JOHN MICHAEL GREER ON EVOLUTION, HISTORY, and PROGRESS

MY AUDIO NARRATION OF THIS MATERIAL AND MORE

https://soundcloud.com/michael-dowd-grace-limits/jmg-evolution-history

https://soundcloud.com/michael-dowd-grace-limits/progress-reason-history

Taking Evolution Seriously

Back in 1904, sociologist Max Weber proposed that the modern period was witnessing "the disenchantment of the world" – a process which traditional mythic ideas that wove meaning into human experience were being replaced by the alienating and dehumanizing worldview of materialist science. There's some truth to Weber's thesis, but I'm not sure he anticipated the inevitable backlash: the Procrustean stretching and lopping of scientific ideas in the popular imagination that has turned many of them into substitute myths.

One example that has been much on my mind of late is the way the theory of evolution has been manhandled into a surrogate mythology. The reason it's been on my mind is simple enough: whenever I discuss peak oil at a lecture, book signing, or some other public setting, it's a safe bet that someone will raise a hand and ask what I think about the possibility that the approaching crisis is part of our transition to a new evolutionary level. I am always left wondering what to say in response, because this sort of question is almost always rooted in the notion that evolution is a linear movement that leads onward and upward through a series of distinct stages or levels – and this notion is a pretty fair misstatement of the way evolution takes place in nature.

Few things in the history of ideas are quite so interesting as the way that new discoveries get harnessed in the service of old obsessions. When X-rays were first detected in 1895, for example, one of the first results was panic over the possibility that the new rays might make it possible to see through clothing; the New Jersey state legislature actually debated a bill to ban the use of X-rays in opera glasses. Wildly inaccurate as it was, this notion was rooted in profound fears about sexuality, and so it took many decades to dispel – when I was a child, ads in comic books still claimed to sell "X-ray glasses" that would let you see people naked.

Something not that different happened to the theory of evolution, and thus nearly all of today's popular notions about evolution are shrapnel from the head-on collision between Darwin's theory and the obsessions of the era in which that theory emerged. Social class rather than sex was the driving force here; as religious justifications for the English caste system faltered, the manufacture of scientific justifications for social hierarchy became a growth industry, and by the time the ink was dry on the first copies of The Origin of Species, evolution was already being drafted into service in this dubious cause. The resulting belief system was very nearly a parody of George Orwell's Animal Farm in advance – all living things evolve, but some are more evolved than others.

Now of course this is nonsense. A human being, a gecko, a dandelion, and a single-celled blue-green alga are all equally evolved – that is, they have all been shaped to the same degree by the pressures of their environment, and their ancestors have all undergone an equal amount of natural selection. We think of humans as "more evolved" than blue-green alga because Victorian Social Darwinists such as Herbert Spencer engaged in conceptual sleight of hand, transforming the amorphous outward surge of life toward available niches into a ladder of social status, with English gentlemen at the top level and everybody and everything else slotted into

place further down. The concept of evolutionary stages or levels was essential to this conjurer's act, since it allowed social barriers between classes to be mapped onto the biological world.

In nature, though, evolution has no levels, it just has adaptations. There is no straight line of progress along which living things can be ranked. Instead, evolutionary lineages splay outward like the branches of an unruly shrub. Sometimes those branches take unexpected turns, but these evolutionary breakthroughs can no more be ranked in an ascending hierarchy than organisms can. They move outward into new niches, rather than upward to some imagined goal. There are any number of examples from nature; the one I want to use here is the evolution of bats.

The ancestors of the first bats were shrewlike, insect-eating nocturnal mammals, related to early primates, who scampered through the forest canopies of the Eocene around 60 million years ago. For animals that live in trees, the risk of falling is a constant source of evolutionary pressure, and adaptations that will help manage that danger will likely spread through a population; that's how sloths got their claws, New World monkeys got prehensile tails, and many animals of past and present got extra skin that functions as a parachute. If the extra skin bridges the gap between forelegs and the hindlegs, the most common adaptation, you get the ability to glide, like flying squirrels, colugoes, and the like; you've got a viable adaptation, and there you stop.

If the extra skin is mostly on and around the forelimbs, though, you've just jumped through the door into a new world, because you can control your glide much more precisely, and you can put muscle into the movements – in other words, you can begin to fly. Once you can do better than a controlled fall, furthermore, the trillions of tasty insects flitting through the forest air are on your menu, and the better you can fly, the more you can catch. The result is ferocious evolutionary pressure toward improved flight skills, and in a few hundred thousand generations, you've got agile fliers. That's what happened to bats, as it happened some 200 million years earlier to the ancestors of the pterodactyls.

By 55 million years ago, bats almost identical to today's insect-eating bats were darting through the Eocene skies. Sonar seems to have taken a while to evolve, and some offshoots of the family – the big fruit bats and flying foxes, for example – took even longer, but the basic adaptations were set and, to the discomfiture of countless generations of mosquitoes and moths, have remained ever since. As evolutionary breakthroughs go, the leap into flight was a massive success; bats are the second most numerous of mammal orders, exceeded only by the rodents, but it's impossible to fit the breakthrough that created them into any linear scheme.

Applying an ecological concept to human social systems always takes tinkering, but there are good reasons to accept the idea that societies are capable of evolution; like populations of other living things, human communities face pressures from their environments, and adapt or perish in response. Here again, though, the evolutionary process moves outward in all directions rather than ascending an imaginary hierarchy of levels. Hunter-gatherer systems seem to have been the original form of human society, but other forms branched off as adaptations opened doors to possibilities that were likely as appealing at the time as the bug-filled night sky must have been to the first clumsily flapping proto-bats.

Where large herbivores could be tamed, therefore, nomadic herding societies came into being; where many food plants could be raised in intensive gardens, tribal horticultural societies were born; where extensive fields of seed-bearing grasses offered the best option for survival, agrarian societies took shape. As it turned out, grains could be bred to yield large surpluses that could be transported and stored, and so the agrarian system opened the door to large-scale divisions of labor and the rise of cities. These in turn made complex material culture possible, and ultimately drove the creation of the machines that broke into the Earth's stockpiles of fossil carbon and gave the modern world its three centuries of exuberance.

Thus industrial society is not “more evolved” than other societies, for for that matter “less evolved.” It was simply the most successful adaptation to the evolutionary pressures that opened up once fossil fuel energy had been tapped, and it outcompeted other systems in something of the same way that an invasive exotic outcompetes less robust native organisms. As fossil fuels deplete and climate change unfolds, the balance of evolutionary pressures is shifting, and as the new reality of limits takes hold, selection will favor those systems that are better adapted to the new ecological constraints of global climate instability, energy scarcity, and resource shortage.

The fact that those new systems are better adapted to new realities, however, does not free them from the human condition. This is where the rubber meets the road, because the people who ask me about the prospects of a new evolutionary level are rarely asking whether the societies of the future will be better adapted to an environment of resource scarcity. They are generally asking whether societies on the other side of an imagined evolutionary leap will be free from problems such as poverty, war, and environmental destruction.

The best way to assess this, it seems to me, is to consider what happened the last time human social evolution yielded a breakthrough to a new way of living in the world: that is, the rise of industrial societies beginning around 1750. Agrarian societies suffered from poverty, war, and environmental destruction, and so did all the other “evolutionary levels” or, rather, adaptations, right back to the hunter-gatherers. Many hunter-gatherers among the First Nations in North America, for example, had sharp social inequalities, a busy slave trade, and a long history of fierce tribal wars. Their ecological relationships were less problematic, since those native societies that failed to find a balance with nature, such as the Mound Builders and the people of Chaco Canyon, collapsed long before 1492.

Just as bats faced the same experiences of hunger, social squabbles, and the unfriendly attentions of predators as their ancestors, the societies that took up industrialism experienced poverty, war, and environmental destruction just like earlier societies, and it’s hard to think of a good reason why the new societies that emerge in response to the evolutionary pressures of the deindustrial age should be exempt from the same troubles. Evolutionary adaptations can make things easier for living things – plenty of predators in the Eocene must have been discomfited when bats evolved the ability to flutter away to safety – but no living thing is exempt from the balances of the natural world. It’s a mistake, in other words, to see evolution as a movement toward Utopia.

When I’ve tried to explain any of the above in public, though, someone – and it’s not always the same someone who asked the original question – usually insists that this may be how biological evolution works, but spiritual evolution is different. Some of my readers just now may have come up with the same objection. All I can say in response is I know of none of the world’s great spiritual traditions that would approve the claim that people living extravagant lifestyles of wealth and privilege – this is, after all, a fair description of life in modern industrial societies from the standpoint of the rest of human experience – can expect a sudden leap to an even more comfortable and convenient life, just because they happen to want it, and would find it a useful way to avoid dealing with the consequences of their own shortsighted choices.

This may seem unduly harsh. Still, the notion that an evolutionary leap will extract us from the mess we’ve made for ourselves is as much a distortion of the realities of the evolutionary process as any Social Darwinist screed. If people want to believe that a miracle will rescue them from the predicament of industrial society, they have every right to their faith, but it would confuse communication a little less to call it a miracle, instead of trying to wrap it in the borrowed prestige of Darwin’s theory. Perhaps it’s the bias instilled by my own Druid faith, furthermore, but it seems to me that if we are going to use evolution as a metaphor, we need to

start by taking evolution seriously, rather than imposing our own fantasies on the very different stories that nature is telling us.

History's Arrow

One of the advantages of being a Druid is that you get to open your holiday presents four days early. Last Sunday's winter solstice was pleasant, with a scattering of snow on the ground outside and candles burning indoors as we celebrated the rebirth of the sun. As one hinge of the year's cycle, the solstice is a good time to ponder the shape of time: on the small scale, with hopes for the year to come and memories of the one now passing; the middle scale, as I think back on past holidays and the uncertain number that still lie ahead; and the large scale, with which this blog is mostly concerned. In keeping with that seasonal theme, I want to talk a bit about history on the large scale, and the ideas our culture uses to frame the idea of history.

One of the things that has interested me most about the reactions to the ideas about the shape of the future I've presented here on The Archdruid Report is the extent to which so many of them presuppose one particular way of thinking about history. Like the character in one of Moliére's plays who was astonished to find that he had been speaking prose all his life, a great many people these days have embraced a distinctive philosophy of history, but seem never quite to have noticed that fact.

This is hardly a new thing. One of the ironies of the history of ideas is the way that so many cultural themes, surfacing first in avant-garde intellectual circles, are dismissed out of hand by the grandparents of those who will one day treat them as obvious facts. Modern nationalism, to cite one example out of many, began with the romantic visions of a few European poets, spilled out into the world largely through music and the arts, and turned into a massive political force that shredded the political maps of four continents. To some extent, this is the intellectuals' revenge on an unreflective society: the men of affairs who treat the arts as amenities and dismiss philosophy as worthless abstraction spend their workdays unknowingly mouthing the words of dead philosophers and acting out the poems they never read on the stage of current events.

The way of thinking about history I have in mind today has followed the same trajectory. Karl Popper, who devoted much of his career to critiquing it, called it historicism. This is the belief that history as a whole moves inevitably in a single direction that can be known in advance by human beings. Exactly what that single direction is supposed to be varies from one historicist to another; choose any point along the spectrum of cultural politics, and you can find a version of historicism that treats the popular ideals and moral concerns common to that viewpoint as the linchpin of the historical process. The details differ; the basic assumption remains the same.

That same assumption has also spread to infect nearly every contemporary discussion of change over time. After my post "Taking Evolution Seriously" appeared a few weeks back, for example, one of my longtime readers forwarded me comments from a discussion on an email list, whose members took me to task in no uncertain terms for my discussion on the evolutionary process. When I said that no organism is "more evolved" than any other and that evolution has no particular direction or goal, they insisted, I was simply wrong; evolution progresses in the direction of increased complexity over time, one person claimed, and another suggested that I would be better informed if I read more of the writings of the late Stephen Jay Gould.

Now I have no objection to reading more of Gould's work, as I've already enjoyed many of his books. For that matter, I've read a fair amount of evolutionary theory, beginning with Darwin and continuing through some of the most recent theorists, and also took college courses in evolutionary ecology and several related branches of environmental science. One thing this taught me is that attempts are always being made to stuff evolution into a historicist straitjacket.

Another thing I learned is that these attempts are rejected by the great majority of evolutionary biologists, because the evidence simply doesn't fit.

Some evolutionary lineages have moved from more simple to more complex forms over time, but others have gone in the other direction, and the vast majority of living things on Earth today belong to phyla that have not added any noticeable complexity since the Paleozoic. Nor has the Earth's biosphere as a whole become more complex; the entire Cenozoic era – the 65 million years between the last dinosaurs and us – has been less biologically rich than the Mesozoic era that preceded it, and the global cooling of the last fifteen million years or so has seen a decrease in the world's biological complexity, as ecosystems have adapted to the more rigorous conditions that have spread over much of the world.

The facts on the ground, then, simply don't support any claim that evolution moves toward greater complexity. No other version of historicism fares any better when applied to evolution, either. Yet ninety-nine times out of a hundred, when you hear people outside of a university biology department talking about evolution, what they have in mind is a linear process leading in a particular direction. They are, in other words, talking historicism.

Trace these ideas back along their own evolutionary lineage and a fascinating history emerges. The founder of the current of thought that gave rise to today's historicism was an Italian monk named Joachim of Flores, who lived from 1145 to 1202 and spent most of the latter half of his life writing abstruse books on theology. Most Christian theologians before his time accepted Augustine of Hippo's famous distinction between the City of God and the City of Man, and assigned all secular history to the latter category, one more transitory irrelevance to be set aside by the soul in search of salvation. Joachim's innovation was the claim that the plan of salvation works through secular history. He argued that all human history, secular as well as sacred, was divided into three ages, the age of Law under the Old Testament, the age of Love under the New, and the age of Liberty that was about to begin.

Some of his theories were formally condemned by church councils, but his core theory proved unstoppable. Every generation of church reformers from the thirteenth century to the eighteenth seized on his ideas and claimed that their own arrival marked the coming of the age of Liberty; every generation of church conservatives stood Joachim on his head, insisted that the three ages marked the progressive loss of divine guidance, and portrayed the arrival of the latest crop of reformers as Satan's final offensive. As secular thought elbowed theology aside, in turn, Joachim's notion of history as the working out of a divine plan got reworked into secular theories of humanity's grand destiny.

Notable among these was the theory argued by the Marquis de Condorcet in Sketch for a Historical Picture of the Progress of the Human Spirit in 1794. A rich historical irony surrounds this work; Condorcet had been a strong supporter of the French Revolution, and hoped that the end of the monarchy would usher in a republic of reason; instead, he was condemned to death by the new government and wrote his Sketch while he was on the run from the guillotine. He nonetheless described human history as an inevitable rise from barbarism to a future of reason and progress in which all of human life would undergo endless improvement.

Condorcet's faith in perpetual progress found many listeners, but a more influential voice was already waiting in the wings: Georg Wilhelm Friedrich Hegel, who managed the rare feat of becoming both the most influential and the most unreadable philosopher of modern times. In his Philosophy of History, which was published shortly after his death in 1831, he argued that history was the process by which human freedom (which, for him, was not quite the freedom of the individual; he idolized Napoleon and the government of Prussia) was maximized in time. In Hegel's mind, Joachim's threefold rhythm of history was reworked into the three phases of thesis, antithesis, and synthesis, by which every opposition was resolved into a higher unity.

Hegel's view of history became enormously influential, less through his own work – I challenge any of my readers to plow through the Philosophy of History and come out the other side with anything but a headache – than through the writings of those influenced by him. Political radicals at both ends of the spectrum jumped on Hegel's ideas; on the left, Karl Marx used Hegelian ideas as the foundation for his philosophy of class warfare and Communist revolution; on the right, Giovanni Gentile, the pet philosopher of Mussolini's Fascist regime, was a rigorous Hegelian. For that matter, Francis Fukuyama, who played a role much like Gentile's for the neoconservative movement, drew his theory of an end to history from Hegel.

Still, the spread of Hegel's ideas isn't limited to the radical fringes, or even to those who know who Hegel was. I think most people who have been following the issue of peak oil for more than a few months have noticed, when the subject comes up for discussion in public, one of the most common responses is "Oh, they'll think of something." Ask the person who says this to explain, and odds are you'll be told that every time the world runs out of some resource, "they" find something new, and the result is more progress. This is Hegel reframed in terms of economics; shortage is the thesis, ingenuity the antithesis, and progress the synthesis; the insistence that the process is inevitable puts the icing on the Hegelian cake. More generally, the logic of historicism governs the entire narrative: history's arrow points in the direction of progress, and so whatever happens, the result will be more progress.

Examples could be added by the page, but I hope the point has been made. Still, it's crucial to realize just how deeply historicism has become entrenched in all modern thinking. If, dear reader, you think yourself untouched by it, I encourage you to try a thought experiment. The average species, paleontologists tell us, lasts around ten million years. Imagine that by some means – a visit from a time machine, say, that leaves you holding a history of humanity written by an intelligent species descended from chipmunks – you find out that this is how long we have. We won't achieve godhood, or reach the stars, or destroy the planet, or enter Utopia; instead, the nine million years we've got left will be like recorded history so far. Civilizations will rise and fall; our species will create great art and literature, interpret the universe in various ways, explore many modes of living on the Earth; finally, millions of years from now, it will slowly lose the struggle for survival, dwindle to small populations in isolated areas, and go extinct.

If that turns out to be humanity's future, would you be satisfied with it? Or would you feel that some goal has been missed, some destiny betrayed? If the latter, what makes you think that?

Now of course it may be a waste of breath to contend with ideas as pervasive and deeply rooted as historicism, but the effort has to be made, if only because historicism has a dismally bad track record as a basis for prophecy. Name a historicist belief system that's been around more than a few years, right back to Joachim of Flores himself, and you'll find a trail of failed predictions of the imminent arrival of the goal of history. (Joachim himself apparently believed that the age of Liberty would arrive in 1260; no such luck.) If we are to have any useful sense of the future ahead of us, historicist belief systems are among the worst sources of guidance available to us.

Fortunately there are other choices. In next week's post, I plan on talking about some of those. In the meantime, best holiday wishes to all my readers – whatever holidays you celebrate at this time of year.

History, Meaning, and Choice

The end of one year and the beginning of another has been a time for celebration and reflection since around the time calendars were invented, and even though the date has been kicked around the yearly cycle pretty comprehensively by history's boot – it hasn't been that long, all

things considered, since the civil year in the English-speaking world began in late April – there's a point to the custom. Our individual lives have their turning points, and so does the collective life of communities and cultures; the hinge of time when one year changes to another provides a useful reminder of such things. It's in this spirit that I want to wrap up one of the threads of discussion that's shaped my posts on The Archdruid Report for several weeks now.

Several times now in these essays, I've brought up the names of some of the major theorists of cyclic history – Giambattista Vico, Oswald Spengler, Arnold Toynbee – and talked a little about how their ideas illuminate the current crisis of industrial civilization. For the last three centuries, the tradition these authors and their works embody has challenged the historicist faith discussed in last week's post: the belief that history has an arrow with the words "this way only" painted on it somewhere; that, in other words, it has a direction, a purpose and a goal. If a meaningful sense of history is a tool worth having as we face the predicament of our time, and historicism does not provide such a sense – and to my mind, at least, both these assertions are far more true than not – the vision of cyclic history is one place where something more useful might be found.

Mind you, cyclic and historicist views of history are both out of fashion these days; there is no shortage of scholars who lump them together as "metanarratives," and insist that they should be banned from serious history. The problem with this insistence is that human beings think in stories as inevitably as they walk with feet. Attempting to chase metanarratives out of history simply results in assaults on those metanarratives unpopular enough to be noticed, while those that are accepted unthinkingly slip past the sentries with ease. The statement "history follows no pattern," after all, is itself a metanarrative: a narrative about historical narratives that embodies a particular approach to historical knowledge. Thus attempts to talk about the shape of history should not be dismissed out of hand; the question that needs to be asked of them is simply whether they help to make sense of the course of historical events.

Yet this question itself can be read in more than one way. Historicist and cyclic theories of history both try to make sense of history, but they try to make different kinds of sense; they get different answers because they ask fundamentally different questions. At the core of historicism is the intuition that history has a meaning, while at the core of the cyclic vision is the intuition that history has a pattern – and "meaning" and "pattern" are by no means interchangeable terms. Most historicist theories, mind you, find pattern as well as meaning in history. Most cyclic theories, by contrast, leave questions of the meaning of history entirely open, and some – Oswald Spengler was particularly outspoken in this regard – reject the idea that history as a whole has any meaning or purpose with as much vehemence as any positivist.

Spengler's reasons for this rejection are worth examining, because his rejection of historicism went deeper than just about any other thinker I can name. He argued that history can have no overall meaning, because it's impossible to talk of meaning at all except within the worldview of a given culture; each culture evolves its own distinct way of experiencing human life in the universe, and the only meaning humans can know is embodied in these distinctive worldviews. No culture's worldview is more or less true than any other, nor are the worldviews of cultures that arise later on in history an improvement in any sense on the ones that came before; each culture defines reality uniquely through its own dialogue with the inscrutable patterns of nature and the human experience. Interestingly, Spengler applied this logic to his own work as well; he offered his theory not as an objective truth about historical cycles, but simply as the best account of historical cycles that could be given from within the perspective of modern Western – in his terms, Faustian – humanity.

When it got past superficialities, much of the criticism that has been directed at Spengler's work over the last nine decades took aim squarely at his insistence that every culture's worldview is equally valid, and that humanity therefore does not progress. What makes his resolute rejection

of our culture's superiority unacceptable to so many people, though, is precisely that it offends against the pervasive historicism of our age. Only the belief that history is headed somewhere in particular, with our civilization presumably in the lead, makes his thesis in any way problematic.

For what it's worth, I think that Spengler was right in principle but wrong on a minor but important detail. He was certainly right to point out that trying to rank worldviews of different cultures according to some scheme of progress or other yields self-serving nonsense. Ancient Egyptians understood the universe in one way, and modern Americans understand it in another, not because Americans are right and Egyptians were wrong – or vice versa! – but because the two cultures were not talking about the same things, nor were they using the same symbolic language for the discussion. A worldview based on explorations of the metaphysics of human life in the language of myth cannot meaningfully be judged by the standards of a worldview that takes analysis of the physical world in the language of mathematics as its starting point.

To say that the industrial world's technological progress proves the superiority of its worldview merely begs the question, since the Egyptians did not value technological progress. They valued cultural stability and they achieved it, maintaining cultural continuity for well over 3000 years – a feat our own civilization is not likely to equal. By their standards, for that matter, our society's ephemeral fashions, ceaseless cultural turmoil, and incoherent metaphysics would have branded it as an abject failure at the most basic tasks of human social life.

As I see it, though, Spengler undervalued the process by which certain kinds of technique invented by one culture can enrich later cultures. A very relevant example is classical logic, among the supreme achievements of the Apollonian culture, which was inherited in turn by the Indian, Syrian-Byzantine-Arabic (in Spengler's language, Magian), and Faustian cultures. No two of these cultures did the same thing with that inheritance; a toolkit Greeks devised to pick apart spoken language was used in India to analyze the structures of consciousness, in the Levant to contemplate the glories of God, and in Europe and the European diaspora to unravel the mysteries of matter. Without Greek logic, though, some of the greatest creations of all three inheritor cultures – the rich philosophical dimensions of Hinduism and Buddhism, the great theological syntheses of Islam and Christianity, or the fusion of logic with experience that gave rise to the modern scientific method – certainly could not have been done as easily, and quite possibly might not have happened at all.

What this implies is that, while history is not directional, it can be cumulative. Nothing in the history of cultures older than Greece suggests that the emergence of logic was inevitable, just as nothing in the subsequent history of logic justifies the claim that logic is developing toward some goal or other. Still, the toolkit of logic, absent before the Greeks, enriched a series of cultures that flourished after them. There are countless examples, and they span the full range of human cultural creations; for a small but telling example, consider how the practice of counting prayers on a string of beads, which originated in India, has spread through most of the world's religions. For another, consider the way that forty centuries of East Asian intensive agriculture inspired the emergence of organic growing methods that are probably our best bet for tomorrow's food supply. Every person who finds spiritual solace in prayer or meditation with a rosary, or is planning a backyard organic garden to help put food on the table next year, has good reasons to be grateful for the slow accumulation of technique over time.

Thus there's a fine irony in the insistence by so many people these days that evolution will shortly relieve us of the necessity to deal with the consequences of our own mistakes, and get history back on track to their imagined goal. They're right that the historical changes under way now are evolutionary in nature; their mistake lies in thinking, to put the matter perhaps a bit too harshly, that evolution is some sort of cosmic tooth fairy who can be counted on to leave a shiny new future under the modern world's pillow to replace one rotted away by three centuries of extravagant living. Instead, the historical development of cultures parallels the way that

evolution actually works in nature. Cultures, like species, tend to collect those adaptations that meet their needs, and discard the ones that don't. Thus those techniques that happen to meet the needs of more than one culture tend to survive more often than those that don't, just as those cultures that are able to make use of a suitable range of inherited techniques are more likely to thrive than those that do not.

I trust none of my readers are drowsy enough by this point to think that I am suggesting that the accumulation of useful techniques is the meaning, purpose, or goal of history. From my point of view, for whatever that may be worth, meanings, purposes, and goals are not to be found in any objective sense in the brute facts of existence; they are always and only attributes applied creatively to existence by conscious persons, and the emergence of meanings, purposes and goals common to more than one person depends on the relation between the person proposing these things and those who choose to accept or reject them. (Atheists may read this statement in one sense, and religious people in quite another; interestingly enough, the logic works either way.)

Like biological evolution, though, the cultural evolution I am proposing here is in no way inevitable. The crises that surround the decline and fall of civilizations, in particular, very often become massive choke points at which many valuable things are lost. One reasoned response to the approach of such a choke point in our own time thus might well be a deliberate effort to help the legacy of the present reach the waiting hands of the future. The same logic that leads the ecologically literate to do what they can to keep threatened species alive through the twilight of the industrial age, so that biological evolution has as wide a palette of raw materials as possible in the age that follows, applies just as well to cultural evolution.

Thus it may not be out of place to imagine a list of endangered knowledge to go along with today's list of endangered species, and to take broadly equivalent steps to preserve both. There are certainly other meanings, purposes and goals that can be found in, or more precisely applied to, either the inkblot patterns of history as a whole or the specific challenges we face right now, in the early stages of industrial civilization's decline and fall. We can decide as individuals whether to build on the heritage of our culture, to explore the legacies have been handed down to us from other cultures, or to scrap the lot and try to break new ground, knowing all the while that other individuals will make their own choices and the relative success of the results, rather than any preference of ours, will determine which of them plays the largest role in shaping the future.

My own choice centers on the preservation of those parts of the modern world's heritage that I find most valuable, and most promising, as tools for the futures that seem most likely to me. If that way of putting things seems uncomfortably subjective, personal, and even arbitrary, dear reader, you're beginning to get the point of the last month or two of Archdruid Report posts. Our own subjective, personal, and arbitrary perceptions are the only things we have to go on, and the results tend to be much less problematic when we accept this fact, rather than trying to cast the shadows of our desires onto history's arc and stare at them in the fond delusion that we're staring destiny in the face.

One way or another, we all have choices to make as the new year dawns. Some of us will face the harsh decisions that come with unemployment, foreclosure, and bankruptcy; others will encounter the moral challenges that face those who have wealth while others go hungry; still others will have other choices. Not everyone will be at liberty to take the deindustrial future into account as they make their choices, but I hope some will do so, and whatever you choose in this regard – whether or not it corresponds to any of the things I've discussed here – it might be wise to take action on the basis of your decisions sooner rather than later. A year, after all, is not the only thing that's ending around us just now.

JMG - pages 37 ff in Not the Future We Ordered

To most people in the contemporary industrial world, after all progress is not a myth but in fact still, strong case can be made in the inevitability goodness of progress not only serves many of the same social psychological function in modern industrial culture as myths such as economic did in their day, but also represents a picture of reality no more complete and thus a source of guidance no more useful than Greek and Roman myth. Any such exploration of progress of course has to begin with a recognition of the fact that many people in the modern world have experienced a great deal of what passes for progress in their own lives. In the world's industrial nations, certainly, nearly everyone alive has enough of newer and more complex technologies replace older and simpler ones. There's still people alive today in the industrial world to recall the first time in automobile drove through the town. There are many more who watched the television today human beings first set foot on the moon. The days before cell phones and the Internet are well within the memories of most of today's adult population. Further back in history, at least to a certain point, the same process can be seen work: the development of steam power from the first crew coal-fired pumping engines early years of the 18th century, for example, and its transformation from a convenience for coal miners to the dominant power source of the civilization, provide forceful support the narrative of progress.

Trace history back much further than those early steam engines, however, and becomes much harder to find examples of the narrative except by a drastic compression historical time and a studied inattention to any detail that contradicts the myth. During the 17th century for example, it was considered a question worth debating France and Britain whether the European nations of that time had advanced any further than ancient Greek or Roman; while the issues on which the debate centered were cultural rather than technological, the same market proceeded equally well on a technological basis. as recently as 1939, as Winston Churchill famously marked, the fraction British homes with central heating was smaller than it had been in Roman times.

A strong case can be made, in fact that relative technological stasis was far more evident than any nose progressive Trent over the millennia from the emergence of the first urban society to the coming Industrial Revolution. It is worth noting, for example, the extent to which the lives of ordinary people – priests, soldiers, farmers, – in the France of Louis XIV were comparable to those of equivalent in the Egypt of promises to, 3000 years earlier. In both nations, and in every other relatively complex society across the century separated, human and animal muscle provided most of the available energy for economic activity supplemented with small amounts of additional renewable such as wind and water. The hard limits imposed by these energy sources restricted economic surpluses to a tiny fraction of what is standard in today's industrial societies, the very modest surpluses that existed were monopolized by the ruling of vanity projects such as the palace of Riverside or the Temple of Karnak even in the realms of symbolism and collective psychology, parallels are easy to find – begin with, for example, both nations even had a Sun King.

Between 8000 BCE, when the development green agriculture first made it possible to produce the surpluses needed to build and maintain urban society and 1700 CE, when the first earnings of the Industrial Revolution said it, common pattern shared by ancient Egypt in early modern France represented of human social and technological complexity. Efforts to push beyond that level for frequent, and typically collapsed in short order as the available supply of energy and material wealth proved inadequate to maintain a more complex system using urban agrarian societies, only thriving regions of the Earth's surface that were particularly favorable to such project. Elsewhere, three older systems – tribal village cultures that practiced horticulture and sedentary animal raising; pneumatic hurting cultures that involve many of the world's great

grass and the hunter gatherer, the oldest wall – occupied their own ecological issues. In the old world, where urban agricultural societies earliest these simpler human ecology is occupied at least half the total land even in those periods where when urban societies were remote at the most successful. Glance back before the emergence of first urban agricultural societies to the 99% or so if human history which Hunter gatherer,, and the last traces progress management site; stone to get used by Cro-Magnon societies and Ice Age France 30,000 years ago for example, was complex and efficient as those used by hunter gatherers at the dawn of the modern era.

Insofar as progress happened at all before 1700, in other words, it took place in brief and relatively localized burst, most of which ended – as ancient Egypt and the Roman empire did, for instance – instinct declines to a less complex technological and social level. Few of these bursts of progress did spawn new technological economic and social ventures that prove lasting and spread gradually across parts of the world that had the ecological conditions necessary to support the. Most other ventures did not, and the frequency with which archaeologists have uncovered wounds ruined cities swallowed by the jungle buried in the desert sands offer a useful minor fragility successful products. As a general rule, furthermore, decline has been as common in history as progress, and long periods of relative stasis far more common than either.

The accelerating linear trend of technological progress has characterized.

Since 1700, and other, is an unusual event in human history it's not quite unprecedented: other agents of expansion abundance taken place whenever human societies were able to access a large body of previously untapped resource these precedents have a stark warning to offer, however, is the great majority of them ended in precipitous client rate faster than natural processes could replenish and it was exhausted. History is littered the wreckage of once successful societies that followed this path into times Dustin up with the rocket down with the stick.

From the perspective of history, in fact, our current industrial civilization is simply a reenactment of this familiar pattern on a larger scale. the resource base that the first industrial nations accessed in the years following 1700 – fossil fuel stored up inside the earth for the half 1 billion years before that time – was far richer than any previous example, and drove a far more drastic expansion austerity and political power than any earlier civilization enabled she. Coming at peak oil however, marks the point at which our modern example reaches of the and begins long dissent to a much lower level of technological and social complexity, followed following the course of those previous examples.

The most reasonable hypothesis concerning the future of industrial society thus seemed to be that the three centuries of expansion set in motion by the Industrial Revolution be followed in turn by an extended period of economic contraction technological retrenchment, driven by the exhaustion of fossil fuel supplies that powered the expansion. Whether or not the availability of abundant fossil fuels was a sufficient cause for the boom time of industrial, this hypothesis suggests, some equally abundant supply of highly concentrated, easily accessed energy is a necessary condition; its absence the lavish lifestyles and complex technologies of the industrial age will no longer be viable.

As fossil fuel reserves depleted in the industrial world is forced to make do with the diffuse, intermittent, and expensive energy sources that are left, our relative prosperity will give way to something closer to the more stringent economic realities of other times, and only those technologies that can be maintained on a much less extensive resource base of energy and materials than the one that we haven't present can be expected to survive into the industrial future.

Reasonable as it is, however, that hypothesis is nowhere to be found on the conceptual map of contemporary society. Instead, the only alternative to continued progress that most people in the industrial world are able to imagine is some sort of apocalyptic catastrophe fast enough to stop progress in its tracks, and even then it is commonly supposed that progress will resume again once the rubble stops bouncing. The possibility of gradual decline, common though it is that it has as a historical phenomenon, is sufficiently unthinkable that it plays no role in meaningful planning for the future. As a result, the practical steps that would make the downside of Hubbard's peak less difficult, and ensure the preservation of many of the benefits of the recent past, are not even being considered, much less put into effect.

Instead, industrial societies around the world behave as though a future of continued technological advance, economic expansion, and global sociopolitical integration is guaranteed, and projects that will only make sense of such a future were to happen – for example, massive expansions of airport facilities and major road systems – proceed apace, even in regions whereby most measures decline has already begun. The possibility that progress may be a temporary and self and self-limiting phenomena specific to brief periods in human history remains unthinkable for most people in the modern world. This is the result of the role of progress as a contemporary mythology the basis for a widespread accepted modern religion.