

Commentary

The Predictive Mind and Mortal Knowledge

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ABSTRACT

In my commentary on Greg Nixon's articles, "Myth and Mind" and "Hollows of Experience", I begin with a discussion of those definitions and principles regarding consciousness in which Nixon and I are in agreement. Next I set forth my understanding of Nixon's thesis regarding the reaction to mortal knowledge and concomitant construction of sacred myth, in the emergence of consciousness, and critique this thesis. I then offer an alternative explanation for the emergence of consciousness, in which the construction of predictive narrative is selected "for". I conclude my commentary with an alternative explanation of the emergence of, and significance of, Nixon's existential crisis of mortal knowledge, by repositioning its emergence from beginnings, 150,000 years ago, to cultural developments that occurred as recently as 10,000 years ago.

Key Words: myth, mind, consciousness experience, mortal knowledge.

In his articles, "Hollows of Experience" and "Myth and Mind" Greg Nixon (2010a, 2010b) offers us an elegant and thought provoking narrative explanation for the emergence of human consciousness. In terms of his fundamental vision of the nature of consciousness, Nixon and I are largely in agreement.

1. Agreement

First, Nixon and I agree that for the purposes of this discussion, consciousness is most usefully defined in terms of actively reflexive, self aware and self-referential knowing that is, to the best of our knowledge, uniquely human. As such, consciousness is a qualitatively different phenomenon from the environmental "awareness" we impute to other living creatures as they go about behaving in the world. It is also different from the universal interactions we consciously observe between "things" going "all the way down".

Second, Nixon and I agree that the instrumentality of self-referential knowing is fundamentally a symbolic behavior and principally linguistic. In other words, without language, there can be no consciousness.

Third, we agree that the nature of symbolic behavior, as opposed to sign behavior, entails the construction of explanatory narrative in which causal, and therefore temporal, relationships between experienced/observed events are imputed. These narrative structures constitute "meaning" and in the absence of meaning, there is no consciousness.

Fourth, we agree that all that is experienced consciously is constructed by symbolic creatures in interaction with their environment and amongst themselves. In other words, the narratives by which conscious creatures construct meaning that is shared and handed down in a cultural context, is an ongoing and emergent process in which narrative undergoes continual transformation in the context of changing circumstance, experience, and ubiquitous variation.

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Fifth, we agree that in consciousness, symbolic creatures experience, behave, and act within the context of a self-created world of meaning in which they are inexorably immersed.

As Nixon says,

“Thus, although we, the human species, are but one species among innumerable others, we differ in kind, not degree. This quality is our symbolically enabled self-consciousness, the fortress of cultural identity that empowers but also imprisons awareness.”

Finally, Nixon and I agree that the meaningful symbolic world in which we are immersed is, from the first moment of self-referential awareness, constructed as a mythic cloth, woven together in mythic narrative founded upon axiomatic belief.

On the whole, Nixon and I agree that consciousness is best regarded as an irreducible process --- a behavioral constellation --- rather than some aspect of the creature that can be teased out from the whole and examined under a microscope.

In these matters of agreement, Nixon argues powerfully and in the interest of brevity, I will refrain from restating or reworking them. Suitable definitions and explanations of the nature of symbolic behavior can be found in the body of his articles.

Instead of retracing the basic groundwork upon which Nixon and I stand, which is in itself controversial, my intention is to comment upon his narrative of emergence and propose a somewhat different path by which to arrive at the same destination.

2. Nixon’s Thesis

At the risk of oversimplifying, Nixon speculates that the path to consciousness entails a crisis in which the pre-conscious creature awakens to the awesome knowledge of its own mortality. In that crisis, he argues, the creature is compelled to construct a transcendent mythic-sacred narrative in order to cope with the shock and awe of this terrible knowledge. It is the sacred quality of this mythic construction that knits the raw material of pre-consciousness into the whole that is necessary for an awakening of the fully conscious being.

“I conclude that prehumans underwent an existential crisis that could be resolved only by the discovery-creation of the larger realm of symbolic consciousness we call the sacred.”

Nixon reasons that an anticipatory, psychological-emotional response to an awareness of personal mortality is the final straw that tips the scales toward an awakening by compelling the pre-conscious creature to “spontaneously” construct sacred myth. In doing so, he resorts, as he must, to numerous psychological causes. To list a few, “emotion”, “ego-complex”, “conscious” versus “unconscious” experience, pre-symbolic awe, fear, grief, and even psychedelic experience.

Nixon says,

But until such primordial actions as the above became anything more than emotional responses to the dimly conceived horror of killing other bloodletting creatures or the unnamed terror of realizing death comes to all who are born, something more was necessary to give these feelings form and even transmute them into the hope and awe that are the beginnings of religion and the creative encounter with the sacred.

... It is only with myth in its first spontaneous stirring that we enter the realm of consciously apprehended experience, that is, experience made conscious through its transformation into metaphor and story, a transformation that required the corequisite transformation of facial, gestural, protolinguistic communication into the fully fledged self-referential system that earns the name 'language'.

Nixon goes on to explain that the ultimate emotional crisis triggers an awakening to consciousness.

The life crisis that arises with the realisation that the struggle to survive is always doomed to failure can only be cataclysmic.

And concludes that,

... The self is founded with death at its core.

3. Critique

In his pursuance of his thesis, Nixon includes most of the key elements necessary to explain the emergence of consciousness but inverts the flow of the process of emergence in a manner that confounds his explanation. He places the cart before the horse by invoking psychological cause --- "a life crisis" --- that can only come into being as a function of conscious experience.

There can be no doubt the individual self-awareness of mortality is one of the great and terrible contradictions of conscious experience, but I contend that the crisis created by this knowledge is not causal, nor is it a formative event in the emergence of consciousness. To the contrary, I contend that the psychological impact of mortal knowledge is an epiphenomenon that had a late onset in the course of human experience.

Nixon begins as I would, by asserting that there appears to exist in all living organisms an impetus to survive and reproduce.

He says,

...it seems likely that the intentions of any organism can never veer too far from its innate evolved instincts for survival, predominance, and reproduction.

This starting point is axiomatic and tautological. Life is defined in terms of the "will" to survive and reproduce. Such counter-entropic, energetic behavior entails a costly uphill struggle and I offer no argument here as to why this behavior called "life" came into being.

For the purposes of this discussion though, it is important to note the following problems with Nixon's formative statement.

- There is no basis for asserting that survival and reproductive behavior is "intentional" or "willful" in the absence of conscious awareness.
- The attribution of survival and reproductive behavior to "any organism" (singular) is best credited to Spencer and his "Social Darwinism". This idea is not well supported by observation. In many instances it is evident that individual survival is subordinated to the

continuity of communities of organisms, both intra-species and inter-species. Indeed, it can be argued that such subordination is the rule rather than the exception when the biosphere is regarded as a whole.

- The idea of “predominance”, which implies competitive intention and a will to dominance between individuals in species and/or between various species, is not born out by observation. For example, in every case of dominance behavior we must infer at least one case of submissive behavior. It is not necessary to regard the submissive behavior as the loser in a zero-sum game. It might be more useful to understand that both individuals and the community as a whole win in the process of contention.

In the final analysis, it needs to be remembered that the interactions among and between various species have been determined by a selective process based on the random variation that takes place in the context of the entire constellation of physiological-behavioral differences that emerge among living organisms. There are no rules that determine what works at any given time, in any given place, and in any given ecological context. Among individuals and groups, competitive and cooperative behaviors, dominance and submission, are equally subject to selection pressures. Selection is the ultimate equal opportunity employer. Failure to understand this is the fallacy inherent in Social Darwinism.

I suspect that Nixon understand these caveats, but the lack of rigor in his formative statement creates a slippery slope of psychological reduction by injecting individual will and competitive impulses before the fact of consciousness.

In a more fateful pitfall, Nixon resorts to some rather common explanations of the basic structure of symbolic behavior, which he sets forth in terms of mechanistic “category naming” and “opposition”.

He writes,

The physical entity would still note which stimuli are threats, which are prey, which might be mating potential, and which matter not at all. These categorizations continue to be primal response categories without the need for conscious decision-making.

However,

... their categorizations remain emotionally based, as well.

But,

With the arrival of speaking hominids, a net was thrown over the world and the entire progress of knowledge within the human species can be seen as a measure of the increasingly fine weave of the strands of that net. With the act of naming, each category can be further reduced to other categories and so on. What we call knowledge is based in increasing conceptual complexification involving both sub-sensory reduction and super-sensory expansion.

And, with respect to the self-contained nature of linguistic categorical structures...

....all terms of language are built from these “binary oppositions” that refer essentially to each other.

The flaw in Nixon’s characterization of symbolic behavior is that it fails to explain WHY such categorization --- this “naming” process by which the world is populated with symbolic objects ---

occurs. What is missing is the crucial concept of PREDICTION, which I contend, is the crux of the process by which consciousness was selected “for”. It is this omission that creates problems for the rest of Nixon’s analysis, in which he touches on all the right bases, but in the wrong order.

4. Predictive Behavior versus Predictive Action

Let me focus on this idea of prediction and see where it takes us, using virtually all of Nixon’s ideas about the nature and problems of conscious behavior.

Nixon states,

For example, Eliade’s (1954) demonstration of the eternal recurrence of cosmic cycles of time certainly applies to the mythic mind in general, but it is unknown how a presymbolic culture could share or even conceive of such an idea. It may have observed the cycle of the seasons or changes in the moon but it could not measure them without a means to do so.

Note: The idea of pre-symbolic “culture” cannot be supported. Culture is a product of conscious action.

What Nixon misses with respect to what he calls “cosmic cycles” and I call “patterned events” is that there exists what might be called a genetic mind that in the process of natural selection, imbues organisms with both sensory “measurement” and predictive behavior. The rooster crows at the break of dawn and herds of mega-fauna migrate with the seasons.

All organisms engage in predictive behavior, but in the absence of consciousness, that behavior is genetically engrained rather than intentional. It is selected FOR in the Darwinian sense. Every living species conducts its affairs --- survival and reproduction --- in its own uniquely selected fashion in the context of the world with which it interacts by way of its physical characteristics, sensual faculties, and behaviors. We can think of the characteristics of a species as its bandwidth, in which the organism experiences and behaves. For example, some organisms live in an olfactory band, others in a principally auditory band, and still others in a bandwidth that is principally visual.

Given an organism’s bandwidth, its genetically determined behaviors come to be more or less predictively synchronized with the patterned events that occur and reoccur, within some range of variability, in its environment. If these patterned events are stable enough in relation to the organism’s behavioral repertoire, that organism will survive long enough to reproduce others of its kind. Should the patterned events in the environment change suddenly, the repertoire of predictive behaviors built into the organism may cease to provide a survival advantage, thus jeopardizing the organism’s survival.

Again, in the case of non-conscious behavior, every organism must of necessity, have built into its genetically determined behavioral repertoire, predictions that have been selected for on the basis of patterned events that actually take place repeatedly in its environment, and this behavioral repertoire will be passed on to subsequent generations.

On this basis, we can state that all living organisms behave in a manner that anticipates events, (i.e. prediction), and that the nature of the patterns that allow for such prediction is entirely dependent on the bandwidth of the organism in question. Given its physiological characteristics, the organism’s survival is entirely dependent on its BEHAVIOR IN RELATION TO patterned events in its environment.

We have a tendency to view the process of evolution in morphological terms rather than behavioral terms, yet morphology can be aptly viewed as nothing more than an instrument of behavior that, at its most fundamental level, involves survival and reproduction, and it is from the standpoint of the predictive nature of all living behavior, that we must address the emergence of consciousness.

So far, I have painted a picture of predictive behavior in terms of genetic hardwiring, but this is not to say that within the behavioral repertoire of various living organisms, we do not observe varying degrees of behavioral latitude. In selecting for optimal behavioral constellations, natural selection seems to vacillate between the principle of simplicity, such as that observed in the robust hardwiring and rapid generational turnover of microorganisms and insects, and the more vulnerable complexity of long-lived behavioral polymorphs. In the first case, the instability of worldly patterned events --- change --- is addressed by low-cost rapid reproductive turnover and slapdash random genetic variation. In the second case, the instability of worldly patterned events is addressed by increasingly flexible behavioral constellations realized at a considerably higher cost to the species and its members.

Clearly, when taken as a whole, we conscious beings, possessors of the most complex, flexible, and expensive, behavioral constellation, have a vested interest in the latter path to survival and reproduction, but given the open-endedness of time, we can only say that time will tell which approach is superior. In any event, consciousness is what we have to work with, so I'll move on and see how we might come to terms with it.

We can now take a great leap forward to the point where, after eons of variation and selection amid changing worldly patterns, hominids make their appearance. These non-conscious apelike creatures are monuments to behavioral flexibility. Having recently, in evolutionary terms, descended from the trees to the savannah, they live in cooperative troops. There is a rough division of labor between the genders. They care for their young, who are by comparison with other mammals, slow to reach independent adulthood. Individuals are further stratified in terms of dominance tests that shape reproductive rights and produce the relations of leadership and followership that are essential to coordinated collaborative action. They have acquired an elaborate set of signs by which they signal coordinated behavior to address threat, defend, attack, etc. Their behavioral constellation entails levels of interdependence so complex that any individual can only survive as a member of, and in relation to, the troop as a whole. To be born and left alone or to be exiled from the troop would be tantamount to a death sentence.

The whole of this genetically determined predictive behavioral repertoire, which enjoys the advantage of flexibility in both the social and individual behavioral domains ---this interactive dance ---, has been carved out over generations of variation and natural selection. Though it is still neither intentional nor willful, it works.

Given this flexible and highly social creature, we find ourselves by happenstance, at the threshold of consciousness. Let's consider just a few of the many concomitant conditions that had to occur to set the stage for a leap to consciousness.

- Having descended from the trees, bipedal locomotion that frees the hands for manipulative activity was selectively favored.
- Bipedal locomotion that permitted migration (nomadic) of the troop from an area of depleted opportunity to areas of greater opportunity, was favored.

- Vocal apparatuses used for increasingly complex coordinating sign behavior, was selectively favored.
- Complex neurological faculties, (e.g. convoluted brains) used to manage increasingly complex group interactions, were selectively favored.
- Slow infant development needed to incorporate the young into the complex interacting group, was selectively favored.
- Living in a tightly knit, interdependent nomadic troop that functions as a whole that is greater than any single part, was selectively favored.

This list can be elaborated ad nauseam, if only because it is the whole creature, in every imaginable aspect of physiology and behavior, that sets the conditions for what comes into being next. Subtract any element from that whole, or change the environmental conditions in which the creature behaves, and something else that we cannot predict, happens.

Now we must set the whole creature in motion to understand how conscious behavior emerges in terms of advantage based on enhanced powers of prediction.

As I have discussed, the troop's behavior, as flexible as it is, is like that of other organisms --- rooted in its genetically programmed predictive behavior. That programmed behavior already engenders a great deal of adaptive latitude, but it is not yet conscious in Nixon's and my sense of the term.

The change begins when the predictive behaviors that reflect the interactions between the creature and its environment become turned inward amongst the group itself. Given the preconditions discussed above, the patterns of behavior among the members of the troop increasingly become focused, upon the troop as a whole, and upon individual members of the troop.

This predicting of the behavior of others is founded in the patterned and rhythmic behavior of the troop and among its members. I have heard it suggested that the rhythmically plodding steps of nomadic wandering might have been one of the formative triggers for the genesis of a proto-intersubjectivity. In any event, it is by focusing on the troop's collaborative behavioral rhythms --- that predictive mindfulness rises above the creature's predictive genes.

Maybe there occurred a signing behavior of tapping out a cadence to coordinate the timing in a hunt. And maybe that tapping was repeated out of context, in a manner we describe now as drumming. And maybe that drumming behavior called forth the first intersubjective "shave and a haircut", beginning with the predictive call --- tap, tapa tap tap --- and the predictive response --- tap tap. Whatever the specific triggering behavior(s) were, the transformative leap from sign to symbol and reaction to action, engendered a qualitative shift from sign-reaction to the symbolic process of predictive intersubjective call-response interaction between now-conscious beings. It is the call and the response, in which the response in turn, becomes a call itself, that marks the emergence of the intersubjective conscious creature.

Awakening to consciousness entails a leap to meaningful language, and language behavior involves, at its root, patterned, predictive, mutuality. Signs and signals move one way only. It is the call and the predictable response that connects these creatures intersubjectively, in mind and in body.

5. The Infant's New Mind

It is difficult to imagine the exact context in which the transformation occurred among our ancestors, but we can see the process at work in child development.

We are all familiar with the idea that in embryologic development, we see much of evolutionary development mirrored in the development of the embryo --- gills and the like. In this same fashion, we can see in the development of the child, the various stages by which consciousness emerges in microcosm.

The newborn infant is not conscious, though from a genetic standpoint, it is both equipped and predisposed to acquire consciousness. At first the infant is entirely focused and reactively dependent on its mother. The mother, who is both programmed and conscious, calls forth the consciousness of the infant, and pop-psychology notwithstanding, is genetically compelled to perform the behaviors necessary accomplish this calling-forth.

This maternal calling forth process begins with rhythmic rocking. Maybe this is a substitute for the rhythmic cadence of early humans' nomadic trekking. Nevertheless, rhythmic rocking is a necessary first step toward consciousness. In the absence of some form of rhythmic stimulation, the newborn infant child is on a road to ruin.

As the infant matures, the mother engages in rhythmic vocalizations that are the immediate precursors to language. These include cooing, repetitious phrases, and singing.

Still later, the mother begins to conduct numerous predictive games. Peek-a-boo is almost universal in this regard. "Now you see me. Now you don't. Here I am!" The child is genetically predisposed to be enthralled by this game in much the same way that a young bird-chick is predisposed to "practice" flying.

As the child is increasingly immersed in rhythms and predictive play, the mother begins to call forth the world by naming others in relation and worldly objects in relation. The sound "daddy" begets affection (we hope), the jack-in-the-box pops out when the weasel goes "pop". Adorations and praise follow upon the heels of first words and correct predictions. And so the child is awakened to a symbolic world of theory in which the meaning of things is engendered in cause and effect relationships --- reliably and predictably.

To place this picture of the process of emergence of consciousness in microcosm in the context of Nixon's crisis of mortal knowledge, we might ask ourselves how the very same crisis awareness emerges in human development. Since I have not come across any academic literature that correlates anticipatory death terror with developmental age, I can only speculate. It seems to me that the terror engendered by the anticipation of one's eventual death develops quite slowly over the course of a lifetime. In the consciousness of young children, the inevitability of death is usually addressed in curiosity and incomprehension. When will I die and how long will I live? How long is that? What might it feel like? Like sleeping? Later comes the familiar fearless and altruistic fantasies and acting-out of pre-pubescence. In adolescence and early adulthood, the prevailing consciousness engenders a sense of invincibility that is universally recognized as producing good soldiers. It is in the consciousness of old age that the terror of our inevitable death becomes fully realized. I can only wonder, was the consciousness emergent among our hominid precursors more like that of the young or the old?

Common sense tells us that the child acquires the name for things, categorizes them and thereafter, organizes them into predictive theoretical relationships. As difficult as it may be to grasp this idea,

the situation is actually the opposite. The child experiences everything in relation --- in predictive interaction with the world --- and names things in order to clothe relation with symbolic objects (objectification). In this process, the child undergoes a transformation from a behaving creature that reacts to the world to a predictive intentional actor who acts upon the world. We see that theory (as prediction) precedes data. It is all relation in prediction and there can be no data and no "things" without theory. The narrative begins in theory and is fleshed out with data.

The narrative of relation that Nixon describes as mythical is indeed sacred, because it transcends the data points. It binds the whole together as sensible and meaningful. The infant, first awakened, comes forth in consciousness with a *Weltanschauung* that renders the whole world sensible and meaningful. That theory, which embraces everything, will become transformed again and again in a lifetime of symbolic revolutions instigated by predictive anomalies revealed in ongoing interactive relations with others and in relation with the world. In this process of "learning", better called "knowledge creation", the circle of conscious, active experience widens from interdependence with significant others, to becoming a player among the tribe of generalized others, to becoming a self that is instrumental in relation to other instrumental selves. The fuzzy self resolves into ever-sharpening focus. Horizons grow broader. The data proliferates. The narrative is extended. Elaboration is the rule, and in any individual's lifetime, paradigmatic shifts are rarities of apocalyptic proportions.

6. The Tribal-Centric Mind

In turning back to our ancestral troop of wandering hominids, we can accept that, unlike the infant's awakening over a period of three to five years, the embryonic development of consciousness among these wandering apes took many generations, but the process of awakening was the same.

Consciousness was first realized in relation to the group as a whole, and this marks the transformation of the troop to tribe. The tribal being was founded in the rhythms and patterns of day-to-day life. The individual may have been self-aware, but in a dimmer sense than we rugged individualists experience today. He and she were immersed in, and entirely dependent upon, the tribe as a whole. Individual relation was bound into the tribal relation with the world and the ongoing challenges presented by that world. Individuals did not act individually. All was call and response --- all was RESPONSE--ABILITY. Every enterprise was a collaboration guided by the shared aims that represented the foundation of tribal-centric conscious intention.

This does not mean that individuals did not come into conflict with one another. This was no utopia. In the course of enterprising action, in purpose and by happenstance, an individual might obstruct another's intentional action. The synchronization of mutual action is momentarily interrupted in crossed purposes. A drummer changes up the timing. Mutual prediction fails. The failure is noted and the anomaly is reconciled on the basis of culturally defined norms and in innovative revision of narrative. The beat and cadence must be reestablished. The integrity and continuity of the tribe stands paramount. Survival hangs in the balance. The beat goes on.

As was mentioned in the discussion of child development, and as Nixon asserts, language as a theoretic construct, is emergent as a whole. There is a tribal *Weltanschauung* that is embodied in its narrative that is populated with those worldly events and objects that are relevant to the tribe and those artifacts of tribal industry that RE-present the tribal identity. This is the ever-emergent tribal culture that constitutes the tribal bandwidth realized not just in physical/behavioral relations as before, but now in self-constructed conscious relation that overlays it all. The data points that populate the symbolic linguistic whole are elaborated and refined over time, but the overall tribal

worldview --- the narrative relation --- can only be overthrown in revolutionary conflict spawned by overwhelming anomaly.

In tribal consciousness, the problems of personal mortality are of no great consequence. The tribe is the world, now, in the past, and in the future. The individual was born of the tribe and will continue as the tribe, so long as there is the tribe. We may call this a sacred awareness, but to the tribe there is no distinction between sacred and non-sacred. The world is whole and, in sacred relation, the tribal narrative encompasses that world. The tribe's mythic narrative is a "theory of everything".

7. Shock and Awe

In contrast to Nixon's mortal knowledge thesis, I have asserted that conscious emerges from rhythmic call and response behavior spawned from complex sign behavior, and that call and response is perpetuated and elaborated in language behavior in ongoing intersubjective inter—ACTION. The faculty of symbolic interaction (language behavior) enables the construction of a shared predictive/theoretical narrative --- a socially constructed reality --- that functions to produce coordinated, collaborative, intentional (meaningful), and innovative, action among members of the fundamentally the eusocial human species.

Central to Nixon's problem is that he invokes an essentially emotional response --- a shock and awe -- - with respect to mortal knowledge. He can only support this by resorting to a categorization of emotional experience.

Nixon says,

We consciously experience all emotions, especially the "higher" ones, through the lens of linguistic interpretation; even the basal emotions most often become transfigured or transmogrified through cultural experience.

Nixon is forced to create a hierarchy of "basal" to "higher" emotions and suggests that basal emotions are "transfigured" by cultural experience. It is more useful to think of emotional experience as a function of consciousness.

We interpret what we observe in the behavior of non-symbolic mega-fauna as emotional, but this is an error of anthropomorphism. Feeling and emotion are not one in the same. "Arousal/placidity and fight or flight" as well as pain and the feelings of threat and disorientation that occur upon the loss of a nurturing parent, are not emotions, basal or otherwise. They are genetically programmed behavioral responses honed over the millennia by the process of natural selection. Humans also possess these genetically programmed feeling responses, but it is not until the awakening to consciousness that they become "transmogrified" into the emotional.

Non-symbolic creatures do not anticipate death and therefore, cannot fear it. The symbolic concept of death, in the context of theoretic-relational narrative, must become reified before it can be felt as feared. This process of reification is the symbolic aspect that differentiates emotional experience from genetically programmed feeling experience.

Having confounded the concept of emotion, Nixon writes about "emotionally-based" knowledge and the ushering in of "theoretic culture".

However, emotionally-based "knowledge" is the defining factor of what Donald (1991) labels as mythic culture, the first cultural stage of humanity after language acquisition but before mass written

literacy. Such literacy — with the addition of the experimental method and logical skepticism — ushers in theoretic culture. The latter is apparently where we are now, but it must be pointed out that mythic thinking is still rife amongst us, especially when we use concepts for metaphysical ideas or experiences that have no referents in the real world before

It is more useful to discard Nixon's distinctions. Once the predictive mind is awakened, the admixture that is genetic and symbolic is irreducibly present in the experience and knowing of all conscious creatures, including those who practice the disciplines of experimental method and logical skepticism. It is not helpful to suggest that there is a mythic mind that stands in opposition to a theoretic mind. The mythic narrative is theoretic and the theoretic is mythic. As in the case of the infant that awakens to consciousness, the world of which we are conscious, in relation, is whole. The mythic mind and logical mind, emergent in interaction are not only inseparable; they are one in the same in the symbolic process of narrative that is creatively populated with worldly "facts" in temporal-causal relation.

Earlier I suggested a set of preconditions that set the stage for an awakening to consciousness. The conditions allowed for a transition from genetically programmed predictive behavior to socially constructed predictive action that was rooted in rhythmic relations among members of troops-become-tribes. The explanation I propose drives the awakening in terms of selective pressures that favor increasingly efficacious prediction.

Nixon also speculates as to the conditions that might account for an awakening, but uses a different approach.

He suggests that bipedalism is necessary but not qualitatively different from other adaptive events. Tools, he suggests, are not clearly and exclusively characteristic of conscious beings.

The mastery of fire, he says, seems to represent a definitive milestone.

With this accomplishment — and it was an accomplishment — humankind irrevocably distinguished itself from all other animals.

Yet fire itself must have been a very familiar and unremarkable phenomenon to all living creatures and selection surely favored those that could turn this common event to their advantage by way of their genetic programming and, for the conscious, symbolic constructions.

Nixon argues, again from the psychological, that the characteristics of fire inspire a mystical awakening. I would suggest that in consciousness, the ethereal nature of fire may very well fan the flames of the imagination, but its magical powers were on par with the other forces of nature that came to populate the mythic narrative that constituted emerging consciousness.

Nixon writes,

There are few sacred rituals that did not involve fire in some form...

I would suggest that it was not the fire that kindled the mind but rather the drumming and dancing around the fire that kindled the imaginative mystical reverence for fire.

Moving forward toward the death crisis, Nixon interprets Giegerich, saying,

...early hunting with weapons was 'unnatural' for our ancestors, no matter what species they may have been. The act was a decisive break with nature whose importance became underlined when human culture became more settled with pastoral or agricultural pursuits and still found the need for blood sacrifices to reawaken the shock of death.

And,

The life crisis that arises with the realisation that the struggle to survive is always doomed to failure can only be cataclysmic.

And in addressing the problem of an emotional response to death awareness as a trigger to conscious awakening,

...this existential crisis was concomitant upon the also dawning awareness of oneself as a unique experiencing entity.

He concludes,

Egocentric consciousness is the polarity of death consciousness, each inside the other: The self is founded with death at its core.

I do not find Nixon's thesis regarding egocentric awareness of mortality either necessary or compelling.

As I have explained, the emergence of tribal-centric consciousness in which the individual self is fully realized is not only consistent with a definition of consciousness, but it is the essence of consciousness that, Nixon and I agree, emerges in symbolic interaction among eusocial creatures. The immersion of the self in relation to a larger causal narrative that embodies tribal identity, takes precedence and this remains true today in the emergence of consciousness that can be observed in child development.

If I am correct in suggesting that Nixon's crisis of mortal knowledge is an epiphenomenon of conscious rather than causal or even concomitant with the emergence of consciousness, and that the awareness of mortal knowledge was not a fearsome prospect to tribal-centric conscious beings, how might we explain the emotional angst that consciousness inspires in ourselves?

To begin, I would like to suggest that IF mortal knowledge constituted a conscious-generating existential crisis as explained by Nixon, it unlikely that the faculty of consciousness would have survived the challenges of the evolutionary selection process.

Mythic-sacred narrative and shamanic ritual notwithstanding, egocentric reflection and the fear thus engendered, would have undermined tribal action to a debilitating degree. What was the suicide rate among our earliest conscious ancestors?

It is more reasonable to speculate that the self that was called forth to consciousness by the tribe, was so embedded in mythic relation to the whole of the tribe, that individual mortality was writ into consciousness and mythic narrative in a fashion that engendered the ongoing continuity of self in the same sense that the tribe itself was ongoing and self-renewing. The experience of the individual as ongoing was not an intellectual rationalization. It was a lived reality.

But this argument doesn't answer the question of how the reification of the concept of death produces the anticipatory-predictive, emotional terror we know today.

Previously, I discussed the behavioral and physiological conditions that set the stage for the emergence of consciousness. Salient among these was a nomadic lifestyle that enhanced opportunity and provided the rhythmic template for intersubjective experience.

Exact numbers are not necessary, but conservatively speaking, we can place the emergence of the symbolic, language-using, *Homo sapiens* at around 150,000 years ago. When regarded as a whole, their physiology, flexible sociality, predictive powers, and nomadic lifestyle, enabled them to take advantage of an increasingly broad territorial range, resulting in their spread across the planet.

Thus far the behavioral constellation of the species *Homo sapiens* --- eusocial, nomadic, intersubjective, predictive --- represents a relatively short-lived evolutionary experiment. Over a period of about 140,000 years, their behavioral constellation remained relatively constant. As populations increased beyond tribal carrying capacity that was bounded by the constraints of nomadic movement, hunting and foraging technologies, and member socialization and enculturation processes, new tribe tribes were spawned and migrated along ecological fall-lines to eventually encircle the planet.

For 140,000 years, the success formula of *Homo sapiens* produced an explosive increase in range rather than numbers. The quest for territory needed to sustain each newly emergent nomadic, hunting-gathering tribe created a pressure that favored range over numbers, yet success inevitably produces the seeds of its own failure.

Estimates vary regarding the beginnings of the cultural transformation from a nomadic to agrarian, location-dependent, lifestyle, ranging from 10,000 years ago in the Americas to about 5,000 years ago in the Mesopotamian region. This transformation must be regarded as revolutionary (cultural) rather than evolutionary (genetic). Given certain conditions such as location, soils, weather and range limits, among others, some tribes, in their flexible and innovative symbolic, tribal-centric consciousness, were able to more efficiently exploit local resources and thus increase the carrying capacity of their particular niche.

This revolution in lifestyle, from nomadic to location-dependence, transformed the modes of relation from those of tribal interdependence in which self-identify was bound into relation with others, to tribal dependence on land and tools that spawned a self-centered, object-centric, identity. In other words, the symbolic reality --- the self constructed mythic narrative --- became transformed from intersubjective call and response relation to relation with THINGS that are incapable of response, but nonetheless, imbued with socially constructed meaning. Although we can never shed our call and response roots, from this point forward the process by which intersubjective relation begets objective relation increases at an increasing rate.

The definition of "success" must always include an answer the question, by what measure? The 140,000-year experiment with tribal-centric consciousness produced a stunningly rapid expansion of range for *Homo sapiens*. The most recent 10,000 year experiment in which object-centric consciousness, a cultural product realized in intersubjective relation, produces increasing economic efficiencies at an exponentially increasing rate, has resulted in a stunningly rapid expansion of population. While the jury is still out with respect to tribal-centric consciousness, the evidence hasn't even been fully heard with respect to object-centric consciousness.

So what shall we say about Nixon's crisis of mortal knowledge?

In the tribal-centric reality that was predominantly intersubjective, the call and response rhythms of everyday experience produced an ongoing process, without beginnings or ends. In the mythic narrative of the aboriginal peoples of Australia this is rendered by observers today as, "The Songlines", in which the "human beings" are continually calling-forth the world in song (rhythmic sacred narrative). We might ask if tribal-centric people --- "The People" --- were fully conscious in the sense put forth in Nixon's articles and in this commentary. I would answer that these tribal beings were not only fully conscious, but in some ways, were even more fully conscious than those I have called here, the object-centric knowers, who emerged from tribal-centric peoples a mere 10,000 years ago.

The object-centered people have realized remarkable achievements in their pursuance of material wellbeing. The impetus toward such material achievement is rooted in the axiomatic drive to survive and reproduce, and has been realized in the increasingly efficient exploitation of the faculty of consciousness. Excess productive capacity and the resulting accumulation of material wealth, provided a compellingly attractive survival buffer that could not be realized in nomadic, tribal-centric, relation. On the other hand, increasingly object-centric relations produced a reality in which un-response-ABLE "things" have beginnings and ends and can be gained and lost. Call and response relations become focused, not on the collaborative process of surviving, but upon the accumulation of a reservoir of things whose numbers can be "accounted" for in terms of wealth.

From a developmental standpoint, tribal-centric and object-centric consciousness, emerge along the same path. We are all called forth by the tribe, and in intersubjective symbolic interaction, we all become actors in the call and response dance. But in the object-centered culture, constructed in mythic narrative, the world of relation is transformed into a world made up of objective, means-to-ends instrumentalities. In a process of increasingly abstracted reification, even the conceptual takes on the symbolic qualities of thingness --- physically and temporally bounded, intentionally caused, and defined in terms of intrinsic instrumental value (ideology). Most important among these constructed "things" is the self that is physically and temporally bounded, caused, and instrumental.

The terror inspired by the anticipation-prediction of the loss of the thing called "I", only emerges in the context of "I" as "thing", and this does not occur until the object-centric mythic narrative emerges in the context of a sedentary, property-centered, object-oriented, lifestyle.

There can be no doubt that individuals among nomadic, tribal-centric people, experienced feelings of fear when confronted with the prospect of personal annihilation, and as a general rule, behaved with the intention to postpone that event as long as possible. Such feelings of fear and accompanying physiological responses are built into all organisms. There can also be little doubt that Homo sapiens shares with other complex organisms, the genetic predisposition to subordinate their individual survival to the survival of their progeny. But in socially constructed tribal-centric consciousness, it was the threat to the continuity of the tribe that provoked anticipatory mortal terror, because it was the tribe, as a lived reality, that was the principal wellspring of selfhood and the guarantor of the survival of individuals and their progeny.

8. The Jury is Still Out

Homo sapiens emerged as a conscious creature in the context of a particular set of happenstance circumstances in a particular time and place. The faculty of consciousness by which the existentially experienced came to be overlaid by a socially constructed, symbolic and temporally predictive narrative in the context of patterns bounded by the creature's sensorial bandwidth, emerged from

rhythmic, intersubjective mutuality that transformed sign behavior into predictive, call and response behavior. For at least 140,000 years, consciousness was essentially tribal-centric. In all respects, the individual's lived experience was immersed in and supported by a mythic-sacred narrative of tribal identity that was constructed, renewed, and continually transformed in the context of their nomadic lifestyle.

Beginning a mere 10,000 years ago, opportunistic conditions and conscious behavior converged to permit some tribes to cease their wandering ways and establish permanent residence upon some lands. In the context of this new lifestyle, there occurred a symbolic narrative revolution in which intersubjective tribal call and response relation took a backseat to relations of "objective" property. This new lifestyle gave rise to the construction of an object-centric mythic narrative in which the individual became one of many bounded worldly objects defined in terms of opposition. The object-centric creature lives within the tribal-centric creature that lives within the genetically shaped creature. These forces, acting as a whole in the context of the world here and now, constitute the conscious creature we currently call "us".

How are we doing? Only time will tell.

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