1 September 1967, Volume 157, Number 3792

SCIENCE

EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Phone: 202-387-7171. Cable: Advancesci, Washington. Copies of "Instructions for Contributors" can be obtained from the editorial office. ADVERTISING CORRESPONDENCE: Rm. 1740, 11 W. 42 St., New York, N.Y. 10036. Phone: 212-PE 6-1858.

Forecasting Future Developments

Many of the nation's current domestic problems were visible a decade or more ago, and their gradual growth was obvious years before they were accorded serious political status. For instance, there were warning signals of the increasing menace of air pollution. There was the tragic incident at Donora and the annoying smog in Los Angeles. Consumption of fuel in electric plants, process industries, and automobiles was expanding so steadily as to guarantee the emergence of a nationwide problem. Yet little was done to encourage development of better automobile engines or sulfur-free fuels. Even so fundamental a matter as the toxicity of pollutant gases was not thoroughly investigated. The American style seems to be to allow problems to grow to menacing proportions before tackling them. Then the action takes the form of an ill-considered "crash" program. While it is undesirable to make inflexible plans concerning most aspects of the future, some problems involving long lead times cannot be dealt with effectively on a crash basis. Thus, there is a need for a clearer view of the future. In some respects the crystal ball is opaque. However, in other areas there are trends that are likely to persist.

The challenge of seeking to foresee long-term major developments has not been neglected. There have been major studies in France, Britain, and the United States. A recent issue of *Dædalus,** the publication of the American Academy of Arts and Sciences, records initial efforts of the Academy's Commission on the Year 2000. Daniel Bell, chairman of the group, describes the work of the Commission as "an effort to indicate now the future consequences of present-day public-policy decisions, to anticipate future problems, and to begin the design of alternative solutions so that our society has more options and can make a moral choice, rather than be constrained, as is so often the case when problems descend upon us unnoticed and demand an immediate response."

In discussing the future, even so distant a future as the Year 2000, Bell makes the point that our present-day decisions are already shaping it. He suggests that there are four sources of change in society that can be charted with differential ease. The first is technological change; an example is the increasing extent of applications of computers. The second is a continuing tendency toward "the diffusion of existing goods and privileges in society, whether they be tangible goods or social claims on the community." The third involves structural developments in society. In the past 30 years, the American political system has become more centralized. At the same time, the weight of the economy has shifted from the product sector to services. The fourth—important, but difficult to foresee—is the relationship of the United States to the rest of the world. During the past decades our lives have been greatly influenced by external forces, and this is likely to be true in the future.

Obviously we cannot solve today all the problems of the Year 2000, or even those of 1968. However, groups such as the Commission on the Year 2000 can serve important functions. They can provide early warning of problems, identify alternative solutions, and suggest goals for society. They remind us that "the future is what we make it."

—PHILIP H. ABELSON

* *Dædalus* **96**, No. 3 (1967).