

The idea of constant growth has captured the imagination of Westerners; the patron saint of this viewpoint is Julian Simon, a professor of marketing. In his recent book, The Technological Bluff, author Jacques Ellul uses Simon's writing as the prime example of a misguided reliance on limitless expansion. Jacques Ellul is professor emeritus of law and of the sociology and history of institutions at the University of Bordeaux, France. This excursus on Simon is reprinted by permission of Wm. B. Eerdmans Publishing Co., Grand Rapids, MI, © 1990.

No Limits to Population Growth? Exposing Julian Simon's Bluff

By Jacques Ellul

I want to discuss Julian Simon's book *The Ultimate Resource*, which deals with demographic growth, natural resources, and the standard of living.

The fine title of the French edition, *L'Homme, notre dernière chance* (Humanity, Our Last Chance), might suggest that this is a humanist work amid the perils of the age. It is not. Its focus is on the growth in population. It shows that this might double, triple, and quadruple, but concludes that this is a good thing and raises no problems. I will not go into that matter and may thus ignore the last few chapters, which defend this point of view, attack its opponents, and proclaim the author's own values. The preceding twenty chapters, however, merit attention because I have seldom seen a book which is so absurd in the realms of economics (the author is an economist) and technology.

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In the chapters which follow I plan to study the "average" technological discourse in trying to discern the bluff in it. Simon's work offers us an extreme example which it is useful to analyze. To begin with, Simon pretends to be rigorously scientific, and he accuses his opponents, especially in the report of the Club of Rome and the English report on *The Limits to Growth*, of trickery and scientific error. We must examine this accusation. He himself thinks that being scientific means presenting statistics, graphs, and percentages; his work is full of them. But one of the most interesting aspects is precisely the fact that statistics and graphs inserted in false reasoning are of no help. This observation seems to me to be significant: Simply providing accurate data is not enough. To be truly scientific one must also have sound hypotheses and correct reasoning.

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not displease me if it were not so disconcertingly naive. The author is a liberal economist, but of a kind of liberalism that one no longer sees — an absolute liberalism. For him, in all circumstances, the market is the place of equal and perfect competition. The best will always prevail. For him there is nothing to stop the free circulation of workers (who will automatically go where the pay is highest) or capital. He sets out his fundamental theses at the start. There is no food problem in the world. The situation improved constantly from 1950 to 1980. New land came into cultivation and agriculture will expand as needed. Natural resources are unlimited and become increasingly available. The future of energy is just as bright; there are no limits to the development of sources. Pollution does not exist. Air and water are purer than in 1850 and will become even purer. There is no reason to want to arrest population growth, for density of population has no pathological consequences and poses no obstacles. These are the principal theses that the author "demonstrates" in the first twenty chapters.

The arguments rest on two foundations. First, experts cannot arrive at any certain results. Their estimates of potential energy reserves in oil, copper, steel, coal, etc., have all turned out to be wrong. The only incontestable criterion is economic. It is the market. We may thus dismiss technical data relating to pollution and the exhaustion of nonrenewable resources. This is interesting in an author who, as we shall see, justifies technical potential. The second foundation is that there are no limits. In every field the idea of a limit is false. For example, in mathematics this term is ambiguous. One might say that the distance between two fixed points is limited, but there might still be an unlimited number of points between them. Again, no one can say in any field what the limit is. What is the limit of pollution? of copper reserves, etc.? No one can say. Hence, there is no limit! "There is no necessity either in logic or in historical trends to suggest that the supply of any given resource is `finite'" (p.50). For lack of a precise definition, we may say that an object is not finite.

Let us take oil. The potential of one well can be

measured; it is thus limited. But we cannot measure the number of wells in the world, and therefore we cannot know or measure potential production in an absolute sense. Hence the term *limit* makes no sense. Even if one could arrive at an estimate, one would have to add that better techniques might be able to reach new levels more easily, or make it possible to turn coal into oil, or enable us to derive oil from other sources. Nuclear energy is also inexhaustible. Even if sources for nuclear energy ran out on earth, "sources of energy exist on other planets."

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The optimism of this economist rests, then, on an absolute belief in unlimited progress. Whenever a difficulty arises, "technical progress will deal with it." We have here an absolute form of the technological bluff. Let us consider some further strange examples of this so-called scientific thinking. How can one measure the scarcity of a product? The author rejects totally the ability of experts. For him price is the only strict criterion. When something is in short supply, it is costly. When it is marketed well, it is in good supply. Copper is an illustration. It fell in price between 1800 and 1980. More of it is sold today. The price has fallen continuously, and therefore there is no reason why this should not continue, and why copper should not become more abundant. By extrapolation we thus have a proof that copper reserves are unlimited!

The author constantly extrapolates from his graphs. He seems not to be aware that for the last thirty years forecasters and futurologist have not proceeded by linear extrapolation. He uses the same procedure for the food supply. The price of grain has gone down steadily over the last century; this means that grain is in abundant supply and this will continue indefinitely. "It is a fact, then, that the world food supply has been improving" (p. 59). There is no fear of famine or inadequate supplies. "While there have been *some* deaths due to famine in the third quarter of the 20th century, it is *highly unlikely* that the famine-caused deaths equal a tenth of the period 75 years earlier. ...The percentage of the world's population who find themselves subject to actual famine conditions is probably lower now than at any time in the past" (pp. 61-62, emphasis added). The example of London in 1880 shows that pollution is not as bad as it used to be, as though London were the only place on earth that suffers from pollution!

Let us return to technical ideology. There need be no fear about the food supply because new technical inventions will at least double production. Thus giant mirrors reflecting sunlight on the dark side of the earth might speed up growth. And if a limit is ever reached

according to the law of diminishing returns, the whole galaxy is at our disposal. There lie the true pastures in the sky. We can begin mining the moon by 1990. Satellites for solar energy can supply energy needs from the year 2000. Satellites can also be used for agricultural and industrial purposes from the 1980s (p. 89). We will really have to hurry up! Again we are wrong to fear pollution. But we must begin by setting aside the advice of experts. The fact that their estimates differ proves their incompetence. Happily, the author has other criteria. He starts with statistics showing that people live longer in the West. This proves that the environment is healthier than it was. Simon seems to think that all illnesses come from the environment. When listing those that have disappeared, he ignores medical advances and new medications, e.g., antibiotics. It is hardly believable. "Life expectancy is the best index of the state of health-related pollution. And by this measure, pollution has been declining steadily and sharply for decades" (p. 131). There has been pollution, but modern techniques have improved the quality of the environment. In the USA the quality of air and water is much better. "The proportion of water-quality observations that had 'good' drinking water rose from just over 40 percent in 1961 to about 60 percent in 1974" (p. 133). "There is no contaminating factor in the environment ... that defies a technical solution" (p. 139). The same applies to the extension of areas that can be cultivated. "The notion of a fixed supply of farmland is as misleading as is the notion of a fixed supply of copper or energy. That is, people create land — agricultural land — by investing their sweat, blood, money, and ingenuity in it" (p. 225). The proof is that the amount of agricultural land never stops increasing. No thought is given to the depopulation of the country and overpopulation of the cities. The author's ignorance is astounding.

Let us take a final example of these pseudoscientific absurdities. As we have seen, adequate techniques can supposedly solve every problem. But for new technical inventions there is need of inventors, scientists, and technicians. One inventor for 10,000 people will mean ten for 100,000 and a hundred for 1,000,000. Thus we must increase the population so as to have more scientists, technicians, also artists, philosophers, etc. This is ridiculous. It rests on the thesis that every discovery or invention will inevitably be positive and good. There can be no hesitation with regard to techniques. Such inventions as dynamite, nonrecoiling guns, rockets, Molotov cocktails, etc., are just as valid as any others. Simon does not even consider any other possibility. I might cite other enormities of the same kind. I have spent time on the work only because it has had such success and seems to me to be a good illustration of the 'technolatry' that is supposed to be scientific and to be based upon facts. ... ■