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Review Essay

### FROM HERE TO ETERNITY: CHANCE, ENERGY AND FALLIBLE REASON

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#### THE FUTURE OF THE UNIVERSE

The Swiss astrophysicist's remarkable translated book deals sensitively, if almost meditatively, with some of the deepest issues engaging science and theology. Arnold Benz develops the thesis that the ultimate future of the universe is somehow radically different in kind from future processes, events, and novelties located anywhere along this continuum so familiar to the scientific approach. His radically novel future is not to be found through an endless cyclic return characteristic of some religious viewpoints. There is simply no return, as the scientific one-way arrow of time confirms. Though science can offer no hope in terms of such an *ultimate* novelty, Easter can and does. For Benz, the ultimate future of the universe is accordingly signalled eschatologically by the promise of Easter. Benz states his overall thesis elegantly as follows:

The universe has a fascinating history. It is a tale of order forming out of chaos, from the startling appearance of newness as a revolutionary structuring of the already existent. The new does not arise out of nothingness, but out of existing material whose structure is in decay. On another level of perception requiring participation, something in the first instance enigmatic and overwhelmingly new is experienced in the Easter event, which appeared for the original disciples amid a broken world. Good Friday and Easter revolutionize the traditional conception of God. God is recognized now as one who takes part in the suffering of decay and, at the same time, as one who creates new form and order. Such events are here understood as exemplary and as a pattern in the light of which the universe's past and future development becomes a story of creation. The Paschal events thus become the keystone of Christianity's interpretation of the universe. If one perceives scien-



tifically discernible development through the optics of Good Friday and Easter; it becomes creation. The universe gains a new dimension: hope (123).

Benz leaves open whether this "new dimension of hope" is newly generated or newly discovered through depth perception enriched by faith whereby we become enabled to see it for the first time. Contrasting the role of science and faith, however, he leaves little doubt that we have the *capacity* to discover this eternal reality. Benz suggests that the universe's future entails the "divine dimension of time viz creativity," a duration of *hopefully* waiting for the formation of newness as expressed in the *Book of Revelation* (163-64).

According to the Biblical scholar Northrop Frye's *The Double Vision* (1991: 49), the possibility of an eternal future *as a present dimension* was broached already in Scripture (Eze 37: 11-14), a dimension known as the everlasting Gospel (Rev 14: 6). Frye describes Ezekiel's "dry bone" experience as one of "seeing" Resurrection as a "vertical movement from a dying present into the living presence of the spiritual body" (1991: 49). To explain this, he introduces the neologism, "timeful," for expressing the "eternal presence of God as timeless," in the classic sense of "the fullness of time" (Frye 1991: 49).

Whatever the locus of this "divine dimension of time" for Benz, this *duration* somehow functions transcendentally beyond the *secular* continuum, and presents an intriguing alternative akin to *kairos* time whereby the future of the universe lies in stasis--in the timeless "time" of eternity. As such, it would constitute the ultimate breakout quite transcending infinitely linear or secular time altogether. Novelties abound in the universe as science continually discovers. Yet, what "is temporary, gives only the appearance of newness and has no future" (159). But this Easter vision of novelty cannot be grasped through science. It can be comprehended only through a religious perspective of wholeness enriched by faith. The vision dares to believe that the Easter message, of "hope that death will not be the last word," entails an altogether new *kind* of novelty (121).

The author and astrophysicist Benz first journeys to the stars. Stellar formation, equilibrium states, decay, and ultimate death, taken together, model the processes of development found throughout the entire universe from the Big Bang to its scientifically predictable demise spanning billions of linear years. In every case, true *unpredictable* novelty arises through

undirected processes involving randomness, chaos, and chance events. In concert with Ilya Prigogine, such novelty is neither arbitrary nor uncaused. All such non-linear processes of self-organization share in common their being regulated by conservation laws, symmetries, and other factors that function as principles of limitation. Even the rise of life itself, which was certainly extraordinarily novel, bears these same dynamic features over time, Benz speculates, from its *unique* origin, through its evolutionary development, and culmination in its scientifically predictable demise in the death of the solar system, even of the universe itself. As for the future, Benz is also fully aware that if "all life were to be extinguished, Earth could never again reach the primeval condition in which life can form" (111).

Benz carefully discusses how "self-organization" of the building blocks of life follows this familiar pattern of "chaos to stability," discernible by science (107-12). However, life arises not by *arbitrary* chance, Benz is quick to maintain, but via those very same "staged" processes of self-organizing that characteristically exhibit chance and chaos during "attractor" formation. Benz is also consistently careful to eschew any Aristotelian final causality, any teleology for these manifold so-called "attractor" phenomena whereby chaotic processes achieve self-organization (27, 138).

The book is subtitled: *Chance, Chaos, God?* Yet nowhere throughout this text is God, in any wise or way, featured in an *operational* capacity. Accordingly, Benz carefully shows in "five phases of development" (109) how the *unique* rise of life, what Richard Fortey terms this "extraordinary singularity" (*Life*, 1998: 36), would require no special interventionist action by God. Though Benz rightly eschews introducing God directly into the system as another operating power, he concedes that God could be eternally "intending" by holding symmetries and laws in place (79, 95). For Benz, then, God acts by *intention and love*--a different level altogether. Certainly, Benz does not countenance some interventionist "causal joint" activity within the system, possibly discernible by science.

According to Benz, the perspective of science is objective and rational (45). The perspective of religion and theology, on the other hand, includes the subjective and personal; even a relational dimension that is based upon faith. These two alternative perspectives remain on distinct levels. Yet dialogue is possible across the divide by means of metaphor. The *standard pattern* of birth, stability, decay, and death, discernible through the panoply of science, characteristically occurs over *linear* time. Each true novelty that



arises from the detritus of the past does so only along this continuum. The perspective of science works very well, except for the message of Easter. The dimension of hope can be grasped only by a different kind of perspective that is based upon faith and is relational to the core. It requires deep personal resonance with the Easter message invoking *atemporal* "duration," while conveying the hope that indeed all things will be new, and *radically* new, no longer subject to the standard, characteristically sequenced pattern readily discernible by science.

According to Benz, then, God's action is inherently *participatory and relational*, so it perforce quite eludes the perspective of science altogether. For Benz, "God's action is like a mountain on the horizon, which marks the goal, not the way" (56). It is, accordingly, focused in the "intention," not on any action *per se* (42). In poignant, almost poetic fashion, Benz thus describes God's heuristic presence throughout the universe, a presence which can be experienced only as *wonder*. As for the future, he invites us to take seriously the "Logos model in terms of modern science" (154). This clearly entails *experiential* understanding, for although our limited human reason cannot grasp the meaning, faith-based hope assures us that creative LOGOS will ultimately prevail. Benz encapsulates his entire book with a new motto intended to reflect the "Logos hymn" from John's Gospel 1: 1-3: "*I am the truly new. Whoever trusts in me, shares in a meaningful world, despite decay and death, even when the Sun burns out, the Earth spins off into space, and the universe disintegrates*" (154). Indeed, "future newness is already breaking into the world," it would seem, "if only we could perceive it" (155).

Benz offers much for any avid reader reasonably *au fait* with the intricacies of modern science. There is inevitably some overlap throughout this interwoven text, also rich in theology. Missing, however, is at least a hint or sketch of how "intention" might conceivably replace causal action at a distance. Science keenly awaits the next Albert Einstein who can deal with the profound yet simple conundrum of how celestial "bodies" communicate or interact at "par-sec" distances that simply defy simultaneity, even by relativity. Something very like "eternal" or "durational" *simultaneity* would seem appropriate for "the relative nature of simultaneity," as Brian Greene muses in *The Elegant Universe* (1991: 386). Put plainly, how does the universe hold together? Given the thrust of Benz's thesis, it would have been interesting had he broached the mystery of how LOGOS might *intend* in preserving the universe. But Benz has already richly endowed the reader.