

1052.60 **Physical Limit and Metaphysical Absolute**

1052.61 This leads us to comprehension of the significance of life on Earth. On this cosmic-energies-importing planet we find life impounding those energies, taking random receipts of cosmic radiation from the stars— more importantly the Sun—and through photosynthesis converting it into organized molecular structures. We find the biologicals making ever more intricately orderly patterns: the little seed becoming a big, superbly organized structural process, a tree, rearranging all its energy receipts from Universe in a beautiful and orderly way. And among the living we find humans and humans' minds reviewing the many brain-recorded, special case experiences and from time to time discovering generalized relationships interexisting between and coordinating the separate special-case phenomena. In pure principle these generalized principles—such as gravity— are operative and hold true throughout all experiences. The history of humanity revolves around humans' discovering these principles. Humans also in due course discover principles that encompass a plurality of principles. Humanity trends toward ever greater understanding of the significance of principles, each of which, in order to be principles, must be inherently eternal. The discovery of principles occurs only with patience. Patience is long-wave tuning and is the antithesis of impatience, which is exclusively short-wave tuning. The discovery of great principles inherently requires a periodicity of adequate increments of time. Only through the thought stimulation of discovered and periodically repeated patterns of interrelatedness can mind's discovery of generalized principles occur.

1052.62 Physical Universe expands, and as its observed components and aggregates of components are found to be larger and larger, their relative operating velocities increase to cope with their greater and greater orbital travel distances. But there seems to be a constant limit velocity of all disintegrative, entropic energy as manifest by the speed of all types of electromagnetic radiation when measured linearly in a vacuum tube. All the various types of radiation—ultraviolet, radio wave, and X-ray—reach speeds of about 000 miles per second, which is also 700 million miles per hour, which incidentally is a million times the speed of sound. These measurements inspired much of Einstein's exploratory thought. But we note that since light and all other radiation is entropic—ergo, concomitantly disintegrative—there is a *constant limit* of disorderliness. Here nature turns about and becomes more orderly. There is also a constant limit of orderliness; this absolute turnaround condition is that of the primitive hierarchy. We discuss this elsewhere (Sec. [440](#)) as the limits of pattern aberration in respect to the vector equilibrium, i.e., to the absolute or zerophase of

generalized nuclear systems' orderliness. Whereas the physical disintegrates entropically to a limit of velocity and disorder, the metaphysically operative mind displays a reverse pattern to that of physical entropy, wherewith to define lastingly the mind seeks the orderliness of the principles that are discovered. As the human definitions can never be perfect, the metaphysical mind of humans can only amplify and simplify the human statement of the comprehensive orderliness discovered and periodically reconfirmed by further experiences.

1052.63 From time to time humans learn a little more about a principle, but greater familiarity does not change the principles themselves. As further observation becomes more comprehensive and refined, the statement of the principle becomes ever more incisive and ever less frequently modified and improved. Since the principle itself is eternally changeless, the more accurately it is defined, the more unchangeable is the definition. The word *truth* is applicable to an earnestly attempted statement of any observed or recollected special case experience. Recollection of a plurality of truths may lead to discovery of a generalized principle intercoordinating the special case experiences. Recollection of truths leads toward discovery of generalized principles. Thus we find the metaphysical definitions of human minds tending to become ever more enduring as human mind trends toward the only absolute perfection, which is the eternal integrity of the omniinteraccommodation of all principles.

1052.64 Thus do words evolve and accumulate to fill the dictionaries as humans discover mutually shared conceptions regarding their common experiences, each of which requires unique and incisive means of identification and communicability. That all humans, always starting naked, helpless, and ignorant, have through the ages so truthfully identified over a hundred thousand experiences each of which is so unique as to deserve—indeed require—a uniquely identifying word, and that humans, despite their propensity to withhold agreement upon any mutual convention, have agreed upon some hundred thousand more or less common words and upon many more hundreds of thousands of scientific words, constitutes the greatest extant memorial in testimony of the supra-ethnic and transgeneration growth of the means of human communication, common understanding, and ultimate integration of all human concern and ever more effectively informed coordination of all human initiatives.

(1052.641 Vitamin D from Sunlight is essential to humans because calcium is essential to the human bone structure. Humans synthesize vitamin D through the action of the Sun's ultraviolet rays on the skin. This biochemical function is a zoological counterpart of botanical photosynthesis. But vitamin D is one of those vitamins of which humans can have an overdose. In warmer climates, where vitamin D from the Sun is adequate or excessive, humans' subconsciously functioning organisms employ their chemical-process options to develop Sunlight filters in the skin consisting of darker and darker pigments that prevent excessive absorption of radiation and avoid the overdose of vitamin D. Where there is not much Sunlight, as in the far north, human organisms had to progressively remove their pigment filters, which left only light skin that permitted maximum synthesis of vitamin D from the Sun. But dark skin was the norm. The skin pigmentation effect on human organisms is a generalized phenomenon like that of diet, wherein undernourishment alone can account for mental dullness in otherwise healthy humans. Physiognomic and physiological differentiations in humans result solely from generations of unplanned inbreeding of those types that survive most successfully under unique environmental conditions within which tribes or nations dwelt for protracted periods. Thus there is scientific evidence that there is no organic class or species differentiations of humanity. This thesis is further elaborated in my essay *No Race No Class*. Communication is ultimately independent of culture or race or class.)

1052.65 The metaphysical drive of humanity is toward total comprehension and an eternally changeless definition of all understanding. Despite the limited conditions governing our special-case human lives we can discern the syntropic cosmic trending of the metaphysical slowdown toward eternal changelessness in inverse complementation of the entropic physical trend to ever greater acceleration toward terminal velocity, frequency, and disorderliness at the speed of all radiation in vacuo. The metaphysical eternity is inherently absolute, whereas physical acceleration is terminated only by exhaustion. The physical limit is special case and suggestively alterable. The metaphysical limit is absolute and unalterable.

1052.66 The metaphysical is comprehensively generalizable. The physical is always realized only as special case experience. The metaphysical reorders the disorderly-prone physical. The metaphysical continually seeks to comprehend, master, harness, and cohere the physical. The metaphysical comprehends and reorders. Humans oscillate between the pushes of their physical incarnation and the tensing of their metaphysical propensities. This ubiquitous push-pulling propagates cosmic regenerativity.

1052.67 The regeneration may be that of a complete new baby or the local regeneration of cells in an ongoing organism. Rebirth is continual. The overall growth and refinement of information and comprehension by continuous humanity transcends the separate generations of life and steadies toward eternal unalterability; the special case physical experiences and the identification of their significance in the overall scheme of eternal cosmic regenerativity ever accelerate as the information bits multiply exponentially; wherefore the overall rate of gain of metaphysical comprehension of the physical behavior in general accelerates exponentially in respect to such arithmetical periodicities as that of the celestial cycles of the solar system.

1052.68 The physical Universe is an aggregate of frequencies. Each chemical element is uniquely identifiable in the electromagnetic spectrum by its special set of unique frequencies. These frequency sets interact to produce more complexly unique cycle frequencies, which are unheard by human ear but which resonate just as do humanly hearable musical chords or dissonances. Thus occurs a great cosmic orchestration, ranging from the microcosmic nuclear isotropicity—directly undetectable by the human senses— through the minuscule range detectable by humans, to the very complex, macrocosmic, supra-to-human-tunability symphonies of multiaggregates of isotropically interpositioned galaxies. (Compare Secs. [515.21](#) and [530.13](#).)

1052.69 Thus develops our human awareness of the special-case physical experience events that spontaneously trigger the metaphysical faculties of humans into applying their extraordinary sorting capabilities. The more metaphysically sensitive and comprehendingly effective humans become, the more truly do they fulfill the unique cosmic function for which they were designedly included in the scheme of eternally regenerative Universe. If we seek one word that most succinctly identifies the experience we call life, it is *awareness*. Since no weight is lost as individual life terminates, and since all the chemical ingredients are as yet present and all the sense organs and their separate information- integrating brains are also intact, we have to conclude that the awareness of otherness, which we identify as the prime characteristic of human life, is indeed a weightless idea, or thought concept, of an also weightless metaphysical thinker. Life is not the corporeal chemical complex. Life is only metaphysical.

1052.70 Humans are born into their physical-sensing and information-inventorying organism not only to experience Universe but to cope with local problem-solving in support of the eternal regenerative integrity of ever complexedly intertransforming physical Universe, employing their metaphysical minds to discover the metaphysical slowdown toward the eternal generalized principles governing Universe: and thereafter to define the principles ever more adequately, incisively, and inclusively until the frequency of redefinability decreases toward zero. Thus the metaphysical processing of humanity's cognition of a generalized principle tends in time to slow toward zero. It must be noted, however, that the metaphysical mind's tools of communication with other temporal beings—including the organic self—within the temporal reality are always special case ergo, finitely limited tools—for instance, the arbitrary symbols chosen for a Greek alphabet written with special case ink on special case paper.

1052.71 The physical accelerates to terminal and finite velocity where terminality renders the physical inherently inferior and subservient to the inherently eternal metaphysical comprehensivity's omnicoherence. Only the self-destructive, special case physical, entropic, negative evolvments accelerate to their own totally disintegrative transition into totally redistributed subfunctionings of other systems.

1052.80 **Radiation-Gravitation: Electromagnetic Membrane**

1052.81 **Membrane Model:** The reason why the second-power rate of interattractiveness gains in respect to the arithmetical rate of variation of the relative proximity of remote bodies is that gravity is not a linear, radial force but is a circumferentially tensional embracement force.

1052.82 We will think of two spheres inside a closed elastic membrane so smoothly intimate to each that, when the two spheres are tangent to one another, they appear as two clearly independent spheres momentarily in kissing tangency, the membrane continuity between the two being so intimately clinging as to be observationally subvisible. But as the two spheres are pulled apart, the elastic membrane is locally stretch-pulled away evenly from the surface of each sphere, and the membrane tube running between the two contracts to a progressively invisible, fine-line, spider-thread tube stretched between the two spheres. As the two spheres are pulled further apart, the tube between the two remote spheres will appear to be an invisible line-of-sight perpendicular to each of the enclosed spheres.

1052.83 Since the nuclei of the atoms are not touching one another and only the cosmic totality integrity mantle is cohering the atoms, they can be singled out in space and time array in the same manner as the much larger molecules can be thinned to a film of a single molecular thickness, cohered only by the mass interattractiveness like the vast multiplicity of atomic interattractiveness (as we have seen in Sections [644](#) through [646.03](#)).

1052.84 As the spheres are next allowed to approach one another, the everywhere self-together-gathering proclivity of the elastic membrane providing the elastic tube between them will redistribute its perpendicular linear multitude of atoms back in both directions, yielding equally to the two stretched membranes around each sphere in much the same way as atoms in a thin stream of viscous maple syrup impinging vertically on a stack of pancakes will spread out in all directions to envelop the pancakes. Thus the two-way flowing stream of stretched-far-apart atoms of the omnihugging elastic membrane tightly embracing the two reapproaching-to-one-another spheres flows outwardly at 90 degrees to their perpendicular impingement to reenvelop thickly each of the two spheres. This means that the linear length of the tautly stretched tube reopens itself at the point of tangency to enclose each of the tube's separate spheres. The atoms previously invested in the remote-from-one-another, stretched-out tube of tension between the two spheres have now returned to the two spheres and have rejoined their nearest neighboring atoms around the elastic-membrane spherical sheath of the two tangent spheres.

1052.85 What had been a linear requirement becomes a surface requirement for the elastic membrane. Surfaces of omnisymmetrical geometrical objects are always second powers of the object's linear dimensions. If we were to remove one of the spheres from the omnicingly embracing sheath, the elastic membrane would snap-contract to enclose only the remaining sphere, but the rate of atomic population gain of the spherical, surface-clinging membrane derived from the previous intersphere linear tendon is of the second power of the arithmetical rate of linear contraction of the elastic tendon. Soon the thickness of the membrane on each sphere would multiply into a plurality of closest-packed atomic layers, and the volume of the atoms will thus increase at a third-power rate in respect to an arithmetical rate of distance-halving between any two spheres. This two-sphere-embracing, few-atoms-thick, clinging elastic membrane fed into, or spread out from, an intersphere tension may be thought of as an electromagnetic membrane acting just like electric charges fed onto the convex surface of a copper Van de Graaff sphere or a copper wire (electric charges always inhabiting only the convex surfaces).

1052.86 Please now think of all the tensional forces of Universe as one single membrane containing all the radiational, explosive forces we have enumerated. Now think of the original compression sphere exploding into many parts inside the endlessly stretchable membrane, whose rate of ductility-adjustment-to-stretch equals the speed of light or radiation, c^2 . Inside our tensile membrane unitary bag would be a number of individual, exploded-apart, spherical mass components, each of which is tightly embraced by the membrane—leaving only intervening perpendicular linear tubes. (See Fig. [1052.86](#).)

1052.87 To understand the linear expansion rate think of making soap bubbles: Deeply layered molecules get stretched into a single layer as the single atoms guarantee the interattractiveness integrity of the area-stretching thin-out of the atoms. We now come to the balancing of the vectors of the vector equilibrium and the arrangement of the 24 external vectors end-to-end, closing back upon themselves—in four great-circle planes, constituting an "additional" vector force magnitude of 24, embracing the outwardly and separately exploding 24 internal vectors, which now operate in increasing independence of one another—each thus producing a force of only one. We have the surface net drawing on a force resource of 24—multiplied by radius frequency to the second power—while the originally-24-force, radially explosive events separate out from one another and thus produce only separate first-power effectiveness. Hence the gravitational force's geometrical progression rate of gain—i.e., its second-power, surface-

embracing finiteness closure is always at a high-energy effectiveness advantage over the disintegrative, linear, first-power, or only arithmetical progression rate of gain in force.

1052.88 The second-power rate of gain in interattractiveness occurring with each *halving* of the intervening distance of two heavenly bodies recalls Pythagoras's whole, rational-number, harmonic-octave integrity progression (or regression) occurring with each halving of the length of the tensed cord (thirding results in sharpening or flattening key progressions); wherefore the gravitational-radiational, second-power, spherical surface rate of gain occurs in respect to the radial linear rate of identification of omnidirectionally propagated sound waves—at a gain of the second power of the linear. This gravitational omnisurface-embrace mathematics apprehending coincides with harmonic resonances:

Arithmetical
rate of
symmetrical
system's
radius

| | | |
|----------|-------------------------------|----------------------|
| | (linear radial) ² | |
| E = Mass | (shortening with) | Newton's gravitation |
| | (system contraction) | |

| | | |
|----------|-------------------------------|----------------------|
| | (linear radial) ² | |
| E = Mass | (lengthening with) | Einstein's radiation |
| | (system expansion) | |

[Next Section: 1053.00](#)
