

The Persistence of Population Pessimism

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“Our teeming population is the strongest evidence our numbers are burdensome to the world, which can hardly support us from its natural elements. Our wants grow more and more keen and our complaints more bitter in all mouths, while nature fails in affording us our usual sustenance. In every deed, pestilence and famine and wars have to be regarded as a remedy for nations as the means of pruning the luxuriance of the human race.”

Tertullian, *Treatise of the Soul*

Concern about over-population is not an exclusively modern phenomenon, as the above quotation, written by a Carthaginian priest in 210 AD, demonstrates. At the time it was written, total World population was around 250 million.¹

Among the most famous of the population pessimists was Robert Malthus, who sought to explain what he saw as “an obvious truth” namely, “that population must always be kept down to the level of the means of subsistence” (1798, p. vii). He did not mean that population *should* be kept at the level of subsistence; rather, that it inevitably would be kept at that level – as a result of what he called the population “principle”. His reason for so doing was to critique William Godwin and others who had recently been writing about ways in which the prospects for humanity might be improved through the eradication of war, disease and famine.

Malthus saw this reversion to subsistence as “the strongest obstacle in the way to any very great future improvement of society” (*ibid.*). In turn, he posited that “the power of population is indefinitely greater than the power in the earth to produce sustenance for man” (Malthus 1798, p.4). He argued that the expansion of the population would be held in check by, “the grinding law of necessity, misery, and the fear of misery” (1798, p. 56) – this is his population “principle”. The “necessity” arises from Malthus’s postulate that the increase in food production could not keep up with the increase in human numbers.² Fear of misery gave rise to preventive checks

on population growth, including “vices” (contraception, homosexuality) and (in later editions) “moral restraint” (abstinence). Misery would arise through the failure or inadequacy of the preventative checks and would result from such horrors as war, disease and famine.

Malthus presumed that the lower classes were incapable of moral restraint and that vices were inadequate to restrain population, so the wellbeing of a peasant, brought about by an increase in productivity, would simply induce him to have more children and thereby return to the level of subsistence.

It is ironic that Malthus should have invented this “principle” just at the moment when England was in the process of escaping the very trap he described. Various technological innovations had already resulted in increased agricultural productivity – and were beginning to result in new forms of industry. Since the late 1700s, a continuous stream of such innovations have resulted not only in dramatic increases in per capita output, but also increases in life expectancy (notwithstanding the reductions in life expectancy experienced by the urban poor during the nineteenth century).

The average baby born in England in 2009 can expect to live more than twice as long as the average baby born in 1798, while benefitting from considerably greater income and wealth, as well as more affordable and better food, shelter and other basic goods – not to mention the proliferation of technologies that make life more pleasurable. With some notable exceptions, similar improvements have occurred in much of the world (see e.g. Goklany 2007).

In spite of these evident improvements in human well-being, Malthusian fears have repeatedly arisen – and have repeatedly been debunked. As Schumpeter notes, ‘the old idea ... that the production of foodstuffs ... creates its own demand because people will multiply as it expands, is ‘as persistent as it [is] useless’ (Schumpeter 1954, p.191). As a result, neo-Malthusians have sought to broaden the concern away from mere production of food to various environmental concerns (though often

production of food is at the heart of these too).

In this new issue of the EJSD, Pierre Desrochers and Christine Hoffbauer discuss the intellectual history of the debate over population. Looking in particular at the contribution of Fairfield Osborn and William Vogt, they show that by the late 1960s concern about overpopulation was more-or-less the conventional wisdom.

It was into this milieu that, in December 1967, *New Scientist* published an article by Paul Ehrlich, called “Playing the Piper”, in which he stated “the battle to feed all of humanity is over ... In the 1970s and 1980s hundreds of millions of people will starve to death in spite of any crash programs embarked upon now.” The following year, a book-length elaboration, racyly titled by the publisher, *The Population Bomb*, appeared to critical and popular acclaim. Also in 1968, the late Garrett Hardin’s “The Tragedy of the Commons” appeared in *Science* and although it is now remembered primarily for its description of what happens when there are no restrictions on grazing a commons, the article’s central tenet was the need to limit population growth.

In subsequent work, Ehrlich sought to systematise his concerns. In a notable paper with John Holdren, published in *Science* in 1971, he posited that the impact of a particular population size could be estimated by the following identity: $I = P \cdot F$, where I is impact, P is population size and F is a vector of factors.

In a critical review of Barry Commoner’s *The Closing Circle*, Ehrlich and Holdren (1972) developed this concept into the now-famous $I = P \cdot A \cdot T$ identity, where affluence (A) and technology (T) now replaced the broader vector of factors (F). Their purpose was to challenge Commoner’s contention that modern technology was the main driver of environmental damage. Commoner responded: “Ehrlich is so intent upon population control as to be unwilling to tolerate open discussion of data that might weaken the argument for it” (1972, p. 55).

Reflecting after forty years on *The Population Bomb* in the current issue of EJSD, Paul and Anne Ehrlich (who was unnamed co-author of the original book) argue in this issue that, if anything, they were overly optimistic in their earlier book. They remind the reader that they wrote *The Bomb* before the collapse of many of the world’s fisheries, the discovery of role of CFCs in ozone depletion, the spread of large-scale agriculture and, most importantly in their view, the discovery of global warming.

While far from cornucopian, Douglas Southgate explains how improvements in agricultural yields have continued to contradict the Malthusian thesis with regard to food production. However, Southgate has

concerns that impediments to and lack of investment in the development of new agricultural technologies might impede a continuation of this trend, and lead to deforestation and clearing of wild habitats for farmland.

As Paul Dragos Aligica notes in this issue, the late Julian Simon was initially attracted to the views of Ehrlich, Holdren, Commoner and other neo-Malthusians. But when he looked into the issues they raised, he found that the evidence did not support their contentions. Puzzled, Simon searched for an explanation: he realised that more people meant not only more mouths to feed but also more brains to think. Resources, he observed, are a product of human innovation – viz. the sequential development of better ways of moving goods and people, using different inputs. So, he said that people are the ‘ultimate resource’ and very often an increase in the number of people will be beneficial since it will result in an increase in the number of beneficial innovations.

While Simon was responding to a particular set of concerns, his general thesis was not entirely new: Desrochers and Hoffbauer refer to the work of William Petty, an economist and the inventor of national income accounting, who wrote in 1682: “[I]t is more likely that one ingenious curious man may rather be found out amongst 4,000,000 than 400 persons.”

Bjorn Lomborg (2001) had also believed that population growth and other factors were leading to environmental degradation, so when he came across an article³ about Julian Simon in *Wired* magazine, he initially set out to refute it – but found that instead he largely confirmed its findings.

In the past few years, Jared Diamond (2005) has once again popularised the view that unrestrained population growth can lead to collapse. But his claims of overpopulation as a major factor in the Rwandan genocide are rebutted by Karol Boudreaux’s article in this issue, in which she shows that there were many other more important causes. For further work challenging the accuracy of Diamond’s work see “Institutions, Progress, Affluence and Technology”, special issue of *Energy & Environment* in 2005.

More sophisticated adaptations of the IPAT identity allow for technology to play a more positive role (e.g. Chertow 2001; Waggoner and Ausubel 2002). Using a similar framework developed previously (Goklany 1996), Indur Goklany’s article in this issue assesses the implications of IPAT and concludes – having evaluated a wide range of evidence – that “in many respects affluence, technology and human well-being reinforce each other in what has been called the cycle of progress.”

At a policy level, concerns regarding the impact of

population growth have been used to justify all manner of interventions, including some, such as forced abortions and sterilisations, that are morally repugnant. The indirect effects have often also been dreadful. For example, China's 'one child' policy appears to have resulted in a significant increase in abandonment and infanticide, especially of girls (Johansson and Nygren 1991).

In this issue, Randal O'Toole addresses a seemingly more prosaic issue but nonetheless one with widespread implications: policies predicated on the assumption that it is possible to impose optimum population densities on urban areas. He argues that the density which emerges from the free choices of individuals will vary across time, place and technology – and should not be subject to attempts at central planning.

If nothing else, the diverse articles in this issue of the EJSJ show that forty years after the publication of *The Population Bomb*, there remains considerable disagreement regarding the relationships between population growth, technological change, food availability, environmental impact, and human well-being. Readers are encouraged to make up their own minds about who is right and who is wrong.

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Notes

- 1 <http://www.census.gov/ipc/www/worldhis.html>
- 2 Malthus posited – without any empirical basis – that human numbers would increase at a geometrical rate, while production of foodstuff could only be increased at an arithmetic rate.
- 3 http://www.wired.com/wired/archive/5.02/ffsimon_pr.html