

## **You are an Emergent Phenomenon**

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You have probably heard the nature versus nurture debate: are we more a product of our genes or our upbringing? Whichever side you chose, I am afraid to say, you couldn't win that debate. That debate has been sidelined by new scientific developments, we now understand that our genes do give us considerable pre-dispositions, and upbringing certainly matters (though not always in the way we think it does), but both then contribute to something new and emergent, that something is you, you are a remarkable phenomena of the unfolding universe! Amazingly, biologists tell us life is far more remarkable than we dreamed.

Professor Mark Heim invited me to guest lecture for his ANTS class on Scientific Thought and Christian Theology last week. We discussed how biology impacts our ideas about the nature of being human, and how that impacts our thoughts about God. Most classical theology is built upon the same foundation as classical biology; if you reach back more than 150 years there was precious little else to build upon. However with the rise of evolutionary biology in the late 19<sup>th</sup> century, we moved from a static world view (where human nature is fixed for all time and God is perfect and unchanging) to a view that assumes constant change and dynamic adaptation. As Charles Darwin concluded in his *Origin of the Species*: "Judging from the past, we may safely infer that not one living species will transmit its unaltered likeness to a distant future. And of the species now living, very few will transmit progeny of any kind to a far distant future; for the manner in which all organic beings are grouped, shows that the greater number of species in each genus, and all the species in many genera, have left no descendants, but have become utterly extinct...while this planet has gone on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful have been, and are being evolved." Evolution dethroned the static worldview and replaced it with perpetual change. Thank God for evolution! It makes humans one with all life, destroying any sense of a special creation and a uniquely human relationship with God. Instead we become part of this awesome explosion of life on this planet earth, completely within this amazingly complex unfolding of the universe.

I understand why some Christian fundamentalists, raised as they were upon classical theology, co-dependent on classical biological thought, have chosen to fight the teaching of evolution in the schools, offering up instead a non-scientific Creationism that affirms the unchanging nature of God and human dominion over all the earth. It is a lot to give up. But rather than fight that 19<sup>th</sup> century battle over which world view best describes our reality, we need to recognize that there have been at least three more scientific revolutions in biological thought in the last 100

years. Talking about human nature, without understanding emerging world views, is like trying to win the nature/nurture debate, both fruitless and incomplete.

Molecular Biology dominated biological thought in the second half of the 20<sup>th</sup> century. From Watson and Crick discerning the double helix, it was less than a generation before we were treating previously untreatable diseases and extending human life by more than a decade. Scientists have now completely mapped the human genome, as well as the genomes of many other species of animals, and were surprised to find that the blueprint of life tells them less than half the story, at least half of what it means to be human comes from our non-material experiences of living, from our accumulated human culture, and from our co-participation in the unfolding of the universe. Autopoiesis, first scientifically described in 1973, which are self-creating, self-organizing, and self-sustaining organisms, whether human cells, humans, societies, ecosystems, the earth, or the universe, changes forever any potential description of God in an interdependent universe. Debates about nature versus nurture, or genetic determinism versus free will, have gradually given way to more nuanced discussions of our bounded freedoms and our moral choices. What does it mean to be an individual? Can we be fully human only in groups?

In the last 25 years, systems biology has grown to be the dominant metaphor for describing the nature of life. Life is still survival of the fittest, but fitness is always provisional, context dependent, and adaptive. Biological systems naturally organize themselves into nested hierarchies that are interdependent and mutually reinforcing. Those trained in the second law of thermodynamics resulting in entropy, like scientist Terrance Deacon, declare that: “when spontaneous processes like the complex adaptive functions of living bodies tend to produce increasing orderliness, complex interdependencies, and designs that are precisely correlated and matched one to another and the world, we can be excused for being just a little mystified... When introspection confronts us with the everyday experience of living in a world of representations, anticipations, and efforts to mobilize energy to alter future conditions, we can perhaps be forgiven for treating this as magic, imported from another non-material realm. There is the dead, uncaring world and its rules, and the living, feeling world and its rules, and the two seem to be quite contradictory.” Life is an emergent property, so the parts can never fully explain the whole, life is so much richer and fuller than the sum of our actions. Perhaps many of us come to this community to discover how to spend more of our time in the living feeling world of awareness, and far less in that dead uncaring world that creeps upon us unawares.

New questions scientists dared not address have now been thrust upon them. David Hay, a British zoologist, did a survey of people’s religious or spiritual experiences in the year 2000. He found 76% of people have had a deep spiritual experience. The most commonly reported is synchronicity, a spontaneous patterning of life events. He gives one example of a woman challenging God, she writes: “While walking home one dark night I reflected how my search [for

God] was going and, rather sadly, [I] felt that, like Thomas, I must have proof and without that I would have to say that I did not believe in God. Deep in thought, I looked up at the sky, which was filled with hundreds of stars. Wildly, I threw a silent call upwards, 'Prove It!' Hardly had the words formed than a bright star sped across the sky. Before it died away, another star had begun to traverse the darkness. And there, just for a moment, an enormous cross blazed in the heavens like a personal signature. I was filled with awe and a certain terror at the power I saw unleashed..." For its meaning, synchronicity is context and culturally dependent. Less common are the mystics, those with a direct experience of the palpable presence of God numbered just 38% of people. Rev. Martha and I have both experienced mystical experiences, but we fully understand that 62% of you may remain skeptical. Here is a typical mystical experience told to the zoologist Hay: "My father used to take the family for a walk on Sunday evenings. On one such walk, we wandered across a narrow path through a field of high, ripe corn. I lagged behind, and found myself alone. Suddenly heaven blazed upon me. I was enveloped in golden light, I was conscious of a presence, so kind, so loving, so bright, so consoling, so commanding, existing apart from me but so close. I heard no sound. But words fell into my mind quite clearly – 'Everything is all right. Everybody will be all right.'" If scientific theories are intended to fit the largest universe of observations possible, biologists must begin to make sense of human experience, in all of its improbability.

The current revolution in biology revolves around emergent biology. Emergence is defined as the arising of novel and coherent structures, patterns and properties during the process of self-organization (or autopoiesis) of complex systems. It is seen all around us, in the emergence of the color spectrum in light; the emergence from sodium (a flammable metal) and chlorine (a toxic gas) to form salt (that necessary ingredient to foster life). Life itself is an emergent property of the unfolding interconnected and interdependent universe. Our awe at rainbows and sunsets is an emergent property, with absolutely no evolutionary value, but is simply an increase in the joy experienced in the universe. Human beings in general, and human consciousness in particular, are a flowering forth of life's growing diversity and complexity. In our opening words: "When one considers that the transition from *Homo erectus* the toolmaker... to *Homo sapiens* the compassionate artist and worshipper took perhaps 100,000 to 150,000 years, a mere tick on the evolutionary clock, it is clear that we are viewing a special emergence." We living in this 21<sup>st</sup> century have the joy and burden of making meaning of our lives within this unfolding consciousness of our role in the emergence of the cosmos. This paradox is comparable to the paradox of light. In the 20<sup>th</sup> century, scientists discovered that it is in the nature of light to be both individual particles and also intrinsically linked together in a wave of light passing through in a continuous stream. To focus only upon the particle or only upon the wave was to miss the nature of light. A beam of light is shaped by space time both individually and collectively. This gives us rainbows. And so it is also with the paradox of personhood. Individual personalities are real, you are the separate self you feel yourself to be, and yet we are all intrinsically

interconnected with each other, in a great wave of life passing through in a continuous stream. We individually, and life in general, are an emergent phenomenon.

Our growing sense of emergence has already changed the way many people think about the self; we are not only individuals but rather are part of collections of human beings that we call family, or community, neighbors or nation, sentient beings or co-participants in the unfolding of the universe. How do you behave differently if you recognize your role as a co-participant in the unfolding of the universe, or even all life on this planet? How do we embrace the more porous boundaries between our sense of self and those selves with whom we live our lives most intimately together? The mathematician Douglas Hofstadter began to explore this emerging boundary in his 2007 book *I Am a Strange Loop*. Our second reading was his description of how long married couples come through emergence to increasingly share a sense of self such that you can even sense it by looking at them. Now my wife Loretta is of Chinese heritage, and I am of Swedish and English heritage, so it amazes me when people say that after 30 years together we have come to look more like each other. We have learned that an anxiety or struggle for either of us deeply effects the disposition and mood of both of us. We co-participate in experiencing our lives together, and so they are deeper and richer than either could be separately. How we are together deeply influences the world with which we interact. Our boundaries of self have in areas fused, but we each still have our own individual selves, while we also co-participate in a shared self that arises from our life together.

This deeply emergent principle of relationship is not confined to married people however. Alex Moot and I have been general partners together in a venture capital fund for over 13 years and the same co-participation in a shared self emerges. Rev. Martha Niebanck and I decided over three years ago to bring the emergent power of this relationship principle intentionally to our co-ministry at First Parish in Brookline. Our professional ministry partnership allows us each to be our truest individual selves, while together providing ministry that surpasses what either of us could manage alone. Over time, our individual ministries have flourished while developing a new thing which is our co-ministry together. We co-participate in a professional self that arises from our co-ministry together. This co-ministry continues to have a transformative effect upon each of us and our ministry here. This is emergent ministry!

Awareness of this interconnection of our being is described by developmental psychologist Robert Keegan as the fifth and highest evolving self for humans, that of inter-individuality and inter-penetrability of self. This is where intimacy and joy lies most openly together in long-term human relationships. It is open to anyone who can establish a deep and intimate rapport over an extended period of growth and adaptation in our lives.

The mathematician Douglas Hofstadter says that we feel this inter-penetrated sense of self within the larger community when we come to a memorial service for someone who is deeply beloved

by a large number of people. He writes: “It seems to me... that the instinctive although seldom articulated purpose of holding a funeral or memorial service is to reunite the people most intimate with the deceased, and to collectively rekindle in them all, for one last time, the special living flame that represents the essence of that beloved person, profiting directly or indirectly from the presence of one another, feeling the shared presence of that person in the brains that remain, and thus solidifying to the maximal extent possible those secondary personal [memories] that remain a flicker in all these different brains. Though the primary brain [of the deceased] has been eclipsed, there is, in those who remain and who have gathered to remember and reactivate the spirit of the departed, a collective corona that still glows. This is what human love means. The word ‘love’ cannot, thus, be separated [entirely] from the word ‘I’; the more deeply rooted the symbol for someone inside you, the greater the love, the brighter the light that remains behind.” So in this post-modern world, where scientific understanding continues to unfold with more appropriate ways to understand our deep interconnection with the cosmos, may we be willing to rethink what we thought we already knew, and re-experience reality as it is lived out in our presence, so we can be active co-participants in the unfolding life of our congregation. And may it be ever so, blessed be, Amen.