

PROVING GOD – Chapter III --- Destiny - Humanity
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OPENING WORDS

Today is Easter and there are celebrations going on around the world.

There is much to celebrate, for Jesus and his followers initiated a concept of a kind and loving God into a people focused on a demanding, vengeful, and sometimes mean Supreme Being. The emphasis on a father asked to kill his son, emulation of sinful cities, and plague, disease, and death merely to “test” some guy named Job at least had a counter.

I feel that Jesus’ presence on earth and the hugely successful spread of the belief system around him is a wondrous gift to the human race both for its moral standards and its unifying forces around definitions of what is termed “Christian attitudes.” The world needs more good Samaritans that cross the street to help regardless of ethnicity. So, HAPPY EASTER! And there is so much more that could be said.

However, that’s not the subject I was asked here today to address, so we move on.

Proving God. This is third in a series. For some of you, it may be the first. To those newcomers, when I raise this bible you might feel your neighbor cringe. Please feel free to cringe right along with him.

BELIEVE OR BE DAMNED! (holding a large Bible on high)

I always wanted to stand in a pulpit and do that. Now you good folks have tolerated my doing it for the third and last time – probably.

BELIEVE OR BE DAMNED! It just didn’t offer a persuasive argument for me.

God---Almighty God---All Seeing God---All Controlling God---Redeeming God---
 Jealous God---Vengeful God---Loving God—All Powerful God---

A God like that has just got to leave tracks.

After all, the existence of the planet, Pluto, was a matter of faith before it could be proven. Scientific philosophers proposed the existence of atoms and then research scientists proved their existence---theory, faith, followed by proof---ditto with neutrons, quarks, brain functions, viruses, DNA, underground oil supplies, pre-historic birds, massive meteor strikes, black holes, a round world, and the Big Bang. I think we’ve got

the round world theory on pretty sound footing, but the Big Bang issue is still a bit shaky around the edges.

God as a Being---God that influences---God of Substance—a God that is more than a whimsical feeling through the ether.

Yes, a God like that has just got to leave tracks.

And the existence of such a God should be provable!!

We've looked at God as the Alpha, the Creator. In Proving God – Chapter I, we climbed down from the tree of evolution and dug around its roots and learned that, given enough time, our known biological systems could have created everything from bugs to us without divine intervention – no firm tracks. The key is “given enough time.” One of the theories that added to the billions of years of time calculated since the “Big Bang” is that the universe could be in oscillation rather than ever expanding. Since we had that little talk, astronomers have found stars that calculate to be much older than the day of the “Big Bang” increasing the credibility of more time for known biological systems to drive evolution. Oscillation theories are looking a little stronger now. This new data further undermines our attempt to prove God Tracks as the creative intervention in the evolutionary process.

Proving God – Chapter II began with the beliefs that divine intervention gave humans the societal laws that make our civilization work. We beat the bushes of the mountains of Canaan, including a few that were the burning, and came up empty handed. It seems the rules for life Charleston Heston showed us and a whole bunch of other rules could just as well evolved from the basics of self-interest. This led us into game theory and the prisoner's dilemma that made a very strong case for an alternative path to societal structure and laws that being basic decisions in one's own interest.. Darn. God tracks, maybe, -- but again, no proof.

Now the hounds are baying on the scent of another possibility – human destiny [humans as an evolutionary objective]. In this changing world, can we deduce a cosmic hand? Is there a director out there? Are we destined? Look for the basic rule of the direction of the world, both human and non-human, physical and societal. We didn't prove the Supreme Being is, or was, out there making folks out of clay and ribs – she likely lets biological processes do that. Nor could we prove the Big Boss is out there dictating societal structure – the Boss could just let game theory and self interest develop the patterns and controls on how we relate to one another. Aha! Here's what Numero Uno is up there doing – he's driving the direction of all this. She's the arrow saying “this way, not that way – because you peoples [creatures] of the earth have a destiny [-humanity].” And She controls that direction of development.

Let's work on this. Maybe, just maybe, we'll get a glimpse of God Tracks that we can sink our teeth into. Our helpers in this thinking process will be many, but predominately Robert Wright from his book, “Nonzero –The Logic of Human Destiny” on loan from

Art Hicks. Many of the following words are his, Wright's not Art's – chopped, rearranged, summarized, and hopefully not too confused by yours truly.

Wright postulates that development of living things, physically and socially, is not random but has direction, direction toward a destiny. His searching revolves around two theories.

First, the living universe changes, evolves if you would, in a direction. And that direction is toward ever increasing complexity.

And, second, survival of the fittest is NOT the evolutionary rule, but the rule is survival of those who learn to COOPERATE for mutual benefit. Form alliances, if you would. I must point out that his book was published just BEFORE, not after, the results of the Survivor TV show brought survival alliances into our living rooms.

Since Wright messes around with this destiny thing where we are hunting God tracks, let's spend a little time exploring what he's talking about with complexity and cooperation.

The many predator-prey relationships – defense and counter defense – the arms race of survivability is a stark example of complexity fostering growth and counter-growth in complexity. The prey evolves a little better defense and the predator needs a bit more sophistication to counter that defense.

Wright offers an example of parallels between biological and societal evolving complexities. Among the technological feats of the 20th century is the invention of “binary” chemical weapons. Two chemicals, harmless when separate, are toxic if combined. Safe to transport, deadly when deployed. It's not a new idea.

The bombardier beetle carries one tank of a harmless chemical mix. In another tank resides a catalyst. The beetle adds the catalyst to the mix upon deployment, creating a scalding substance that, via pliable rear-end nozzles, is showered precisely on nearby tormentors.

The bombardier beetle is an example of the evolution of complexity. Clearly, a beetle equipped with two separate munitions compartments and a spray nozzle is more complex than the same beetle lacking these accouterments.

And this isn't just any old kind of biological complexity. The beetle's arsenal involves behavioral complexity. Toxic nozzles aren't much good unless you can aim them and squirt them.

Aiming and squirting – like any impressive behavior—involves information processing, a command-and-control system. In some small measure, then, evolution's elevation of the beetle to bombardier rank involved a growth in intelligence. In other lineages, of course, the evolution of intelligence – of behavioral complexity – has proceeded further. And we, mankind, have binary chemical weapons, among other things, to show for it.

Was all this in the cards? I don't mean binary chemical weapons, or bombardier beetles, or human beings or any other particular thing or species on this planet. I mean the evolution of complexity and intelligence. Did basic properties of natural selection make it very likely that someday some animal would be smart enough to invent neat gadgets? And figure out that the earth revolves around the sun? and ponder the mind-body problem. Does biological evolution intrinsically favor the growth of biological complexity – including behavioral flexibility, and its underpinning, “intelligence”. Is this biological “progress” somehow natural? Or is it unnatural – needing cosmic direction – in the miracle category?

And how does this ever-growing complexity relate to our [Are we the] destiny?

Is organic evolution directional? Do basic properties of natural selection pretty much ensure the evolution of complexity, including behavioral complexity, and thus, given long enough, the evolution of great intelligence? Some people say yes (often quietly), and some say no. The most prominent, persistent, and passionate sayer of no is the noted paleontologist Stephen Jay Gould. You may recall that we've heard from him before as we've hunted God tracks in the thickets of evolution. He has devoted two books to denying “that progress defines the history of life or even exists as a general trend at all.” To see progress in evolution, he says, is to indulge a “delusion” grounded in “human arrogance” and desperate “hope” – the hope that we are anointed by nature to sit on its throne, that we are “a predictable result of an inherently progressive process.” Gould recommends that we wake up and smell the coffee, confront the harsh prospect that “we are, whatever our glories and accomplishments, a momentary cosmic accident that would never arise again if the tree of life could be replanted from seed and regrown under similar conditions.” And he doesn't mean “we” narrowly – not just Homo Sapiens. If you replayed evolution on this planet, the chances of getting any species smart enough to reflect on itself are “extremely small”.

Okay. So in what sense doesn't complexity tend to grow via natural selection?

For starters, a few species have gotten less complex through evolution. And many species have gone long periods with little if any growth in complexity. Bacteria showed up billions of years ago, and there are a lot of them still around, evincing no aspiration to climb higher on the tree of life. This point is widely accepted by biologists, as is its upshot that “orthogenesis” – some sort of mystical inner impetus toward higher complexity, pervading all of life – doesn't exist. Surely Gould is saying more than this?

Yes. He's saying not only that bacteria are pretty simple creatures; he's saying that they outnumber us. Or, as he puts it: “modal” complexity shows no tendency to grow; the level of complexity at which the greatest number of living things resides – the mode – has not changed noticeably since at least 2 billion years ago. Back then, most living things were about as complex as a bacterium. One billion years ago, ditto. now, ditto.

Indeed, not only do bacteria outnumber us, they outweigh us. In fact, they outweigh just about anything, if you add up all the underground bacteria. Also, they can survive under lots of weird conditions. “On any possible, reasonable, or fair criterion, bacteria are – and always have been – the dominant forms of life on earth.”

Actually, some people who consider themselves reasonable and fair might opt for an alternative definition of dominance. For example: “ability to blow up the planet,” or “ability to figure out how all life forms were created” or “ability to create whole new life forms,” or just “ability to put bacteria under a microscope.” Gould will have none of this talk. To make the most complex form of life on earth our bellwether for progressive trends would be to exhibit a “myopic focus on extreme values only.”

Well, maybe. On the other hand, “extreme values” are the only reason most people care about the question of biological progress to begin with. Was something as complex as us, a behaviorally flexible as us, as smart as us – something with our “extreme values” – likely to evolve?

(Gould) returns at length to the supposedly extraneous issue of extreme values. Having conceded that the outer envelope of complexity may tend to grow, he proceeds to argue that this growth is not truly “directional,” but rather “random”. This argument is the heart of one of his two book-length ruminations on complexity, Full House.

What does he mean by random? Consider the drunken man walking down a sidewalk that runs east-west. Skirting the sidewalk’s south side is a brick wall, and on the sidewalk’s north side are a curb and a street. Will the drunk eventually veer off the curb, into the street? Probably. Does this mean he has a “northerly directional tendency”? No. He’s just as likely to veer south as north. But when he veers south the wall bounces him back to the north. He is taking a “random walk” that just seems to have a directional tendency.

If you get enough drunks and give them enough time, one will eventually get all the way to the other side of the street (notwithstanding traffic fatalities involving other, less lucky drunks). That’s us: the lucky species that, through millions of years of random motion, happened to get to the far north. But we didn’t get there because north is an inherently valuable place to be; indeed, if it weren’t for the brick wall, there would be just as many drunks south of the sidewalk as north of it, and the randomness of all our paths would be obvious. Now consider the brick wall zero complexity. That is if it weren’t for the fact that no species can have less than zero complexity, the history of life wouldn’t look like a natural progression. Gould writes: “The vaunted progress of life is really random motion away from simple beginnings, not directed impetus toward inherently advantageous complexity.”

The question behind this whole exercise, remember, is whether the evolution of something as smart and complex as us was very likely. If the combination of a “random walk” and a “wall of zero complexity” leads people to conclude that the answer is yes, then, well, their answer is yes. If, as Gould fears, people are inclined to take a “yes” answer as evidence of higher purpose, they probably aren’t going to be too picky about the exact type of “yes.” God, they will say, works in strange and wondrous ways.

Still, the more factors favoring the evolution of complexity, the more irresistible the “yes” answer is – the more likely evolution was to eventually reach a human level of

intelligence. Is Gould overlooking non-random factors conducive to complexity? He is. They fall under the rubric of “positive feedback” – the evolution of complexity strengthens the logic behind the evolution of complexity, which strengthens the logic behind the evolution of complexity... and so on.

That logic dictates evolutionary direction toward complexity from its single cell beginning does not exclude a cosmic influence nudging the randomness one way or the other to improve the efficiency of getting from then to now in the allotted time. The fuzziness in the math is time. With the ever-growing age estimates of the universe, the sharpness with which we might see God’s tracks in this process fades toward myth.

Now, let’s look at the second proposition. And that is that “survival of the fittest” really should be replaced with “survival of those who learn to cooperate best.” And is that cooperation a God Track, a tendency that only a supreme being could manipulate, manage, stimulate or guide?

Would we had time to develop this concept in the natural world beginning with a very early point where two cells cooperating seemed to survive more successfully than one. And following through the examples from ants to zebras, each made up of millions of cooperating cells and each creature (read that DNA carrier) benefiting from cooperation with his like kind. Symbiotic relationships between species, which abound in the animal and plant world, reinforce that the tendency to cooperate will give “survival of the fittest” a run for it’s money in seeking the definition of what spreads its DNA most successfully.

Consider the “colonial invertebrates.” As Edward O. Wilson has noted, some come close to qualifying as “perfect societies” -- so close, in fact, that “ the colony can equally well be called an organism.” The awesome, sixty-foot-long Portuguese man-of-war, for example, certainly looks like an organism – like a giant, colorful jellyfish – and indeed is usually called an organism. But it evolved through the merger of distinct multi-celled organisms, which grew more specialized as they grew more interdependent’ some paralyze fish, others eat the fish and then share the nutrients. Among other colonial invertebrates that blur the line between organism and society are our old friend the cellular slime mold (which vacillates between autonomous cells and unified slug) and corals (including, aptly, the “brain coral”).

Examining the parallels in human history, not organic but sociological, may give us a perspective on whether there are no alternatives to God guided cooperation and, thus, God tracks.

There is danger in peeking in this door. Early this century, biological progressivism was dear to the hearts of “social Darwinists,” who used it to justify things like racism, imperialism, and laissez-faire indifference to poverty. The logic behind social Darwinism – to the extent it had a coherent logic – was something like the following: The suffering, even death, of the weak at the hands of the strong is an example of “survival of the fittest.” And the “survival of the fittest” has God’s blessing. And how do we know that the “survival of the fittest” has God’s blessing? Because He built the dynamic in His great creative process, natural selection. And how do we know that natural selection is God’s handiwork? Because of its inexorable tendency to create organisms as majestic as

ourselves, organisms worthy of admission to heaven! In short, biological progressivism was used to deify nature in all its aspects, and nature, thus deified, was invoked in support of oppression.

Because comparing societies to organisms had not-so-long-ago been a pastime of European fascists, who had justified murder and repression in the name of Superorganic vigor, philosophical discussion of the evolutionary parallels has only recently returned to the stage.

So let's explore for the moment this "survival of those who cooperate" concept in the context of human society and see where it leads us. Is it indeed a natural social tendency? Is it a driving force? Is it "fitness" or "cooperation" that makes the difference?

Though European feudalism was peculiarly resilient, human society in general is good at regrouping under duress. When centralized authority has collapsed, true anarchy has seldom ensued. Political and economic reconstitution at some level is typically immediate. Sometimes the result is sufficiently reminiscent of the Middle Ages that scholars note its "feudal" elements. But regardless of how "feudal" the recoveries, they typically rest on the same basic cement that kept Europe orderly in the early Middle Ages: the Human instinct for non-zero-sum relationship. Translation: cooperation for the greater benefit of each of the individuals cooperating. People are good at finding zones of mutual self-interest and striking deals of mutual obligation. Greeks, during their own "dark ages," were a good example. After the collapsed of the Mycenaean state at the end of the second millennium B.C., they regrouped into what appear to have been chiefdoms, which then evolved in the city-states that would make Greece famous.

Spontaneous renaissance was also visible in northern China in the fourth century A.D., when government dissolved under barbarian onslaught. Facing chaos, families clustered together in large camps, built fortresses, and agreed to submit to a common leader. Leaders of the camps conferred and agreed to do the same. Presto! Instant political structure, complete with improvised legal codes, economic self-sufficiency, and military might. The Chinese consecrated these bonds of mutual obligation by drawing on their spiritual heritage, Confucianism, whereas the Europeans sealed feudal bonds with Christian ceremony. But the same thing was happening in both places: human nature was ensuring that when structure collapsed, a safety net would materialize. And religion was adapting itself to this mandate, the mandate of non-zero-sumness.

By the beginning of the eleventh century, the Viking threat had subsided. Europe had weathered the storm. But it had done much more than that. It had gradually accumulated cultural capital and was now poised for a great leap forward.

Franz Boas, though not big on generalizing about history, once stated as "one of the fundamental characteristics of the development of mankind" that "activities which have developed unconsciously are gradually made the subject of reasoning." The example he cited was the maturation of scientific inquiry, but one might also cite the maturation of history itself. As the people of the world come to constitute a single invisible brain – he's talking about the ever increasing ability to communicate, thus cooperate -- As the people

of the world come to constitute a single invisible brain, they can purposefully guide their course, consciously seeking the worthy goals they were once blindly, often painfully, driven toward.

The power of this invisible brain as cooperative communication improved in the early Middle Ages became increasingly apparent. Think of each of these societal units as a small, blind computer trying to solve the problems of everyday life and search for improvements. Then add interconnectedness, networking if you would. Suddenly incremental gains were built upon. Inspiration moved across geographical boundaries. Such cooperation allowed concepts to congeal into memes to be integrated into the societal and technology of the times.

This cultural capital, this precious stock of memes, had little to do with Europe's "classical heritage." In "How the Irish Saved Civilization," Thomas Cahill gasps at what might have been lost in the barbarian invasions. "Had the destruction been complete – had every library been disassembled and every book burned – we might have lost Homer and Virgil and all of classical poetry, Herodotus and Tacitus and all of classical history, Demosthenes and Cicero and all of classical oratory, Plato and Aristotle and all of Greek philosophy, and Plotinus and Porphyry and all the subsequent commentary.

Well, then's the breaks. But what people of the early Middle Ages most needed wasn't a good stiff dose of Demosthenes. They needed mundane things, such as a harness that wouldn't press on a horse's windpipe. This new device, in use by A.D. 800, tripled the weight a horse could pull, and thus relieved European farmers from dependence on slow and lazy oxen, easing both transport and agriculture. Combined with other key advances – the heavy plow and later the nailed iron horseshoe – the harness drove an expansion of cultivated land.

These sorts of memes – nuts and bolts, practical technologies – are more durable than those generated by, say Sophocles, most of whose plays were lost forever. There are several reasons. One is gut-level utility; literature is nice, but putting food on the table is nicer. A related reason is the ease with which practical technologies cross cultural and linguistic borders. Medieval Europeans didn't speak Greek, much less read it, so copies of "Antigone" would not have been in great demand even among unusually literary peasants. An iron horseshoe, on the other hand, speaks the universal language of utility.

The final reason that practical memes are so durable is that if they die they can be reincarnated. No one will ever write one of Sophocles' lost plays. But if the conceiver of the horseshoe had perished right after his or her epiphany, someone else would have stumbled on to the idea eventually.

The point isn't that any one useful idea is, strictly speaking, certain to spread, or certain to be reborn if extinguished. The point is that, the more useful the idea, the more likely both spreading and rebirth are. And as the spread of useful ideas raises the world's population, and raises intellectual synergy via improved communication and transport, these likelihoods grow all the more, until finally they do approach certainty. Increasingly, societies resemble large, thick brains, their neurons spreading incremental innovation rapidly and reliably, spurring further innovation.

The medieval historian Joseph Strayer once noted “an interesting problem in the history of civilization. If there is steady progress anywhere, it is in the field of technology, and yet this kind of progress seems to have little connection with the stability of society...” But, when you think about it, there is no reason to expect steady technological evolution to translate into the smooth evolution of social structures. Technology, time and again, has changed the balance of power within society. And people tend not to surrender power gracefully.

When medieval burghers carved out some breathing room for themselves, winning the right of self-governance, they were not spurred by the writings of Demosthenes, nor trying to revive their classical western heritage. They were just indulging their instincts for self-interest and collaboration, and embracing a productive information metatechnology: freedom. Freedom to buy and sell, to make contracts, to use one’s savings as one sees fit – and the freedom of to win, more broadly to define and fine-tune these freedoms – all these were fruitful algorithms of governance’ They were political technology that best energized the ascendant economic technology, capitalism.

Today this vast interconnectedness, on a global scale, is obvious. But even in the early Middle Ages, all of Eurasia and northern Africa had begun to constitute a single data-processing system. A slow system, yes, especially when trade would fall off after political dislocation – but a big system. The iron horseshoe and the windpipe-friendly harness seem to have been invented in Asia and then to have leapt from person to person to person – maybe hitching a ride with nomads for a time—all the way to the Atlantic Ocean.

One key to the resilience of this giant multicultural brain is its multi-culturalness. No one culture is in charge, so no one culture controls the memes (through some try in vain). This decentralization means epic social setbacks of reliably limited duration’ the system is “fault-tolerant,” as computer engineers say. While Europe fell into its slough of despond, Byzantium and southern China stayed standing, India had ups and downs, and the newborn Islamic civilization flourished. These culture performed two key services: inventing neat new things that would eventually spread into Europe (the spinning wheel probably arose somewhere in the Orient): and conserving useful old things that were now scarce in Europe (the astrolabe, a Greek invention, came to Europe via Islam, as did Ptolemy’s astronomy – which though ultimately wrong, worked for navigational purposes). To an observer in Italy or France in A.D. 650, it might have seemed as if there was what we would now call a “total system failure” – as if the whole world’s hard drive had crashed. But from a global perspective there was no cause for alarm, because the world makes backup copies. Useful memes replicate themselves en masse, insuring the planet against regional crashes.

Kant, you may recall, was so impressed with the way narrow self-interest had served the greater good that he believed some gratitude was in order: Nature should be “thanked for fostering social incompatibility, enviously competitive vanity, and insatiable desires for possession or even power.” Well, all right: Thank you nature. More specifically, thank you, human nature. Now get a grip on yourself.

Some see God Tracks in this growth of cooperativeness. They see spiritual guidance to the joining of independent cells to make up a Portuguese Man of War or a little slug of slim mold. A cosmic leader to the organization and cooperation of human society to the level of 2000 years ago, and presumably 1000 years ago, and thus the present era. Others see nothing more than the tendency to preserve DNA into the next generation.

I don't know how the bacteria are doing on this DNA survival count, but, judging from the ever growing human population, homo sapiens are cooperating just fine.

Big, deep irrefutable God Tracks I couldn't find. But at this point I would settle for just a little smudged fingerprint over in the far corner – maybe, maybe not.

In many developed nations, the drift toward world governance is drawing fire. The nation-state, nationalists complain, is sacrificing its sovereignty. This is true” governmental structures – including supranational ones – always lessen the freedom of their constituents. But at the same time, governmental structures expand freedom. If a city's government is functioning well, its citizens gain the freedom to walk the streets with little fear of assault. Part of the deal, though, is that they don't have the freedom to assault other citizens. If you like the idea of government, that means you cherish freedom from assault more than freedom to assault.

So it is with supranational governance. Would you like to be reasonably free of the fear of global depression? Or would you rather preserve your nation's freedom to raise tariffs at will, or to keep its financial institutions opaque to international view? Do you cherish the freedom to live without fear of dying in a biological weapons attack” or do you prefer the freedom to live without fear of having your freezer searched for anthrax by an international inspectorate in the unlikely event that evidence casts suspicion in your direction?...

The question is never whether you can keep all of your sovereignty; history says you can't' all along it has been the fate of humankind to have its fate increasingly shared. The question is in what form you want to lose your sovereignty.

Of course, even answering that question wisely won't bring instant Nirvana. Once we've recognized the necessity for global governance, we still have to get from here to there. And that could be dicey. After all, history – and prehistory – attest that evolving from one distinct level of political organization to another often brings “transitional instabilities.”

...Even assuming governance moves to the global level peacefully and democratically, inspired guidance will matter in a new way. After all, there's only one globe. However many alternatives there are for reforming the IMF after a crisis, they can be tested only in serial, not in parallel. And if the first trial fails spectacularly, that's really bad news.

What's more, the potential badness of bad news has risen. With more souls in the world every century; the sheer weight of potential suffering has reached an all-time high. Hitler and Stalin made this point, and the coming of thousands of nuclear weapons has underscored it.

Of course, if you're a person of sufficiently large vision, you can always shrug this worry off. Even if we wipe out all human beings, some species will survive, such as the famously radiation – resistant cockroach. And if biological evolution is directional, then maybe there will eventually be a species smart enough to reignite cultural evolution, impelling social organization, once again, toward the planetary level, so global concord will get a second chance!

Personally, I don't feel a strong enough kinship with cockroaches to find much solace in this scenario. In fact, there are mishaps well short of nuclear annihilation that I'd just as soon avoid....

As for the scientific assault on purpose: A strictly empirical analysis of both organic and cultural evolution, I've argued, reveals a world with direction – a direction suggestive of purpose, even (faintly) suggestive of benign purpose. Life on earth was, from the beginning, a machine for generating meaning and then deepening it, a machine that created the potential for good and began to fulfill it. And, though the machine also created the potential for bad – and did plenty of fulfilling on that front – it now finally shows signs of raising the ratio of good to bad; or, at the very least, of giving the human species that option, along with powerful incentives to exercise it.

This recent uptick in the moral stock market, coming several billion years after the creation of life, may strike some people as underwhelming. If you really sit and ponder all the suffering that has been by – in fact, was built into – biological and cultural evolution, you may find it hard to muster a lot of gratitude toward the universal architect.

Or you can take the opposite tack. Maybe that's what I've done – spent so much time pondering the horror intrinsic in the past that I'm grateful for small things. I gave up so long ago on an omnipotent and benign deity that I'll take a few wisps of good karma and hope they signify something larger.

But, whether or not I'm straining to find divinity, I don't think I'm straining to find meaning. The point isn't just that, for reasons that are exceedingly hard to fathom, we have consciousness, and thus are playing for real moral stakes. The point is that we are playing for the highest stakes in history. More souls are crammed onto this planet than ever, and there is the real prospect of commensurately great peril. At the same time, there is the prospect of building the infrastructure for a planetary first: enduring global concord.

And if we did that – if we laid a foundation for peace and fulfillment around the world – that would counterbalance a lot of past evils, given the number of people now around to enjoy the benefits. It may literally be within the power of our species to swing nature's moral scales – which for so long tended to equilibrate near dead even, at best – decisively in the direction of good; maybe it is up to us, having inherited only the most ambiguous

evidence of divinity, to CONSTRUCT clearer evidence in the future. Maybe history is, as various thinkers have suggested, not so much the product of divinity as the realization of divinity—assuming our species is up to the challenge, that is. (One theologian has paraphrased Teilhard as believing that “God must become for us less Alpha than Omega.”)

My belief that some workable infrastructure for concord will very likely emerge does nothing to drain the drama from the present, for one plausible route to long-run success is near-term catastrophe. However close to inevitable stable world governance may be in the long run, here and now we are playing for the highest stakes that have ever been played for, and winning will depend in no small part on continued moral growth. Which is to say; winning will depend on not wanting other peoples to lose.

There are many ways to react to all this, but nihilism and ennui don't seem to me among the more logical.

IN THE BEGINNING...

In the New Testament, the Gospel of John begins, “In the beginning was the Word, and the Word was with God, and the Word was God ... In him was life.” More than one science writer of a cosmic bent has juxtaposed this verse suggestively with the modern scientific view of organic evolution: in the beginning was, if not a word, at least a sequence of encoded information of SOME sort.

Fair enough. But if cosmically suggestive juxtaposition is what you're after, you needn't stop here, for the biblical word “WORD” is richer than it sounds. It is a translation of the Greek *logos*, which can indeed mean “word” but can also mean many other things, including “reason.” And you might say that, once self-replicating genetic information existed, a line of reasoning, a chain of logic, had been set in motion. A several-billion-year exercise in game theory had commenced.

LOGOS also mean “Argument”, and it is tempting to view biological and cultural evolution somewhat as Hegel viewed human history – as a very long argument. Competing ideas about how to organize organic entities clashed. And non-zero-sumness won in the end.

One scholar has rendered *logos* as the “point,” and the “purpose” – the end that one has in mind. And, indeed, the religiously inclined might speculate that the spiritual corollary of the triumph on non-zero-sumness – the expansion of humanity's moral compass – was the purpose of history's game-theoretical argument all along. In the beginning, you might say, was the end, and the end was a basic truth – the equal moral status of all human beings.

The idea that a kind of LOGOS might be the force guiding a directional history is far from new. In fact, this was the theory of Philo of Alexandria; member of an ancient philosophical school that some scholars believe was the conduit through which LOGOS entered Christian scripture. Permeating human history, Philo said, was a “divine LOGOS,” a rational principle that was immanent in the world but, at the same time, was part of God’s transcendent mind. And in what direction was LOGOS moving history, in Philo’s view? “The whole world,” he wrote, “may become, as it were, one city and enjoy the best of polities, a democracy.” Not bad, as two-thousand-year-old predictions go.

Of course, Philo didn’t have access to game theory, so he couldn’t talk about non-zero-sumness. Then again, game theorists weren’t the first people to recognize the logic of interdependence, and Philo certainly grasped it. Mutual need, he believed, was what wove God’s diverse creatures – people, plants, animals – into a whole.

God has made none of these particular things complete in itself, so that it should have no need at all of other things,” Philo wrote. “Thus through the desire to obtain what it needs, it must perforce approach that which can supply its needs, and this approach must be mutual and reciprocal. Thus through reciprocity and combination even as a lyre is formed of unlike notes, God meant that they should come to fellowship and concord and form a single harmony, and that a universal give-and-take should govern them, and lead up to the consummation of the whole world.”

Amen to that.

In real life, of course, the story has been more complex than Philo’s story. In a sense, it has been a better story – not better in moral terms, but better in literary terms, in dramatic terms. It has featured ever since the first bacterium, a growing knowledge – and, with the arrival of human beings, growing self-knowledge. It has also featured amity and strife, good and evil – two forces vying with each other, yet inextricably bound together. And now, in the past century, as knowledge has grown exponentially, so have the stakes of this contest. More than ever, there is the real chance of either good or evil actually prevailing on a global scale. War and other forms of mass slaughter, other manifestations of massive hatred, could be ended – or, on the other hand, they could set new records for death and destruction’ they could even, conceivably, end us. And the outcome may hinge on the further spread of knowledge – not just empirical knowledge, but moral knowledge.

...But, whether or not you believe the story indeed has a cosmic author, one thing seems clear: it is our story. As its lead characters, we can’t escape its implications.

It’s amazing how fast a viewpoint can move from radical to trite. Today, with the fascism seeming like an ancient relic, and the Internet looking strikingly neural, talk of a giant global brain is cheap. But there’s a difference. These days, most people who talk this way are speaking loosely. Tim Berners-Lee, who invented the World Wide Web, has noted parallels between the Web and the structure of the brain, but he insists that “global brain” is a mere metaphor. Teilhard de Chardin, in contrast, seems to have been speaking literally: humankind was coming to constitute an actual brain--like the one in your head, except bigger.

Certainly there are more people today than in Teilhard's day who take the idea of a global brain literally. But they reside where Teilhard resided: on the fringe of opinion.

Are they crazy? Was Teilhard crazy? Not as crazy as you might think. And once you understand how relatively non-crazy it is to call humankind a giant brain, other aspects of Teilhard's world view begin to look less crazy as well. Such as: the idea that there is a point to this whole exercise, the idea that life on earth exists for a purpose, and that purpose is becoming manifest.

Wright is not saying these things are true – at least, he's not saying it confidently, the way I've been saying that organic history and human history have a direction. I'm just saying these things can't be dismissed with a wave of the hand. They don't violate the foundations of scientific thought, and they even gain a kind of support, here and there, from modern science.

Are we an Organism?

There are various reasons that, at first glance, you might be skeptical of this giant global brain business. One is that a real, literal brain belongs to a real, literal organism. And the human species isn't an organism; it is a bunch of organisms. But before dismissing the possibility that a bunch of organisms can themselves constitute an organism, we should at least get clear on the definition of an organism. That turns out to be harder than it sounds.

Pierre Teilhard de Chardin, writing in the mid-twentieth century, declared the world's nascent telecommunications infrastructure “a generalized nervous system” that was giving the human species an “organic unity”. Increasingly, humankind constituted a “super-brain,” a “brain of brains.” The more tightly people were woven into this cerebral tissue, the closer they came to humanities' divinely appointed destiny, “Point Omega”.

What exactly was Point Omega? Hard to say. Teilhard's philosophical writings are notable about equally for their poetry and their obscurity. As best I can make out, at Point Omega the human species would constitute a kind of giant organic brotherly-love blob.

Pierre Teilhard de Chardin, the mid-twentieth-century prophet of globalization, hinted at one. Having forecast the integration of humankind into a “planetized” whole—a giant “super-organism”—Teilhard addressed the obvious, Orwellian fear: the “lives of a cell” scenario. His message: Fear not. “To say ‘love’ is to say ‘liberty’. There need be no fear of enslavement or atrophy in a world so richly charged with charity.”

Well, that's a load off my mind! As usual, Teilhard's optimism is so fuzzy and boundless as to erode his credibility. And, as usual, his instinct for big-picture dynamics is acute enough to restore some credibility. He seems to sense that, when you face the trade-off between freedom and order, much of your wiggle room comes from a third variable that lies in the realm of spirit—or, to put it more mundanely, the realm of morality; what the world needs is to expand its supply of good will.

Of course, this goal, though moral, isn't reachable only by moral means. We've just seen some political initiatives that, while not likely to unleash a torrent of good will, could at least cut the supply of *ill* will. There are no doubt other such policies. Still, when one group of people harbors contempt, or even disdain, for another group—fundamentalist Muslims for westerners, say, or westerners for fundamentalist Muslims—the problem is indeed at some basic level moral. What is arguably the biggest challenge of the future—staying safe while staying free—may be a projection that is as much spiritual as political.

You may object that this project sounds vague and mushy. Well, obviously! That's why it's called a "spiritual" project instead of, say, a "civil engineering" project. Whether it is a doable project is unknown. But moral leadership *has* occasionally met with success. Neither Gandhi nor Martin Luther King, Jr., accomplished all he had hoped for, but both led wrenching and necessary social transformations with less violence than such transformations had historically entailed. And, while both men were at some level politicians, their political force was inextricable from their spiritual force.

History holds other causes for hope, too. At the end of the Middle Ages, when Europe's governance, impelled largely by economics, moved from the local to the national level, the nation-state became, in some measure, a unit not just of political organization, but of moral organization, featuring at times a certain diffuse good will. Religion played a role—monarchs didn't exactly shy away from Christian symbolism—but also important was the sheer sense of common cultural belonging and common destiny. People thought of themselves as being in the same boat.

Well, in some ways, at least, the whole world is increasingly in the same boat. In that light, was Teilhard's optimism so hopelessly unrealistic? Given inspired leadership, how close *could* the world's peoples come to brotherly love—or, failing that, to the less intense psychic unity that a mild-mannered nationalism brings? We'll return to this question toward the end of the book. For now I'll just note that there was a time, centuries ago, when even nationalist sentiment must have seemed improbable to Europeans, given cultural and linguistic differences and venerable hatreds.

There is one other, very different, and somewhat smaller, sense in which modern problems may find quasi-spiritual solutions. Slowing the rate of economic globalization, hence of cultural dislocation, is not only a political project. The less bent on material acquisition people in affluent nations are, the less breakneck the pace of modernization—and, as a bonus, the less environmental havoc there will be. As another bonus, we may discover something sages have been saying for millennia: endless acquisition isn't the route to fulfillment anyway.

Clearly, the argument of this book has taken a strange twist. Two of them, in fact—two twists that run parallel to each other.

First, I've argued above for subduing the pace of history—this after contending for fifteen chapters that the direction of history is largely good. Sounds odd, I know. But it is history's *long-run* course that is mainly good, and, as John Maynard Keynes pointed out, it is the short run—the time frame in which we live our lives—that concerns us most.

In the short run, the “natural” course of history has sometimes brought much unpleasantness.

And “cultural lag” seems to have been a big reason. Some historians trace the virulence of twentieth-century German nationalism all the way back to the nineteenth century, when industrialization swept lands that had just barely left the Middle Ages. Russia, even more than Germany, had to fast-forward from an age of serfs into the industrial revolution—and, in a sense, Russia never recovered, never developed fitting governance. Among the casualties that can arguably be chalked up to this cultural lag: the many millions who died by starvation or execution at Stalin’s hands. Today, catastrophes of this size could transpire even without the sponsorship of a national political leader. That’s life in a world featuring unaccounted-for nuclear materials, pervasive biotechnology, and lots of unhappy campers. Hence my concern about the number of unhappy campers.

Which brings us to the second strange twist: the sudden welling up of moral sentiment—my rhapsodizing about the need for good will and about the evils of avarice. The previous chapters had evinced a certain austere admiration for the “unsocial sociability” that Kant saw in the human psyche. After all, this tension within human nature has sustained the largely healthful drift of history. The tireless pursuit of social status, even of conquest, has ultimately elevated the human condition, allowing more and more people to live, on balance, better lives. How can I justify turning my back on the very things that got us where we are today—such spurs to progress as greed and hatred?

Well, at the risk of sounding cold-hearted: they’ve outlived their usefulness. From the beginning their value was of an ironic sort. Enmity drove society toward larger expanses of amity. Greed and the lust for status, for power over people, helped drive a technological evolution that granted people more freedom. All along, the darker side of human nature was defensible, if at all, only to the extent that it tended to thus negate its own values system. And, all along, there was the implied prospect that, in the end, if the darker side’s downside grew and its upside waned, defending it would get hard.

The end is here. With the world’s ecosystem already under stress, and billions of additional people apparently on the way, mindless materialism grows more dubious. With society finally globalized, we don’t need war to push political organization (that is, the realm of peace) to broader expanse. And with nuclear and biological weapons at hand, full-fledged war – and for that matter full-fledged terrorism – are less palatable than ever. Hatred just ain’t what it used to be.

Even Herbert Spencer – who had a certain respect for enmity’s gratifying effects – saw the declining virtue of antipathy. He wrote: “From war has been gained all that it had to give...” The social evolution that “had to be achieved through the conflicts of societies with one another, has already been achieved; and no further benefits are to be looked for.” Wars, he observed, had not only ceased to be vital to progress; increasingly, they were the cause of “retrogressions.” (And this was before nuclear weapons.)

War has contained the seeds of its own demise all along. This primal form of zero-sum energy, through the very logic of history that it helped impel, was bound to grow more

and more negative-sum until finally its downside was too glaring to ignore. In retrospect, it looks almost like planned obsolescence.

If war can indeed be turned into a relic, then the virtue of greed will recede further. From a given society's standpoint, one big upside of wanton material acquisition has traditionally been the way it drives technological progress – which, after all, helps keep societies strong. In the nineteenth century, Russia and Germany had little choice about modernizing; in those days stasis invited conquest. But if societies no longer face conquest, breakneck technological advance is an offer they can refuse, and frugality a luxury their people can afford.

God knows greed won't vanish. Neither will hatred or chauvinism. Human nature is a stubborn thing. But it isn't beyond control. Even if our core impulses can't be banished, they can be tempered and redirected.

Or, more accurately: some impulses can be used against others. People will always seek social status, and revel in the esteem of their peers, but this very thirst can be used to dampen other thirsts. In defining the kinds of behaviors that do and don't win esteem, communities have great power over how human nature expresses itself. Among the things that can in principle become prerequisites for social status (and, indeed, in some communities already are): not engaging in conspicuous consumption; not saying hateful things about whole national, ethnic, or religious groups, or even about other people.