

## *Conservation and Engineering*

### I. Dreams and Reality

We live in a dream world of sorts, a world in which the economists tell us that a 5% (or 3% or 7%, depending on the axe being ground) growth of production is required or is normal—or is essential to keep ahead of the Russians. We are bombarded with propaganda from Washington and from Wall Street purporting to demonstrate the wonder world of tomorrow when our population will have increased by 50% (or 100%, again depending on the axe). It is supposed that this increased population will consume more, generating greater and greater profits and taxes, but the economic seers are strangely silent on the sources of the food and materials to be thus consumed. The simple facts of the matter are that these dreams of the future disregard some elemental considerations. Also they are based on a simple and childlike faith that science and engineering will provide. Such faith, while flattering, has little foundation in fact. Technology can do a lot to help—indeed, the essence of this series of editorials will be to show many things which can be done—but technology has its limitations.

Excessive population growth, such as is being experienced in many countries, including the United States, is no cause for joy. Growth rates leading to a double world population in the next 50 years or less are going to lead, also, to some very acute problems with which more and more of us must concern ourselves. Billions of mouths to feed, bodies to clothe, and jobs to create are going to meet us head on just when another unhappy development may arise.

That development is that our past and continuing abuses of the earth are beginning to catch up with

us. The future promises that we may have some difficulty in providing food and materials for our present peoples just about when the population explosion hits us. We cannot grow food on eroded land washing away to the sea, we cannot drink water from rivers converted to open sewers, and we cannot employ people in manufacturing when the raw materials are gone.

The Conservationists have been saying these things for years, and the interested student should acquaint himself with their literature. They have been almost alone; it is time that we engineers joined them. Everyone of ability and good will will be needed.

The reality of this matter is that the two factors—population growth and the abuses of our earth—are leading us to a period of stresses and strains of considerable magnitude. The consequent sociological and political ramifications such as the spread of communism and the constant threat of war are accurately described by Huxley in "Brave New World Revisited."

Our best hope of alleviating these problems is technology. Probably only alleviation is possible through technology unless and until other branches of human skills lead us to a cure for overpopulation. In the words of Harrison Brown, "Whether we like it or not, we have passed a major point-of-no-return and have become completely dependent on our science and technology for our personal and cultural survival."

Some specific cases in which technology can help will be described in later issues.

H.B.