion for integrity will ensure them against the disappointment and dismays of earlier generations, all of which were betrayed by ignorance, fallacious credos, axioms and passionately biased customs promulgated at first by ruthless, muscle-wielded swords and later by the most powerful, gun-imposed dictatorships that taught their followers to lie as an act of loyalty. Youth's idealism and love of harmonic synchronization can only be guaranteed gratifyingly by the integrity to which their intuitions bind them.

Seeking an understanding of the comprehensive aesthetic trending throughout our ten past periods' history, we have traveled from an at first but dimly inferred review to a now *overwhelmingly documented* history of humanity's initiatives and accomplishments aboard planet Earth. We found humanity at earliest recorded times philosophically assuming an eternal *NOW* Universe. In it death did not

mean departure from life but only a transformation or transmigration of the individual. Thereafter we go through an illogical dichotomy of Universe into two Universes, into life and lives-hereafter, a temporal, character-trial life, plus two other eternal Universes: Heaven and Hell; that is, three Universes, one an Earth-Time Universe—that had its *horizontal* planes laterally extensible outwardly from its "civilization" or tribal center to the land of dragons and thence to infinity. Its perpendicular up and down lines, ran diametrically toward *two* separate timeless eternities, the heaven and hell Universes.

Throughout the first nine periods of the Leonardo-type, era-transforming initiations, we rewitnessed the realization of a series of major Earthian edifices that consisted at first of naga, or water-surrounded, square-based, solidly packed, multi-pinnacled rock and stone models of the world as it evolved slowly into single pinnacled or one central-mountain world with climbable steps. Such edifices of Southeast Asia, Mesopotamia (zigurats) and Central America simply informed society that this was the structural scheme of the gods, of whom their king was at first only one of many—that is, many mini-mountain spires in the complex—but later became "it," requiring only a one-pinnacled structure.

In our first eight successive periods, as led by the Leonardo-types' prime, teleological-designing initiatives, the edifices became progressively occupied in ever-increasing geometrical magnitude, first with a small subterranean chamber beneath the half-octahedronal, square-based, pyramidal edifices erected for the pharaoh's entry into afterlife. Thereafter, in the successive Leonardo-type's design-revolution periods, the interior of such edifices became progressively amplified to house the afterlives of ever-greater numbers of nobles and their attendants, and then were amplified even more to accommodate all the middle-class afterlififers as boxlike chambers above Earth—as mausoleums.

Such depositories of human remains for an afterlife continuation are not to be confused with the temples that are extensions of the earliest theology. The columned temples of Egypt, Asia Minor, the Greek and later Roman worlds were gradually evolved from the earliest invisible cathedral "beauty spots," "*fung sui*," where the breathtaking beauty and view from the highest, tree-line altitudes evoked humanity's most expansive thoughts and thanksgiving or prayer for further favors. The often worshiped and decorated trees on those beauty spots gradually died and were replaced by the formally decorated columns of the temples. The Greek temples were usually placed on shoulder lands, halfway toward mountain peaks, so that, while affording magnificent views that engendered humans' most noble conceptioning, there were always the much higher mountain peaks above to remind man of the far-greater viewpoint and power of their gods. The temples were for temporal-life's thanksgiving and beseeching.

Finally, the edifices designed by the Leonardo-type teleological initiators of this latter series of thanks-and-ask stone-forest edifices were at first the private, tiny chapels for exclusive use of a living king within which he might pray for help in his coming battle. The king's chapel period was followed by the relatively small thirteenth-century crusader-patronized abbeys of England. Then came the vast interior of the great cathedrals to accommodate preparations for everybody's afterlife and prayers for some favors in this life. But the mountain-peak architectural tradition of the early wats persisted, in the form of increasingly impressive spires superimposed on the prime cavernous church or cathedral. Sometimes these man-occupiable caverns (*duomos*) had their exclusively god-occupiable higher mountain as a separate outside tower (*campanile*). By this total overall evolution, the once solid stone piles were penetrated in even greater degree until they became cathedrals (meaning universal—for all people). The cathedrals

are, finally, relatively thin-shelled, orderly designed piles of externally buttressed stone. Chambers for depositing bodies were at first, as with the pyramids, placed below the cathedral flooring. But as more and more bodies had to be accommodated, the graveyards outside the cathedral were developed.

Returning again to consideration of the mass-production functioning of period nine, we find that it expanded reality ninety-nine-fold to include the whole range of the invisible events of Universe. These had been held previously by humans to be magical and superstitiously mystical. Now they had become the realities of everyday science.

In period ten we witness the progressive abandonment of the cathedral and churches by an ever-accelerating succession of individually intuitive withdrawals from religious groups, not because individuals have less awareness of greater wisdom and integrity than are ascribable to any known capabilities of humans, but simply because their further participation in dogmatic formula and the unthinking rituals of religious ceremony have become less acceptable as being truthfully cogent of the total informative environment.

Period ten, which has much more to accomplish, is destined to emancipate all humanity from physical drudgery and conversely to give every individual the freedom to reemploy his original unblemished childhood's faculty of thought and experimental curiosity drives in whatever way each finds to be most constructive.

Thus we find that all the superstitious symbolism of yesterday's houses of worship has become irrelevant, obsolete, and redolent with pathos, regarding both the innocent devotion and trust placed upon the words of the dogma-harnessed and devotedly considerate "fathers." The great cathedrals, smaller ministries, churches, temples, pyramids, zigurats and wats thus become ever more informative only as archaeological disclosures of the great human epic. As such they become increasingly inspirational, as integrity seeks to understand and appreciate the great

dedications of the past and to offset the errors of yesterday with ever-greater fulfillment of humanity's conscious, metaphysical functioning in the evolutionary events of macro-medi-micro Universe.

Thus we find humanity beginning to recognize that science has discovered that there are no experimentally demonstrable static things. There are no solids, no *at-rest* statics. There are only *weightless metaphysical* and *weighable physical* (energy) events, both characterized by irreversible proclivities and unique interferences, frequencies of oscillating symmetries and maximum asymmetries, complementaries, and so on. There are no experimentally demonstrable things. We have no use for *nouns*; we can use only *verbs*. Newton's instant noun-thing Universe has been replaced with Einstein's scenario, verb-event, wave-frequency Universe. There is no experimentally demonstrated phenomenon *space*, only experimentally disclosed, discrete packages of energy, as discontinuous quanta events.

As we saw earlier, we have *events* and *no-events*, *moments* and *no-moments*. There is no zero *time*. Time is always a duration-magnitude event. We have only *becoming* and *became*. We have only *yesterday* and *already begun tomorrow*. We have no static, single-frame Universe. We have only an aggregate of nonsimultaneous and only partially overlapping experiences, subjective and objective—a scenario of separate quantum frames of electromagnetic reality events overridden by a plurality of omni-interaccommodative generalized behavioral laws, which are utterly abstract, weightless, invisible, metaphysical concepts, manifesting an all-embracing integrity of intellection. We also have the disassociation of that weightless integrity that is unique to life from the physical regenerative chemical organism of seven pounds at birth, augmented twenty-fold more at maturity.

This new era, period ten's cosmology, is ushered in by Einstein's "Cosmic Religious Sense," first mentioned in the New York *Times* in November, 1930, right after the great financial "crash" of 1929 in which the living gods of exclusively physical

power were banished forever from the highest throne of human esteem. In the same year, the ninety-second isolation of the total, finite family of ninety-two regenerative chemical elements was accomplished, and the invisible-ingredients cupboard of the invisible reality was completely stocked to service the constructive assemblage of the invisible tenth period of history.

In the closing days of the twentieth century, humanity seems to be returning to the Garden of Eden of an invisible "edificeless," comprehensive integrity of an eternally self-transforming and regenerative Universe. In this tenth period all humanity will find itself intellectually empowered to teach itself through individual thought.

The god function in all humanity of the capability to think and act with teleologic integrity will ever approach, but never quite attain, the perfection of absolute integrity that we now identify in utter abstraction as truth or god. God as a verb, as an abstract love-momentumed gyrocompass, will intuit the emergent directional courses to be steered. Else, there will be no more humans aboard Spaceship Earth, and the metaphysical functions of orderly discernment and mastery of the physically disorderly behaviors of Universe will have to be carried on by minds operating elsewhere and otherwise in Universe.

For there are to be periods eleven and twelve of Leonardo-type initiations of the design revolution to be realized by humanity somewhere in Universe complementarily to comprehend, cohere and resonantly regenerate the discontinuous, positive-negative, quantized universal evolution.

Period Eleven

In period eleven the Leonardo-types' economic-patronage-mandate will be that of the newborn children of all humanity everywhere. This Leonardo-type will be preoccupied with the safeguarding of the innate faculties of the newborn. In historical period eleven it will be the function of the Leonardo-type to compound for humanity the ever-increasingly aug-

mentable advantages inherent in the fact that each child is born in the presence of less cosmological and cosmogonical misinformation and is endowed with undamaged, unfrustrated love-drives to apprehend, comprehend, to understand and be understood; to employ regeneratively the ever more reliable information, electronically retrievable by each individual, for private individual consumption, and thereby potentially to discover and employ designingly on behalf of all humanity an ever-greater inventory of the generalized principles interaccommodatively governing the universal metaphysical and physical evolution.

Period Twelve

In historical period twelve it will be the function of the Leonardo-type initiators of the design revolution to employ the evolutionary environment modifications capabilities, coming ever more importantly within the domain of human potential, under the inspiring *patronage mandate* of all *the as yet unborn generations of humanity, ever-to-be-in universe*, while always ensuring the evolutionary advantage of all those now living as inspiringly informed by all the experiences, positive and negative, of all previous generations of mind in man.

And when period twelve of history has reached maturity—when mind-in-man in Universe has masteringly explored vast time-distance ranges of the presently operative scenario Universe, and approxi-

mately all of the physical phenomena, once only superstitiously considered by humanity, has been electrochemically comprehended by humanity in general—humanity will have learned that the human organic, anatomical complex, identified as the human corpus or body, is exclusively physical and constitutes the most anticipatorily successful self-regenerating and replica-reproducing automated machine-design known to exist within Universe, being lesser only in evolutionary self-regenerating complexity to scenario Universe itself. Man then will have learned that life is not the machine but is the utterly weightless, immortal, individual, intellectual integrity. And when that degree of universal integrity of understanding has been attained by mind-in-man consciousness, all the questions of Universe will have converged into one great and forever unanswerable question.

“How come Universe?”—and its complex inventory of omnicontradictorily, intertransforming, and only partially overlapping, interaccommodative, abstract, weightless, generalized principles. This is a question that seems guaranteed to be eternal by virtue of the forever irreversible directional progression toward an infinitely nonattainable *timeless truth*. We can only approach but never attain *completely inclusive, infinitely incisive truth or love, or understanding*.

The integrity of the loving dream is the integrity of Universe and being humanly unattainable is inherently uncorruptible and infinitely regenerative.

Penta-gone

two apples
three pears
one table
four chairs
five foxes
no hares

ELLIOT ABHAU