

The “S” in “STEM”, or, Aristotle’s Science was settled too, but it was wrong, or, “The Emperor has no Clothes.”

Those of you familiar with the acronym quoted above know it refers to Science, Technology, Engineering, and Mathematics, but have you thought about its individual components? I have. At length.

A Smartphone is a product of Technology, but the science of Aristotle’s time, positing the [four elements](#) as Earth, Air, Fire, and Water, could not hope to produce a Smartphone.

This is not to say that they (and those before them) weren’t able to apply mathematics to science to come up with engineering - witness the Pyramids with the corbelled arches in their passageways, and Greek columns and lintels, but technology is a bit different. As Arthur C. Clarke [said](#), “Any sufficiently advanced technology is indistinguishable from magic.”

The 2000 year long mistake given us by Ptolemy’s science of the ancient Greeks was the geocentric solar system with its mathematically sophisticated [epicycles](#), which can still predict the apparent location of planets as they move across the sky, but is of absolutely no utility (to use a recent example) in getting a spacecraft to rendezvous with a comet.

Technology is reflected by notions of the Stone, Bronze, Iron, Industrial, and Post-Industrial Ages and Civilizations, where the last two are more appropriately attached to civilizations only as they’re not long enough to be considered sociological ages. (Paleontological and geological ages are, owing to their time spans, entirely different beasts.)

But to get back to science, it has of late been used by those who have no idea of what it is, to defend points of view similar to those held by the Catholic Church when Galileo challenged their geocentric view of the solar system.

Science, absent the application of mathematics to become engineering, which is then used to create a technology, is nothing more than conjecture, and as such, the very notion of “settled science” is a [non-sequitur](#) – it’s never settled.

Every week or so, the editors of the New York Times, reflecting the bubble they seem to live in, publish another story on [anthropogenic](#) global warming, where the argument is made that yet another study or simulation shows that atmospheric CO₂ and other greenhouse gases are causing the average global temperature to rise, and that once a tipping point is reached, there will be no way to arrest or reverse the situation. Lately they’ve become even more creative publishing a stories on “geo-engineering” (What science-fiction had invented for alien worlds as “terraforming”) to mitigate/reverse the temperature increase (thus contradicting the very notion of irreversibility).

The problem is that the empirical data

contradicts the models and studies, and show that the reality is that average global temperatures have been steady or increasing more slowly over the past [10 to 17 years](#), depending upon on the data set.

In fact, such [empirical evidence](#) (what a concept!) as exists shows that atmospheric CO₂ concentrations have increased *after* the earth had *already* undergone global warming, not the reverse, and empirical evidence is what makes science what it is (or what it had been until as of late), where blue-sky conjecture is validated or disproved by testing of observation. Models, no matter how sophisticated, are by their very definition wispy representations of reality, and can be as wrong as was Ptolemy’s geocentric model of the solar system.

For example, the entire [history](#) of the understanding of the atomic structure of matter, right up to the [quantum mechanics](#) of today, is a lesson in how models evolve with the earliest ones usually being nothing more than concept, or, to repeat myself since I believe it’s an idea worth internalizing, conjecture.

There comes a point where continued observation chips away at previously accepted notions to the point that they have to be seriously re-thought or jettisoned, and the UN’s International Panel on Climate Change may be approaching that point with their recent statement that [they don’t know what to make of the recent “pause” in global warming](#). Climatology is trying hard to be a science, but if one becomes wedded to a point of view (as was the medieval Catholic Church that the earth was at the center of the universe) one may continue to defend the untenable to the point that it looks as much or more like a religion than it does science. All one has to do to see this is to look at the [Wikipedia piece on the pause](#).

Reliance on imperfect models yields results which are the very definition of the GIGO (Garbage in, garbage out) principle in computer science, and the New York Times, in another example the bubble they live in (sorry, I just can’t help it), published a recent op-ed by a scientist trying to make the case that since the models used to forecast local weather are reasonably accurate for a week or so ahead [[until something changes](#)], we should heed the current models re long term global warming.

No.

[Hindcasting](#) works until it doesn’t, as did [Dalton’s billiard ball model](#) of the atom. There are just too many variables – that we know of. There are others which we don’t even know exist. The use of [supercomputers to model nuclear explosions](#) is one thing, but their use to [model changes in global climate](#) smacks of laughable arrogance, especially since they don’t (can’t) model some of the variables (e.g., clouds) which we know exist.

When all this is battered down, all we are left with is the better safe than sorry argument – doesn’t it make sense to limit CO₂ emissions just in case the models aren’t wrong? Besides, the government needs to step in because we know that left to themselves, corporations will simply screw

things up. They do. Often.

And the government doesn’t?

Perhaps you’re familiar with the locution “To err is human, but to really foul up, requires a computer.” Similarly, while corporations can screw up their little (or not so little) corner, one can always deal with a different corporation – until the state supplants all corporations (where has that been tried?), at which point a screwup affects all of us.

In case you hadn’t noticed, it’s one-way traffic in rafts from Cuba to the U.S. as it was over, under, around, or through the Berlin Wall from East to West Berlin. Or to look at it another way which is harder and harder to miss lately, it’s not religion which has killed millions in the name of piety, but state (whether or not recognized as such) *control* of religion.

No one is, and no ones are, smart enough to provide for the well being of all of us, or to tell us we are overheating the entire planet.

The emperor’s buck naked.

Speaking of Technology . . .

Thoreau’s [Walden](#) may be a good model for a vacation, and I used to go backpacking alone for weeks at a time when I was younger, but even then I knew the difference between returning to nature for reinvigoration and living during pre-industrial times (as did Thoreau).

For all the talk of living off the grid and under the radar, even if you wanted to, you could not build an automobile (no less a Smartphone) with your own hands using native materials, and when socialist governments run what corporations run in the rest of the world, you end up with a [Yugo](#).

This is not say there are no exceptions, but see the previous piece regarding the direction of travel between Cuba and Florida.

So, we don’t want to live in caves lit by torches, but we don’t want to screw up the environment either. What’s a responsible environmentalist to do? How about connecting with the reality they’re insulated from by modern technological society so as to gain some [perspective](#)?

OK, perhaps such extreme measures as discussed in the video reached via the previous link are not necessary, but what *does* constitute good stewardship of our earth?

Well, I’d start with (to clean it up a bit), don’t defecate where you eat, and that extends to not simply dumping wastes without considering their impact and mitigating such as may be possible, but going back to pre-industrial life is not an option.

There are laws such as Murphy’s and that of Unintended Consequences that virtually guarantee things will not turn out as expected. The object of the exercise is to minimize the resulting havoc and trying to do so from direction from on high is doomed to failure.

That the EPA has been instrumental in cleaning up our environment is not in dispute. That it remains *only* a faithful guard thereof, is.

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