

THE PRINCETON PACKET

SOLUTIONS

By Huck Fairman

A book looks at growth, past and future

Growth is in our conversations, our plans, our past. It is an integral factor in life on Earth.

In his book, *GROWTH*, Canadian-Czech scientist and policy analyst Vaclav Smil has drawn from the research and thought of many fellow scientists to analyze the roles, the influence, and also the threats that growth in the 21st century presents to life today on this planet.

While he confesses that he looks, in his book, at neither the largest or the smallest phenomena that exhibit and are influenced by growth, he does alert us to the myriad cases where growth in our world is both deeply integrated and very possibly outstripping the systems and mechanisms that surround us, and, in doing so, may be taking us to new modes of existence.

Clearly eager to understand and define growth, through the planet's, and civilization's history, he is also deeply concerned that growth will, in its accelerating, near-term future, undo the planet's, and civilization's, ability to sustain mankind.

Smil begins by reminding us that Growth is an "omnipresent" and "protean" element in our lives. It identifies evolution and adulthood. It enables humans to

utilize the physical offerings of our planet.

It is the term we use for personal advancement, maturity, and the evolution of our species.

At the same time, growth describes the life cycles of microorganisms, mammals, galaxies, and the universe. It pertains to Earth's topographical history, and to the utility of what we create, make, and adopt. Populations and economies grow, and we measure the latter's success by how they grow.

Over 50 million years ago, the Himalaya Mountains were pressed upward by the collision of tectonic plates. In today's world, elements and compounds meet, mix, and create new biomasses.

Growth, therefore, describes physical realities but also serves as metaphor for change. Our civilization depends on growth for survival, whether referring to food or raw materials.

But with growth, natural and human, ecosystems have changed. Humans have fashioned "progress" out of varieties of growth. But now we are discovering that we must also manage growth. Is it too slow or excessive? Will it lead to major, social or biological dislocations? Will

it pertain to and influence new realms? And at what cost?

The need to understand it, and its repercussions, is perhaps evermore urgent today, with population growth and technological growth requiring more, even as some things – arable lands, say – are declining. And with economies growing, debates on how to manage that growth, with all the implications and changes, have increased.

Beyond the natural world, growth can now be applied to our homes and possessions we accumulate. It can refer to transportation and government.

Education and armed forces are required to keep up – in short, grow.

Until recently, growth was considered desirable. It was a sign of progress and hope in human affairs. But possibly only in the last half-century have the problems that increasingly accompany types of growth come to be recognized. The rate of growth is now considered key.

Today change, or development, happen much faster. Population growth pressures communities and creates needs for other types of growth. The growth of tools is relatively simple to understand, but what of that in judg-

ment, expectations, interactions? Is reasonable consensus likely ... possible?

At the same time, growth in the technologies of communications is accelerating social interaction. Worldwide, growth is graphed out as increasing exponentially. Microchips, to take one technology, have recently increased from 10/3 to 10/10.

All of this has produced an ever-expanding growth of expectations, ever expanding into the future, and producing still-greater expectations, which are likely to exceed reasonable conclusions and bring discontent.

Sil states, "The growth of infrastructure has proved equally mesmerizing." And "90% of all extant information in the world has been generated over the preceding 2 years. "As billions of mobile phones voluntarily surrender their privacy, the rationale is to keep the economy growing." But again, for what purposes and at what costs?

"The growth of "information," writes Sil, "appears more pitiable than admirable."

"The phone time spent by adults per day has doubled between 2008-2015."

He warns that we are creating "screen zombies." People not

fully alive.

This leads to the concerning prediction that within decades, Machine intelligence will surpass human intelligence. And this will lead to a Singularity: technological change will occur so rapidly and profoundly that it will present a rupture in the fabric of human history.

The ideas and observations in the book, therefore, would seem to be essential for us to understand and grapple with.