

# The Measure of All Things



The Measure of All Things:  
Anthropology

By

Shlomo Giora Shoham

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P U B L I S H I N G

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by Shlomo Giora Shoham

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## INTRODUCTION

### MYTHOGENES, MYTHOLOGIES, AND THE AUTHENTIC DOMAIN

... there ain't no truth. All there is is bullshit... Layers of it. One layer of bullshit on top of another. And what you do in life like when you get older is you pick the layer of bullshit that you prefer...

—From the motion picture *Hero*, screenplay by David Peoples.

A mythogene is a structure as conceptualized by Claude Lévi-Strauss<sup>1</sup> and Jean Piaget.<sup>2</sup> It has a self-regulatory mechanism and is hence adaptable, subject to the laws of evolution, as are all living organisms. Lévi-Strauss' innovative premise that a myth is the bond between nature and culture<sup>3</sup> makes our mythogene the prime link between the dualities of being: subject-object, synchronicity-diachronicity, the classic and quantum worlds, and so forth. We also hold the mythogene to be the trigger for the creation of the world, much as Immanuel Kant's *Ding an sich*,<sup>4</sup> the 'thing-in-itself'. Except that, for Kant, the generating 'thing-in-itself' is unknowable, whereas we claim to have a notion of what the mythogene, the prime catalyzer of creation, is.

At this stage, we shall postpone consideration of the question of the origin of the mythogene; rather, we shall focus on a description of its structure, composition, and function. The first law of the mythogenic essence is that it is ever preserved in one of its three phenomenological forms, the individual mythogenic structures—the mythologies embodying the sum total of mythogenes in a given culture and the Authentic Domain, which is the totality of mythologies stored in synchronicity. The connotation of authenticity here is that only those mythogenes and their corresponding creations which sprout from the creator's inner self and are not geared towards the rating of artistic cliques and other vested interest groups, and hence subject to ephemeral temporal fetters, would be relegated to the infinity of the Authentic Domain in synchronic eternity.

The second law of mythogenic essence is that the mythogenic structures are subject to entropy, but this does not impede them from feeding the mythologies negentropically (of a negative entropy), even in

their dissipated state. The mythologies in a state of entropy would feed the Authentic Domain negentropically, and this would infuse mythogenes in creators, *da capo*.

The third law of mythogenic essence is that a cybernetic cycle moves from the mythogenes to mythologies to the Authentic Domain, to feed back the revelation of creators who chose indeterministically the mythogenes appropriate for their creativity.

Since the mythogene is a micro-blueprint for creation, it contains both the teleological design and the stochastic probabilities of the art or artifact to be created. The design is indeterministically extracted from the Authentic Domain to fit the *ad hoc* intentions of the creator. The energy-matter potential for the mythogene is inherent in Schrödinger's wave function,  $\Psi$ . The wave function, as conceived by Schrödinger and agreed upon by Niels Bohr, the founding father of the Copenhagen interpretation of quantum mechanics, is a mathematical construct. However, Max Born, another Copenhagenist, claims that this stochastic wave function does actually exist, but in a manner that is unclear to the uninitiated.<sup>5</sup> The crux of the matter is that the Copenhagenists disagree with Einstein's dictum that God "is not playing at dice."<sup>6</sup> According to them, He does.

The revelation of the creator encompasses both the teleological design intention and the stochastic wave function in the mythogenic structure. This mythogene then couples with a space-time singularity, which results when space and time collapse into a point with infinite gravity within a black hole.<sup>7</sup> This coupling, which could be either teleological-intentional or deterministic-stochastic, triggers the Big Bang and creation of the diachronic world of space-time, surrounded by the constant  $c$ , the speed of light. The diachronic aquarium of space-time and local causality eventually collapses into a black hole (the Big Crunch), and another singularity, which is then triggered *da capo* by another mythogenic structure into a bang creating diachronic Aquarium, *ad infinitum*. The Authentic Domain in synchronicity is not restricted by space-time and local causality. It is ever, in Paul Tillich's apt phrase, in the "eternal now."<sup>8</sup> Hence, it stores all authentic mythogenes and their corresponding creations, irrespective of the time and place of their production.

It would be useful now to introduce our concept of mytho-empiricism. We use myths not only as illustrations of theoretical premises, but also as their empirical anchors. Many students of mythology have long regarded myths as reliable records of events before written history. Mircea Eliade claims that because myths reflect the occurrence of events on a high level of abstraction, they also reveal the principles of designs that underlie events.<sup>9</sup> Myths are also the projections of the development of the species,



as paralleled in the development of the individual. Myths become archetypal projections of human experience only when that experience is widespread. The more common a developmental experience—the greater its chances of becoming a mythical projection.

The inverse is also valid: the more widespread the myth, the greater the chance that it is a projection of a widespread, even universal, phase of human development. Myths may serve as an empirical anchor for both core personality dynamics and the structure and dynamics of groups, cultures, and social characters. Myths are also the phenomenological expression of overt behavior and of covert dynamics both of the here-and-now and of transcendence. Hence, the synchronic ahistorical Authentic Domain is mytho-empiricized by the endowment of the Torah at Mount Sinai, with all the totality of the people of Israel being present there, irrespective of their generations and the locale of their abode.

The *dramatis personae* at ground zero, just before the act of creation, seem to have comprised three ‘personae’: the Authentic Domain, the singularity, and Schrödinger’s wave function of the stochastic potentialities of creation. Having elucidated our conception of the Authentic Domain, and Schrödinger’s wave function being well documented in quantum mechanics, we have yet to deliberate on the nature of the singularity in our present context. Since the first act of creation was not within space and time, which were still to be created, and since the singularity was not within a black hole resulting from a Big Crunch or the collapse of a star, and hence not surrounded by an event horizon, the first singularity was ‘naked’.

Roger Penrose attests to the possibility of a ‘naked’ singularity, i.e., a singularity that violates the “cosmic censorship” hypothesis, according to which singularities cannot exist outside a black hole, which is surrounded by an event horizon.<sup>10</sup> Indeed, the first singularity, from which the first Big Bang exploded, generated space and time. Penrose does not exclude the possibility of one such naked singularity that has succeeded in evading the cosmic censorship, which otherwise would have cached it in a black hole.<sup>11</sup> Hence, zero cosmic censorship is possible and a ‘naked’ singularity giving birth to the diachronic cosmos for the first time is also not excluded. According to Stephen Hawking,

Cosmology cannot predict anything about the universe, unless it makes some assumption about the initial conditions. [...] But] according to general relativity, there should be a singularity in our past. At this singularity, the field equations could not be defined. Thus classical general relativity brings about its downfall: It predicts that it can’t predict the universe.<sup>12</sup>

However, if the first singularity was not within an event horizon—since a black hole is generated within space and time, which were non-existent before the Big Bang—that first singularity must have been ‘naked’, and could therefore be interpolated as cosmology’s initial condition.

Hawking’s thesis about the creation of the universe is that it was generated out of nothing.<sup>13</sup> Hawking’s premise is mytho-empiricized in Scripture as cosmogony *ex nihilo*. Hawking hypothesizes that the creation of the world was initiated spontaneously, whereas the Bible assures us that it was initiated by the *logos*, the word of God.

Kant claimed that time and space were filters within our cognitive structures, filters the creation of which was triggered by the *Ding an sich*, the metaphysical ‘thing-in-itself’ out there in transcendence. The Copenhagenists also postulate that the physical system results when the stochastic Schrödinger function ‘collapses’ through the inter-relationship with an observer’s human consciousness. This implies the necessity of the Anthropic Principle—the presence of the human psyche as a partner in creation. Also, it is in line with the dialogical existentialist premise that ontology is a relationship: not a subject and an object, not an ‘I’ and a ‘Thou’, an observer and observed, but a conjugation between these dualities. Our stance is more neo-Platonic than we suspect Roger Penrose’s to be. We envisage an essential duality of spirit and energy-matter as mytho-empiricized by the Book of Genesis:

In the beginning God created the heaven and the earth. And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.<sup>14</sup>

The universal spirit, the *anima mundi*, the neo-Platonic *nous*, interacts with the wave function to form a ‘naked’ singularity, which is actually our initial mythogene, and this explodes either spontaneously, as per Hawking, or by the initial indeterministic intelligent design, to form the diachronic universe.

The singularity as a point of infinite gravity could be theoretically envisioned within a black hole surrounded by an event horizon. But the first singularity, which was ‘naked’, did not have an event horizon or a black hole to surround it. Hence, as Hawking contends, general relativity cannot apply to our naked singularity, nor can any prediction be made about it.<sup>15</sup> In our context, the first ‘naked’ singularity is in timeless, spaceless synchronicity, and hence inaccessible to any measurement. However, the process leading to the Big Bang and the genesis of spatio-temporality could theoretically be as follows:

The *nous*, the world-spirit interacting with an intelligent, teleological design, or spontaneity á la Hawking, created with the stochastic wave function-structure, the first 'naked' singularity, which is also the first mythogenic structure embodying the potential for both the transcendental quests of design and the probabilities of the realization of energy-matter. Then the singularity as first mythogenic structure erupted again, either spontaneously or by an indeterministic intelligent design, into the Big Bang, which eventually formed the diachronic aquarium of space and time. Schematically, the phenomenon of creation may be presented as follows: *nous* (world-soul) → Wave  $\Psi$  function → mythogene ('naked' singularity) → Big Bang → Big Crunch → Ultimate Singularity.

What should be stressed is that the Big Bang was an eruption of the infinitely condensed space (and time) within the singularity which expanded with mind-boggling speed and dimensions like the surface of a monstrously gigantic balloon.<sup>16</sup> Within a second, the internal temperature of the fire-ball cooled from trillions of degrees to billions.<sup>17</sup> The free quarks were then bound within nucleons. The rapidly expanding universe included protons, electrons, and neutrons, and formed helium, deuterium (heavy hydrogen), and lithium. After a few hours, when temperatures dropped to a few million degrees, 75% of the nucleons became hydrogen protons, and 25% formed into helium and small amounts of deuterium and lithium. A few hundred thousand years later, when temperatures dropped to approximately 4,000 degrees Celsius, the nucleons and electrons combined into atoms, which in turn formed huge gas clouds, from which galaxies were coagulated.

This, according to measurements of the COBE satellite which succeeded in tracing the ripples generated by the Big Bang, occurred when the universe was about a billion years old. Eventually,

carbon, oxygen, nitrogen, and phosphorus, of which we are made, are cooked from the light primordial nuclei of hydrogen and helium by nuclear reactions in stellar interiors. When a star nears the end of its life, it disperses these biological precursors throughout space.<sup>18</sup>

Some 15 billion years after the Big Bang, DNA emerged, enabling the creation of life on earth. *Homo sapiens* appeared, however, only about a hundred thousand years ago, but have since produced mythogenes at an accelerating rate, reaching that of a geometric progression. Human groups have produced mythologies stacking the Authentic Domain in transcendental synchronicity with an ever-augmenting reservoir of mythogenes with which to refuel human creativity.

The mythogene is structured from a complementarity of quests and experiences. We stress complementarity, because unlike the synthesis of dialectics, it does not destroy the dualities from which it is composed; both binary essences remain intact. The first mythogene is formed by the longing of the world-soul to interact with the wave function, the potential of energy-matter, in order to create. Unlike the theistic religions, which postulate a perfect God, our mytho-empiric anchors of Gnosis, Kabbalah, and religious existentialism envisage a less-than-perfect God, who needs a relationship with the world and creatures to mend His blemishes, and thereby lend meaning to his creatures and to man. This theurgic function of the world and its creatures was conceived by Gnosis, Kabbalah, and religious existentialism as the *raison d'être* of their creation.

In Gnosis, the good alien God had to recruit the help of man to combat the constant assaults of the evil Demiurge. In Lurianic Kabbalah, the righteous had to lift the particles of the God injured by the breaking of the vessels and relegate them to their sacred origin. In existentialism, we have Søren Kierkegaard interpreting Jesus' supplication on the cross: "*Eli, Eli, lama sabachthani*" ("My God, my God, why hast thou forsaken me"<sup>19</sup>) as not befitting a God, which Jesus was deemed to be. Hence, Jesus directed his cry of anguish towards all human beings, exhorting them to empathize with his suffering, and thus to become better, more moral, human beings. In like manner, Martin Buber, the present author's mentor, proclaimed that the Cartesian *cogito ergo sum* leaves much to be desired, since it entails a disconnected dualism between subject and object. When asked how this binary rift can be bridged, Descartes answered that the good God would not mislead man, but would adjust subject and object, history and transcendence, and synchronicity and diachronicity for him.

This Cartesian foundation of Western philosophy does not seem to hold water, since what if there is no God, or if God is not good, or does not function as a *deus ex machina*? Therefore, contends Buber, an 'I' and a 'Thou' are partial, inchoate entities. The complete ontological entity is the I-Thou relationship; this is the solid basis of existentialist philosophy. The world-soul hovering mytho-empirically over the primeval waters seeks a complementarity with the stochastic wave function of energy-matter, to structure a singularity and trigger through it the Big Bang and the subsequent creation of the diachronic aquarium of space and time, surrounded by the boundaries of the speed of light. Gravity seems to be responsible for the curving and curling up of the space-time aquarium<sup>20</sup>; while the mytho-empirical anchor for the speed of light boundary of our diachronic aquarium may be gleaned from the following dictum of the psalmist: "Who coverest thyself with light as with a garment; who

stretchest out the heavens like a curtain.”<sup>21</sup> Light is our metaphysical garment, as well as our physical border.

By special relativity, the speed of light is attracted to the contours of our diachronic aquarium. Mytho-empirically, this boundary of our universe is surrounded, according to Lurianic Kabbalah, by reflected light (*or hozer*), whereas the direct light (*or yashar*) is emanated from synchronic grace in infinity.<sup>22</sup>

A delightfully funny, well-informed and erudite book on cosmogony is Janna Levin’s *How the Universe Got Its Spots*.<sup>23</sup> Levin claims that what we perceive by our senses is surely not the underlying quantum realities of quarks, nucleons, photons, gluons, and gravitons or the like, but rather a vast array of kaleidoscopic images refracted from the worlds of the diachronic aquarium, broken by the lenses of topological and gravitational twists, and scattered by the prisms of the fluctuations and perturbations within our diachronic aquarium.<sup>24</sup> Our viability depends on our ability to adjust to this ever-changing flow of images sent to our senses from the dazzling kaleidoscopes of our outer environment, which by their internalization becomes our inner environment.

Hence our diachronic breeding container, which feeds our senses with images from sources that might have been extinguished light years away, or from the complementarity of precepts collapsed from a stochastic superposition contrast, forces us to adjust to these fleeting images or perish by the harsh verdict of evolution. These mirrors in our cosmic circus force us to make sense of them by our perceptions within our brains, or foil the tests of the unforgiving mandates to adjust to our physical and human environment. This, of course, relates to our experiential and developmental part controlled by deterministic evolution. The second, spiritual part, emanating from the *nous* by the neo-Platonic world-soul, is refracted in man and all creatures. It is the reflection of the intelligent design guiding indeterministically our spiritual development and exploits. Both the stochastic evolution and the intelligent design reflection are structured into mythogenes. These are present in the singularity as the structuring of the intelligent design and the stochastic wave function, and, later on, with the ascent of man, as his creative efforts to form art and artifacts.

This is the complementarity between the indeterministic trigger of transcendental, intelligent design and the stochastic potential of space and time inherent in the wave function. After the evolution of the agent, the world-soul is reflected in it as well, as in every human being and quite probably in every creature. This is mytho-empiricized by the Lurianic Kabbalah through Haim Vital, who says, “There is nothing in the worlds, and in all parts of creation; the inanimate, the plants, the living and the

talking do not have in them sparks of Divinity; they are embedded in their profane shells.”<sup>25</sup>

The mythogene is structured by the revelatory complementarity of the reflection of the world-soul within man’s inner self and the potential of energy-matter of the wave function out there. When the mythogenes are employed to create art, artifacts, and culture, they constitute the mythologies of social characters, and these are stored within the universal Authentic Domain, which provides the ever-evolving mythogenes to create life forms and cultures. The information stored in the mythogene, which structures within it both the synchronic reflection of the world-soul in each individual and the experience stored in the brains of individuals, may be transmitted from quantic synchronicity to historical reality as follows.

The first, ‘naked’ singularity, which is in synchronicity, gets the information when and how to ‘explode’ from the world-soul (the neo-Platonic *nous*), which triggers the teleological creation in complementarity with the wave function, which constitutes the stochastic potentiality of energy-matter. The first mythogene-singularity is then structured with the spiritual teleological design, seeking realization by complementarity with the potential possibilities of creation. When this information ingrained in the mythogene-singularity relegated to it either randomly or by intelligent design, the Big Bang is initiated. The creation of the initial ‘naked’ singularity by a conjugation of the intelligent design function and thence the Big Bang and the formation of the diachronic aquarium is a creation *ex nihilo*, since both the *nous* and the stochastic wave function are noughts *vis-à-vis* space and time. So is a superposition before the observer collapsed the observable into a physical eigenstate.

When the diachronic aquarium is thence formed, bounded by the speed of light, and life forms, including man, have evolved, the communication between the synchronic, quantic world and the diachronic classic world are bound to be different. Hawking, for one, envisages a communication medium which is a wormhole in the form of a black hole pipe which tunnels from a Lorentzian space to a Euclidian space and back again to a Lorentzian one,<sup>26</sup> and thus connects the two. Since the wormhole is an elongated black hole, we may hypothesize that a singularity, this time not ‘naked’, moves within the wormhole with the black hole pipe serving as its event horizon. When the mythogene-singularity, travelling within the wormhole from synchronicity, instructs the mythogene singularity to explode, a Big Bang would be generated, culminating in a Big Crunch, *da capo ad infinitum*. However, if the mythogenic structure originating from a human being is ingrained in an artistic medium to form an art work or

artifact, it will also end up eventually according to our law of the conservation of mythogenic energy in the mythologies of social characters and from there it will be stored in the Authentic Domain in synchronicity.

Noah's Ark, as the mytho-empirical representation of the Authentic Domain in synchronicity, was depicted by Paulo Uccello, a Renaissance painter who executed a fresco of Noah's Ark as a refuge for creative innovators who were ahead of their time. Antonin Artaud, the cineaste, playwright and poet who was incarcerated for ten years in an insane asylum, identified with Uccello to such an extent that he adopted his name. He wrote an entire essay about the painter, explaining that the creative innovators who are not accepted during their lifetimes, bide their time in Noah's Ark, our synchronic Authentic Domain, and when their time comes, the creators and audiences in the diachronic aquarium 'open up' to the neglected and rejected innovators in the synchronic Noah's Ark, and the mythogenes stored there are relegated mytho-empirically on the wings of the white dove to inspire, enlighten, and enrich creators and audiences in the here-and-now. Noah's Ark thus serves as a mytho-empirical time-machine for storing the mythogenes relegated to it at the synchronic Authentic Domain to the use of creators and to enlighten spectators, listeners, and other potential audiences in the diachronic aquarium. This two-way process could be described in our context as follows.

The quest of the individual to create a work of art or an artifact originates in the reflection of the world-soul within the individual's psyche. This quest is then transmitted through a wormhole from the diachronicity of the individual's mind to the Authentic Domain in quantic synchronicity. Once the choice has been made for a mythogene of a specific idea of a work of art or an artifact, the possibilities in the stochastic Authentic Domain 'collapse' into a defined creation, which is then relegated back to the mind of the creator, triggering within it a revelation which constitutes the structuring of a new mythogene. It should be stressed that this structuring of the new mythogene constitutes a complementarity between the 'collapsed' possibilities of the Authentic Domain into a well-defined quest and the experiences of the bio-psycho-social configuration of the individual creator. This new mythogene is then ready to be ingrained in a given medium of creation as a blueprint for a specific work of art or artifact.

The microscopic black holes, as hypothesized by Hawking, seem to be the ultimate in communication efficiency. Their tunneling from the quantum world to the classic diachronic aquarium and back; their linking of Euclidean and Lorentzian space; their movement in spaces without magnetic fields<sup>27</sup>; and their transmission of information without the

limitations of the uncertainty barrier, make them the infallible messengers through diachronicity, synchronicity, transcendence, and the void. Hence, the transmission of information through black hole tunneling to and from quantic, timeless and spaceless synchronicity, and the diachronic aquarium might help to better cope with the mind-boggling EPR (Einstein-Podolsky-Rosen) paradox, Bell's inequality, and the double-slit experiments in quantum mechanics, as well as with the transition from superpositions to well-defined physical systems.

The superposition is in stochastic synchronicity, but classic diachronicity is deterministic and subject to evolution. We may sum up that our conception of space and time are cognitive structures, and in this we agree with Kant. However, we hold that the evolution of space and time is developmental and might be relegated to the infant's feeling of movement within his digestive tract at early orality. The link between the sense of movement and the conception of time is well established. Kant hypothesized, however, that the trigger of our experience, including the developmental cognitions of space and time, is metaphysically triggered by the unobservable 'thing-in-itself', the *Ding an sich*. Our addition to this Kantian insight is that the creation of space and time is indeed triggered by the world-soul and the stochastic wave function, both in synchronicity. These two combine to form the first mythogene-singularity, which might transfer information to the classic world by the oscillations and resonance of the wave function structured in it. The triggering message to the singularity would be, as interpreted *a posteriori*, to explode into the Big Bang and eventually create the diachronic aquarium. Once *Homo faber*, man the creator, has been evolved, his cognition could send and receive messages to and from the Authentic Domain in synchronicity by microscopic black wormholes, to procure and structure the mythogenes necessary for his ongoing creation of art and artifacts.

The singularity is not within time, but on the boundary of space-time.<sup>28</sup> Hence the singularity is on the horizon of the space-time aquarium, the diachronic container that encloses matter—the stars and galaxies which constitute the breeding grounds for life forms, up to man. The metaphor of an aquarium fits Alexander Friedmann's closed universe<sup>29</sup> and the receptacle which holds the gases, fluids, solids, and planets in which life forms can be generated within the diachronic time-space enclosures which would contain objects and chemicals capable of sustaining life.

Our stance, which is shared by a number of leading physicists,<sup>30</sup> is that our diachronic aquarium is a closed, finite Friedmannian universe, bordered by two singularities prior to the Big Bang and subsequent to the Big Crunch. This involves a cyclicity: although we are in the first cycle of



our present universe's existence, and we are æons away from the Big Crunch, we may envisage theoretically infinite cycles of diachronic aquariums moving endlessly from a Big Bang to a Big Crunch.<sup>31</sup> This Anthropic principle, which makes man and other creatures active partners in the creation of objects and life forms, makes for the proliferation and viability of these objects and life forms within the diachronic aquarium. This is so because the multifaceted observer-observed permutations augment in a geometric progression the variability and complexity of the objects and life forms within diachronicity, thus rendering them more adjustable to changing conditions.

The primacy of observer-observed relationships in quantum mechanics is what actually creates the physical reality and hence serves as the bonding basis for physical ontology. It is quite interesting to note that Niels Bohr, the deviser of the Copenhagen interpretation of quantum mechanics, which postulates the ontological supremacy of the observer-observed relationship, was exposed to the existentialist dialogical philosophy of Kierkegaard through the Danish philosopher Harald Høffding. This philosophy anchors on the liaison between man and man, and the kinship between man and God as the primary ontological phenomenon of existence. However this dialogue, as elucidated by Kierkegaard, and to a certain extent also by Buber, is not a direct epistemic one, but an indirect Socratic maieutic (midwife-like) relationship. Thus the 'I' would trigger in a midwife-like manner in the inner self of the 'Thou' a revelation that the 'Thou' himself discovered which he thence holds to be his own. Indeed, the Kabbalah distinguished between the *zivug*, the erotic mating, which is destined for reproduction and survival, and the *agape*, the spiritual mating, which produces an exchange of grace (*hesed*) between man and God.

Lurianic Kabbalah perceives the system-in-balance between *hesed* (grace) and *din* (judgment) as the meta-principle which governs both God and His creation. According to this view, God intended to create the world by means of stern judgment alone, but realized that creation could occur only through the integration of grace and judgment, forming a balance of *coincidentia oppositorum*.

The *agape*, the balanced mating with the Godhead, is continuous and eternal. It is affected by the 'mending' intercourse of the two divine *partzufim* (faces), the countenances of *abba* (father) and *imma* (mother), who stand for the non-emanated *sefirot* of *hokhma* (wisdom) and *bina* (intelligence). The two lower *partzufim*, the *ze'er* (lower masculine countenance) and *nukbah* (lower feminine countenance) cannot mate constantly, because of the still-blemished state of Divinity. When redemption and full 'mending' (*tikkun*) are effected, the lower countenances of God will

also mate continuously.<sup>32</sup> Moreover, *da'at* (knowledge) is not a full *sefirah*, but rather the fruit of the mating between *hokhma* (the paternal supernal component) and *bina* (the maternal aspect of the Godhead).<sup>33</sup>

In our context, this means that *da'at*, representing knowledge or revelatory exposure, and its transmission as divine grace, is possible only as an outcome of a balanced mating of God's separant (maternal) and participant (paternal) epiphanies. The lower, emanant, countenances of *ze'er* and *nukbah* mate only when enabled to do so by the theurgic 'good services' of man. Moreover, the 'pure' intercourse between man and wife is a theurgic 'mending' of the *Shechina*, aimed at restoring it to its harmonious mating with its male counterpart in Divinity.<sup>34</sup> Thus, God and man become partners in providing the dialectical energy for both transcendence and temporality. Moreover, Kabbalah distinguishes between energy-generating intercourse, which provides a structural system-in-balance, and mating. The latter is apparent in the rather crude imagery of Kabbalah, in which the emanant female countenance of God is sawed off to fit its male consort. Thus, states Ibn Tabul, "(by divine) mating, *malchut* (the tenth sphere, signifying the lower female countenance) grows and is constructed into a divine countenance, and then is sawn off and comes to the front, to face intercourse."<sup>35</sup> Face-to-face intercourse, according to Kabbalistic conceptualization, is a harmonious, structurally balanced dialectic.

As far as the Anthropic principle is concerned, man is the arch-producer of creative mythogenes; hence man is necessary for the bonding of experience and intelligent design, to structure mythogenes and thence art and artifacts in the world as we know it. This statement, however, requires an important qualification: Man, *Homo sapiens*, the reigning *anthropos*, is right now the most advanced creature in the ladder of evolution. He is stupendously creative and innovative, sprouting an endless stream of mythogenes. He might, however, be dethroned, either by the catastrophic hot-house effect, which would drown the planet, or by the Iranians attacking Israel and the United States with nuclear weapons, and the retaliation in kind wiping out most of the planet's flora and fauna. Then some currently lower creatures—subterranean termites or deep-sea shrimps—might start the evolutionary cycle all over again, with the intelligent design of the world-soul guiding the evolutionary selection indeterministically.

Another possibility, though statistically remote in the view of cosmologists, is that life and mythogene-structuring creatures have evolved, or may evolve, on other planets in the Milky Way or galaxies, ever-triggered by the world-soul or its reflection in other creatures, so that experience of evolution and the intelligent design of the mythogenes

would continue to be structured in mythogenes for creating art and artifacts related to the cultures evolving in these different places and times. However, the structures of the creative mythogenes would remain constant. They would combine a complementarity of deterministic evolution and the indeterministic intelligent design of the world-soul as reflected in these extraterrestrial creatures. Therefore, the composition and form of such esoteric creatures and cultures would certainly be different from ours, but the creative process by which they would be generated would be dynamically similar to ours.

The philosopher Alfred North Whitehead, who envisaged a cosmogony and a cosmos in a constant state of flux, and hence of change, might be regarded as a modern counterpart of the pre-Socratic Heraclites and his *panta rhei* (everything flows; everything is in a state of flux), but also of the Copenhagenists, especially John Archibald Wheeler, who claims that physical and cosmic realities are relationships which are dynamic and are hence in constant transformation, bringing about the variation of the universe—physical, structural and formal. The expanding universe subsequent to the Big Bang ever changes, both internally and externally. The evolution within the diachronic aquarium produces new life forms in a geometric progression. When the inflating universe reaches the limits of its expansion, gravitation will take over and push the cosmos towards a Big Crunch and a singularity with an ensuing black hole, *da capo*. Whitehead used the metaphor of a living organism for the changing universe, in which every object and life form adjusts to the heaving whole of the aquarium, with evolutionary functionality.

The relationship of the parts to the whole cosmic organism is also subject to evolution. Those bonds which enhance the telos of the changing universe from one singularity to another survive, whereas those which do not so fit are disrupted.<sup>36</sup>

Finally, we have string theory which does the impossible. Not only does it unify gravity with the other three forces of nature (the strong and weak nuclear forces and electromagnetism), it also vindicates the idea of Pythagoras that musical notes, harmonies, and disharmonies account for the complexity of phenomena in the world. The gist of the string theory is that tiny strings,  $10^{20}$  times smaller than the nucleus of an atom, constitute the basic infrastructure and building blocks of the universe.<sup>37</sup> These strings, which are equal in width and length, vibrate; their music accounts for the variability between all particles that comprise the basic materials of the universe. This upholds the primacy of sound. In the beginning was the *Logos*, and God speaks in music.

The term Weak Anthropic Principle (WAP) sounds tautologous; perhaps it is. It states that if man is present in the universe, its condition and background must have enabled his evolution. Barrow and Tipler give a more formal and precise definition of the WAP:

The observed values of all physical and cosmological quantities are not equally probable, but they take on values restricted by the requirement that there exist sites where carbon-based life can evolve, and by the requirement that the universe be old enough for it to have already done so.<sup>38</sup>

The WAP is a *post facto* statement that if conditions were different (e.g., if the Pauli Exclusion Principle<sup>39</sup> did not exist and all fermions could cram together on one orbit around the atom's nucleus), then life as we know it would not exist. Or as Hawking rightly observes, the digestive tract from mouth to rectum would cut all animals into two if the world had two spatial dimensions instead of three.<sup>40</sup>

Finally, for life to appear, the evolutionary process needs time—billions of years. Hence, its explosive expansion from the original Big Bang would be measured in billions of light years.<sup>41</sup> The human life form, being the most elaborate psycho-physically, requires a very delicate and complex range of possibilities and structures to be formed and sustained. Even small changes in temperature, gravity, and electromagnetic equilibrium would have prevented life from forming, or destroyed it if it had already arisen.

The Strong Anthropic Principle (SAP) posits that “the universe must have those properties which allow life to develop within it at some stage in its history.”<sup>42</sup> The SAP is not probabilistic, but rather categorical, in its teleology. It postulates the evolution of life and of man as a necessary corollary and aim, *telos*, of the creation of the world. The SAP seems to imply a theological, theosophical, and even theurgical need for the creation of man. *In extremo*, the SAP is manifest in Pierre Teilhard de Chardin's teleological doctrine, in which man is not only the irreplaceable goal of creation, but also its infallible end.<sup>43</sup> Kabbalistic theurgy also entails a SAP. The whole notion of the Kabbalistic *tikkun*, the human mending of a blemished God, makes man theosophically indispensable. Says Idel:

Jewish theurgical anthropology strikes utterly different chords; the problem is basically the need of the divinity for human help, or human power, in order to restore the lost *sefirotic* harmony. The focus of the kabbalistic theurgy is God, not man; the latter is given unimaginable powers, to be used in order to repair the divine glory or the divine image;

only his initiative can improve divinity. An archmagician, the theurgical kabbalist does not need external help or grace; his way of operating—namely, the Torah—enables him to be independent; he looks not so much for salvation by the intervention of God as for God's redemption by human intervention. The theurgical kabbalah articulates a basic feature of Jewish religion in general: because it concentrates more upon action than upon thought, the Jew is responsible for everything, including God, since his activity is crucial for the welfare of the cosmos in general. Accordingly, no speculation or faith can change the exterior reality, which must be rescued from its fallen state. The metaphor of the shadow points to the reinforcement of the theurgical trend precisely by its strong delineation of the human and the divine; only by retaining his own individuality can the theurgical kabbalist retain his cosmic influence [...]

Man is therefore an extension of the divine on earth; his form and soul not only reflect the divine but also actually are divine—hence, the interdiction against killing a person. Its real meaning is not the fact, emphasized in rabbinic sources, that man is a whole world, a world in itself, but that this micro-cosmos is a divine monad. Destroying a person is tantamount to diminishing not only the divine form on earth but, as this text puts it, divine powers itself. Man is conceived as a source of energy parallel to, or perhaps even essentially identical with, the divine.<sup>44</sup>

Thus, God is tantamount to the 'Shadow of Man',<sup>45</sup> because without man, God could not be theurgically 'mended'.

A further step in the symbiotic relationship between man and Creation is proposed by Wheeler, who expounded the Participant Anthropic Principle (PAP), stating, 'Observers are necessary to bring the universe into being.'<sup>46</sup> This is in line with the Copenhagen interpretation of quantum mechanics, which postulates a necessary interaction between observer and observed to create matter. Wheeler, however, raises this quantum mechanical dyad to a cosmic level.

Ultimately, we have the Final Anthropic Principle (FAP), which posits that "intelligent information-processing must come into existence in the universe, and, once it comes into existence, it will never die out."<sup>47</sup>

Our conception of the Anthropic principle does lead to, and allow for, the formation of meanings, values, and norms. As Barrow and Tipler rightly state:

Although the Final Anthropic Principle is a statement of physics and hence, *ipso facto*, has no ethical or moral content, it nevertheless is closely connected with moral values, for the validity of the FAP is the physical precondition of moral values to arise and to continue to exist in the universe: no moral values of any sort can exist in a lifeless cosmology. Furthermore, the FAP seems to imply a melioristic cosmos.<sup>48</sup>

Indeed, our version of the FAP enables man to imbue his objective and biological surroundings with meaning, values, and norms. Our stance is that an observer need not have been created for the world to be observed. He was always there in the essence of the universal consciousness of the *nous*, the world-soul. The observed was also there as energy-matter. What was ever-changing, transforming, and developing was the linking agent between the two. The two polar components of our world are so starkly divergent in all parameters, that there could be no direct interaction between them. Only when the first linking structure was being formed—be it by chance or intention—could the endless variation of objects, artifacts, and life forms be created.

If we accept Penrose's Correct Quantum Gravity theory, the act of measurement (Penrose's R), which collapses the  $\Psi$  wave function into a particle eigenstate, is linked to quantum gravity. Says Penrose:

As soon as a 'significant' amount of space-time curvature is introduced, the rules of quantum linear superposition must fail. It is here that the complex-amplitude superpositions of potentially alternative states become replaced by probability weighted actual alternatives—and one of the alternatives indeed *actually* takes place.

What do I mean by a 'significant' amount of curvature? I mean that the level has been reached where the measure of curvature introduced has about the scale of *one graviton* or more. [...] One graviton would be the smallest unit of curvature that would be allowed according to the quantum theory. The idea is that, as soon as this level is reached, the ordinary rules of linear superposition, according to the U procedure, become modified when applied to gravitons, and some kind of time-asymmetric 'non-linear instability' sets in. Rather than having complex linear superposition of 'alternatives' coexisting forever, one of the alternatives begins to win out at this stage, and the system 'flops' into one alternative or the other. Perhaps the choice of alternative is just made by chance, or perhaps there is something deeper underlying this choice. But now, *reality* has become one or the other. The procedure R has been effected.

Note that, according to this idea, the procedure R occurs spontaneously in an entirely objective way, independent of any human intervention. The idea is that the 'one-graviton' level should lie comfortably between the 'quantum level' of atoms, molecules, etc., where the linear rules (U) of ordinary quantum theory hold good, and the 'classical level' of our everyday experiences.<sup>49</sup>

We hold that all life forms possess varying degrees of freedom of choice. When an amoeba 'chooses' to move in one direction rather than another, its decision is indeterministic. A bromeliaceae seed's 'decision' to fasten itself onto a dead piece of wood, although barren and devoid of

nourishment, is an indeterministic decision with far-reaching evolutionary effects. It must develop the capacity for food absorption through its chalice or become extinct.

We have already elaborated on the crucial difference between the Buberian I-It artifacts, from quantum measuring instruments to computers with 'canned' consciousness and no freedom of the will, and the *ani*-consciousness, embedded in all life forms, which do have freedom of choice. The most elaborate freedom of choice rests with man. He may choose to develop his creative potential, following authentic experiences of revelation, thereby lending his own life meaning, as well as imbuing his surroundings with meaning. On the other hand, he may choose not to develop his potential for revelation and creativity. He may thence be drawn into cycles of inauthenticity and alienation such as those that surrounded Paul Gauguin, who chose to remain within the cozy, stifling bosom of fashionable, bourgeois *tout Paris*. Such freedom of choice, and its resultant inner and outer meaningfulness, may lend evolutionary viability to our conception of the Anthropic principle. Man, as the meta-mythogenic structure linking consciousness and energy-matter, need not change his external environment in order to achieve optimal viability. He may achieve better results by transforming the meaning of his surroundings and adapting them to changing inner or outer situations and processes. Thus man's ability to adapt and adjust meanings, values, and norms enhances his evolutionary viability as the meta-integrator between consciousness and energy-matter.

Mytho-empirically, such evaluation and normalization is already seen in Genesis, where it is written,

And out of the ground the Lord God formed every beast of the field and every fowl of the air; and brought them unto Adam to see what he would call them: and whatsoever Adam called every living creature, that was the name thereof. And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field.<sup>50</sup>

This is in line with our mytho-empirical conception of God as the projection of the *ani*-consciousness, which is normatively neutral. Hence man, the Anthropic integrator, is the name-giver, the *Logos*-endower, which is capable of lending meaning and value to his surroundings. We hold this name-giving to be an attempt by man as the meta-mediator to bridge between the *ani*-consciousness and energy-matter. Man may imbue his surroundings with meanings and values by implanting his contained consciousness on a canvas to be transmitted to generations of viewers. Or, he can transmit his innovations to his student or colleague, maieutically.

To be effectively communicable, the processes of creativity must be authentic; then the mythogenic structure carries the message and imbues the objective and living surroundings with meanings and values. But these are Ego's own meanings and values, as conceived by him and as implanted onto his surroundings in a manner unique to himself. This stems from the fact that each individual reflects his *ani*-consciousness through his unique bio-psycho-social configuration. The uniqueness of the creator is thus paired with the uniqueness of the creation. Hence, according to Sumerian mytho-empirical sources, man was created, *inter alia*, to imitate the gods in further creating and preserving the system-in-balance of the cosmos.<sup>51</sup> Man the creator thus becomes God.

It should be pointed out that the evolution of man is within a narrow stochastic range of the evolving universe. Galaxies and stars can form only in density perturbations which result from rapid, adiabatic expansion and contraction of gases.<sup>52</sup> Such high-density formations are flanked by microwave background isotopic radiation, on the open, non-Friedmannian chaotic universe. Hence a quite narrow probabilistic range, forming a rather slim stochastic corridor, would lead to the formation of galaxies, stars, life forms, and *Homo sapiens*.

The sequential evolutionary steps necessary for the genesis of man are the probabilistically cumulative processes we shall now outline. The development of DNA; aerobic respiration; glucose fermentation to pyruvic acid; autotrophic photosynthesis; the formation of mitochondria; the evolution of the centriole, the kinetosome, and the undulipodia complex; the formation of the eye precursor; the development of an endoskeleton and of a central nervous system.<sup>53</sup> Hence many cosmologists contend that these probabilistic sequences are very unlikely to be replicated elsewhere, outside of planet Earth. Therefore according to the Weak Anthropic Principle, the evolution of man is a one-time event peculiar to Earth; *Homines sapientes* are therefore quite probably unique.

Our stance lends a rather crucial role to man and other creatures in the development of the world—the continuous unfolding of life within the diachronic aquarium and the structuring of creative mythogenes. We hold that there was an intelligent design in the initial formation of the world and once the diachronic aquarium was created, there has been a God-man (and other life forms) partnership in the teleological guidance of its development. Teilhard de Chardin expounded this directional progression of the universe and life towards a *telos* as ordained by God and evolution.<sup>54</sup>

We envisage a God-man partnership through the reflection of the *nous*, the neo-Platonic world-soul, in each life-form which also endows it with



consciousness for the purpose of ‘collapsing’ an eigenstate of physical systems. According to the dialogic philosophy, the three Danish exponents of which (Kierkegaard, Høffding, and Bohr) seem to have adopted the relationship between God and man, the ‘I’ and the ‘Thou’, the observer and observed, as the basic ontology. Hence the indeterministic intelligent design inherent in the consciousness embedded by the *nous* in all life-forms combines with the experience of the body to structure the mythogenes, the *arich anpin* of Lurianic Kabbalah, and the impotent Gnostic God seeks a ‘mending’ from man and other creatures. This ‘mending’ could be the lifting up from the mires of depravity to the sparks of Divinity, which were strewn there by the ‘breaking of the vessels’, a Lurianic Kabbalist mytho-empirical counterpart of the Big Bang.

Jesus on the cross exhorts the people around him to empathize with his suffering, and thus become more open to the agony of others. This is masterfully portrayed in Hieronymus Bosch’s paintings of the Passion. The people surrounding Jesus are callously disinterested in the suffering of the Savior. They ignore him and his pain, since they seem to be immersed in their own routines. Jesus forces them to break away from their complacency and look at his bleeding wounds. Finally, the suffering God intends to link his agony with the hurting man, so that their partnership in misery might reveal, discover, or construe a solace, a remedy, a balm, to both in their plight.

## Notes

<sup>1</sup> Lévi-Strauss, C., *Le Cru et le Cuit* (Paris: Pion, 1964), 9.

<sup>2</sup> Piaget, J., *Le Structuralism* (Paris: Presses Universitaire de France, 1987), 6-7.

<sup>3</sup> Lévi-Strauss, C. *The Savage Mind* (Chicago: University of Chicago Press, 1966), 9.

<sup>4</sup> Kant, E., *Critique of Pure Reason* (London: Macmillan, 1968), 521.

<sup>5</sup> Born, M., *Experiment and Theory in Physics* (Cambridge: Cambridge University Press, 1944), 37.

<sup>6</sup> Einstein repeated this perception on various occasions, the first of which is attributed to a letter he wrote to Max Born on December 4th, 1926 (*The Born-Einstein Letters*, trans. I. Born [London: Macmillan Press, 1971], 91).

<sup>7</sup> Penrose, R., *The Emperor's New Mind* (Oxford: Oxford University Press, 1989), 436.

<sup>8</sup> Tillich, P., *The Eternal Now in the Boundaries of Our Being* (London: Rutledge & Kegan Paul, 1973), 100-108.

<sup>9</sup> Eliade, M. *The Myth of the Eternal Return* (New York: Harper, 1974), 43.

<sup>10</sup> Hawking S. and Penrose, R., *The Nature of Space and Time* (Princeton: Princeton University Press, 1966), 31-33.

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- <sup>11</sup> Ibid.
- <sup>12</sup> Hawking and Penrose, *Nature of Space and Time*, 75.
- <sup>13</sup> Ibid., 85.
- <sup>14</sup> Genesis 1:1-2.
- <sup>15</sup> Hawking and Penrose, *Nature of Space and Time*, 186.
- <sup>16</sup> Penrose, R., *The Emperor's New Mind* (Oxford: Oxford University Press, 1989), 250-251.
- <sup>17</sup> Weinberg, S., *The First Three Minutes* (New York: Basic Books, 1977), 102-103.
- <sup>18</sup> Barrow, F. D. and Tipler, F. J., *The Anthropic Cosmological Principle* (Oxford: Oxford University Press, 1986), 468.
- <sup>19</sup> Matthew 27:46.
- <sup>20</sup> Hawking and Penrose, *The Nature of Space and Time*, 103.
- <sup>21</sup> Psalm 104:2.
- <sup>22</sup> Vital, H., *Etz Haim* (The Center for the Study of Kabbalah: Jerusalem, 1978), chapters 3-5.
- <sup>23</sup> New York: Anchor Books-Random House, 2003.
- <sup>24</sup> Ibid., 170-171, 195.
- <sup>25</sup> Vital, H., *Mevo Shearim*, Part 2, cited in Tishby, I., *The Doctrine of Evil and the "Kelippah" in Lurianic Kabbalism* (Jerusalem: Schocken, 1942).
- <sup>26</sup> Hawking and Penrose, *Nature of Space and Time*, 57.
- <sup>27</sup> Hawking and Penrose, *Nature of Space and Time*, 57-59.
- <sup>28</sup> Barrow and Tipler, *The Anthropic Cosmological Principle*, 442-443.
- <sup>29</sup> Friedmann, A. "Über die Krümmung des Raumes." *Z. Phys* 10.1 (1922), 377-386.
- <sup>30</sup> Notably Roger Penrose in his *The Emperor's New Mind* (Oxford: Oxford University Press, 1989).
- <sup>31</sup> One of the leading proponents of this stance is J. A. Wheeler. See his "Genesis and Observership" in *Foundational Problems in the Special Sciences*, ed. R. E. Butts and J. Hentikka (Boston: D. Reidel Publishing Co., 1977), 3-34.
- <sup>32</sup> Tishby, I., *The Doctrine of Evil and the Kellipot in Lurianic Kabbalah* (Jerusalem: Schocken, 1942), 2:189.
- <sup>33</sup> Sarug, Y., *Sefer Limudei Atzilut* (Munkach: S. Kahan, 1937), chapter 2.
- <sup>34</sup> Idel, M., "Métaphores et Pratiques Sexuelles dans la Cabale", in Mopsik, C., *Lettre sur la saintete: Le secret de la relation entre l'homme et la femme dans la cabale* (Paris: Verdier, 1986), 340.
- <sup>35</sup> Ibn Tabul, Y., *Drosh Heftzi-Ba*, 9.
- <sup>36</sup> Barrow and Tipler, *The Anthropic Cosmological Principle*.
- <sup>37</sup> Levin, J., *How the Universe Got Its Spots* (London: Weidenfeld & Nicolson Ltd., 2002), 199.
- <sup>38</sup> Barrow and Tipler, *The Anthropic Cosmological Principle*, 16.
- <sup>39</sup> Pauli, W., "Über den Zusammenhang des Abschlusses der Elektronengruppen im Atom mit der Komplexstruktur der Spektren." *Z. Phys* 31 (1925), 765-783.
- <sup>40</sup> Hawking, S. W., *A Brief History of Time* (New York: Bantam, 1988), 164.
- <sup>41</sup> Barrow and Tipler, *The Anthropic Cosmological Principle*, 5.

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<sup>42</sup> Ibid., 201, quoting Teilhard de Chardin, P., *The Phenomenon of Man* (New York: Harper & Row Colphon, 1975), 29.

<sup>43</sup> Ibid., 21.

<sup>44</sup> Idel, M., *Kabbala: New Perspectives* (New Haven: Yale University Press, 1988), 164.

<sup>45</sup> Ibid., chapter. 8.

<sup>46</sup> Barrow and Tipler. *The Anthropic Cosmological Principle*, 22.

<sup>47</sup> Ibid., 23.

<sup>48</sup> Ibid., 23.

<sup>49</sup> Penrose, *The Emperor's New Mind*, 367-368.

<sup>50</sup> Genesis 2:19-20.

<sup>51</sup> Eliade. M., *A History of Religious Ideas: From the Stone Age to the Eleusinian Mysteries*. Translated by Trask W. R. (Chicago: University of Chicago Press, 1978), 1:59-60.

<sup>52</sup> Barrow and Tipler, *The Anthropic Cosmological Principle*, 418.

<sup>53</sup> Ibid., 563-564.

<sup>54</sup> Teilhard de Chardin, *The Phenomenon of Man*.

# CHAPTER ONE

## ANTHROPOS AND CULTURE

Produce! Produce! Were it but the pitifulest infinitesimal fraction of a Product, produce it in God's name! 'Tis the utmost thou hast in thee; out with it, then. Up, up! Whatsoever thy hand findeth to do, do it with thy whole might. Work while it is called Today; for the Night cometh wherein no man can work.

—Thomas Carlyle, *Sartor Resartus*

In Sicily, it doesn't matter about doing things well or badly; the sin which we Sicilians never forgive is simply that of 'doing' at all.

—Giuseppe Tomasi di Lampedusa, *The Leopard*

Culture is a **configuration of mythogenic structures** which have surpassed the evolutionary barrier **through authentic revelation and creativity**, from diachronicity onto the synchronic **Authentic Domain**. The first concept to be explained is that of configuration.

Configuration signifies that culture is a complementarity between biological bases, personality structures, and socialization imprints. Biological bases range from such facilitating factors as *Homo erectus* beginning to walk on hind legs, thus freeing his forelegs to evolve into hands and permitting him to perform an entire range of new tasks, and limiting the size of the human cranium and hence the cerebral content. As for the personality and its relationship to culture, we have devised a theory which identifies human individual traits, which we shall present later in this chapter.

When our core personality continuum is applied to the characteristics of groups or cultures, it relates to a "social character."<sup>1</sup> The family and other socializing agencies transmit the norms and values of the group, which the individual then internalizes. It is important to note at the outset, however, that a social character as the composite portrait of a culture is never pure. It portrays only essentials, not peripheral traits. One culture may absorb the social character of its conquerors. This social character may thence be classified along a continuum similar to our personality core continuum.

The classification of cultures along a continuum and their relationship to a given personality structure necessitates two basic assumptions. First, that culture possesses generalized traits that can be measured and ranked on a predetermined typology or scale. Second, that these traits can be related to the character of the individual. By adopting both these assumptions, we find ourselves in good or bad company, depending on taste or value judgment. Oswald Spengler and Arnold Toynbee have adhered to both these assumptions in their work on the growth and decline of cultures. Indeed, Spengler compares the ages of culture to those of man. "Every culture," he states, "passes through the age phases of the individual man. Each has its childhood, youth, manhood, and old age."<sup>2</sup> Spengler and Toynbee thus introduced the dynamic temporal dimension to the study of culture.

Mythogenic structures have evolved from the concepts of myth and structure. As for mythoempiricism, we believe that myths are a link between subject and object. This link has been one of the most relevant psycho-philosophical problems from time immemorial. Salomon Maimon, a disciple of Kant, posited the matter in metaphoric terms thus: "To find a passage from the external world to the mental world is more important than to find a way to East India, no matter what statesmen may say."<sup>3</sup> Still, our concern is more pragmatic; we wish to understand how the mental revelation of an Archimedean *Eureka!* is structured into an objective creation. We hypothesize that such creative linkage is affected by a mythogenic structure, the meaning of which has been explained in the Introduction to the present volume.

Andrew Lang, a pioneering student of mythology, stated in the late nineteenth century that myths are not just cautionary tales to frighten young children into eating their porridge, but also causal and etiological explanations of phenomena that had taken place in historical reality. He therefore denoted mythology as proto-science.<sup>4</sup> Sigmund Freud claimed that "myths are the distorted vestiges of the wish-fulfillment fantasies of whole nations [...] they are dreams of young humanity."<sup>5</sup> Freud actually raised his intra-psychic interpretation of dreams onto the group level and claimed that myth is an expression of the tribe's "social characters," the nation's or social aggregate's wishes and visions. Surely, the myth of the Flood was not dreamful wish-fulfillment, but a projection of actual experiences of disastrous inundations by rivers—especially in Mesopotamia and Egypt. Myths are, therefore, also a projection of experiences and of spectacular events borne by a group before written history *in illo tempore*. According to Johann Jakob Bachofen,

The mythical tradition may be taken as a faithful reflection of life in those times in which historical antiquity is rooted. It is a manifestation of primordial thinking, an immediate historical revelation and, consequently, a very reliable source.<sup>6</sup>

Mircea Eliade further claims that, because myths reflect the occurrence of events on a high level of abstraction, they also reveal the principles or designs underlying those events. He writes that

the myth discloses the eventful Creation of the world and man, and at the same time, the principles which govern the cosmic process and human existence. The myths succeed each other and articulate themselves into a sacred history, which is continuously recovered in the life of the community, as well as in the existence of each individual. What happened in the beginning describes at once both the original perfection and the destiny of each individual.<sup>7</sup>

This brings us to Carl Jung, who regarded myths not only as means of individual psychic expression, but also as the archetypal contents of the “collective human unconsciousness.”<sup>8</sup> As an interim summary, we may regard myths as projections of wishes and experiences, on both the individual and group levels. Some two decades ago, in *Salvation through the Gutters*, the present author wrote:

Our methodological anchor is the conception of myths as projections of personal history. Individuals are aware of their personalities as the sole existential entity in their cognition. This awareness of existence is the only epistemological reality. Myths cannot, therefore, be divorced from the human personality. Whatever happened to us in the amnesic years and even later is projected onto our theory of the Creation of the universe, objects and other human beings. The events that happened in the highly receptive amnesic years have been recorded and stored by the human brain. Events that happened after the amnesic years may be recalled cognitively, but whatever happened within these first years of life is recalled, *inter alia*, by myths of cosmogony. Myths as personal history, may, therefore, be regarded as the account to some crucial developmental stages in the formative years. Moreover, human development, in the early formative years, passes in an accelerated manner through the evolutionary phases of the species.<sup>9</sup>

Consequently, myths are also a projection of the development of the species, as paralleled in the development of the individual. It is interesting to note that this conception of myths as a projection of personal history may be inferred from the *Apocalypse of Baruch*, which states that “every man is the Adam of his own soul,”<sup>10</sup> which may in turn be interpreted to