THE QUALITY OF HUMAN LIFE UNDER INDUSTRIAL REVOLUTION

CALITATE VIEȚII UMANE SUB PRESIUNEA REVOLUȚIEI INDUSTRIALE

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Abstract: *The full impact of the Industrial Revolution would not begin to be realized until about 100 years later in the 1800s when the use of machines to replace human labor spread throughout Europe, North America and the rest of the world. This transformation is referred to as the industrialization of the world…*

Rezumat: *Impactul total al revoluţiei industriale nu a început sa fie perceput in ultimii 100 de ani când diversele maşini au început sa înlocuiască munca umană în Europa , America de Nord şi în restul lumii. Această transformare face referire la „industrializarea" întregii lumi.*

Key words**:** *Industrial Revolution, population growth, ecology*
Cuvinte cheie**:** *Revoluţie industrială, creştere populaţională, ecologie*

INTRODUCTION

It was coal that fueled the Industrial Revolution, forever changing the way people would live. It would not be until the early 1960s that most people would begin to realize the impact of this exponential growth on human health and ecology.

The Industrial Revolution marked a major turning point in Earth's ecology and humans' relationship with their environment. As the Industrial Revolution dramatically changed every aspect of human life and lifestyles … from human development, health and life longevity, to social improvements … its human impact on natural resources, public health, energy usage and sanitation would not begin to register in the world's psyche until the early 1960s, some 200 years after its beginnings.

MATERIAL AND METHODS

It wasn't that the Industrial Revolution became a stalwart juggernaut overnight. It started in the mid-1700s in Great Britain when machinery began to replace manual labor and fossil fuels replaced wind, water, and wood primarily for the manufacture of textiles and the development of iron making processes. The full impact of the Industrial Revolution would not begin to be realized until about 100 years later in the 1800s when the use of machines to replace human labor spread throughout Europe, North America and the rest of the world. This transformation is referred to as the industrialization of the world… processes that gave rise to sweeping increases in production capacity and would affect all basic human needs including food production, medicine, housing, and clothing. Not only did society develop the ability to have more things quicker, it would be able to develop better things. These industrialization processes continue today.

The Industrial Revolution and Population Growth

The most prolific evidence of the Industrial Revolution's impact on the modern world can be seen in the worldwide human population growth. Modern humans have been around for about 2.2 million years. By the dawn of the first millennium AD, estimates place the total world human population at between 150 – 200 million, and 300 million in the year 1,000 (a

little less than the population of the United States today). The world human population growth rate would be about .1 per cent (.001) per year for the next seven to eight centuries.

In another 750 years, at the dawn of the Industrial Revolution in the mid 1700s, the world's human population grew about another 57% to 700 million and would see one billion in 1800. (Note: The Black Plague reduced the world population by about 75 million people in the late 1300s.) The birth of the Industrial Revolution would alter medicine and living standards resulting in the population explosion that would commence at that point and steamroll into the 20th and 21st centuries. In only 100 years after the onset of the Industrial Revolution, the world population would grow 100 percent to two billion people in 1927 (about 1.6 billion by 1900) fig.1.

During the 20th century, the world population would take on exponential proportions, growing to six billion people just before the start of the 21st century. That's a 400% population increase in a single century. Since the beginnings of the Industrial Revolution to today – in about 250 years – the world human population has increased by six billion people!

It was the fossil fuel coal that fueled the Industrial Revolution, forever changing the way people would live and utilize energy. While this propelled human progress to extraordinary levels, it came at extraordinary costs to our environment and ultimately the health of all living things. And while coal and other fossil fuels were also taken for granted as being inexhaustible, it was American geophysicist M. King Hubbert who predicted in 1949 that the fossil fuel era would be very short-lived and that other energy sources would need to be relied upon.

RESULTS AND DISCUSSIONS

Human population growth is indelibly tied together with increased use of natural and man-made resources, energy, land for growing food and for living, and waste by-products that are disposed to decompose, pollute or be recycled. Naturally, the exponential population growth led to the exponential requirements for resources, energy, food, housing and land as well as the exponential increase in waste by-products.

There were many indicators that the Industrial Revolution had propelled the world human population into an era of living and production at the ultimate expense of the human condition and the resources that were (and could be) taken for granted for the entire prior history of humankind. There were always more resources than the demand for them. Yet, it would take one person in the 1960s to make the general public aware of the cause and effect of human outgrowth from the Industrial Revolution. Rachel Carson took on the powerful and robust chemical industry in her globally acclaimed 1962 book, *Silent Spring*, and raised important questions about humans' impact on nature. For the first time, the public and industry would begin to grasp the concept of sustainable production and development.

Hubbert predicted that fossil fuel production, in particular oil, would reach it s peak starting in 1970 and would go into steady decline against the rising energy demands of the population. Just like that, the decline in production started in the United States in 1971 and has spread to other oil producing nations as well. This peak production is known as "Hubbert's Peak." By the time the world began to heed Hubbert's prediction, the use of fossil fuels – so heavily relied upon to fuel the Industrial Revolution -- had become so firmly interwoven into human progress and economy that changing this energy system would drastically alter the very way we have lived our lives. It will happen, but it will take time, continued ingenuity and vast economic incentives to transform dependence on this fuel that fostered the growth and prosperity launched by the Industrial Revolution.

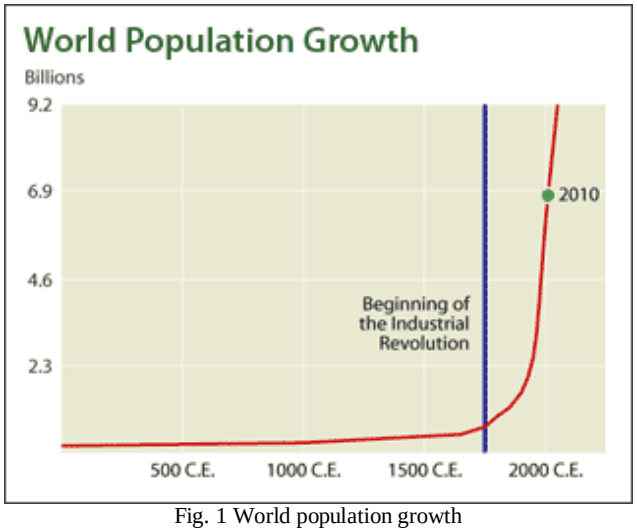

Fig. 1 World population growth

CONCLUSIONS

Looking back at the beginning of the Industrial Revolution, it is difficult to realize how what took place then is having such complicated and vast effects today, but that is the principle of environmental unity - a change in one system will cause changes in others. In the future, mankind will look to achieve sustainability in all aspects of life, not so much because we will want to, but because we will need to. Certainly, the seeds of progress – and the ramifications of that progress – were planted then. And with the very same mechanisms and effects that brought about both the progress and the indelibly connected results of that progress to our ecology – the good, the bad and the ugly – over the last 250 years, we will enter a new era of sustainability. That is the next revolution.

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