

The Next 100 Years and Beyond

Clark M. Thomas
cmtastronomy@hotmail.com
June 29, 2016

As America lurches toward the 2016 election, and as the world is consumed with numerous political, racial, and ecological crises, now is a good time to foresee what likely awaits us over the next 100 years and beyond.

[I was trained as a historian, but I left Harvard graduate school and a full-expenses fellowship to seek authentic wisdom. The educational gerbil path I was on would have lead at best to comfortable academia, not to wisdom. Since then I have written without any financial reward four philosophy books (starting in 1974), and one medical book dealing with the 2006 bird flu threat. I have more recently written several dozen articles dealing with many aspects of astronomy and physics. These books and essays are all available for free on my web site: astronomy-links.net]

Philosophy in Greece was the first *science* from more than two thousand years ago. Its original focus still lies at the core of our quest to understand the universe. *Religion* frequently presents itself as philosophy, but there is only a partial overlap: How can we claim to know what we cannot know. Progress toward authentic wisdom is both qualitative and quantitative. Neither deduction nor induction provides a clear path. How can science merely learn more and more about less and less, and thereby move toward wisdom? How can we inhabit theoretical castles in the sky, and claim to have solid knowledge? How can we honestly make maximum sense of everything, including anything, without sinking into pure skepticism? This last question is the supreme question for philosophy.

A key to understanding both universal science and human history is *systems theory*. Every thing, and every logical thought system must pass through the validating screen of systems theory. Any thought system that self-contradicts self-destructs. Any cosmology bounded by zero and infinity is meaningless. Scientific, social, and political theories that do not take systems theory into proper account tend to self-destruct. Ironically, the human emotional core for all these intellectual failures is seldom understood or appreciated.

Over the next 100 years and beyond humanity will face both familiar and unprecedented challenges. The political tools we humans on this planet will employ will nearly all be short-sighted, self-serving – and adapted to times past when change was linear, not exponential. Greed, fear, and willful ignorance seem to be controlling today's political choices. Nevertheless, we always have it within our power to make best choices, even if we cannot always engineer ideal outcomes.

The world in 2016 is the product of hundreds of years of short-sighted "progress." For every good ecological decision we have made as a species, there are many more we have not made. History is the deep past shaping and energizing the ephemeral present – which pushes us toward a fuzzy future, elements of which we neither understand nor desire.

Looking at the 2016 American election, social media make it easy to demonize our opponents. Donald Trump is allegedly Hitler 2.0; and Hillary Clinton is allegedly a crook and murderess. From a systems theory perspective we can better understand this wacky weirdness:

I was born in the upper South, and my family goes back to the 1740s in western Virginia. The cultural roots of the civilization I was born into are not the roots that our mobile grandchildren will know. Actual plants can feel threatened, but they cannot scream and vote. The Democrats position themselves as champions of the new vegetation, so to speak. All life forms are near-term

opportunistic. What's new today will be old tomorrow. There is nothing in chatty social media that prepares today's youth, or their parents, for *exponential emergent change*.

The history of life on this planet is one of overall tenacity, but also great changes within the distribution of individual species. Only a tiny percentage of all the species that have prospered on Earth are alive today. We are foolishly fueling the first phase of another great extinction, something not seen since the large dinosaurs. Just as the dominant dinosaurs couldn't conceive of an Earth without their kind, modern humans in their vanity cannot conceive of Earth without us as the dominant species. In this great extinction one of those vanishing protoplasmic species could be us. Our advanced AI descendants, the *comphumans*, should do quite well in our absence.

Fortunately, dramatic ecological changes may not happen in the next few decades. The modern world still has time enough to ensure a long prosperity for humankind in the strange new world. *The question is do we have the collective perception to properly act within the narrow window of time that we have.*

This window assumes we don't soon self-extinguish with global thermonuclear war. The risk for that unimaginable catastrophe is much higher than nearly all of us will admit.

The next 100 years will see the acceleration of two major events that are already underway: *global warming*, and the appearance of *advanced AI*. Every change has a downside, and every downside has an upside. One man's crisis is another man's near term opportunity to make money, or to seize power. In the long run all of us either win or lose collectively. We shape the next 1,000 years by what we do soon in the next 100.

In 2016 politicians seek to demonize their opponents, using primal fear and stereotypes. The original Gresham's Law said "bad money drives out good money." Gresham's Law of Politics

says “bad politicians drive out good politicians.” We get the politicians we deserve.

Before we start pointing fingers, some soulful time spent in front of a mirror would help. Whoever wins the 2016 fear derby will face a litany of human-spawned crises that will be pushed on to the next presidencies. Instead of thinking globally and acting locally – powerful societies tend to think locally and act globally. The world will never be at peace with such a limited mindset.

A characteristic of social life that is unique to recorded history is *hierarchical religion*. Traditional humans have long had survival-tested, homeostatic behaviors within cyclical time. The repeating cycles of birth and death have been their religious existential time.

In contrast, historical humans understand history in linear time, with ideas of a personal God at our social center. We experience our cultural community as “good and virtuous,” and think of everybody and everything else as inferior. It’s our in-group vs. inferior out-groups. Self-superior metaphysics extends to how we treat the biosphere, justifying through selfish religion ecological disruption on a global scale.

Self-anointing through rigid religion (where our God is always in the equation) is a way to morally justify warfare and terrorism. In war and terrorism, God in various forms is always the first recruit on every side. If our side wins, it’s proof that God is indeed with us. If our side loses, then God has punished us for failures in faith. Either way, mass slaughter of out-groups “proves” our ideas of God – and the *circular firing squad* persists within what is supposed to be the most evolved species. We are indeed Stone Age people living in a Space Age world, with our twitching fingers on the nuclear button.

There is a cool theory about why we have never clearly met advanced interstellar space aliens: These enlightened beings could be terrified by our killer-ape tendencies. They choose to

observe us from a safe distance. Maybe they will later land and introduce themselves to peaceful, post-apocalyptic comphumans. Self-replicating philosophical life forms and their interlaced AI society would truly welcome friendly alien outsiders. Interstellar social encounters probably won't happen for 100+ years, if ever.

Global warming and pollution have been denied by craven politicians in the pocket of wealthy carbon polluters. It's a lot more cost-effective to buy prominent local politicians than to clean up pollution in real time. When ocean levels sufficiently rise, opportunistic speculators will buy up land along the new coast lines. One example will be the flooding of Virginia's tidewater region and the District of Columbia. The Atlantic Ocean coast will in future centuries appear at Richmond, and then move into the piedmont. Millions of uprooted Virginians will first crowd inland, creating obscene real estate profit opportunities. What a "lovely future" we are making for our innocent descendants.

There are many pernicious effects from global warming. Entire climates will shift radically. Vast numbers of guiltless land and ocean species will perish. We are already suffering through a series of record hot years. Today's global heat is just the point of the spear. Entire ecosystems will migrate northward, and entire zones will become virtually uninhabitable. Meanwhile, human procreation will continue with Malthusian math – humans tend to increase geometrically, while life-sustaining resources only increase arithmetically.

Solar power, wind power, ocean currents power, possibly nuclear fusion power, and conservation have all been touted as slowing or reversing global warming. Yes, a global application of these tools to generate and conserve usable energy will help slow global warming – but **it is *already too little and too late to painlessly stop massive global climate changes that may last more than a million years.***

What about now when critical global resources are already decreasing? I am talking here about fresh water, such as

overtaxed rivers in the Middle East. I am talking about oceans whose coral reefs and food fish are easily devastated by high water temperatures and overfishing. I am talking about vast desertification of marginal farmland. We are really talking about hundreds of millions of innocent, impoverished human lives soon to be prematurely snuffed out by the geopolitical consequences of selfish decisions made in the early 21st century. (The Rev. Thomas Malthus in 1798 called such deaths “positive checks” on population growth.)

Another critical emerging trend is the appearance of *advanced artificial intelligence (AI)*. Much of the emotional appeal of Trump and Sanders has been to displaced and increasingly marginalized white American workers. Millions of good factory jobs in America and western Europe have been replaced by automation, and by outsourcing. The recent United Kingdom Brexit vote was mostly xenophobic fear of accelerating immigration by job-stealing foreigners, and from outsourced jobs.

Ironically, today’s Chinese winners, skilled factory workers, will soon be massively impacted by automation. How will China’s pseudo-Communist rulers maintain their legitimacy with a huge spike in structural unemployment this century among their 1.3+ billion citizens? Even places like India will be impacted by the growth of sophisticated AI robotics. How will aspirational India stay peaceful with a billion people sinking to the bottom?

There are many examples of something initially good becoming something bad. It’s *the sorcerer’s apprentice effect*. Consider one change already underway: Manufacturers are racing to put self-driving vehicles on the road. Sure, it will be great to have drunks at a bar driven home by such cars. Old people living at home with failing bodies may longer avoid nursing homes if they have self-driving cars. Many people in dense cities will just summon self-driving cars per ride, not needing to buy them. On the other hand, consider that transportation is the top employer of men in America. Take away many of their jobs, and millions of hard-working fathers become emasculated couch potatoes.

Even jobs for highly educated workers will soon be decimated. This growing threat will slam educated young adults and their nuclear families. Already, new lawyers are becoming surplus, thanks to automated legal processes. Stock trading is becoming computerized. Call centers will also soon be depopulated by advanced AI customer service bots. Not just American call center employees will become surplus, but also Philippine and Indian workers will hit the streets. Humans need food and rest – but AI robots “eat” electricity, and work without fatigue.

Up to ninety percent of Incas and other native Americans were killed off by European diseases such as smallpox during the early colonial era. Celebrated Spanish conquistadors did not conquer; their diseases did the Pope’s dirty work. How many people around the world will be devastated in the next 100 years by invading species and surprising new diseases?

Don’t ask Clinton or Trump to address any real future as they insult their way to the next presidency. Don’t ask our craven, gerrymandered House of Representatives to lead the way. Don’t ask a voter population living in social media la-la land to demand sanity and social justice. We prefer bread and circuses.

Americans live as if change is *incremental*, and thereby easily manageable. However, dangerous challenges are becoming increasingly *exponential* in ways few can imagine. Where are the political systems that will articulate and manage exponential change?

Wouldn’t it be great if authentic Wisdom, not greed, ruled the world? We haven’t yet fallen into the dark vortex of our own making, but we are near its edge. My contemporaries and our current leaders won’t be around much longer. Who and what will take their places? Billions of future humans could suffer from global threats synergised by bad decisions. If we are not very soon wise enough *and* proactive, we may hand our biological descendants permanent Hell on earth.

APPENDIX (7/18/2016)

The essay you have just read has zero links outside my own. I could have included a thousand links, concluding with the same words. I hereby give you just one external link to help you understand why I came to write this essay – if anybody cares:

https://www.washingtonpost.com/news/wonk/wp/2016/04/29/six-maps-that-will-make-you-rethink-the-world/?tid=hybrid_experimentrandom_2_na

The six maps within this link illustrate how radically different the fairly near future (within just a hundred years) can be, and likely will be. There is also a sober video therein about the history of world population growth.

The map of greatest significance is the one that shows what a mere overall increase of 4 degrees Celsius around the world would do to humanity. Understand that the future beyond that point is projected to be significantly worse, with even higher average temperatures, and much higher seas. This future point in time shows just six feet of rising ocean, whereas totally melting the Greenland ice cap alone would make that total twelve feet.

Even further ahead, when Antarctica melts, up to another 200 feet could be added to wave tops. Many very young people alive today may witness six feet of rising oceans, with devastating climate change. Future generations beyond our own great grandchildren could experience a Hell where “six-feet and four degrees” is remembered as “the good ole days.”

The six-minute video at the end of this link shows how population over the last two millennia has geometrically increased, and most recently to incredible densities – while the size of our Earth’s biosphere has not grown.