

## BOOK REVIEW

# The myth of progress: toward a sustainable future

By Tom Wessels

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In this slim volume, Tom Wessels, an ecology professor at Antioch New England Graduate School, expounds his view that the “reigning paradigm of progress,” which he equates to continual economic growth, is eventually doomed to failure despite material progress to date (p. 113). He offers, instead, an alternative path based on a change in human culture that would, in his opinion, lead to sustainable improvements in environmental quality and human well-being.

His thesis, which shares a lot in common with Paul Ehrlich and John Holdren’s I=PAT formulation of the relationship between environmental impacts (I), population (P), affluence (A) and technology (T), is based on the notion that economic growth violates the three “laws of sustainability,” namely, the law of limits to growth, the second law of thermodynamics, and the law of self-organization in complex systems. His remedy is to go back to “Ancient Cultural Values” (p. 97) which he presumes existed in hunter-gatherer societies. This presumption is based, not on any evidence, but on a “suppositions” (p. 101). As he puts it, “I have a strong sense that even though life was physically hard and life expectancies were short, the *experience of life* was extraordinarily rich” (emphasis in the original; p.101).

He notes that humanity can’t go on multiplying indefinitely because sooner or later human population would have to exceed the total number of atoms in the universe (pp. xix-xx). According to his book, assuming a one percent annual population growth rate, this would occur in 17,000 years (pp. xix-xx). I estimate that at that point the population should be of the order of one followed by 74 zeroes! While an excellent academic point, it is irrelevant to any real world problem. According to

the International Institute for Applied Systems Analysis (IIASA) there is a better than 90 percent probability that by the end of this century the world’s population will have peaked at about 12.1 billion – only nine zeroes – and a 2.5 percent probability that it will exceed 14.4 billion. Notably, Wessels seems to have overlooked the remarkable reduction in global population growth rates that has occurred in the past few decades,

for the most part voluntary (with the notable exception of China). This reduction has been partly ascribed to the desire of families to favor current consumption and to increase their progeny’s human capital (including education and earning potential) so that they can better compete in the economy of tomorrow (Goklany 2007: 385–386). So while admittedly there are theoretical limits to growth, the real question isn’t whether the world can support exponential growth forever but whether, and how well, it can support a population of about 12–15 billion by the year 2100, but although Wessels asserts that the earth’s carrying capacity has been exceeded (pp. 36–37), it isn’t clear how he came to that conclusion nor does he seriously address the policy-relevant questions noted above.

He is correct that the second law of thermodynamics dictates that, sooner or later, all the usable energy in the universe will have been dissipated as entropy so the human race will not be able to rely on energy to run its economy till the end of time. But is this also a relevant question? When will this eventuality come to pass – in a thousand, a million or a billion years? This eventuality can, moreover, be postponed because, as Wessels himself recognizes, the efficiency of energy use could be increased dramatically (pp. 55–56). In addition, the earth contains

energy resources that can be unlocked through fission and fusion. Moreover, given long term uncertainties and potential catastrophes such as natural climatic change, comets, other extraterrestrial objects, and geological events that may befall this earth, what is the likelihood that humanity will be around 1,000 or a million years from now? And should we worry about such outcomes, particularly, as is postulated, man is irreversibly changing the biosphere, presumably for the worse?

The book is also marred by several questionable, if not downright incorrect, claims. I dispute the claim that “increasing gross domestic product is the most broadly accepted indicator of progress” (p. xx). This is a convenient strawman, easy to knock down. There are few, if any, people who don’t recognize the wisdom of the ancient adage that “money isn’t everything.” For example, out of the 53 chapters devoted to characterizing existing trends in human and environmental well-being, Julian Simon’s survey, *The State of Humanity*, devotes only parts of two chapters to income per capita (or its surrogate, GDP per capita), and none to GDP *per se* (Simon 1995). The remainder deals with various aspects of well-being such as mortality, life expectancy, hunger, education, air and water pollution and, yes, material progress as well. Similarly, the United Nations Development Program has for several years used a human development index which includes the *logarithm* of the GDP per capita, and again not GDP itself, as one of its three components. (The other components are life expectancy and level of education.) These efforts recognize implicitly that while GDP per capita is an important indicator of economic well-being, it is not equivalent to human well-being. As noted elsewhere, GDP per capita is important not because it is an end in itself but because it is the means to many ends desired by human beings and because it’s associated, albeit non-linearly, with other more critical indicators of human well-being (see, e.g., Goklany 2007: 20).

Moreover, after expressing his preference that economic systems should mimic biological systems in that they should be self-organizing whose complexity, diversity and stability increases with time, he suggests that the free market system, which he claims drives modern-day economic systems, leads almost naturally to the elimination of local and regional enterprises and their consolidation into large multinationals which then reduces complexity, diversity and stability, and is inimical to democracy (pp. 78, 98). Drawing approvingly from David Korten’s *The Post-Corporate World: Life After Capitalism*, he would replace multinationals with smaller local and regional enterprises specifically adapted to the area they serve. Public ownership of these enterprises would

ensure that they would work for the good of their communities and environment rather than “solely maximizing profits” (p. 98).

But his basic premises are suspect. First, the free market does not inevitably lead to ever larger and more powerful entities. Perhaps nothing threatens existing large multinationals more than a truly free market because more nimble and specialized smaller firms frequently are more efficient and outcompete bureaucracy-laden larger firms. Thus in the automobile industry, for example, Toyota and Honda, considered to be upstarts in the 1950s, today threaten the dominance of the behemoths of that time, GM and Ford, which themselves were upstarts in the early 1900s when railways dominated transportation. And, in time, other firms, perhaps not yet formed, will displace today’s transportation giants.

Many large firms implicitly recognize the threats they face from upstarts, which is one reason why they sometimes favor regulations since that raises the barriers to entry for potential competitors, while simultaneously earning brownie points from segments of the population for being public-spirited. Second, despite its apparent chaos manifested in the creative destruction reflected in the constantly evolving cast of enterprises and the ups and downs of both individual enterprises and whole economic sectors, the free market system itself reflects nature in that it, too, is self-organizing, complex, diverse and, from a macro perspective, more stable and efficient than other economic systems. This is one of the lessons of the several failed twentieth century economic experiments. The results of these experiments, moreover, do not inspire much confidence in the ability of public ownership to long sustain improvements in environmental quality and human well-being.

Based on the notion that in the natural world species don’t seek to compete because that ultimately wastes resources, Wessels would have the local and regional enterprises eschew competition and, instead, embrace cooperation. At the same time, these enterprises “should strive to be frugal and very efficient in their use of material and energy resources” (p. 98). But these two pathways are likely to be mutually exclusive. It is partly relentless competition between enterprises that has driven the massive improvements in the efficiency of energy, material and land use since the start of industrialization. Thus, although the United States’ population has more than tripled since 1910, there has been virtually no increase in the amount of cropland cultivated. [The amount of cultivated cropland is a critical measure of pressures on terrestrial species and ecosystems because it’s a measure of land diverted to human uses (Goklany 2007: 208).

But this lack of trend may yet change, no thanks to subsidies for ethanol enthusiastically embraced by the body politic as a means to combat global warming and reduce energy dependence.] Similarly, the US's carbon dioxide emissions grew at one third the rate of the increase in the gross domestic product between 1900 and 2002 (Goklany 2007: 210). On the other hand the lack of competition within the ex-Soviet Union or ex-East Germany, for example, was probably the major reason for their very high levels of energy inefficiencies.

Also, despite Wessels' claim to the contrary, competition is, in fact, inevitable in nature. In nature, every piece of real estate and source of energy is disputed. One reason why biologists express concern over non-native species is that they may outcompete native species. Moreover, competition within species for territory and mates is not unknown in the animal kingdom. Similarly, if, for example, a person leaves bread, a prime source of energy for various organisms, on his kitchen countertop, it will sooner or later be invaded by mould or another organism. Wessels fails to recognize that cooperation as well as conflict are common to both free market systems and the rest of nature.

One misconception permeating the book is the notion that although we are living longer (which he acknowledges), we are not necessarily healthier (pp. xxii, xxiii, 96). Accordingly, he is dismissive of the notion that improvements in both life expectancy and medical technologies are signs of "true progress," although he does accept they are part of *material* progress. But most of the evidence indicates that increases in longevity over the past two centuries have also been accompanied by overall improvements in health. In the United States, for instance, the disability rate among senior citizens declined by 28 percent between 1982 and 2004/2005 (Manton et al. 2006), and during the twentieth century the onset of major diseases such as cancer, and heart and respiratory diseases was delayed by 8 to 11 years despite dramatic improvements in our ability to detect disease and other health problems (Fogel 2003). Worldwide, health adjusted life expectancies, i.e., life expectancies adjusted downward to account for the period of time an average person is disabled weighted by the severity of the disabilities, exceed unadjusted life expectancies from just a few decades ago (Goklany 2007: 40).

Similarly, he claims that U.S. asthma rates have increased because of increasing air pollution (p. xx; see also pp. xxii, 96) but, in fact, the U.S.'s air has never been cleaner (Goklany 2007: 130–146), which, of course, begs the question as to whether making clean air even cleaner is a cost-effective approach to reducing asthma.

Nevertheless, despite my many reservations, I recommend this book because it presents a point of view I believe is held by many who are disenchanted with the current state of affairs. It is an interesting and easy read and I learnt some things about how ecosystems may function. However, it is unlikely to persuade those who don't already share the author's paradigm of progress. A good part of the problem stems from his acceptance of questionable premises and overly simplistic view of economic systems which ignores the parallels between the functioning of a healthy free market and healthy ecosystems. This is compounded by a determination "not to end up in a sea of facts" because "facts and statistics do not necessarily represent the truth" (p. xxiii). But this inattention to facts undermines his thesis that progress has been a myth. And although I would agree that further progress is not guaranteed, it's unclear whether the path he lays out would ensure further long term progress toward the twin goals of improving human and environmental well-beings because it seeks to change the nature of man rather than harness it to serve these goals, despite historical experience that the latter approach is more robust and, therefore, more likely to succeed over the long term.

## References

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