

Change Our Mode of Thinking!

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With the results of 20th-century technology threatening our survival far more than anything Malthus ever dreamed, paraphrasing Albert Einstein is not inappropriate: "The unleashed power of agricultural technology [he said the atom] has changed everything except our mode of thinking—and we thus drift toward unparalleled disaster."¹ A similar, but different, situation existed in the 1700s, when 2 million Irish had that century's agricultural technology (the potato) "unleashed" upon them. More food, without adequate birth control, meant more people. The population increased—no faster, however, than ours in today's world. By 1830 there were 8 million Irish. By 1850, 2 million were dead of starvation and 2 million had begun an emigration that would leave 4 million behind in abject poverty. The 1990 difference: Until interplanetary travel is improved, there will be no place for survivors to emigrate.

Scientists must change their mode of thinking. And plant pathologists are the ones to lead the way.

A 1989 survey of leaders in the population field² resulted in 100% of the respondents saying that they expect today's population of 5 billion to be over 10 billion in the next century, which, 87% said, will "place such enormous demands on the environment—e.g., arable soils, water supplies, etc.—that in much of the world, mankind's very existence will be threatened."

For those who might believe concern over population growth remains high on the world's list of worries, consider the contrast between Earth Day/1990 and the first such day held in 1970. On 22 April 1990, 200 million people in 136 countries demonstrated, telling us of a dozen ways we are destroying our planet, of the greenhouse effect, the loss of ozone and rain forests, etc., and of a hundred ways to save our planet (reduce consumption, recycle, carpool, etc.). But among the thousands of leaflets and booklets distributed by the organizing committee, none stressed the environmental threat from too many people. In contrast, on Earth Day/1970 the population bomb shared equal billing with environmental degradation. Also that year, Chicago hosted the First Congress on Population and the Environment (COPE), with thousands attending. There has been no second COPE. In 1970 there were more than a hundred campuses with Zero Population Growth chapters. Today there are none. In 1970 a blue-ribbon Presidential Commission on Population Growth and the American Future was finishing its report. At this writing (June 13), our president promises to veto any congressional effort to restore the nation's contribution to the United Nations Population Fund. In 1970 the United States was the world leader in advocating reduction in world population growth. Today our government questions the need to do so.³ In 1970, 17 major U.S. companies worked in contraceptive research. Today there is one.⁴ Since 1970, membership in all organizations advocating reduction in population growth has plummeted; most such organizations have survived only because of a handful of die-hard philanthropists.

Has the population problem gone away? Hardly! In 1970 world population grew by 63 million; this year it will grow by 48% more (93 million). In 1970 the annual world population growth rate was 1.8%. Today it is *the same*. "Why isn't everyone as scared as we are?" begins the first chapter of the Ehrlich's recent book, *The Population Explosion*.⁵

One reason is the euphoria generated by the Green Revolution, with its excessive claims.⁶ Editorials in this journal also have reflected optimism in the face of contrary evidence. For example, "... we derive satisfaction from the higher crop yields that have transformed many nations of hungry people into lands of food sufficiency."⁷ [Which nations?] And from another writer came the thoughts that a Malthusian argument "is based on dubious logic" [dubious how?] and that we are equal to the task of feeding a world of 12 billion people.⁸ [During years of poor weather?] Agricultural scientists must stop their optimistic talk of feeding additional billions.

Because the birth of our science was fathered by the Irish Famine and mothered by the consequent civil unrest, we now have a greater responsibility to speak out on the population issue than does the National Academy of Sciences, AAAS, AIBS, the agronomists, the entomologists, or any other group. And the responsibility requires much more from us than some wishy-washy statement that has been heard a thousand times. A plausible, positive, remedial action has to be stated.

So what action can APS take? The best way to find out would be to pool our thoughts at a special symposium during an annual meeting where the membership would consider the question: *How can the American Phytopathological Society respond to the intractable population problem?* The symposium must *not* spend time rehashing the size of the population problem, the declining per capita food supplies in Africa and Latin America, the impact of population on the environment, the greenhouse effect, etc. That we did in 1975.⁹ Instead, the symposium should search for a logical *idea* or ideas on how a science that developed from a famine in the 1800s can best serve humankind during the 1990s.

If such a symposium does indeed develop a meaningful resolution with a plan of action, it will be, in Thomas Paine's words, "no time for summer soldiers." Expect criticism. Any effective plan of action will involve the most fundamental aspect of human nature—the need to reproduce. Knowingly or unknowingly, every one of us has to some degree a built-in resistance to altering that nature. This is not surprising, for life evolved over billions of years in a world where out-producing other members of one's population was a key to survival. In the past, this system benefited humanity, but now, because modern science gives death control without adequate birth control, the system offers "unparalleled disaster."

Plant pathologists have an enviable record in their efforts to feed the world. Indeed, APS members played a major role in shaping the early U.S. foreign aid program,¹⁰ as well as in cooperative efforts with national and international institutions. Though many may have forgotten our unique history (enshrined by conidia of *Phytophthora infestans* on our seal), it is not enough to simply relearn it to escape the axiom: "He who does not know his history is condemned to relive it." We must change our "mode of thinking." Let's get together and figure out how.

NOTES AND REFERENCES

1. Hesburgh, T. 1984. Universities and nuclear threat. Address presented 26 October 1984 to National Academy of Education, Oakland, CA.
2. Unpublished data. October 1989. Research Associates, Box 577, Riverside, CT 06878.
3. The Bush administration follows the policy enunciated by Reagan's delegation at the World Population Congress in Mexico City in 1984: "poverty, not population, is the problem."
4. *New York Times*, 15 February 1990, p. 1.
5. Ehrlich, P. R., and Ehrlich, A. H. 1990. *The Population Explosion*. Simon & Schuster, New York. 320 pp.
6. The Nobel Peace Prize Committee, awarding the prize exactly 6 months after Earth Day/1970, stated that the Green Revolution "made it possible to abolish hunger . . . in a few years . . ." *New York Times*, 22 October 1970.
7. Zehr, E. I. 1989. Reflections on innovation in plant disease control. *Plant Dis.* 73:372.
8. Niederhauser, J. S. 1985. Are you a threat to civilization? *Plant Dis.* 69:371. [This editorial was in response to: Paddock, W. C. 1983. Healthy plants—a threat to civilization (and a challenge to the APS). Pages 31-44 in: *Challenging Problems in Plant Health*. T. Kommedahl and P. H. Williams, ed. American Phytopathological Society, St. Paul, MN. 538 pp.]
9. Browning, J. A., et al. 1977. Symposium on the world-food population confrontation—implications for phytopathologists. Pages 1-46 in: *Proc. Am. Phytopathol. Soc.*
10. For a discussion of the part plant pathologists played before and after President Truman made the fourth point in his 1949 inaugural address, see the chapter by Paddock cited in note 8.