



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.¹ 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 interpatterning 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.² 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-outingly 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