

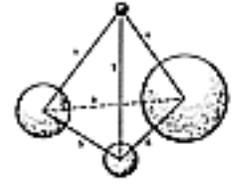
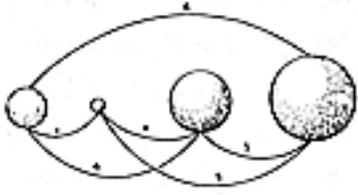
# Table of Contents

- [300.00 UNIVERSE](#)
  - [301.00 Definition: Universe](#)
    - [305.00 Synergetic Advantage: Macro ® Micro](#)
    - [306.00 Universe and Self](#)
    - [310.10 Odd Ball](#)
    - [311.00 Human as Local Universe Technology](#)
    - [311.10 Humans as Ultimate Complexities](#)
  - [320.00 Scenario Universe](#)
    - [325.10 Analogy of Rope-making and Film-strips](#)
    - [325.20 Epistemography of Scenario Universe](#)
  - [326.00 Universe as Metaphysical and Physical](#)
    - [326.10 Precision of Side Effects and Primary Effects](#)
    - [326.20 Pyramid of Generalizations](#)
    - [326.30 Comprehensive Universe](#)
    - [326.40 Metaphysical and Physical: Summary](#)
    - [326.50 Metaphysical and Physical: Cross-references](#)
  - [330.00 Universe as Minimum Perpetual Motion Machine](#)
  - [340.00 Expanding Universe](#)
  - [350.00 Negative Universe](#)
  - [360.00 Universe: System: Conceptuality: Structure](#)
-

[Next Page](#)

---

Copyright © 1997 Estate of Buckminster Fuller



## 300.00 Universe

### 301.00 Definition Universe

---

301.10 Universe is the aggregate of all humanity's consciously apprehended and communicated nonsimultaneous and only partially overlapping experiences.

302.00 *Aggregate* means sum-totally but nonunitarily conceptual as of any one moment. *Consciousness* means an awareness of otherness. *Apprehension* means information furnished by those wave frequencies tunable within man's limited sensorial spectrum. *Communicated* means informing self or others. *Nonsimultaneous* means not occurring at the same time. Overlapping is used because every event has duration, and their initiatings and terminatings are most often of different duration.<sup>1</sup> Neither the set of all *experiences* nor the set of all the words used to describe them are instantly reviewable nor are they of the same length. Experiences are either involuntary (subjective) or voluntary (objective), and all experiences, both physical and metaphysical, are finite because each begins and ends.

(Footnote 1: The complex of event sequences is most often characterized by overlappings. A man is born, grows up, has children and grandchildren. His life overlaps that of his grandfather and father and that of his children and grandchildren. But his grandfather's life did not overlap his children's nor his grandchildren's lives. Hence, *partially* overlapping.)

303.00 Universe is the comprehensive, historically synchronous, integral-aggregate system embracing all the separate integral-aggregate systems of all men's consciously apprehended and communicated (to self or others) nonsimultaneous, nonidentical, but always complementary and only partially overlapping, macro-micro, always-and- everywhere, omnitransforming, physical and metaphysical, weighable and unweighable event sequences. Universe is a dynamically synchronous scenario that is unitarily nonconceptual as of any one moment, yet as an aggregate of finites is sum-totally finite.

304.00 Our definition of Universe provides for the undiscovered and for the yet-to- be discovered. Do not worry about that farthestmost star which is yet to be consciously apprehended by any human being. Do not think we have not provided for those physical or chemical phenomena as yet not observed and recorded by human or mechanical sensing devices. The existence of such phenomena may not have even been postulated, but they can all be accommodated by our definition of Universe. Because we start with whole Universe we have left out nothing: There is no multiplication by amplification of, or addition to, eternally regenerative Universe; there is only multiplication by division. The farthestmost star and the most unfamiliar physical phenomena are all accommodated by further arithmetical subdividing of our aggregate of overlapping experiences. Nothing could have been *left out* when you start with whole Universe. (See Secs. [522.32](#), [537.31](#), [540.03](#), and [1050.13](#).)

### 305.00 **Synergetic Advantage: Macro → Micro**

305.01 Universe is the starting point for any study of synergetic phenomena. The Principle of Synergetic Advantage (see Sec. [229](#)) requires that we return to the Universe as our starting point in all problem consideration. We assiduously avoid all the imposed disciplines of progressive specialization. We depend entirely upon our innate facilities, the most important of which is our intuition, and test our progressive intuitions with experiments.

305.02 Universe is, inferentially, the biggest system. By starting with Universe, we automatically avoid leaving out any strategically critical variables. In the Universe, everything is always in motion and everything is always moving in the directions of least resistance. When we are dealing always in terms of a finite Universe or totality of behavior, we are able to work from the generalized whole to the particular or special-case manifestation of the generalized accounting. This is the basis of the grand philosophic accounting of quantum mechanics.

305.03 I have found during my whole life that I have had a problem dealing with society because I am dealing with that which is not obvious to the rest of society. I have found that Universe is actually operating in an entirely different way from the way society thinks it is. Society is living in a sort of “fault.” The kind of fault I am thinking of is like an Earth fault, like a great cliff, a great discontinuity in Earth’s surface. There are great discontinuities in the public’s image of what the Universe *is*.

305.04 We find no record of man having defined the Universe—scientifically and comprehensively—to include both the metaphysical and the physical. The scientist was able to define physical Universe by virtue of the experimentally verified discovery that energy can neither be created nor lost; therefore that energy is conserved; therefore it is finite. Thus, man has been able to define successfully physical Universe—but not, as yet, the metaphysical Universe.

305.05 Our definition of Universe includes both the objective and the subjective, i.e., all voluntary experiences (experiments) as well as all involuntary experiences (happenings). The total of experiences is integrally synergetic. Universe is the comprehensive, a priori synergetic integral. Universe continually operates in comprehensive, coordinate patternings that are transcendental to the sensorially minuscule apprehension and mental-comprehension and prediction capabilities of mankind, consciously and inherently preoccupied as he is only with special local and nonsimultaneous pattern considerations. Angle and frequency modulations, either subjective or objective in respect to man’s consciousness, discretely define all events or experiences which altogether constitute Universe. (See Secs. [208](#) and [503](#).)

305.06 To each of us, Universe must be all that isn’t me, plus me.

306.00 **Universe and Self**

306.01 People say to me, "I think you have left something out of your definition of Universe." That statement becomes part of my experience. But never will anyone disprove my working hypothesis because it will take experimental proof to satisfy me, and the experiment will always be part of the experience of my definition, ergo included. This gives me great power because my definition of Universe includes not only the physical but also the metaphysical experiences of Universe, which the physicists thought they had to exclude from their more limited definition of the finite physical portion of Universe. The metaphysical embraces all the weightless experiences of thought, including all the mathematics and the organization of data regarding all the physical experiments, science itself being metaphysical.

306.02 My Universe is that portion of the intercommunicated aggregate of all conscious and operationally described experiences of all history's beings, including my own, which is now totally recallable only in fragments as progressively and spontaneously tunable within my own angular orientation and zonal discernment limits of the multidirectional and multimagnitude, sensorial-frequency-spectrum inventory of the frequently accumulating, integrating, and accommodately rearranging memory album of all discernibly unique patternings whatsoever. While in many ways similar, each of humanity's individual's Universes must always seem to differ in some total experience inventory aspects.

306.03 The scenario events of Universe are the regenerative interactions of all otherness and me.

307.01 Universe is the ultimate collective concept embracing all intelligible, inherently separate evolutionary events, which apparently occur always and only through differentiating considerations that progressively isolate the components of whole and inclusive sets, supersets, and subsets of generalized conceptioning in retrospectively abstracted principles of relationships. (See Sec. [1056.15](#).)

307.02 As defined, Universe is inherently unitarily inconceivable.

307.03 There may be no absolute division of energetic Universe into isolated or noncommunicable parts. There is no absolutely enclosed surface, and there is no absolutely enclosed volume. Universe means "toward oneness" and implies a minimum of twoness.

307.04 Because of the fundamental nonsimultaneity of universal structuring, a single, simultaneous, static model of Universe is inherently both nonexistent and conceptually impossible as well as unnecessary. Ergo, Universe does not have a shape. Do not waste your time, as man has been doing for ages, trying to think of a unit shape "outside of which there must be something," or "within which, at center, there must be a smaller something."

308.00 Universe is finite because it is the sum total of finitely furnished experiences. The comprehensive set of all experiences synergetically constituting Universe discloses an astronomically numbered variety of subset event-frequency rates and their respective rates of conceptual tunability comprehension. It takes entirely different lengths of time to remember to "look up" different names or facts of past events. Universe, like the dictionary, though integral, is ipso facto nonsimultaneously recollectable; therefore, as with the set of all the words in the dictionary, it is nonsimultaneously reviewable, ergo, is synergetically incomprehensible, as of any one moment, yet is progressively revealing.

309.00 Universe is the minimum of intertransformings necessary for total self-regeneration.

310.01 Our modern concept of Universe is as a comprehensive system of energy processes. Universe is a nonsimultaneously potential vector equilibrium. The integrity of Universe is implicit in the external finiteness of the entirely embracing circumferential set of the integrated vectors of the vector equilibrium that always enclose the otherwise divisive, disintegrative, entirely embraced internal radial set of omnidirectional vectors. Universe is tensional integrity.

310.02 The star tetrahedron's entropy may be the basis of irreversible radiation, whereas the syntropic vector equilibrium's reversibility—inwardly, outwardly—is the basis for the gravitationally maintained integrity of Universe. The omnidirectional, omniwave, propagating pulsivity of Universe realizations is eternally potential and implicit in the vector equilibrium.

310.03 Universe and its experiences cannot be considered as being physical, for they balance out as weightless. Every positively weighted "particle" has its negatively weighted complementary, but non-mirror-imaged, counterpart behavior. The integrated weights of physical Universe add up to zero. The weightless experience is metaphysical—physical phenomena having been identified by the physicists as being always uniquely weighable, that is, ponderable, that is, detected by the mass-attracted levering of an indicator needle.

310.10 **Odd Ball**

310.11 In synergetics we find the difference of exactly one whole integer frequently manifest in our geometrical interrelationship explorations. Beyond the one additional proton and one additional electron that progressively characterize the hierarchy of the already-discovered family of 92 regenerative chemical elements and their short-lived transuranium manifestability by high energy physics experiments, we find time and again a single integer to be associated with the positive-negative energetic pulsations in Universe. Because the energetic-synergetic relationships are usually generalized relationships independent of size, these single rational integer differentials are frequently found to characterize the limit magnitudes of asymmetric deviations from the zerophase vector equilibrium. (See Sec. [1043](#).)

310.12 The minor aberrations of otherwise elegantly matching phenomena of nature, such as the microweight aberrations of the 92 regenerative chemical elements in respect to their atomic numbers, were not explained until isotopes and their neutrons were discovered a few decades ago. Such discoveries numerically elucidate the whole-integer rationalization of the unique isotopal system's structural-proclivity agglomeratings.

310.13 There is a phenomenon that we might describe as the eternal disquietude of the Odd Ball promulgating eternal reorderings, realignments, and inexorable transformings to accommodate the eternal regeneration integrity of intellectually differentiable Universe. This suggests philosophically that the individual metaphysical human viewpoint—the individual ego of the human—is indeed an essential function of the eternally regenerative integrity of complex law-governed Universe.

310.14 Possibly this mathematical Odd-Ball-oneness inherently regenerates the ever-reborn ego. Just when you think you are negative, you find you are positively so. This is the eternal wellspring of positive-negative regeneration of acceleratingly heating entropy and cooling-off syntropy, which is synergetically interoperative between the inherently terminal physical differentiating and the inherently eternal metaphysical integration.

**311.00 Humans as Local Universe Technology**

311.01 Of all the subcosmic, integrally inter patterning complexes that we know of in our Universe, there is no organic complex that in any way compares with that of the human being. We have only one counterpart of total complexity, and that is Universe itself.<sup>2</sup> That such a complex miniature Universe is found to be present on this planet, and that it is "born" absolutely ignorant, is part of the manifold of design integrities.

(Footnote 2: Apparently, man matches the Universe in displaying the same relative abundance of the 92 self-regenerative chemical elements.)

311.02 Universe is technology—the most comprehensively complex technology. Human organisms are Universe's most complex local technologies.

311.03 Universe is the aggregate of eternal generalized principles whose nonunitarily conceptual scenario is unfoldingly manifest in a variety of special-case, local, time-space transformative, evolutionary events. Humans are each a special-case unfoldment-integrity of the multi-alternated complex aggregate of abstract, weightless, omni-interaccommodative, maximally synergetic, non-sensorial, eternal, timeless principles of Universe. Humanity being a macro → micro Universe-unfolding eventuation is physically irreversible yet eternally integrated with Universe. Humanity cannot shrink and return into the womb and revert to as yet unfertilized ova. Humanity can only evolve toward cosmic totality, which in turn can only be evolvingly regenerated through new- born humanity.

### 311.10 **Humans as Ultimate Complexities**

---

[311.10-311.18 Complex Humans Scenario]

311.11 Synergetics presents a picture of the multioptioned operational field of cosmic favorabilities, intertransformabilities, and complementary interaccommodations within which each human individual, his life, his world, is always one alternately elective, complex-integrity way Universe could have evolved.

311.12 No man or woman can ever prove when they wake up in the morning that they are the same person who they think they remember went to sleep. They may dream that they had other dreams, but there is now no way to prove that there are not a great many alternate "me's," and that one of them may have awakened under one set of alternate possibilities while the others may have awakened under other circumstances, and that each of them thinks that it is the only "me."

311.13 Let's assume that you have the realistically imaginative capability to invent a Universe wherein there are no substantive "things," a Universe wherein there are only events. Life is first of all awareness. No otherness: no awareness. Much otherness is difference-from-me-ness. Events are cognizable and recognizable only through awareness of the occurrence of interrelationship differences in sequentially observed conditions. Your Universe would have to be a Universe of ever-changing events, differentially adding here, subtracting there, multiplying, and dividing, reaching out or coming in, differentially including and integratively refining, either locally gaining or losing, while continually and complexedly transforming at a plurality of rates and magnitudes. Within this Universe you also invent all the 92 regenerative chemical elements and their respectively unique, repulsive or associative behaviors compounding to form billions of unique substances while catalytically disassociating such substances to form all the chemical-element isotopal agglomerations. You may go on to invent all the generalized principles of synergetic mass- interattractiveness and entropic radiation, as well as the latter's reflectivity and refractivity. And you will have to invent precession and all the unique frequencies of the chemical elements as well as each and all cyclic events. Then you start playing your game of Universe. You have all the stars and galaxies of stars entropically exporting energy and planets syntropically importing energies that, when they reach critical mass, become new stars as fragments of the exploded old stars become cores for the beginning of new planets. As you invent, you arrive at more and more intertransformative complexities and timing problems; the whole game gets more and more complicated. Quite clearly experiences must multiply, so the complexity of your invented Universe multiplies exponentially at a fourth-power rate in respect to the arithmetical progression of time. And since every event is always accomplished with six equieconomical, four-dimensionally directioned moves—the four dimensions being (1) inwardly, (2) outwardly, (3) circumferentially and equatorially around (axial spinning), and (4) polarized, involitionally-evolutionally, inside-outringly around—by means of the alternative, equimaximally economical optional move events you might find by the close of each event that you are six, five, four, three, or two radial zones outwardly in any direction from

where you started—or right back where you started—and you soon come to the complex invention of thus-far-discovered billions of galaxies consisting of approximately 100 billion stars of the macrocosm and multibillions of invisible-to-naked-human-eye, microcosmic, associating and disassociating behavioral identities, altogether camouflaged beneath the blanket of make-believe "reality" of exclusively terrestrial politics and economic me-firstings, whose nonsensical preoccupation we call "today." It is doubtful that the million-light-year-distanced Andromeda nebula has any interest in Republicans or Democrats, communists or capitalists, or any other terrestrial partisanships.

311.14 So it could be that human beings, wherever they occur in Universe, may be introduced as a means of coping metaphysically with the most complex kinds of local Universe problems, so that each one of us is where the problem-solving of Universe is being transacted. If we were to think of ourselves as things—as china dolls, as kinds of china dolls that would just get smashed up or would just get worn or eroded away—that wouldn't be very good thinking. It would be much closer to actual Universe to think of ourselves as an absolutely continuous complex process. We are quite possibly the most complex of the problem-solving challenges of the invention that is eternally regenerative Scenario Universe. In this way each of us might be a department of the mind of what we might call god.

311.15 It is reasonable to suppose that there must be an overall physical-metaphysical cosmic accounting system that is always omniconsiderately integrative of all the a priori set of generalized interrelationship principles that we have found scientifically to be unfailingly operative in Universe. It may well be that each of us humans is an important function in sustaining the eternally regenerative integrity of Universe. The invention of the game of limited and terminal local awareness that we call "life" is in contradistinction to the concept of eternally total cosmic knowledge, intellect, and wisdom, whose totality of comprehensive comprehension would answeringly cancel out all questions and all problems, which would result in the eternally timeless, sublime  $0=0$  equation of absolute perfection.

311.16 Local life in Universe involves the invention of time. Time involves nonsimultaneity and limited information—ergo, only partial equatability. By introducing time and the myriad differential of interevent lags consequent to the exponentially multiplying, reinterpositioning distance variables inherent in the six alternative moves for each of the myriad of differentially frequenced, never-simultaneous events, the exponentially multiplying complexity of interevent lags accounts for both the micronuclear and macroastronomical progressive range of distance differentials of experience-limited, local-Universe human observing. Since each of the only-mathematically-statable, scientifically generalized laws of physical Universe constitutes a statement of truth, and since science has discovered a plurality of observable and ever redemonstrably operative truths—all of which are always omniinteraccommodative—it may be said that truth is complex. It is mathematically hypothesizable that all of the truths are potentially integratable and that the resulting integral truth constitutes the cosmic integrity that humans intuitively sense to be in governance of Universe and speak of to one another with the inadequate sound-word god.

311.17 We can thus invent a hypothetical Universe with a limited game of individual human participation in only-locally-occurring, time-distance morphation awareness conceptualizations integratively cognizant, as the sequential reality of human realization, of the complexedly interacting plurality of omniinteraccommodative cosmic laws that altogether enact events in pure principle, so reliably pure as to be sensorially apprehended by human brains and partially comprehended by human minds.

311.18 We may logically assume that the intellectual cosmic integrity of the timeless, sublime integral of absolute perfection must continually test its integrity of eternal regenerativity; wherefore the integral that we inadequately identify as god requires a plurality of local sensing monitors to be omnideployed in the time-distance-differentiated, nonsimultaneously conceptual, serial Universe to continually observe the local Universe events, while also being progressively advantaged with an ever larger inventory of the discovered laws governing cosmic regeneration integrity, and thus equipped, to cope metaphysically with each of the profusion of unprecedentedly unique regenerative complexities that we speak of as problems. In effect god differentiates cosmic integrity into a time-distance-differentiated plurality of limited, local, metaphysical, intellectual experiences with which to test the capability of “god” to reintegrate and restore its timeless zerophase unity.

---

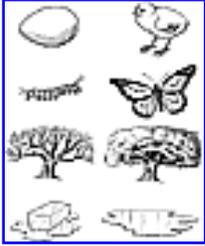
[Next Section: 320.00](#)

---

Copyright © 1997 Estate of Buckminster Fuller

## 320.00 Scenario Universe

---



[Fig. 321.01](#)

321.01 When people say of Universe, "I wonder what is outside its outside?" they are trying to conjure a unitary conception and are asking for a single picture of an infinitely transforming, nonsimultaneous scenario. Therefore, their question is not only unanswerable but unrealistic, and indicates that they have not listened seriously to Einstein and are only disclosing their ignorance of its significance when they boastfully tell you that the speed of light is 186,000 miles per second.

321.02 You cannot get out of Universe. Universe is not a system. Universe is not a shape. Universe is a scenario. You are always in Universe. You can only get out of systems.

321.03 Humans have always tried to conform their concepts of Universe to their own human prototype. Humans stop and start; sleep and wake; are born, grow, decay, and die: so humans thought the Universe must also have a beginning and an end. Now astrophysicists find this to be untrue. There could never have been a primordial chaos, simply because scientists now know that the proton and neutron always and only coexist in the most exquisite interorderliness. There could never have been a time when their integrity was not an integrity.

321.04 Universe is a scenario. Scenario Universe is the finite but nonunitarily conceptual aggregate of only partially overlapping and communicated experiences of humanity. Uni-verse is a momentarily glimpsed, special-case, systemic-episode takeout. When we start synergetically with wholes, we have to deal with the scenario within which we discover episodes—like the frog the snake is swallowing.

321.05 Time is only now. Time and size are always special-case, asymmetric episodes of now whose systemic aberrations are referenced to the cosmic hierarchy of primitive and symmetrical geometries through which they pulsate actively and passively but at which they never stop. The rest of Scenario Universe is shapeless: untuned-in. (See Sec. [982.62](#) for cosmic hierarchy and compare text at Sec. [1033.103](#).)

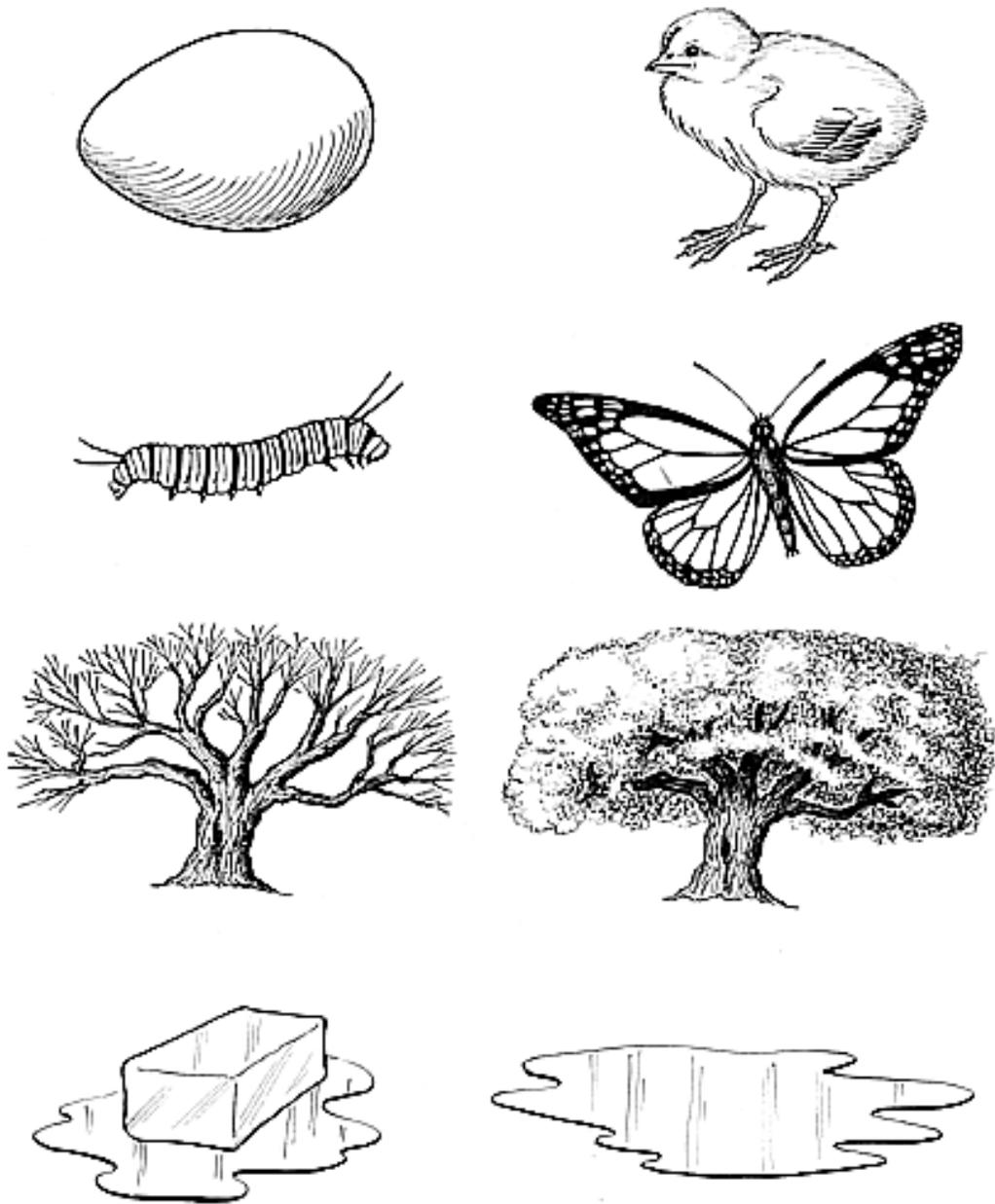


Fig. 321.01 *Universe as "A Minimum of Two Pictures"*: Evolution as a transformation of nonsimultaneous events: the behavior of "Universe" can only be shown with a minimum of two pictures. Unity is plural and at minimum two. (Drawings courtesy Mallory Pearce)

322.01 Universe can only be thought of competently in terms of a great, unending, but finite scenario whose as yet unfilled film strip is constantly selfregenerative. All experiences are terminated, ergo finite. An aggregate of finites is finite. Our Universe is finite but nonsimultaneously conceptual: a moving-picture scenario of nonsimultaneous and only partially overlapping events. One single picture—one frame—does not tell the story. The single-frame picture of a caterpillar does not foretell or imply the transformation of that creature, first, into the chrysalis stage and, much later, into the butterfly phase of its life. Nor does one picture of a butterfly tell the viewer that the butterfly can fly.

322.02 In scenarios, you have to have a pretty long sequence run in order to gain any clue at all as to what is going on. You cannot learn what it is all about from a single picture. You cannot understand life without much experience.

323.00 In the endless but finite and never exactly repeating (Heisenberged) "film-strip" scenario of evolutionary Universe, after the film strip has been projected, it goes through a dissolved phase and re-forms again to receive the ever-latest self-intertransforming patterning just before being again projected. The rate of change and the numbers of special-case self-retransformings of *physical evolution* tend ever to accelerate, differentiate, and multiply; while the rate of change and the numbers of self-remodifyings of generalized law conceptionings of *metaphysical evolution* tend ever to decelerate, simplify, consolidate, and ultimately unify.

324.00 Finite structures are mostly nonconceptual in any momentary sense, though certain local structures in Universe are momentarily conceptual; for instance, the continually transforming, momentarily residual aggregate of men's experiences packaged together in the words *Planet Earth*.

325.00 The speeds of all the known different phases of measured radiation are apparently identical despite vast differences in wavelength and frequency. Einstein's adoption of electromagnetic radiation expansion—omnidirectionally in vacuo—as normal speed suggests a top speed of omnidirectional entropic disorder increase accommodation at which radiant speed reaches highest velocity. This highest velocity is reached when the last of the eternally regenerative Universe cyclic frequencies of multibillions of years have been accommodated, all of which complex of nonsimultaneous transforming, multivarieties frequency synchronizations is complementarily balanced to equate as zero by the sum totality of locally converging, orderly, and synchronously concentrating energy phases of scenario Universe's eternally pulsative, and only sum-totally synchronous, disintegrative, divergent, omnidirectionally exporting, and only sum-

totally synchronous, integrative, convergent, and discretely directional individual importings.

### 325.10 **Analogy of Rope-making and Film-strips**

325.11 As seen by an individual human observer or as recorded by any humanly devised instruments, Scenario Universe is progressively reaggregated within the recorded, remembered, recalled, and progressively reconsidered information inventory of ever more macro-comprehensive-outward and micro-exquisite-inward ranges of the compositely growing individual's experiencing of life-in-time.

325.12 Scenario Universe is to any and all human observers very much like a rope-making experience—a rope that grows ever greater in total complexity but not in total diameter, and is comprised of ever more exquisitely diametered and ever stronger separate and differently lengthed fibers, a rope of which each of the myriad of progressive information events are in themselves terminal.

325.13 Each fiber enters into the scenario of rope-making by being twisted with others into a small thread of successively introduced and only partially overlapping fibers. This composited thread in turn is twisted with other threads into more complex strands. The strands are twisted with strands—always consistently clockwise or counterclockwise (never both)—until the totally twisted complex is brought together with a similarly twisted but turned-around and now oppositely directioned rope of equal complexity, whereat, when side by side, their respective tendencies to untwist interwhip them together to block one another's untwisting and produce an overall stabilized rope.

325.14 Employing the concept of individual fibers in this rope-making analogy and substituting for the word *fibers* the word *photons*, we can comprehend Einstein's curved-space assumption of the manner in which the omniremotely, entropically dispersed, individual energy increments, radiationally disassociated from former star sources at maximum remoteness from other entities, now progressively enter the gravitational neighborhood of radiationally disassociated energy increments—emanated from many sources—and become thereafter progressively reassociated with one another in forming new celestial aggregates, thereafter—as substantive matter—converging to a terminal complexity and density, thereafter once more to become radiantly dispersed.

325.15 The balancing of the gravitational and radiational exchanges is again analogous to the patterns of rope-making. We simply splice together the ends of the stabilized overall ropes to produce a plurality of looped-back, cosmic rope-making in a Scenario Universe of nonsimultaneous, local, episode twistings and untwistings. While some loops are unraveling, their strayed-away strands got caught elsewhere in new intertwinings.

325.16 The whole analogy of the rope-making and unmaking can be retransformed into the cinema concept, and the words *fibers* or *photons* being replaced by the word atoms. We can conceive now of all the separate atoms in the chemical compounds comprising the photo-negative celluloid ribbon of long-ago-exposed, financially exploited, stored-and-forgotten footage, the significance of whose once novel special case information has long since been incorporated in popularly accepted generalized viewpoints. The old film-strip has been chemically dissolved and its atoms disassociatively dispersed, migrated, and subsequently reassociated in a new inventory of on-the-shelf, unexposed, film-strip footage upon which may be recorded the ever-changing but progressively increasing inventory of comprehensive human experiences of tomorrow's today. In this analogy there is a plurality of fresh individual film-strips being nonsimultaneously and only overlappingly-in-time exposed for each individual observer in the Universe, as each is overlappingly intertwined into more complex information strands.

### 325.20 **Epistemography of Scenario Universe**

325.21 Synergetics always commences its considerations and explorations with finite but nonunitarily conceptual Scenario Universe, which is inherently nonsimultaneous. Scenario Universe is the totality of all humanity's consciously apprehended and communicated experiences. It is inherently prohibited for the totality of physical Universe to be quantitatively increased—ergo, in synergetics we have differentiation in the family of primitive generalized conceptual systems. Multiplication is always and only a special case, relative time-size phenomenon—ergo, multiplication is accomplished always and only as special case frequency of subdivision of the primitive epistemographic family of interassociations of primitive concepts.

325.22 All special case multiplicity is considered and expressed in unique frequency, angle, vector, and topological quantation terms. The epistemography of synergetics discovers operationally, experientially, and experimentally that the most primitive of the conceptual systems to be divided or isolated from nonunitarily and nonsimultaneously conceptual Scenario Universe must inherently consist of the simplest minimum considerability none of whose components can exist independently of one another. The system components of minimum considerability are inherently recollectable only because they are experientially components of observable otherness. The words to describe inherencies of systems were invented by humans in spontaneous recognition of co-occurring observabilities. The word *part* could have been invented by humans only after having discovered a holistically considerable system.

325.23 Within the time frame of any one given observer *simultaneous* means the unitary consideration of a plurality of experientially observable, concurrently focal episodes with differently occurring births, deaths, and longevities—but they are overlappingly co-occurring with their omnidirectionally comprehensive environment. Omnicircumstance conditions are often forgotten in the recall of only the focal episodes of the considered systems' most prominent central memorabilities. Con-sideration—or the simultaneous co-reviewing of a plurality of stars—is always simultaneous. But simultaneous is not instantaneous. Apprehending and comprehending require a time lapse. Simultaneous is episodal in Scenario Universe. Because our sight is only a light-wave frequency phenomenon, *instantaneous* cannot accommodate apprehension because instantaneity inherently lacks time span or wavelength.

---

[Next Section: 326.00](#)

---

## 326.00 Universe as Metaphysical and Physical

---

### [326.00-326.50 Metaphysics Scenario]

326.01 The support of life on our planet consists of two kinds—metaphysical and physical. Both cosmic and terrestrial energetic regeneration, organic and inorganic, are physical; while the know-what of pure science and the know-how of applied science are both metaphysical. The know-what of science's experimental evidence informs technology's know-how to employ efficiently the substantive resources and synergetic metaphysical patterns progressively found to be operative in Universe. These are essential to the maintenance of life on board our planet as well as in mounting local-Universe exploring excursions from our mother-spaceship Earth.

326.02 All that is physical is energetic. All that is metaphysical is synergetic.

326.03 All the energetic physical consists of two phases—(1) energy associative as matter, and (2) energy disassociative as radiation—with each being reconvertible into the other. All the synergetic metaphysical consists of two phases—(1) subjective information acquisition by pure science exploration, and (2) objectively employed information by applied science invention.

326.04 We can refine all the tools and energy capability of single and commonwealth into two main constituents—the physical and the metaphysical. The physical consists of specific, measurable energy quantities; the metaphysical consists of specifically demonstrable know-how capabilities. Only the metaphysical can designedly organize the physical, landscape-forming events to human advantage, and do so while also maintaining

- a. the regenerative integrity of the complex ecological-physiological support of human life aboard our planet, and
- b. the integrity of the chemical-element inventory of which our planet, its biosphere and co-orbiting hydraulic, atmospheric, ozonic radiation-shielding spheres, ionosphere, Van Allen belts, and other layerings all consist.

326.05 Only the physical is alterable; the metaphysical is unalterable. All the physical is continually intertransforming in orderly ways discoverable only by the weightless metaphysical mind. The local physical systems are everywhere energy exportive, which is humanly misinterpreted to be entropic and dissynchronously expansive only because the exported energies are electromagnetically (i.e., nonsubstantially) dispatched *only as information*—which is purely metaphysical—to be always eventually imported as information by electromagnetic reception in elsewhere-newborn, regenerative assemblages of cosmic systems. The local exportings appear to be dissynchronous only when viewed from too short a time span to permit the tuned-in occurrence of the next synchronous moment of the eons-apart frequencies often involved in celestial electromagnetics.<sup>3</sup>

(Footnote 3: Whether communication is by telephone hook-up or by wireless radio, what you and I transmit is only weightless metaphysical information. Metaphysical, information appreciative, you and I are not the telephones nor the wire or wireless means of the metaphysical information transmitting.)

326.06 We look at the stars, and they look very randomly scattered throughout the sky. But we can say that the number of direct and unique interrelationships between all the stars is always  $(N^2 - N) / 2$ . This equation demonstrates the principle of order underlying all superficially appearing disorderliness or randomness (see Sec. [227](#)) and tells us quite clearly and simply that we are mathematically justified in assuming order to be always present despite the superficially appearing disorder. This gives us a personal sense of the order-discovering and -employing power of the weightless mind and at the same time a sense of our human anatomy's negligible magnitude in Universe when juxtaposed to the vast array of stars visible to the naked human eye. The stars observable on clear nights—the naked-eye-visible stars—constitute but a meager fraction of all the stars of our own "Milky Way" galaxy. Beyond this there is the 99.99 times greater array of the only- telescopically-visible, 200 billion other already photographically identified galaxies, each consisting of an average of 100 billion stars, all coordinately operative within a 22-billion light-year-diameter sphere of Earth-planet-mounted instrumental observation and Earthians' photographic recording. This spherical-sweepout sphere of astronomical observation by minuscule humans on Earth describes a sphere of 123-plus-21-zeros-miles in diameter, all of which adds up at the present moment to each of the four billion humans on Earth having an exclusive personal quota of 25 billion stars or suns operatively available to their energetic regeneration, just awaiting his

metaphysical know-how development, with the metaphysical assurance already established that the Universe is eternally regenerative. Energy crises are crises of ignorance induced by lethal self-interest.

326.07 This cosmic-accounting analysis discloses the omniuniversal orderliness that the scientist finds always to be underlying all of the only-ignorantly-apprehended illusions of randomness. This tells us that the seeming disorder of physical entropy is only superficial and explains why metaphysical thought can always find the syntropic orderliness that cancels out all disorderliness. Disorderliness is nonthinking. Exclusively energetic brain, which stores the sensorial input data of all the special-case experiences, cannot find the synergetic interrelationships existing only *between* and never *in* any of the special-case systems considered only separately, any more than a library building in itself can find the unique interrelationships existing between the separate data that it houses. Only mind—the magnificent, weightless, metaphysical, pattern-seeking-and-apprehending function—has demonstrated the capability to intuitively apprehend and mathematically contrive the experimental means for identifying the significant, only-between-and-not-of, only mathematically expressible, eternal relationships, which altogether permit a seemingly inexhaustible variety of cosmic interrelationship patterning, and thereby human mind's capability to participate in the ceaseless complex of orderly intertransformings in such a manner as continually to abet the human mind's unique local-Universe functioning in maintenance of the cosmic integrity of eternal regeneration.

326.08 So long as humans progressively employ and develop their syntropic, energetic, metaphysical mind's capability to locally abet cosmic integrity, just so long will that metaphysical capability continue to operate in this particular local Universe's ecologically regenerative, planetary team aboard spaceship Earth. If, however, the entropic, energetically exploiting, antisynergetic, exclusively partisan profit motive—political or financial—continues to dominate and rule humans by force of arms, then the Earthian ecology team will become self-disqualifying for further continuance as a potentially effective local sustainer of cosmic-regeneration integrity. This is the net of what has now become metaphysically evidenced regarding the potential significance of humans aboard planet Earth. It is the nature of the contest between brain and mind. Brain is selfishly exclusive; mind is cosmically inclusive. Brain now commands the physical power to overwhelm humanity. But it is also the nature of mind's design science capability to render all humanity physically successful, thus eliminating human preoccupation with the struggle and thereby freeing all humanity to

become metaphysically preoccupied with fulfilling its cosmic-regeneration functioning.

326.09 The physical Universe is an aggregate of frequencies. The human brain's senses are able to tune in directly only about one-millionth of the exclusively-mind- discovered and now experimentally proven and usable electromagnetic ranges of energetic reality. To this magnificent extent has the metaphysical brought humans into potential mastery of the physical. But thus far their physically most powerful political masters, misassuming ignorantly that there is fundamental inadequacy of life support, continue to exploit the fear that this induces in individuals, not for the individuals' sake but for concern and love for their dependents. Thus individuals concerned for the welfare of their dependents fearfully yield their economic-strategy mandates to the power-wielding brains of exclusively partisan ideologists.

#### 326.10 **Precession of Side Effects and Primary Effects**

326.11 In recognizing the residual ignorance of variously dominant Earthian power- structure partisans of this particular cosmic-history moment, we do not impute malevolence or wrongdoing; we are only recognizing the checks-and-balances mechanisms of nonsimultaneously occurring and only partially overlapping Scenario Universe's vast variety of local conception-to-birth gestation rates. These gestations are the product of the associative energies' frequency synchronizations as well as of the concomitant rate of local disassociative energies, the dyings-off.

326.12 In the regenerative integrity of the cosmic design the locally supportive, human mind's understanding operative on planet Earth has to be midwife at the birth and experiential development of critical information inventorying; it must also sustain the total—Garden of Eden—ecological regenerativity as naturally accomplished by intense high-frequency information transmitted by the electromagnetics of chemical elements of the star Sun and receivingly translated by the Earth's land-borne vegetation and water- borne algae into photosynthetic sorting, reorganizing, and combining of the planet Earth's inventory of carbon, hydrogen, and other chemical elements. Some of these energies are redistributed to the biosphere, and some reenter directly into the integral metabolic multiplication and proliferation by all biological organisms of the hydrocarbon molecules and their concomitant environmentally supportive, chemical exchanging events. To function successfully in gales and storms while exposing adequate leafage to the Sun, the dry Earthborne vegetation must send into the soil and rocks roots that draw water from the soil to cool themselves against

dehydration by the heat of radiation exposure as well as to provide the vegetation with noncompressible, hydraulic structuring as well as with hydraulic distribution of the many eccentric, locally concentrated energy stressings of the vegetation's structure. Because the vegetation is rooted, it cannot reach the other vegetation to procreate. To solve this regenerative problem Universe inventively designed a vast variety of mobile creatures—such as birds, butterflies, worms and ants—to intertraffic and cross-pollinate the vast variety of vegetation involved in the biochemical refertilization complexities of ecology, as for instance does the honeybee buzz-enter the flowers to reach its honey while inadvertently cross-fertilizing the plants. Each biological specimen is structurally designed by the programmed codings of DNA-RNA and is chromosomically programmed to go directly to immediately rewarding targets while inadvertently, or unknowingly, producing (what are to it) "side effects" that inadvertently sustain the main objective of Universe, which is the sustenance of the synergetic circuitry of terrestrial ecology and thereby as well to sustain the cosmic regeneration.

326.13 Humans, like the honeybee, are born ignorant, preprogrammed with hunger, thirst, and respiratory drives to take in chemical elements in crystalline, liquid, and gaseous increments, as well as with procreateness and parental-protectiveness drives. With their directly programmed drives humans inadvertently produce (what are to them) side effects, which results in their doing the right cosmic regenerative tasks for all the wrong reasons—or without any reason at all. This preliminary phase of preconditioned human reflexing, while lasting millions of years, is a gestative-phase behavior that becomes obsolete as humans' metaphysical mind discovers the principles of precession and discovers—only through vast, cumulative trial and error—the pattern experience of both terrestrial and cosmic ecology; whereafter humans will progressively recommit their endeavors in support of the recycling and orbitally regenerative effects, precessionally interproduced by all independently orbiting cosmic systems. This abrupt 90-degree reorientation constitutes the evolutionary stage through which humanity is now passing, wherein humanity will progressively exchange its exclusive preoccupation with self- preservation for that of supporting omniinclusive, cosmic integrity.

### 326.20 **Pyramid of Generalizations**

326.21 The physical Universe is characterized by local-system entropy, an ever-increasing, locally expansive randomness, and an ever-increasing diffusion, as all the different and nonsimultaneous transformations and reorientations occur. While the entropy and disorderliness of physically exportive Universe increase and expand, we have the metaphysical Universe countering syntropically with energy importing, orderly sorting, and comprehensive contraction and storage of energy. In the metaphysically organized, syntropic-importing phase of cosmic-energy events we have the human mind digesting and sorting out all the special case experiences and generalizing therefrom the persistent relationships existing *between* and not *in* the special characteristics of all the special cases. All the eternal, weightless principles apparently governing both the physical and metaphysical Universe are experimentally detected and digested into mathematical generalizations, of which only a very few are as yet known.

326.22 The whole process of generalizing generalizations forms a pyramid whose base consists of all the special cases of direct physical experiences. We can say, "We take a piece of rope and tense it," when we do not in fact have a rope in our hands. We have all had so many rope experiences that we can generalize our communication of the concept. This is a first-degree generalization. The discovery of always and only coexisting tension and compression is a second-degree generalization. Finding a whole family of always and only coexisting phenomena is a third-degree generalization; and conceiving therefrom "relativity" is a fourth-degree generalization.

326.23 In this pyramid of generalizations the human mind goes way beyond the biologicals in its development of the diminishing conceptual Universe—diminishing because, being progressively reduced and refined from a plurality of first-degree to a plurality of second-degree generalizations, and finally to as concise a form as  $E = Mc^2$ , which may some day be even more economically expressed as it is synergetically digested into ever more comprehensive and exquisite cosmic comprehension by metaphysically evolving human minds. So we find the metaphysical not only comprehending the physical—which should have been expected—but also encompassing and omniaccounting all the physical with the tetrahedron and thereafter reducing Universe's structural system myriadness to unity. The metaphysical, as with the circumferentially united, great-circle chord vectors of the vector equilibrium, masteringly coheres the physical by more effective use of the same quanta of energy. (See Sec. [440.08](#).)

326.24 Discovery of an acceptable hypothesis for explaining the role of humans as an essential metaphysical function of Universe, along with discovery of the mathematical proof of the tetrahedron as the true minimum limit structural system of Universe and its subdivision of Universe into macro- and microcosms as the sizeless conceptual system basis for generalizing general system theory, all develop as a consequence of our asking ourselves the question: How may we organize our self-disciplining on behalf of all humanity and in support of the integrity of eternal cosmic regeneration to deal comprehensively and capably with the maximum and minimum of limiting factors of the combined and complementary metaphysical and physical prime subdivisions of Universe?

326.25 The *theory of functions* holds for Universe itself. Universe consists at minimum of both the metaphysical and the physical. The inherent, uniquely differentiable, but constantly interproportional twoness of physical Universe was embraced in Einstein's one-word metaphysical concept, "relativity," and in a more specific and experimentally demonstrable way in the physicists' concept of complementarity.

### 326.30 **Comprehensive Universe**

326.31 Comprehensive Universe combines both the metaphysical Universe and the physical Universe. The local physical system is the one we experience sensorially: the conceptual metaphysical system is one we never experience physically but only consider in thought. As we discover in our grand synergetic strategy, we commence all problem-solving most advantageously at the supreme, terminally comprehensive level of Universe—that is, at the generalized-principle level. Thereafter we separate out from nonunitarily conceptual Scenario Universe one single, thinkable, experientially definable, holistic concept, which definition function inadvertently discloses the inherent polyhedral geometry of all conceptually sizeless thought referencing. We go on to find out through topological mathematics how to demonstrate that the difference between the cosmically total metaphysical and physical Universe and any one experiential physical system, or any one conceptually thinkable system, is just one (positive and negative) tetrahedron, or one unity-of-twoness. This is to say that the difference between the finite (because an aggregate of finites) but nonunitarily conceptual total Scenario Universe (which we used to call infinity) and the physical Scenario Universe of energy with which physics deals, is just one finitely positive and one complementary, finitely negative tetrahedron. The exclusively conceptual metaphysical Universe is also proven to be a finite scenario because it too is an aggregate of locally terminal—ergo, finite—intellectual conceptioning

experiences. The total Universe is just one (plus and minus) tetrahedron more than either the exclusively physical or exclusively metaphysical conceptualized Universe. (See Sec . [620.12.](#))

326.32 What man used to call infinite, I call finite, but nonunitarily conceptual—ergo, nonsimultaneously thinkable. What man used to call finite, I call definite, i.e., definable, conceptually—ergo, thinkably definable. The plus and minus, sizelessly conceivable, tetrahedral differences are all finitely and rationally calculable.

### 326.40 **Metaphysical and Physical: Summary**

Metaphysical cogitates reliably in respect to equilibrium.

Physical abhors equilibrium.

That which is communicated, i.e., understood, is metaphysical.

The means of communication is physical.

Metaphysical is unlimited and generalizable independent of time-space-sizing.

Physical is limited, experienceable, and is always special case time space- sized.

Metaphysical is unweighable, imponderable, and cannot move an electromagnetically or mass-at-tracted, levered needle.

Physical is always apprehensible by an instrument's needle leverage actuated by weight, pressure, heat, or electromagnetics.

Metaphysical discoveries clarify ever more comprehensively, inclusively, and are more economically communicable in their progressive description of the eternally changeless, and the rate of the more economic restatability continually accelerates.

Physical events are ever transforming and ever more acceleratingly entropic.

Humans are metaphysical. You and I are awareness, which is the identity of the weightless life.

The physical, automatedly rebuilding, information-gathering device we sensorially apprehend as our anatomy, employed by metaphysical mind, consists entirely of inanimate atoms and is therefore entirely physical.

Conceptioning is metaphysical.

Sensing is physical, and the sensed is physical and always inherently special case.

Waves are metaphysical pattern integrities.

Metaphysical pattern integrity waves articulate as physical phenomena such as water, air, or electromagnetic fields, and thus communicate their nonsensorially apprehensible presence through the displacement of the sensibly detectable physical phenomena.

Symmetry is metaphysical.

Asymmetry is physical.

Equilibrium is metaphysical.

Disequilibrium is physical.

Conceptuality is metaphysical and weightless. Reality is metaphysically conceptualized information transmitted only through physical senses.

Realizations are special case physical, brain-sensed phenomena.

The metaphysical evolution of human awareness slows as it approaches the omniintegrated verity — physically unattainable by the only-physically-sensing, anatomical machine designed specifically only for limited operation with the highly specialized local Universe conditions of the Earthian biosphere.

Physical systems alone accelerate as they unravel entropically, ever approaching the speed of a noninterfered with electromagnetic, spherically expansive wave (186,000 mps.)<sup>2</sup>

The generalized conceptions of metaphysical evolution tend ever to decelerate, simplify, consolidate and ultimately unify.

Generalization is metaphysical: mind function. Design is generalized metaphysical conceptioning.

Theoretical and applied science is conceptually metaphysical.

Metaphysically operative mind cannot design a generalized tool of unlimited and eternal capability, which unlimited and eternal capability is manifest only in purely metaphysical, weightless principles. Principles have no beginning-ending or other temporal limitations. Principles are truths

The special case transformings of physical evolution tend ever to accelerate, differentiate, and multiply.

Tools, artifacts, and all humanly contrived extracorporeal facilities designed by mind are always special-case, brain-processed, physically sensible phenomena.

Applied science always results in special-case, brain-sensible, limited-longevity phenomena.

We can invent only physical. The human mind, translating the generalized principles only through special case, individual, brain-operated anatomical tools, can realize only phenomena of special case, limited capacity capability and durability.

### 326.50 **Metaphysical and Physical: Cross-references**

Sec. [162](#) [Generalization](#)

[163](#) [Metaphysical Experience](#)

[203.10](#) [Synergetics](#)

[205.03](#) [Vector Equilibrium](#)

[205.04](#) [Frame of Reference](#)

[217.02](#) [Prospects for Synergetics](#)

[229.10](#) [Principle of Irreversibility](#)

[251.27](#) [Discoveries of Synergetics](#)

[251.48](#) [Discoveries of Synergetics](#)

[251.50](#) [Discoveries of Synergetics Scenario Universe \(Same as 217.02\)](#)

[424.02 Isotropic Vector Matrix: Quantum](#)  
[440.08 Vector Equilibrium](#)  
[443 Vector Equilibrium as Equanimity Model](#)  
[445.11 Zerophase](#)  
[501.01 Symmetry & Asymmetry](#)  
[502.02 Experience](#)  
[521.01 Vector](#)  
[526.03 Space](#)  
[529.10 Future: Man Backs Into](#)  
[532.14 Symmetry & Asymmetry](#)  
[620.12 Tetrahedron: Quantum](#) (Same as [424.02](#))  
[986.840 Primitive Hierarchy](#)  
[1009.36 Wave vs . Particle](#)  
[1013.50 Visible and Invisible Tetrahedral Arrays](#)  
[1052.60 Physical Limit and Metaphysical Absolute](#)  
[1075.20 Equation of Intellect](#)

---

<a href="#"><u>Next Section: 330.00</u></a>
---

---

Copyright © 1997 Estate of Buckminster Fuller

## 330.00 Universe as Minimum Perpetual Motion Machine

---

331.00 The physical Universe is a machine. In fact, Universe is the minimum and only perpetual motion machine. Universe is the minimum as well as the maximum closed system of omni-interacting, precessionally transforming, complementary transactions of synergetic regeneration.

332.00 Universe is finite. Local systems are de-finite. Local perpetual motion machines are impossible since Universe is the minimum regenerative set of perpetually intercomplementary, transformative functioning.

333.00 There is a minimum set of patterns, which is a consequence of one set of patterns reacting with another set of patterns. In order to have a monkey wrench, you also have to make one or buy one at a store, you have to have other things, and these procurements in turn have antecedent event requirements. Each event of Universe leads back to all the great complex of events, and we get then to a minimum set of complementary events whereby the system regenerates itself, and we thus come to Universe. This tends to be a clearly defined inventory of relative abundance of the various chemical element patterns in Universe which needs a large amount of the pattern hydrogen while apparently not as much of the pattern uranium.

334.00 The significance of Einstein's electromagnetic radiation's top speed unfettered in vacuo is that there is a cosmic limit accommodation point of complete regeneration by which our Universe is the only and minimum perpetually self-regenerative system. It is a self-regenerative Universe of fantastic complexities and design of great integrity in which the sum total of running through the total film takes hundreds of billions of years before it accomplishes its remotest re-wow.

---

[Next Section: 340.00](#)

---

## 340.00 **Expanding Universe**

---

341.00 In the most comprehensive picture of Universe, we find physical Universe consisting entirely of energy. As the Second Law of Thermodynamics shows, every local physical system continually loses energy to surrounding systems in physical Universe. This loss of energy is called entropy. Because all the local systems of Universe are in constant motion and transformation, the energies are given off nonsimultaneously in multidirections and with increasing diffusion. The scientists call this the law of the increase of the random element. The increasing random element brings about physical Universe enlargement. These nonsimultaneous enlargements bring about *expanding physical Universe*. The expansion is verified by the astronomers' discovery of the red shifts in remote galaxies.

342.00 Entropy is the measurement of disorder within a closed system. Entropy measures the lack of information about a structure in a system. In Eddington's proof of irreversibility, he dumps a box of wooden matches on the table. Each one splinters the others a little; therefore, there are little hairs and fibers sticking out. They could never be put back in the box the same way without pressing, that is, without investing more energy. This is how the law of the increase of the random element operates. The cycle keeps on time and again, from dust to atoms to proton to neutron. This is what nature is doing in high- and low-pressure pulsations.... And then, after maximum dispersal, comes reassociation, because Universe is regenerative. One hundred million years later they will all be back in the box again. After the last *Wow!*

343.00 While energy leaves one local system after another, it does so only by joining other local systems. The energy is always 100 percent accountable. The energies are given off in an ever-increasing diffusion as all the different and nonsimultaneous transformations and reorientations occur. The energies given off alter the environment irreversibly. The biologicals take on and give off more energy than the nonbiologicals

344.00 Universe expands through progressively differentiating out and multiplying discrete considerations.

345.00 All the differences between de-finite conceptual systems and finite, yet nonconceptual total Universe seem to provide a fundamental means of identifying the physical phenomenon entropy. Entropy no longer means inherent -escape of energy from any local system, or decrease of local order, or increase to disorder. Entropy now means the invisible extraction from any local definitive system of the negative conceptual entity; i.e., one negative tetrahedron deposited into Universe. balance of energy conservation, permitting the local extraction of any visible, orderly conceptual system. Entropy is not random: it is always one negative tetrahedron. It can account finitely for any discrete rate of energy loss. (See Secs. [620.12](#) and [625.03](#).)

---

[Next Section: 350.00](#)

---

Copyright © 1997 Estate of Buckminster Fuller

## 350.00 **Negative Universe**

---

351.00 Negative Universe is the complementary but invisible Universe.

352.00 Those subsequently isolated elements beyond the 92 prime chemical elements constitute superatomics. They are the non-self-regenerative chemical elements of negative Universe.

353.00 The star tetrahedron may explain the whole negative phase of energetic Universe.

---

[Next Section: 360.00](#)

---

Copyright © 1997 Estate of Buckminster Fuller

## 360.00 Universe: System: Conceptuality: Structure

---

361.00 Universe itself is simultaneously unthinkable. You cannot think about the Universe sum-totally except as a scenario. Therefore, for further examination and comprehension, you need a thinkable set, or first subdivision of Universe, into systems.

362.00 Our original definition of Universe is a finite but nonsimultaneously occurring aggregate of all human experiences, which is, therefore, a nonconceptual total Universe. It is logical to proceed from this definition to discover the patterning characteristics of the first conceptual subdivision of Universe into a structural system. After we subdivide Universe into systems, we will make further reductions into basic event experiences and to quantum units. We will then come to the realization that all structuring can be identified in terms of tetrahedra and of topology. (See Sec. [603.01](#).)

363.00 The Principle of Synergetic Advantage requires as we proceed from macro to micro. Definition requires conceptuality. Conceptuality requires the generalization of patterns gleaned from special-case experiences. Systems are geometrically definable. Self-stabilizing systems are structures. Conceptuality defines the basic event experiences and quantum unit measurement, which altogether constitute structure. The complex of event sequences is most often characterized by overlappings. A man is born, grows up, has children and grandchildren. His life overlaps that of his grandfather and father and that of his children and grandchildren. But his grandfather's life did not overlap his children's nor his grandchildren's lives. Hence, partially overlapping. Apparently, man matches the Universe in displaying the same relative abundance of the 92 self-regenerative chemical elements. Whether communication is by telephone hook-up or by wireless radio, what you and I transmit is only weightless metaphysical information. Metaphysical, information appreciative, you and I are not the telephones nor the wired or wireless means of the metaphysical information transmitting.

---

[Next Chapter: 400.00](#)

---