

On the Question of Limits

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[O]rganisms using their habitat unavoidably reduce its capacity to support their kind by what they necessarily do to it in the process of living.

—William Catton, Jr., *Overshoot: The Ecological Basis of Revolutionary Change* (1980)

Given a moment's reflection, most people would probably agree that limits to the expansion of the global human enterprise are inevitable. After all, Earth is a finite planet.

BUT, they would be quick to add, such limits exist in the far distant future. AND, the consequence associated with reaching said limits will be some type of stable equilibrium — at a level of relative prosperity for all. No cause for concern; end of discussion.

In my forthcoming book, *Blip — Humanity's Self-Terminating Experiment With Industrialism*, I offer a different and more sobering perspective on the question of limits. I maintain that not only are limits inevitable, but that we are in the process of reaching them — now.

And the consequence of this “predicament” is industrial humanity's “unraveling,” an accelerating, geologically induced, terminally degenerative process that is being made painfully evident by our ever-increasing array of increasingly debilitating political, economic, and societal woes.

My objective in writing *Blip* is to create awareness of our predicament — its causes, implications, and

consequences — given that only through awareness can an intelligent response be developed, should one exist. The following brief summaries to each of the four sections comprising *Blip* provide additional detail on my perspective — and my cause for concern.

EARTH RESOURCES: THE FUNDAMENTAL ENABLERS

Earth resources (ERs) — renewable natural resources (RNRs), nonrenewable natural resources (NNRs), and natural habitats (NHs) — enable all life on Earth, including human life.

A renewable natural resource is a naturally occurring component of Earth's planetary ecosystem that replenishes over time — continuously, intermittently, or cyclically — through naturally occurring biogeochemical processes. RNRs — atmosphere (air), water, soil, and naturally occurring biota (life forms) — provide basic subsistence for all Earth species.

A nonrenewable natural resource is a naturally occurring component of Earth's planetary ecosystem that does not replenish on a time scale that is relevant from the perspective of “human time,” in the event that it replenishes at all. NNRs — fossil fuels, metals, and nonmetallic minerals — enable humanity's industrialized way of life.

A natural habitat is a naturally occurring subsystem of Earth's planetary ecosystem — an aggregation of interacting RNRs and NNRs — within which the constituent biotic (living) and abiotic (nonliving) entities exist in a self-managing equilibrium. An NH regenerates over time — continuously, intermittently, or cyclically — through naturally occurring biogeochemical processes.

Marine, freshwater, and terrestrial habitats provide sustenance, living space, and waste assimilation for all Earth species.

While Earth resource requirements vary among Earth species, all species, including *Homo sapiens*, are subject to a common ER constraint: Earth resource overexploitation — i.e., depleting a natural resource at a rate that exceeds the rate at which it is replenished, or degrading a natural habitat at a rate that exceeds the rate at which it is regenerated — is unsustainable.

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HUMANITY: WE ARE EXCEPTIONAL

Owing to climate and habitat changes that occurred in the Great Rift Valley of Eastern Africa over three million years ago, our pre-human ancestors evolved biologically in ways that enabled their human successors to become ingenious.

Ingenuity, the uniquely human cognitive attribute that differentiates humankind from all other Earth species, enables humankind to evolve volitionally, through behavior and culture, in addition to evolving biologically, through natural selection. Ingenuity enables humans to adapt to changing environmental circumstances and to improve our well-being through resourcefulness, technology, improved efficiency, and enhanced productivity.

As humankind evolved over time, the success of the human enterprise became less dependent upon the glacially slow and uncertain processes associated with biological evolution, and more a function of our unique ability to evolve rapidly through human ingenuity.

During the course of human history, ingenuity enabled humankind to significantly diversify our Earth resource mix, and thereby transition from passive, reactive Earth inhabitants — as is the case with all non-human Earth species — to increasingly proactive Earth ecosystem managers, initially as hunter-gatherers, then as agriculturalists.

Humanity's capacity to "control our own destiny" through ever-increasing human ingenuity afforded humankind an unassailable competitive advantage over all other Earth species. As a consequence of this advantage, we became exceptional!

INDUSTRIAL HUMANITY: WE ARE 'EXEMPTIONAL'

Humanity's desire for increased prosperity — economic growth and improved material living standards — within the context of the exceptionally favorable geological, geographic, and cultural circumstances that prevailed in eighteenth century Great Britain, spawned our industrial revolution.

Since that time, our unparalleled ingenuity — applied to the exploitation of enormous and ever-increasing quantities of fossil fuels, metals, and non-metallic minerals — has enabled industrial humanity to create previously inconceivable levels of wealth, which has afforded us extraordinary societal well-being — previously inconceivable population levels, economic output levels, and material living standards.

Through our unique ability to produce NNR-based infrastructure, machines, products, and energy, we industrial *Homo sapiens* have further differentiated ourselves from all other Earth species. In the process, we have become, by far, the most dominant species ever to inhabit planet Earth.

Not surprisingly, we have also come to believe that by employing human ingenuity on an industrial scale, we have liberated ourselves from the erratic vicissitudes of Nature that encumber all "lesser species." Consequently, we have accorded ourselves the status of "exemptional"!

HUMANITY'S PREDICAMENT: WE ARE SELF-TERMINATING

Since the inception of our industrial revolution, we increasingly ingenious *Homo sapiens* have been depleting — persistently and increasingly — the finite, non-replenishing, and increasingly scarce NNRs that enable our industrialized way of life, and our very existence.

Regrettably, because the natural resource utilization behavior that enables our species' existence — and that is essential to perpetuating our existence — simultaneously undermines our existence, neither our natural resource utilization behavior nor our resultant industrial lifestyle paradigm is sustainable.

As a perverse consequence of our unparalleled ingenuity, we have become enmeshed in a self-inflicted, self-terminating, and inescapable predicament — we are doomed if we persist in our unsustainable NNR utilization behavior, and we are doomed if we don't — a predicament that will resolve itself catastrophically for humankind.

We will soon discover that we are not exemptional, that we are the extraordinarily fortunate beneficiaries of a one-time, rapidly depleting natural inheritance, and that we are the unwitting and unfortunate victims of our own ingenuity. And, we will soon discover that human industrialism represents a mere 300 year "blip" along the 4.5 billion year timeline of Earth's history.

If we *Homo sapiens* are truly an exceptional species, now is the time to prove it! ■

In nature, the over-extension of a population upon a resource which diminishes is well known, and the results tend to be disastrous.

—Walter Youngquist, *Geodesinies:
The Inevitable Control of Earth Resources
Over Nations and Individuals*