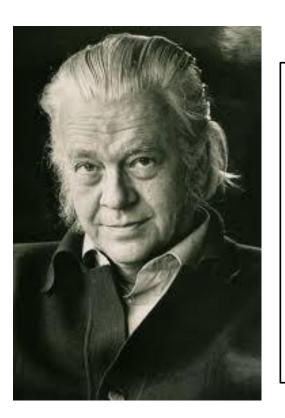
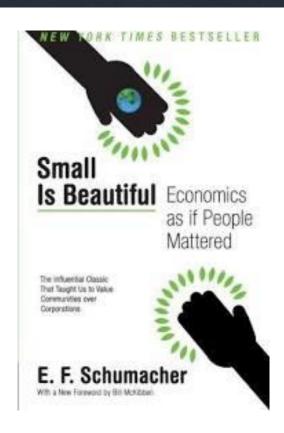


Who is E.F. Schumacher?



- German-British statistician and economist, best known for his proposals for human-scale, decentralized and appropriate technologies
- Served as Chief Economic Advisor to the British National Coal Board from 1950 to 1970
- Because of his opposition to Hitler, Schumacher left Germany before the Second World War and spent the rest of his life in England
- In 1955, traveled to Burma as an economic consultant. While there, developed principles of what he called "Buddhist economics, based on the belief that good work was essential for proper human development and that "production from local resources for local needs is the most rational way of economic life."



From Chapter 2 Peace and Permanence

- * "The dominant modern belief is that the soundest foundation of peace would be universal prosperity."
- This dominant modern belief has an almost irresistible attraction as it suggests that the faster you get one desirable thing the more securely do you attain another."
- We have science and technology to help us along the road to peace and plenty, and all that is needed is that we should not behave stupidly, irrationally, cutting into our own flesh."
- * "Gandhi used to talk disparagingly of 'dreaming of systems so perfect that no-one will need to be good'. But is it not precisely this dream which we can now implement in reality with our marvelous powers of science and technology?"

The bread you store up belongs to the hungry; the cloak that lies in your chest belongs to the naked; the gold you have hidden in the ground belongs to the poor.

-St. Basil the Great

Is Schumacher's view on prosperity any different than what the Catholic saints try to teach us?



God has no need of your money, but the poor have. You give it to the poor, and God receives it.
-Saint Augustine

How do we tell or know the difference between gluttony or sloth or avarice and taking care of our families each day when we go to work? What does Schumacher want us to do"



We should have no more use or regard for money in any of its forms than we have for dust. Those who think it is worth more, or who are greedy for it, expose themselves to the danger of being deceived by the Devil. St. Francis of Assisi

Where is our society or culture at today? Are we behaving stupidly, irrationally, cutting into our own flesh?"



What are the dominant virtues of our culture today? What virtues do we take with us to work every day? And where are these virtues taking us?

- Gandhi used to talk disparagingly of 'dreaming of systems so perfect that no-one will need to be good'. But is it not precisely this dream which we can now implement in reality with our marvellous powers of science and technology? Why ask for virtues, which man may never acquire, when scientific rationality and technical competence are all that is needed? "
- * "But beware!' he continued. 'The time for all this is not yet. For at least another hundred years we must pretend to ourselves and to every one that fair is foul and foul is fair,; for foul is useful and fair is not. Avarice and usury and precaution must be our gods for a little longer still. For only they can lead us out of the tunnel of economic necessity into daylight.' " Keynes, as quoted by Schumacher

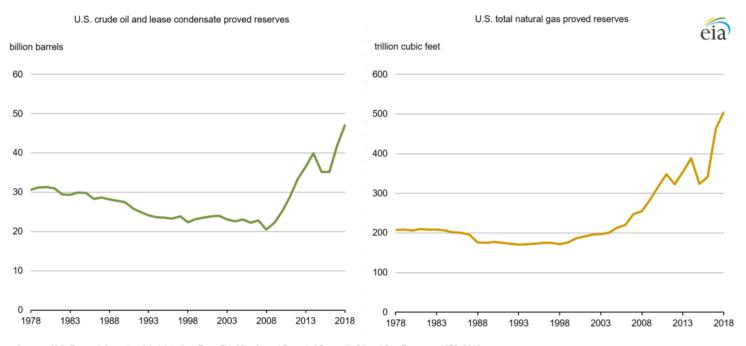
Schumacher's analysis

- "I shall now consider this proposition. It can be divided into three parts:
 - First: that universal prosperity is possible;
 - Second: that its attainment is possible on the basis of the materialist philosophy of 'enrich yourselves';
 - Third: that this is the road to peace."
- The question with which to start my investigation is obviously this: Is there enough to go round? Immediately we encounter a serious difficulty: What is 'enough'?
- Perhaps we can forget about 'enough' and content ourselves with exploring the growth of demand upon the world's resources which arises when everybody simply strives hard to have 'more'.
- "As we cannot study all resources, I propose to focus attention on one type of resource which is in a somewhat central position - fuel."

Schumacher's prediction:

"The most important comment, however, is a question: Is it plausible to assume that world fuel consumption could grow to anything like 23,000 million tons c.e. a year by the year 2000, using 425,000 million tons c.e. during the thirty-four years in question? In the light of our present knowledge of fossil fuel reserves this is an implausible figure, even if we assume that one quarter or one-third of the world total would come from nuclear fission.

Figure 1. U.S. proved reserves, 1978-2018



purces: U.S. Energy Information Administration, Form EIA-23L, Annual Report of Domestic Oil and Gas Reserves, 1978–2018

- From the late 1970s to 1996, natural gas and crude oil reserves experienced a steady decline.
- In 1997, the downward trend for natural gas reversed because of innovations in horizontal drilling and hydraulic fracturing techniques that successfully increased natural gas proved reserves and production from shale formations.
- In 2008, the downward trend for crude oil reversed when innovations in horizontal drilling and hydraulic fracturing

Source: U.S. Energy Information Administration

However, there may be no cause to celebrate.

Schumacher also pointed out:
"On the other hand, if
fantastic new discoveries of
fossil fuels should make it
unnecessary to force the pace
of nuclear energy, there would
be a problem of thermal
pollution on quite a different
scale from anything
encountered hitherto."

- **♦ From Union of Concerned Scientists:**
- https://www.ucsusa.org/resources/hidden-costsfossil-fuels
- Known as externalities, the hidden costs of fossil fuels aren't represented in their market price, despite serious impacts to our health and environment."
- * "Externalities are sometimes easy to see, such as pollution and land degradation, and sometimes less obvious, such as the costs of asthma and cancer, or the impacts of sea level rise."

"I have taken fuel merely as an example to illustrate a very simple thesis: that economic growth, which viewed from the point of view of economics, physics, chemistry and technology, has no discernible limit. must necessarily run into decisive bottlenecks when viewed from the point of view of the environmental sciences" - Schumacher



"A Harvard University study, which assessed the life cycle costs and public health effects of coal from 1997 to 2005, found a link to lung, cardiovascular, and kidney diseases—such as diabetes and hypertension—and an elevated occurrence of low birth rate and preterm births associated with surface mining practices."



"Natural gas's climate emissions are not only generated when it's burned as a fuel at power plants or in our homes. The full global warming impact of natural gas also includes methane emissions from drilling wells and pipeline transportation."

"Here again, however, many people will insist on discussing these matters solely in terms of optimism and pessimism, taking pride in their own optimism that 'science will find a way out'."

Schumacher's central argument:

"We find, therefore, that the idea of unlimited economic growth, more and more until everybody is saturated with wealth, needs to be seriously questioned on at least two counts: the availability of basic resources and, alternatively or additionally, the capacity of the environment to cope with the degree of interference implied."

Is unlimited economic growth, prosperity for everyone in the world, all countries, implausible because there are not enough basic resources to ever get there?

Is unlimited economic growth implausible because the earth, its ecosystems, simply do not have the capacity to cope with the degree of interference implied?

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