Progress and Population

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Version 1.5
(posted on 15 January 2019)

General Electric Theatre was a long-running half-hour CBS network television show sponsored by the corporate giant General Electric. GE was then and remains today a massive conglomerate, one of the largest business firms in America, a stalwart of the Dow Jones and Fortune 500. In earlier decades of the 20th century, GE was created by Thomas Edison and later spawned such well-known companies as RCA and NBC. The television show sponsored by GE — an anthology production featuring compressed adaptations of popular and classic fiction — aired every week in America on Sunday nights from 1953 to 1962. The show was a popular fixture on network television, reaching as high as #3 in the Nielsen ratings (during the 1956-1957 season).

For the bulk of its 209 episodes, General Electric Theatre was hosted by Ronald Reagan, who was part owner of the show's production company and became GE's official spokesperson. Reagan, then in his 40s, had in his younger days been an actor, achieving modest success as a second-tier B-movie star. His decade-long stint as host and motivational speaker for GE not only made Reagan wealthy, but set up his entry into politics.

Throughout his tenure as host of the TV show, Reagan was a Democrat (and a staunch anti-communist) — he had twice been elected President of the Screen Actors Guild in Hollywood — but through the 1950s Reagan became increasingly conservative politically (paralleling his expanding personal wealth). After being fired by GE in 1962 (over a flap involving Reagan's disparaging comments about the government project TVA, a major customer of GE), Reagan switched parties, becoming a Republican, and subsequently achieving elected office, twice as Governor of California and then as President of the United States.

The corporate slogan of GE, prominently repeated every week on General Electric Theatre, was: *"Progress is our most important product."*

Nearly everyone born in America over the past 200 years has grown up culturally incubated in the mythology of progress. The multi-phase Industrial Revolutions of the 19th and 20th centuries, and now the Technology Revolution of the late-20th and 21st centuries, are mainstays of American society and quintessential elements of The American Dream. And why not? Electricity turned night into day. Washing machines and dryers did away with the laborious, time-consuming tasks

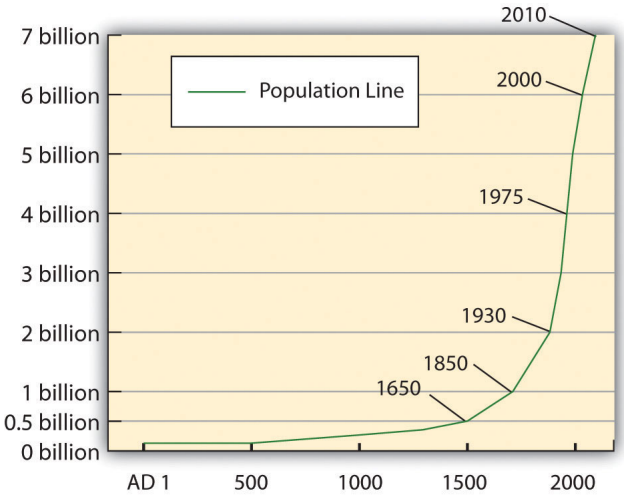
of "wash days." Refrigerators and freezers revolutionized the convenience of storing perishable food. Trains, automobiles, and airplanes made long-distance travel a reality within reach of nearly everyone. The downside was that all these wonders required the burning of fossil fuels, which now threatens the future of humanity.

And that's the trouble with progress: Solving one problem through human ingenuity usually leads, however inadvertently, to the onset of other problems.

Throughout all but the last two centuries of humanity's 200,000 years on the earth, we didn't have to worry about disrupting the environment. There simply weren't enough of us, and our industrial activity was distinctly limited. The biosphere was easily large enough to recover from the results of whatever we did.

We chopped down whole forests and converted wild spaces into monoculture farming with no apparent ill effects. We fished the oceans for seafood, but their abundance continued. Our extractive economies concentrated poisons that had been previously distributed safely in the earth, but our noxious products and toxic waste didn't have much effect, except on us. Nature remained in charge and unperturbed.

That is no longer the case. The rise of science in the 18th century and the onset of the Industrial Revolution in the 19th were accompanied by a dramatic increase in our numbers. Below is a graph of human population over the past two millennia (which amounts to only the last 1% of humanity's tenure on the earth):



With more than seven billion human beings currently alive on the planet (and current projections estimating eight billion by 2024), and with a scale of industrial activity that has increased thousand-fold since 1800, our impacts on the land, the oceans, and the atmosphere are no longer marginal. Human beings

are literally changing the ecosphere. Nature doesn't care about this, of course. She simply goes with the flow of change and adapts to the new equations. But *we* should care. Our impact on the environment is altering the land, oceans, and atmosphere; disrupting the climate; and altering irrevocably the intricate, interdependent, and astonishingly complex balance of Life on earth in ways that now threaten our continued survival, as well as all other life on earth.

In 2000, biologist Paul Crutzen named our current epoch the "Anthropocene," meaning a period of accelerating environmental and climatic change as a direct result of human activity that is causing species extinctions and may result in a mass extinction event. Five previous mass extinctions are known to have occurred on earth. In each of these five, 75-95% of the existing species on the planet died off. Human beings may be the cause of a sixth.

As much as it may sadden us to consider the demise of higher vertebrates and mammals, such as polar bears, recent reports about diminishing populations of insects should worry us more. According to studies, over the past 25 years insect biomass, especially among flying insects, is down by 75% in some areas, presumably as a direct result of pollution from toxins and artificial light. The smallest creatures are literally the bedrock of life on earth. Insects pollinate our crops and provide a primary food source for many animals. We can't survive without insects. If they go, we go.

The extraordinary system of Life on Earth operates on many prerequisites and principles. Our planet's location in the solar system in the "Goldilocks" zone (not too hot, not too cold, but just right…) is one prerequisite. Liquid water is another, as are a protective atmosphere and magnetic field. Once Life is underway on the planetary skin — the thin membrane of fertile land and ocean — the principles of equilibrium and balance become central to the successful equation. Competition and cooperation intertwine between and among different species to produce an amazing diversity of vital life forms.

Over time, certain species succeed more than others, achieving top dog status in temporary domination. If a given species is too successful in reproduction and reaches numbers that disrupt the overall equilibrium, however, that state of affairs cannot last. Balance eventually reasserts itself, restoring a more productive interdependent diversity.

That's the situation in which humanity now finds itself. Over my lifetime, human population has been discussed mostly in terms of carrying capacity. How many humans can earth's resources support? How many people could we feed? I can remember people writing four decades ago that if we made the conversion from a carnivorous to a vegetarian diet, the earth could provide sustenance for at least 14 billion of us. I don't read or hear that anymore. Now the big questions are about equilibrium and balance as natural limiting factors.

Stated bluntly, the human species has become far too successful for our own good and, more importantly, for the good of the earth's Life System. There are simply too many of us, and our cumulative effect on the biosphere is too toxic. Maybe that would be different if most humans spent our time in quiet meditation, but we don't (and won't). No, human nature is industrious. We love to manipulate the environment, to mess with the world, and therein lies the rub. Our wisdom doesn't match our instinctive drives. Collectively, auto-programming wins over consciousness.

Religion may have told us that humans were the chosen ones, the crown of creation, and that we were meant to conquer nature and achieve dominion over all of earth's creatures, but religion was wrong. Not only can we not conquer nature, we also cannot escape its laws. Individually, we may work toward transcendent wisdom. I'm told that some people have even achieved that.

Collectively, however, we're clever but not very smart, extremely powerful but not equally loving. The balance between Us and Them is skewed, with too many seen as Them, and not enough felt as Us. The bottom line is that we're animals, not gods. And so, we play out the string of who and what we are, whether the results are happy or sad, glorious or tragic, life-affirming or fatal. Expecting more than that from our species is quite possibly too much to ask.

Readers can see where this Commentary seems to be headed, but I'm not going to play it out. Instead, I'll suggest only that we need to contemplate our mortality and the impermanence of the worlds we've created. Nothing lasts forever, including us.

Nevertheless, spending wisely whatever time we are given as individuals continues to be available. Living fully and well, with as much grace as we can, still counts. Personal fulfillment remains possible, even in the fear-filled world we now inhabit, and even during these times of chaos and madness.