



# The Emerging Face of God

by Scott Schroder

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From all shapes of all things that exist or ever have existed in the world—blue whales, Interstate 5, the hemoglobin molecule, the self-portraiture of Frida Kahlo, the roaring floods that inundated eastern Washington when the glaciers melted at the end of the Pleistocene, the moaning mouth of your last lover—a new visage is emerging.

Antlered, thousand-eyed, incomprehensible, only the vastness of the sky can serve as its mirror—a sky populated by a thousand suns, burning the Earth with the brilliance of its many mirror images. Look on it with reverence. No human endeavor could be more noble than to behold this image, even if only for the fleeting moment before its terrible beauty blinds you: It is the face of god.

Horrified by its own immensity and complexity, horrified by the massive scale of its body and the innumerable workings therein, at the very moment this god realizes the fact of its existence it fashions a knife from the bones of extinct giants—mastodons, dire wolves, woolly rhinoceroses—and plunges it into its own breast, wishing to know no more. Then it is confronted with the difficult knowledge that it is the totality of all things and can not die.

From the haunted undulations of the song of barred owls as they press ever southward into new forests,

driving their enemies, the spotted owls, from their homes; from the keening wail of funeral singers as a body is placed on the pyre; from the sea of swelling static that lives between the channels of a radio dial, the voice of god is emerging. It can not speak in the second or third person, because its voice speaks for all things, and thus its gospel consists exclusively of self-reference.

I am a man. I have tended gardens, succumbed to madness, slept on mountains and heard their truth spoken to me in my sleep, looked with pleasure on the results of a hard day of work, raised my fist in rage. Look here on my chest and arms. I have many scars: Scars from needles, scars from knives, scars from lovers, and a scar from the branch of a madrone that grew in the Sierra Nevada. Are not these scars a few of the countless features with which the new image of the world is emerging? Is my voice not adequate to speak in some small part on behalf of god?

I say it is. Walk with me through this abundant garden, replete with forbidden pleasures and prolific with poison fruit, pregnant with multitudes of the looming half-shapes of serpents in the twilight, and I will whisper a few of god's secrets in your ear.

If a mechanism for perception could exist in any form—whether a mind, a machine, or some other unknown

entity—without preferences, it would necessarily be infinite. Because the circuitry, neural or electronic, for infinite perception does not exist, everything that perceives the world does so because it operates on a detailed set of assumptions about the nature of the world and its role in it. In artificial intelligence and cognitive psychology, this is called the frame problem: An intelligence without a great deal of innate structure can not function because the circumstances to which that intelligence must adapt are too multifarious to be learned in a single lifetime. An intelligence must be given a "frame" to operate with, an innate knowledge that objects are solid, that something thrown into the air will fall back to the ground, or in the case of a computer, specific programs that already know the English alphabet and how to square a number.

An intelligence's innate assumptions are specifically tailored to allow it to serve a particular function. The function humans and all other organisms have developed to perform is survival. We perceive the world according to a set of biases that have favored persistence in the ecological niche of our ancestors throughout time. Our differences in perception from other animals are not just based on our greater cognitive capacity. They are differences resulting from the different modes of survival we have engaged in throughout time. Our morals are thus human morals. They are not universal or absolute. Were a solitary carnivore such as the lynx or a species with a harem mating system such as the elephant seal to develop our intelligence, they would write laws that would differ from our own.

Awestruck, you stand in the trembling garden and your hand reaches out to touch the flower, its petals blushing crimson in shy apprehension at your affection—but your blood runs cold when you see the serpent coiled at its stalk. Neither serpent nor flower are any better or worse than one another by any objective measure, but your blood remembers all of the bites inflicted on your ancestors by serpents.

All sense of morality, all the various modes of social organization—every way in which humans have ever come together and everything for which humans have bled—has as its basis in the inborn sensibilities that

evolution favored in our ancestors as they clung to their precarious foraging existences in Mother Africa. Nothing is right or wrong by any other criteria. Defining morality as the evolutionary contingency it is in no sense diminishes its significance. It strengthens the powerful mandate of morals by giving them a plausible explanation, albeit one relative to our species: It may be wrong for a human father to abandon his child, but it would be equally wrong for a wolverine father to remain with his.

The evolution of all morality, subject to the intricacies of our ancestral ecological circumstances, flourishes or dies exclusively by the determining factor of whether or not it enhances an individual's survival and reproduction. But now, it has done its job: We are a tribe seven billion strong. The cause of the proliferation of our species is no longer a cause worth serving. What remains?



I propose a new morality, which does not attempt to intercede in the affairs that our evolved moral sensibilities respond to, but rather to establish itself in territory previously lacking jurisdiction. It is not the result of our species' unique evolutionary history—it could be conceived of and adhered to by wolverines, piping plovers, or African clawed frogs if they developed the cognitive capacity for such reflection. It is not a system of allegiances and aversions that is ultimately a proxy for biological success; rather, it is an attempt to acknowledge what is

ultimately, objectively right and wrong. It is a truth for which no wars have been fought, no slogans screamed in futile courage as guns roared and forever robbed an oncoming mass of life, a principle whose violation has never caused a single noose to be fashioned.

I propose that we acknowledge that no greater duty exists than to preserve the beautiful and ever-increasing complexity of the universe as it progresses along its course toward an unknown end.

Does the universe exist toward an end? From the very moment of its conception from whatever unknowable formlessness it sprang, it has been progressing along a consistent and accelerating course. That course is one of ever-greater complexity, an ever-larger set of interrelated phenomena which as a result of their

dynamic interaction have emergent properties that are more than the sum of their parts. God heaves mountains from its breast only to beat them down with storms, god gives birth to suns and kills them—but from this agonizing tumult new patterns slowly emerge.

Slowly, the mountain is gaining the knowledge that its enemy, the sky, is a part of its own body. God is becoming aware of itself, knowing that it is god. Look on this ship which has been driven here from some distant foreign shore, wracked by the wind and wrecked on the hard rocks with which your homeland boldly rises up in defiance of the sea. Do you recall that it was your hand, the waves, that broke its fragile timbers? Do you feel the ground shuddering beneath you in a moment of self-recognition as it bears your weight?

Whatever there was before the universe came into existence 14 billion years ago, it is a very safe assumption that it had no antecedent or discernible mechanism within that framework of non-existence that preceded it. Then, four billion years ago, life emerged. As life developed properties emerged from it that were fundamentally distinct from those possessed by non-living matter. No scrutiny of the behavior of the molecules that inhabited earth's primordial chaos previous to the formation of life could have informed a hypothetical observer of the characteristic attributes that life would possess. These dynamic characteristics were the result of the unprecedented integrated complexity with which matter began to behave as it began to replicate and incorporate previously separate molecules into its structure.

The process continued. As life grew more complex, it took on new properties which had no precedent whatsoever, such as consciousness, a phenomenon whose existence could not have been predicted even if some hypothetical entity were observing evolution and could imagine nervous systems developing the centralization, scale, and complexity they exhibit in ravens, dolphins, humans, and other such creatures. Despite that it would have been inconceivable even within the most sophisticated model of evolution that could have existed previous to it, consciousness did, in fact, develop. For the first time, matter became aware of itself. The universe began to know that it existed.

Of course, cultural evolution continued this process. Because we are at the center of the whirling maelstrom of human innovation and cultural development that currently races across the globe, it is

difficult for us to perceive its full dimensions. But viewed from the perspective of an objective taxonomy that classifies phenomena only by their degree of integrated complexity and the novel properties that arise from unprecedented complexity, human industry mirrors the birth of the universe, the emergence of life, and the emergence of the subjective world. Disembodied voices speak on invisible waves that move through the air; metal rises up out of the ground and forms shapes that race over earth's surface; the world both exists and exists in numerous representations, such as this writing, or the lyrics of the Soviet national anthem, or Rodin's "The Thinker," which inevitably vary to some extent from the actual world they represent. From such an objective taxonomy, human endeavor can be said simply to have made the world more complex.

In short, everything that has ever happened may be summarized as a process of developing complexity and the emergence of unprecedented phenomena whenever that complexity crosses certain thresholds. On what basis should we assume that this process has come to an end? It is entirely inadequate to say that we can assume we have reached the terminal point of the universe's evolution simply because we see no territory in which to venture further. That is the very nature of this process: The dynamics that manifest when a threshold is crossed can never be anticipated or comprehended through analysis of conditions below the threshold.

It may reasonably be said that the universe has an objective, or at least a direction, a state toward which it is moving. I would suggest that the further development of the shape of the world is a matter of far greater significance than any other thing for which one might be compelled to fight and die, however good and wholly worth fighting for they are, whether happiness, bread, or freedom.

To date, I would say that the only entity that has responded to the moral imperative to defend the world's evolving complexity has been the environmental movement. In *A Sand County Almanac*, Aldo Leopold famously wrote that "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

Leopold's proclamation is the profound, concise, unimpeachable truth. However, just as the web of life manifests the universe's ever-growing complexity, so too does the human industry that annihilates life. We must then turn ourselves to an even greater task than

destroying civilization: We must make it revere nature.

We should think of our duty, incomprehensible in its enormity, as allowing the structure of the universe to continue developing along whatever unknown path it is taking. We should preserve the upside-down jellyfish because it reproduces sexually during part of its life and asexually during another. We should preserve the island of Vanuatu for its astonishing per capita linguistic diversity of 120 languages spoken by a mere 200,000 people. We should preserve Switzerland for its mountains and its particle accelerator living deep beneath the ground.

The path is replete with perilous uncertainty. In practice, things must of necessity advance and take shape at the expense of alternate configurations. Languages are spoken now because all the languages that preceded them are lost. The species that populate the earth now are the tiny fraction that survived history, the fraction that only exists as a result of the extinction of so many others.



Globalization and its consequent cultural homogenization provide an example. Obviously, humanity's prolific diversity is being lost in terms of the languages we speak, the distinct and mutually irreconcilable beliefs we hold, etc. However, it is not accurate to say simply that globalization is reducing the overall complexity of human behavior. Within the single vast monolith of modern culture that is encompassing the globe, there is far more capacity for complex variation than there is in a traditional, smaller-scale culture. A relatively small area of Papua New Guinea hosts a breathtaking diversity of languages and cultures, each with its own style of music. However, a similar area of the United States, while ostensibly only populated by one or a few cultures, might host people making or at least listening to experimental jazz, harsh noise, radio pop, breakbeat, classic rock, horrorcore rap, and show tunes, to name a very few.

While the complexity of human culture is thus diminishing in certain respects, it is also increasing in others. And these different types of complexity—the existence of distinct human groups and the existence of a united human group with much inner variation—seem inevitably to exist at the expense of one another. What is the "right" way forward? What direction

facilitates the emergence of the next echelon of reality from human created complexity? I frankly and simply confess that I do not know.

But we can not shy away from such questions—and there are many—in deference to some abstract externality called nature we wish to allow to take its course. We are nature, and the future shape of the world will inevitably be determined by our deliberate actions just as it has been determined by random mutations in DNA for the last four billion years. Whether we would have wished for such responsibility or not, we are the next great force that must do its work on earth.

What is of utmost significance at the moment is simply to acknowledge our duty to complexity and its emergent properties, to establish this additional framework for discussing the world's affairs. Such a paradigm exists in utter opposition to the stupid and small-minded greed of the world economic engine that bends all life to the frivolous will of its masters, erasing biological and cultural diversity for the sake of allowing a select few to accumulate

more and more trinkets.

But these morals I advocate also do not embrace simple anachronism and the preservation of the world—whether the biological world in general or the human cultural world—in any static state where it hypothetically resided in the past. Rather, they seek to embrace the reality of dynamic change and our central role in it.

And what, exactly, will happen? What new attributes will emerge when complexity crosses its next threshold? We do not know -- by definition, it is inconceivable at the present moment. It is worth noting, however, that the time scales at which unprecedented phenomena are developing are decreasing radically with each interval. If, for instance we take the duration between the beginning of the universe 14 billion years ago and the beginning of life 4 billion years, we find an impressively substantial gap of 10 billion years. If we take the emergence of the human mind, with all its complex symbolism, which happened over the last couple million years, and the advent of complex industry and environmental manipulation, which began with agriculture 10,000 years ago, we find a vastly reduced interval. Everything is accelerating because all changes

emerge from existing complexity. Thresholds will be crossed faster and faster.

It is fair to engage in some speculation about the future so long as it is acknowledged to be only that, pure and wanton speculation. In general, I believe it can be assumed that the world will tend toward sentience at a greater scale, which integrates physically disparate objects.

There is, of course, no known way that a single sentience could encompass two distinct organisms, or multiple organisms and aspects of their abiotic environment. But that is precisely the nature of the phenomena that emerge from complexity when it crosses a given threshold: Something exists that could never before have been predicted through observation of the previous order.

The argument for a vaster sentience is founded on the similarity between trends in biological evolution and in cultural evolution. In the development of organisms, the progression is from single molecules to aggregates of molecules to single cells to large aggregates of cells living in functional organisms to large aggregates of organisms living in functional groups. Human culture is likewise growing in scale and becoming more cohesive.

Perhaps all life is tending in the direction of becoming a single superorganism, with one self-aware mind and one purpose, monstrous in size, sensing everything that happens around the world with innumerable antennae, scales, wings, fur, and eyes, in water, land, and air alike. The merging of organisms has certainly happened in the past. The mitochondria within our cells, which convert the food we eat into biologically available energy, were once a separate, symbiotic bacteria. In addition to DNA in its nucleus, each of our cells still carries mitochondrial DNA.

This process of biological merging is perhaps being

initiated with the domestication of plants and animals, something only humans and insects do. It may also be thought of as occurring anytime humans speak of managing or protecting wild populations of other species. It does not really matter whether it is an industrial forester managing their tree rotations for the highest possible yields—thinking of the wild population purely in terms of its potential to satisfy the forester's own immediate needs—or an activist locking their neck to a tractor to prevent it from cutting down a tree, who thinks of the forest as something with an innate right to exist. In either case, the individual is actively taking a role in determining the fate of other organisms, thus entwining their genetic interests. When genetic interests begin to very closely coincide, we see things like symbiotic bacteria assimilated as mitochondria, or the formation of social structure in a population of separate organisms. All things are growing into a single body.

Other possibilities abound in wild, prolific confusion. All of the information we produce may reach a critical density where it becomes self-organizing and develops some capacity for autonomous behavior. Or our symbolic world may in some sense become more real. None of these scenarios are irreconcilable with one another and all of them are ridiculous. It is impossible for the next echelon of reality to seem plausible in this one.

Nonetheless, I look to those distant horizons in wonder and horror. Languages, organisms, cultures, all have come and gone, each one a mask that god wears for awhile before discarding it. But as the individual permutations come and go, new patterns do begin to emerge: The masks begin to conceal less and less of god's face beneath them. Someday, we will watch the last one slip away, and at that moment we will feel for the first time that a mask is slipping away from our own faces.