The Evolutionary Perspective

The conflict dates from the day when one man, flying in the face of appearance, perceived that the forces of nature are no more unalterably fixed in their orbits than the stars themselves, but that their serene arrangement around us depicts the flow of a tremendous tide—the day on which a first voice rang out, crying to Mankind peacefully slumbering on the raft of earth, "We are moving! We are going forward!"

It is a pleasant and dramatic spectacle, that of Mankind divided to its very depths into two irrevocably opposed camps—one looking toward the horizon and proclaiming with all its newfound faith, "We are moving," and the other, without shifting its position, obstinately maintaining, "Nothing changes. We are not moving at all."

—PIERRE TEILHARD DE CHARDIN,
THE FUTURE OF MAN

If one of the things that ails us is fragmentation of perspective and constriction of vision, one antidote is to step back, take a deep breath, and consider our situation from a wider, more integrated vantage point—an evolutionary perspective. This helps us frame our current circumstances within a much larger trajectory of time and life.

Evolutionary theory, in strictly biological terms, is grounded in many specific observations about the fossil record, genetic mutations, and adaptations to changing environments. But the larger pattern of discoveries consistently paints an arc of development—over the longest spans of time—from simpler, less conscious and cooperative life forms to more conscious, complex, and cooperative ones.

Thus far, we have only observed life on planet Earth. But we know that the planet itself displays its own evolutionary arc—from simpler to more complex combinations of matter and energy.

Today's scientific consensus is that there was a "Big Bang" some 13.8 billion years ago, as space, time, matter, and energy exploded into existence. Over vast eons, this matter/energy self-organized into atoms, molecules, stars, planets, and other celestial entities. It formed large communities of star systems called galaxies; some of these galaxies are centered on black holes that resemble a photonegative of the singularity we fathom was at the heart of the Big Bang, swallowing matter and light into nonexistence. All this displays both a remarkable order and a mysterious chaos that we have only begun to comprehend at a physical level very recently.

We also know that human civilization has evolved. While any particular epoch involves many advances and regressions, when we consider the last 120,000 years (starting in the Stone Age and extending to our postmodern age), we notice the same evolutionary arc—from simpler to more complex and cooperative forms of organization.

And when we discuss human civilization, we must consider not only biological adaptations, but also technological innovations, sociocultural change, and the emergence of higher consciousness. That higher consciousness has likewise evolved cognitively, morally, aesthetically, and spiritually.

If we piece together these multiple evolutionary trajectories, it becomes clear that the process of evolution cannot be reduced to cosmic, biological, or cultural evolution—it is more fundamental than any particular scientific or humanistic discipline can capture. The story encompasses everything, from the birth of the cosmos, to the agricultural,

scientific, and cultural revolutions of recent history, to our individual attempts to understand reality, or to awaken into higher awareness.

The story of evolution is so vast and all-encompassing that it would be foolish to purport to explain it or claim to know what is supposed to happen next, except in the broadest terms. But while we can't predict exactly where it is going, we can begin—for the first time in this great story—to consciously participate in it.

THE EVOLUTIONARY IMPULSE

We are among the first generations of human beings who are able to contemplate the scientific story of our origins. And this story tells us something deeper than merely material scientific facts.

We can now recognize and contemplate that complexity and consciousness and cooperation have been favored over thousands of millions of years by the "random" processes of biological evolution. At a minimum, they have been favored by natural selection. Without imputing magical powers to a nonordinary force, we can rationally posit that there is significant meaning in that directionality. On that basis it's worth synthesizing the implications of the evidence and stepping beyond it to speculate.

There is no scientific proof for our speculations. But I join a great many other people who find it useful to speak of an "evolutionary impulse" that is active across every domain of existence—from matter to life to mind and spirit. It is significant that this impulse operates not only through natural selection (which includes "survival of the fittest" in the strictest neo-Darwinian terms), but also toward the seemingly miraculous emergence of new potentials—tending over time toward greater complexity, more sophisticated forms of intelligence, and more powerful forms of cooperation.

In its tendency toward complexity and consciousness, we can infer that the universe has been "heading somewhere," in the words of Pierre Teilhard de Chardin. All along it has, metaphorically, been wanting to do something. What is this something? What is the purpose of becoming

more complex and conscious and fully articulated and interconnected and cooperative?

It is as though evolution, all along, has been working to create a way of seeing and knowing itself—and now, in our lifetimes, the universe is seeing itself for the first time with a new, more granular clarity. It is as though you and I are the eyes of the universe as it suddenly glimpses its own image. In an awe-inspiring "coincidence," we're also just now, at the very same time, seeing that we must cooperate to change our behavior on a massive scale if we're going to be able to keep evolving. This ancient evolutionary trajectory, which has all along been moving toward more complexity, consciousness, and cooperation, is facing a need to manifest a quantum leap in consciousness and cooperation in order to keep the evolutionary process moving ahead in a healthy way.

Another implication of this story has to do with the way evolution has sped up more and more across these billions of years. From the perspective of a single human lifetime, evolution has always been imperceptible. But this gradual acceleration of biological and then cultural evolution has reached a speed in our lifetimes in which cultural evolution, for the first time, is visible to human beings. We are the first generations of human beings who are seeing these changes unfolding before us in a time frame that we can directly experience. And there's an inspiring and truly spiritual message in this evolutionary perspective.

This shift to evolving consciously (instead of unconsciously) is momentous. How dramatic that we are just beginning to glimpse it at the very time when, for our survival, we have to see and understand and respond to its implications.

We can see from the above that evolution is more than a theory or a system of ideas; it is the natural context of all manifest existence, a "curve all lines must follow" in the lovely words of Pierre Teilhard de Chardin. It is the grandest metanarrative—the story into which all other narratives must fit themselves.

This understanding of evolution, tracing the deepest patterns not just of adaptation but of emergence, points to ways in which we—collectively and as individuals—can actively and consciously participate in this

deep movement of Great Unfolding. Rather than merely being pushed and pulled by the surface currents of the day, we have the capacity to intentionally influence the course of this emergence.

If there was ever a time to develop, advance, and use that capacity, it surely is now.

THE EVOLUTION OF THE EVOLUTIONARY WORLDVIEW

Many of the greatest philosophical thinkers of the last three hundred years were pioneers in learning to see ourselves through the eyes of evolution—from Georg Hegel and Friedrich Schelling to Ralph Waldo Emerson, Walt Whitman, and Henry James Sr.; from Sri Aurobindo and Pierre Teilhard de Chardin to Ken Wilber. This is now continuing via the Big History project, as taught by David Christian and promulgated by Bill Gates.

This process of awakening to and assimilating an evolutionary worldview has been rippling through every aspect of human culture in a series of revolutionary changes over the last two centuries of Western history. This process is now affecting—and often transforming—every field of human knowledge. But the widespread acceptance of evolution as our context, and the process of absorbing its wide-ranging implications in our lived experience, is still in its relative infancy. Not everyone sees or accepts this worldview; not everyone is an "evolutionary" (yet).

Disagreement is predictable and inherent to the process. Of course, the emergence of a truly evolutionary worldview would be as messy as the process of cultural evolution itself. It is partly through controversy that it evolves. Creative tension, differentiation, conflict, negotiation, cooperation, mutual influence, and synthesis advance and deepen the process. Similar patterns can be discerned in biological evolution.

Historically significant worldviews are powerful, multigenerational, large-scale systems of agreement. Such systems, when we inhabit them, tend to dictate how we frame reality and our own identities. And though these agreements live in the subjective consciousness of individuals, they

are neither wholly subjective nor completely objective. Worldview structures are also "intersubjective." They occupy what integral philosopher Steve McIntosh has called the "agreement space" that exists *in between* individuals. And they too are always evolving.

New cultural advances emerge in response to the inadequacies of whatever shared agreements have gone before. We push off against limitations, usually either differentiating something brand-new or reintegrating something we temporarily left behind that now needs to be reincluded. This powers evolutionary progress. As each successive wave of new understanding is revealed to be incomplete, it is followed by another wave, and our worldview is again further reshaped.

Consider, for example, that Isaac Newton—by far the most advanced scientist of the early eighteenth century—publicly supported the calculation that God created the world on Sunday, October 23, 4004 BCE. In less than 150 additional years of scientific observation, enough geological, fossil, anthropological, zoological, and astronomical evidence had accumulated to radically change the scientific consensus. In that relatively brief span, it became clear to the scientists of the mid-nineteenth century that our planet's history stretched back not for thousands but for many millions of years.

After Darwin's *On the Origin of Species* appeared in 1859, the theory of evolution quickly began morphing—even in popular perception—from a scandalous heresy into an incontrovertible (if still popularly controversial) scientific fact. A whole new world began to come into view. Instead of imagining ourselves created by God in his image, dwelling in a pregiven world of fixed forms, educated, rational people began emerging into an evolutionary view of reality.

We could see and accept that we (and all living things) descended with tiny modifications, generation by generation, from the simplest life forms over billions of years. Human beings, we realized, were not just the distant cousins of the apes and dogs, but also of ants, ferns, jellyfish, and bacteria. And our brains and bodies are the creative recombinations of the dust of long-extinct stars.

Across the decades that followed Darwin, discoveries in astrophysics and the social sciences also began to make clear that biology is not the only domain of evolution. These discoveries revealed that cosmic evolution gave rise to biological evolution, which in turn gave rise to cultural evolution.

While all these implications have been assimilated to a certain degree in our culture, we are still early in the process of accepting other evolutionary implications: that the evolution of consciousness is as real and significant as biological evolution; that we can consciously participate in evolution; and that evolution can become aware of itself. As consciousness evolves, these newer understandings of evolution might one day be as widely understood and accepted as biological evolution is now.

Models of reality in which human beings are seen as discrete, separate entities—which seem all but universally accepted today—may at some point be considered as outdated as the biblical world-creation myth that was still in effect even in scientific circles three hundred years ago. In the current evolutionary worldview, many of us already understand that we are, in fact, constantly changing creative *processes,* participating in a vast drama of constantly changing patterns. We are *activities.* In the words of Carter Phipps, an evolutionary worldview continues to "break the spell of solidity."

But human beings have barely begun to fully absorb and internalize the implications of this "process view." And we have barely begun learning to think with a "deep time" perspective that can imagine slow changes over millions and billions of years. The pervasive human tendency is still to reduce our dynamic evolutionary processes to a stick-figure narrative populated by solid, fixed, discrete, separate "things." It is also much easier to grasp. And, practically speaking, this understanding of ourselves and life has been mostly adequate to how we have lived until now. But that thinking has helped bring about our predicament, and will greatly limit our ability to accurately comprehend and effectively address it.

Internalizing all the implications of an evolutionary worldview will continue to be a complex cultural process. To define, refine, inhabit, and

explore this worldview is a huge, ongoing collective project. It knits together many disciplines and a remarkable series of epiphanies into a profoundly illuminating and inspiring vision. That vision—perhaps especially now—holds not only explanatory and predictive potentials, but creative and developmental ones.

To fulfill those potentials, the human imagination will be asked to make enormous, expansive jumps beyond our current habits of thinking. But it will serve us to do so; we are urged, even required to do so now, by evolution itself.

EVOLUTION'S INHERENT OPTIMISM

Philosopher of science Holmes Rolston[24] points out that our "big history" includes "three Big Bangs." The first Big Bang, the one we know by that name, took place—according to our current best science—13.8 billion years ago. It gave birth to space-time and to matter and energy and our universe of billions of galaxies—what we can call the physiosphere. The second Big Bang, through which life emerged from matter, is now dated at about 3.8 billion years ago, when the first one-celled prokaryotes emerged from the primordial soup, giving birth to what we call the biosphere. The third Big Bang took place somewhere between one million and 120,000 years ago, with the first emergence of human consciousness, language, and collective learning—what we call culture.

In the first Big Bang, as the physiosphere came into being, it manifested photons and the first atoms of hydrogen and helium, and then the first stars and galaxies, and then planets and some additional elements—and eventually, via supernovas, it manifested heavier elements and more complex planets. But all these evolutionary changes appeared only *very* gradually, over hundreds of millions or billions of years.

On our planet this pattern was abruptly transformed about 3.8 billion years ago, when the first living cells appeared during what Rolston refers to as the second Big Bang. As these cells evolved, they eventually gained nuclei, began to sexually reproduce, and became multicelled organisms; they differentiated, and in time manifested ecosystems that

pervaded not just the oceans but also the land and even the atmosphere. Evolution speeded up to the point where great transformations could be measured in mere millions and even hundreds of thousands of years. Microbes and algae appeared, then mollusks and grasses and ferns, and insects and amphibians and fish, and primeval forests and reptiles—and eventually primates—all coevolving in myriad complex ecosystems, each of which themselves evolved. All of this took place across epochs that included dramatic extinction events and cataclysms, but also more and more complex and cooperative and interconnected—and eventually more conscious—forms of life.

The third Big Bang was the appearance of humans and consciousness and culture on Earth, which took place somewhere between one million and 120,000 years ago. This Big Bang gave birth to the inner universe of thought and language and meaning—what is sometimes referred to as the "noosphere." Human beings began a process of collective learning, wherein we refined our ability to make tools and clothing, use fire, store food, create language and ritual—and eventually grow crops, domesticate animals, and live together in towns and cities. And this cultural evolution took place much more quickly than previous evolutionary advances, with big changes occurring in mere tens of thousands of years, and eventually in just a thousand years or so—and, in recent times, dramatically accelerating, with huge changes taking place in just hundreds of years and then decades.

This has transformed our relationship to evolutionary changes. Until very recently all of them—cosmic, biological, and cultural—have proceeded so slowly that they have eluded direct human perception until long after the fact. But cultural evolution is moving quickly enough now to be directly perceptible during a human lifetime—even as it is happening. This is radical, and new.

Meanwhile, human culture has begun to reshape the biosphere and the physiosphere. Today, the future of thousands of species of life will be determined by human behavior—by what happens in the evolution of human culture. At the same time, human consciousness and culture have continued to grow more complex and interconnected, and more conscious, cooperative, and fully articulated—now with breathtaking speed.

EVOLUTION'S METHOD: DIFFERENTIATION AND INTEGRATION

In each of these Big Bangs, some universal principles apply. On every scale, we see the articulation of new, unique forms and behaviors, which interact and conflict and negotiate tensions. Their resolution leads to new forms of cooperation and integration and unity, which in turn give rise to new differentiation. This process refines progressively, through successive generations of differentiation and reintegration—the features we name when we look back on evolutionary history.

This process of "differentiation and integration," as it is often summarized, leads in virtually all directions, proceeding in a seemingly random fashion. But over time, the significant trend ("selected for" by the process itself) is the evolution from simpler, less intelligent entities and life forms to more conscious, complex, cooperative ones. We evolve upward.

This would seem to contradict the retro-romantic idealism that modern human technological advances are simply a wrong turn along our evolutionary trajectory. As already discussed, there is no denying the enormously toxic pathologies of our contemporary human footprint on the biosphere. But it is also important to note that there were ugly imbalances at every stage of our evolutionary journey—along with unique beauty. Every new stage of evolution has brought into being both "dignities and disasters."

There is enormous hope in the creativity of evolutionary emergence. Because the hope and promise provided by the evolutionary story is so compelling, so inspiring, and so ultimately positive (if inherently messy in the process), it can take some effort and rigor to hold our present uncertainties in *wholeness*—especially for those who have internalized an evolutionary worldview.

Notwithstanding the wisdom, curiosity, perspective, and resilience the evolutionary worldview might bring, it could also lead us to rely too much on the inherent creativity of evolution in a way that subtly (or not so subtly) leads to complacency or abstraction. We might run into a fine line between optimism and denial. Certainly, to walk a path between hope and denial requires a finely tuned consciousness. Nonetheless, an

evolutionary awareness is characterized by grounded optimism. It is one of several key characteristics of a disposition that could serve us well in navigating the "wicked problem" future that likely awaits us.

From an evolutionary perspective we can see that any future is unlikely to be an extension of past trends, and that wildly creative new emergent possibilities will probably astonish us, more often positively than negatively. (Who could have predicted the emergence of mind from life, or life from matter?)

Likewise, any time we try to apply measurement to violence or depravity, we are confronted with evidence that human history has displayed a far more benign and comforting trajectory than we ordinarily realize. Brutishness has declined consistently and dramatically. This is especially obvious when we view it across any recent millennium, but it is also distinct across most centuries. Instances of horrific cultural regression to brutishness cannot be denied, but there are also persistent and often wondrous advances. Our *evolutionary* context is nothing like the frightening world-in-trouble we tend too often to imagine and communicate to one another.

This does *not* discount the very real and epochal perils we face. There will inevitably be much to grieve in the coming years, decades, and longer. But a grim sense of impending doom, *unmitigated by a sense of evolutionary possibility,* is not only inaccurate, it clearly won't elicit our best. I have long argued that, whether or not it can be confirmed by data, a kind of basic optimism—at least a positive orientation to each moment of living—is a moral imperative.

Simultaneously, it really *is* urgent that human societies transition to energy sources that don't spew carbon into the atmosphere; that we lighten our footprint so that healthy natural habitats can regenerate or thrive; and that we minimize our lasting and even temporary damage to the living body of our mother planet. Those things too are moral imperatives. And it is also imperative that we stay related to all informed and intelligent perspectives on our ecological predicament—and that we grow, change, relate, and connect in ways that take the predicament seriously and respond effectively.

The evolutionary perspective ultimately doesn't call for simple naive optimism, any more than it insists on a purely pessimistic take. It doesn't split off into declarative extremes; it calls for *wholeness.* It thus calls us to face the darkness without losing sight of the light—synthesizing credible bases for pessimism with optimism about the potentials of evolutionary emergence.

It does so in a spirit of radical faith—faith that what is most inspiring is *reality,* and that life and evolution will find astonishing expressions under any and all circumstances.

INSPIRED BY CONTACT WITH THE IMPULSE OF EVOLUTION

Because the entire cosmos is always naturally manifesting its latent wholeness and divinity, and expressing them in many ways—everything always developing, progressing, and evolving—at some level, we can feel it. If we are awake and clear enough, each of us can intuit that universal impulse, experience the river that runs through everything (including us), and locate it in our subjective experience. It is evident in our highest aspirations—for awakening, illumination, love, freedom, and joy, and for making a positive difference in the world through our creativity, scholarship, industry, charity, and kindness. Those desires are healthy expressions of the greater wholeness that is our nature.

The potential, power, and leverage represented by the individual and collective experience of this "evolutionary impulse" has enormous potential. Some of us who are inspired by this larger story of evolution—and who see an opportunity for active and conscious participation, rather than merely witnessing and reporting—call ourselves "evolutionaries." Our ranks are growing, and so is our understanding of evolution's implications and potentials.

A sense of felt contact with the "evolutionary impulse," expressed in diverse ways, is a distinctive quality among evolutionaries. Many of us are working hard creating projects, furthering new organizations, initiatives, businesses, conferences, and websites; serving clients and students; or writing blogs, papers, and books. Some are pushing the boundaries

by innovating new kinds of organizations and leadership, and coloring outside the lines that previously divided entrepreneurship, philanthropy, community organizing, international development, artistic inspiration, human empowerment, and reinventing government.

There is an innovative inspirational spirit alive in a growing community—a profound ambition to be of service. There is an openness to the "strange attractor" of an emergent higher wholeness—even a sense of contact with it. We seem to share the sense that we are cocreatively participating in what Alfred North Whitehead called "the creative advance into novelty."

Some version of this self-aware excitement and sense of purpose was present in the Italian Renaissance, and among the French Philosophes, the German Idealists, the continental Romantics, and the American Transcendentalists and the "New Thought" movement they birthed. *Felt contact with the spirit of evolution* is also a defining characteristic of evolutionary culture.

Some sense of the living impulse of evolution has been inspiring and driving me since I was a child. Paradoxically, it has driven me further now, to face the sobering implications of our ecological predicament.

And it is something that, in thoughtfully preparing for the most whole, generative, and constructive response to this unprecedented present and future, we can consciously draw from and build upon. What is already an emerging movement will be developed, expanded, and deepened. This evolutionary spirit and impulse can be purposefully brought to every effort to support or bring about a life-sustaining society. The individuals and communities who will survive, thrive, and create this new future will be those who not only share this connection to the impulse of evolution, but who consciously enact it.

AN EVOLUTIONARY LEAP

Our present crisis is not merely a historical but an evolutionary event, transcending historical change and affecting our species as a whole. Families, tribes, towns, and nations have been annihilated in our historical

past, but other families, tribes, towns, and nations have carried on. Never before has global human civilization reckoned with threats to its survival. Never have we faced such serious and likely lasting changes in the planetary biosphere. Only recently have we become able to even conceive of such events.

Thousands of futurists, prophets, and visionaries agree that humanity faces radical transformation in our lifetimes and those of our children and grandchildren. Some imagine a golden-age "singularity" in which science, technology, and artificial intelligence will enable the human species to free itself from limits. Others think we're entering a period of ecological disruption that foreshadows an apocalyptic end of human civilization as we know it. But evolutionary theorists offer a model that accounts for both the light and dark of our current scenario: the concept of *punctuated equilibrium*.

According to paleontologist Stephen Jay Gould and others, the fossil record seems to show long periods of equilibrium, in which species go through very gradual evolutionary changes, punctuated by relatively short periods of time during which they undergo rapid dramatic changes. Often cultural evolution has followed a similar pattern.

It may be that the human species is now entering a period of such rapid new adaptation that we will undergo an evolutionary leap. These necessary changes will be psychological, cultural, social, technological, political, and even physical. *The leap may take place most deeply in human consciousness itself*—a leap in what it means to be a human being. The oncoming storm of global and personal disturbances will require dramatically different new choices and behaviors—in fact, whole new ways of being.

Sudden, dramatic evolutionary progress is thought to take place under conditions of extreme evolutionary tension. Although ordinary levels of evolutionary tension manifest slow, gradual shifts, intense pressures require rapid and radical emergence. Where a species might have thrived nearly unchanged in its old ecosystem for tens of thousands of generations, it must now change drastically—in relatively few generations—to survive and to thrive.

Many scientists and scholars agree that we are entering one of these "punctuated" eras of rapid change—and we must rapidly readapt, or disappear. In other words, it's game time on the planet—now! We will either evolve—quickly—or perish.

This demand that we transform or perish is a natural consequence of our own evolutionary success. Isn't it entirely natural that any intelligent, dexterous species that developed tools, language, writing, and technologies would eventually become successful—and that its success would increase and accelerate? Might it be natural for such a species to eventually overrun its limits until it overpopulated, polluted, and depleted its environment—all before it fully realized what it was doing?

William Catton's 1980 book *Overshoot* describes these dynamics precisely. He notes that if *any* species on *any* planet (or island, pond, or petri dish) discovers how to expand the planet's (or island's, etc.) carrying capacity in ways that are not permanently sustainable, it will overpopulate, overshooting that carrying capacity. If that happens, it will eventually degrade the renewable resources upon which it depends and exhaust key nonrenewable resources. It is also natural that even once the problem becomes evident, it takes significant time for the species to metabolize that information psychologically, culturally, and socially—and muster the coordinated will necessary to adapt on a species-wide level.

Our predicament is therefore perhaps best viewed as natural and, perhaps—to some extent, at least—inevitable. Our evolutionary emergency *might* be an entirely predictable phenomenon. This gives us an intelligent basis for relaxing the (rather useless) tendency to fret that humanity has somehow committed a terrible sin, or at least mistake. We can stop pointing our finger at a culprit, blaming others, or blaming *anything*—even human greed, laziness, or bullheadedness; even Cartesian paradigms of separation, or patriarchal social psychology, or mechanistic mindsets. We can instead arrive in the present moment, as an intelligent species—one that has traced a remarkable trajectory across human history and now has further to go.

After emerging from our crudest origins, we developed language, agriculture, writing, and literature, and built cathedrals. We then gained

an understanding not only of Newtonian science, through which we industrialized, and then also of relativity and quantum theory, and then genetics, neuroscience, and information science, leading to the internet, nanotechnology, robotics, and an accelerating future of unimaginable technological breakthroughs. Now our knowledge—*and, more important, our consciousness*—is approaching a singularity too. It is not merely advancing, but accelerating at unimaginable speed toward radical change. A great transition is inevitable, either to a life-sustaining society or to a gritty, diminished human future.

The key to the future of human evolution cannot be reduced to any single factor or domain. It can't just be ecological, technological, cultural, physical, or social. It will certainly be all those things, but the transformations this evolutionary pressure elicits may also be—may *need* to be—spiritual, ontological, and psychological. We are talking about not just the evolution of the human mind or body, but the evolution of the human spirit.

Our entire way of being with ourselves and one another—individually, mutually, and collectively—is now under evolutionary pressure to manifest radical new emergent properties. This, I believe, creates the conditions for tremendous potential and hope.