

Q 78

Robert L. Heilbroner

Business Civilization in
Decline, Norton, 1975
p.102.

I suggest that this long-run termination of capitalism will occur within a century -- that is, within the lifetimes of our grandchildren or great-grandchildren, barring, of course, a nuclear holocaust that would spell the extinction of all industrial societies in their present forms.

R.L. Heilbroner

Business Civilization in Decline,
p. 103/4.

A good place to begin is with coal, the fossil energy resource available in the greatest quantity. It is estimated that the "ultimately recoverable" amounts of coal, which includes all of this resource thought to be located within the top kilometer of the earth's crust, would suffice to maintain our current rate of coal use for over 5,000 years. However, if our use of coal continues to expand at a rate of just over 4 percent a year - a conservative estimate, given the impending exhaustion of petroleum supplies - this same "ultimately recoverable" resource would be consumed within 135 years. The same exponential shortening of time spans applies to other materials, such as aluminum. It has been estimated that the top kilometer of planetary crust contains enough aluminium to last for 68,000 years at present rates of use. However, the present rate of expansion of use - about 6.4 percent a year - will exhaust this immense supply

in a mere 140 years. Perhaps even more impressive is the application of exponential estimates to supplies of all minerals. Today we extract and use about 2.7 billion tons of the ten leading minerals each year. If our rate of use were to grow at a modest 3 percent a year for a thousand years, this would entail a weight of materials greater than that of the earth itself. In fact, it is doubtful that we could sustain our growth of these ten leading minerals for a period of 200 years.. *

- * These figures are based on calculations by Emile Benoit in a paper entitled "Must Growth Stop?" to be published in a collection of essays for Kenneth Boulding.

R.L. Heilbroner Business Civilization in Decline
p.105

... Of these, perhaps the most formidable is that of inadvertent climate modification. Continued energy growth at existing rates of between 3 and 4 percent a year would generate major changes in local temperatures. In the opinion of Stephen Schneider, Deputy Head of the National Center for Atmospheric Research, this will "cause climate changes that could be both global and irreversible" after the year 2000.* Equally ominous is the threat of overheating the global atmosphere as a consequence of steadily adding manmade heat to the solar energy received by the sun. At present energy growth rates, in 150 years man-made heat throw-off will equal about 1 percent of the energy received from the sun. A continuation of these rates for another century would render the planet uninhabitable.

- * Stephen Schneider and Roger Dennett, "Climatic

Barriers to Long Term Energy Growth," Ambio,
1975 (Boulder, Colo: National Center for
Atmospheric Research).

R.L. Heilbroner Business Civilization in Decline,
p.111

... Yet I do not think we should disregard the prospective decay of the value system of a business civilization because it is impossible to make hard and fast pronouncements with regard to the rate of its metastasis. So skeptical a social observer as Schumpeter was prepared, in the end, to pin his prediction of an end to capitalism on the change in its attitudes and outlooks. I suggest that we should also give due weight to the decay of business civilization from changes in its value structure.