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# Consumerism and the 21st Century Lifestyle

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## Abstract

Although people, even nations, worldwide in the 21st century want more material possessions, the United States is pivotal because (1) although it has only 4% of the world's population, it consumes approximately 25% of the world's resources, (2) a huge number of humans wish to emulate the materialistic lifestyle of Americans, (3) since the global ecological overshoot in the 21st century is at least 20%, even the present rate of resource consumption is unsustainable, (4) as the resources per capita diminish, the probability of resource wars increases, (5) the income gap between the very rich and the very poor has increased dramatically the probability of social disorder, even anarchy, and (6) in its quest for material possessions, humankind is reducing both the space and resources needed by the 30+ million life forms that constitute the planet's biospheric life support system.

**Keywords:** Materialism; world resources; ecological overshoot; doubling time

There is no calamity like not knowing what is enough.
There is no evil like covetousness.
Only he who knows what is enough will always have enough.
Tao Te Ching, Lao Tsu

Development will conquer the diseases of the poor,
By spraying all the houses and by putting in the sewer,
And we'll know we have success in our developmental pitch,
When everybody dies from the diseases of the rich.
Economist Kenneth E. Boulding
From the *Ballad of Ecological Awareness* 1969

I don't really watch the news. I kind of leave it like that because sometimes it's better not to know.
Tennis Star Venus Williams,
commenting on the Hurricane Katrina catastrophe

## 1. Disproportionate Use of Resources

Important moral and ethical issues must be considered in global resource use. The Purchasing Power Parity (PPP) method indicates that Bermuda (US$36,000) and the United States (US$37,500) have comparable per capita incomes (http://www.success-andculture.net/articles/percapitaincomes.html); however, if a dome were built over each nation, neither would function at their present rates of consumption despite their differences in size and amount of natural resources. They both currently function because of massive imports of resources from the rest of the world. Sierra Leone (US$530 per capita) and Malawi (US$600 per capita) are obviously not in a position to compete effectively for a comparable share of the world's resources. Bermuda is second and the United States is third in high per capita income, while Sierra Leone is listed as 208 and Malawi as 207 at the lower end of the list. The world average per capita income in US$ is 8,200; the low income average is 2,190; and the middle income average is 6,000. Should the higher

incomes be used primarily to benefit consumers in the wealthy and middle-income countries? Globally, humankind is using approximately 20% more resources than the entire planet can generate. Neither the gap in per capita incomes nor the overuse of resources is likely to be sustainable.

A picture is often worth a thousand words, as the pictures on the cover of *Material World: A Global Family Portrait* (Menzel, 1994) shows. The author photographed an average family in a large number of nations. Each family's material possessions were photographed in front of the family's dwelling. The wealth of material goods possessed by the average US family is shown in stark contrast to the average family in Bhutan. The contrast in possessions, as well as the different expressions on the faces of the two families, is shattering. Geographic distance alone cannot entirely explain the stark contrast; highly paid lobbyists for special interest groups (they lobby the US Congress and government agencies) and the homeless can be found in close proximity to each other in the US capitol of Washington, DC.

## 2. Doubling Time

Many world leaders worship exponential growth without a clear grasp of its effect upon decision making. Yet, doubling time is easily calculated; for example, $100 invested at a 7% annual return will double in 10 years (doubling time = 70 ÷ growth rate). Illustrative doubling times follow.

Table 1.

| Growth rate in %/year | Doubling time in years |
|---|---|
| 0.1 | 700 |
| 0.5 | 140 |
| 1.0 | 70 |
| 2.0 | 35 |
| 3.0 | 23 |
| 4.0 | 18 |
| 5.0 | 14 |
| 6.0 | 12 |
| 7.0 | 10 |
| 10.0 | 7 |

A growth rate of 0.1% seems insignificant, since the doubling time is 700 years. However, humankind has been on Earth about 160,000 years. Even a doubling time of 700 years will have a major impact if the starting figure for the human population of Earth is over 6 billion or, worse yet, the 9-10 billion estimated to be on the planet in 2050. This situation requires doubling the food supply, hospitals, schools, houses, and so on for 18-20 billion people over the next 700 years.

## 3. Exponential Growth and Decision Making

Inadequate decisions by many world leaders indicate either an ignorance of the effects of exponential growth on decision making or fear of bringing "bad news" (i.e., the truth) to their constituents. The dramatic effect of exponential growth is easily illustrated. A flask containing a one-celled organism that divides daily will be filled in 30 days. On day 28, the flask will be only one-quarter filled. On day 29, it will be half filled.

This situation gives people with a poor knowledge of exponential growth the illusion that time is adequate. In the 30-day period, the first 24 days appear normal to persons who are illiterate about exponential functions since resources seem plentiful. However, the sobering fact is that organisms weighing a quarter ounce do not damage their resource base as much as humankind does. On day 30, the flask if filled; on day 31, another flask is needed; on day 32, four flasks are needed. This information can be converted to determine how many new, habitable planets will be needed when Earth's carrying capacity for humans is reached and exceeded.

## 4. Factors Affecting Human Population Size

Table 2 gives contrasting examples of the factors that increase population and ones that decrease population. Infanticide and disposal of adults (e.g., placing individuals in a canoe and instructing each not to return to the geographic area) could be added to the factors that decrease population. Most of the factors that would facilitate population increase would appeal to the majority of people, while those that would decrease population growth would be repugnant. However, violating natural law invariably results in disease, famine, and resource wars. Skillful implementation of some of the less objectionable factors might stabilize the human population within resource limits and/or the planet's carrying capacity.

## 5. Three Theorems on Human Population Limitations (Boulding, 1971)

People who find that the means to limit human population size are repugnant should ponder economist Boulding's three theorems.

**Table 2.** Factors affecting population (Bartlett, 1994). Nature chooses from the right-hand column; people choose from the left-hand column.

| *Factors increasing population*[a] | *Factors decreasing population* |
|---|---|
| procreation | *abstinence*[b] |
| motherhood | contraception |
| large families | abortion |
| immigration | small families |
| medicine | halting immigration |
| public health | disease |
| sanitation | war |
| peace | murder/suicide |
| law and order | famine |
| scientific agriculture | accidents |
| accident prevention (55 mph speed limit) | pollution (cigarette smoking) |
| clean air | |
| ignorance of the problem | |

[a]Many of the activities in the left-hand column are subsidized with taxpayer money (my comment, not Bartlett's). For details, see Myers and Kent (1998).
[b]Added by Cairns, with Bartlett's approval.

Theorem 1: The Dismal Theorem

If the only ultimate check on the growth of human population is misery, then the population will grow until it is miserable enough to stop its growth.

Theorem 2: The Utterly Dismal Theorem

Any technical improvement can only relieve misery for a while. As long as misery is the only check on population, the technical improvement will only enable more people to live in misery than before. The final result of technical improvements, therefore, is to increase the equilibrium population, that is, to increase the sum total of human misery.

Theorem 3: The Moderately Cheerful Form of the Dismal Theorem

If something, other than misery and starvation, can be found that will keep a prosperous population in check, the population does not have to grow until it is miserable and it can be stably prosperous.

Of course, Theorem 3 remains a question mark. Are any of the factors listed in Table 1 as decreasing population size acceptable? Why? If no, what substitutes can be suggested? Why? Nature will not wait for humankind to come up with a solution. Nature requires that humankind find a solution or accept misery as the limiting factor. Does humankind have the courage and determination to change or will it avoid a decision by listening only to "feel good" news? A robust, new social contract will only develop if a meaningful discussion of carrying capacity, destruction of natural capital, diminished ecosystem services, and resource exhaustion occurs.

## 6. Precautionary Principle

The precautionary principle states: "When an activity raises threats to human health or the environment, precautionary measures should be taken, even if some cause and effect relationships are not fully established scientifically" (Tickner, 2003). With a 20% ecological overshoot and an unsustainable rate of damage to natural systems, more data are not needed to justify major precautionary action to prevent more damage to the biospheric life support system. Why is humankind so reluctant to take meaningful precautionary action? In my own hometown (Blacksburg, VA, USA), life seems quite good. Gas prices are up, but not nearly as high as in Europe. Stores are well stocked with both food and clothing. Housing prices are increasing rather rapidly, but not so rapidly that growth is markedly changed. Long lines of people are not waiting to buy something.

This scenario is a local, regional, and national perspective except for the very poor. In this age of the internet, is the United States in a time warp in which it still thinks it is a frontier society? If so, humankind is trying to maintain this

perspective by entering the US and other affluent countries despite massive evidence to the contrary. Furthermore, humankind is at a rapidly increasing risk of seeing its world view invalidated. Naturally, people who feel that their ideology is threatened by science (e.g., global warming evidence, evolution) are the most strident and combative. As a consequence, they are least open to "new" ideas. The "Five Factor Model" of personality (e.g., http://www.scirus.org) provides some useful insights into this fascinating issue.

## 7. Conflict

In the United States, a major conflict exists between science and ideology (the body of doctrine, myth, faith, etc. that guides an individual, social movement, institution class, or large group) and is distracting both groups from addressing crucial issues. The conflict seems to be intensifying, which is regrettable since science and faith are entirely different approaches to factors affecting the human condition.

Science is verifiable; faith is not. US Congressman Joe Barton has asked prominent scientists for their *raw data* (italics mine) showing that Earth's climate has been warming dramatically since 1900 (e.g., Eilpenn, 2005; Heilprin, 2005; Editorial, 2005). Since Congressman Barton has no scientific credentials in climate science and since the analysis is already published in peer-reviewed scientific publications, one can only speculate that this request is intended to intimidate the scientists and divert their energies from studies that are in conflict with political ideology.

Scientists familiar with the research being questioned by Congressman Barton affirm that raw data are already available to those willing to take the time (or have the staff take the time) to read the information. Congressman Barton wrote letters to Michael Mann, a scientist publishing on global warming, and asked for the location of all data archives relating to *each published study* (italics mine) for which Mann was an author or co-author. Congressman Barton also asked for curricula vitae, lists of all sources of financial support for the research, and the computer code used to generate the "hockey-stick analysis" (published in 1998 in the journal *Nature* 329:779-787). Mann intends to comply despite the huge amount of time needed to honor the request. He hopes that, when members of the US Congress examine the evidence, they will join with the consensus of scientists globally and acknowledge that humankind had a primary role in the process of global warming.

One hopes they will remember the fate of former nations that attempted to suppress evidence unfavorable to their political ideology. They would benefit from reading the position statement of the European Geosciences Union (2005) about Congressman Barton's approach to this issue. Basically, the European Geosciences Union states that it is surprised by the unusual approach the committee chairman has chosen in an attempt to "review" the scientific basis of climate change.

## 8. Conclusion

Consumerism, which is an integral part of the 21st century lifestyle, is one of the major consequences of planetary ecological overshoot. Persuasive evidence indicates that the overshoot has persisted since about 1980 and has worsened each year. Much can be done by individuals to resolve this issue short term, such as changed behavior that is less materialistic. In the long term, sustainability will require major alterations of entire societies to reduce urban sprawl, increase energy efficiency (as well as shifting to renewable energy sources), stabilizing human population size, and reducing the disparity between the very rich and the very poor. Some hopeful signs have emerged, such as China's intention of implementing a policy that scraps a long-standing policy of faster growth in favor of improving social services and curbing widespread environmental devastation (Hillis, 2005).

Another interesting approach is that of King Jigme Singye Wangchuck of Bhutan (Revkin, 2005), who decided in 1972 to make his nation's priority a Gross National Happiness (GNH) measure rather than its Gross Domestic Product (GDP). During one summer in the 1980s, Tashi Wangchuck worked with me at Rocky Mountain Biological Station in Colorado, so I had the opportunity to discuss this approach in detail. The more I heard, the more I became convinced that this approach had considerable merit—at least it merits in-depth discussion. A downside scenario is that unsustainable environmental practices will produce millions of "environmental refugees" due to such situations as land degradation and desertification (Bogardi, 2005). How consumerism and the 21st century lifestyle are viewed will markedly influence the outcome. The choices each individual makes should be based on ethics, aided by science and reason.

## 8. Acknowledgement

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