

to Panama where he had a short press conference.

Medical sources say that Kean and Dr. Hibbard Williams, who is physician in chief at New York Hospital, went to San Antonio merely to give the Shah a last check before he went to Panama. No one could figure out what kind of surgery Kean meant, and Kean won't elaborate.

On the last day of the Shah's stay in

San Antonio, the news was leaked that chemotherapy had been started—finally. It had, but what wasn't made clear was that the drug was chlorambucil, which is the same maintenance drug, a derivative of nitrogen mustard, the Shah had been taking every day for 6 years for the milder form of lymphoma. It was not aggressive chemotherapy for diffuse histiocytic disease. Just as the textbooks advise, he

started taking chlorambucil again 4 weeks after a course of radiotherapy.

Had the Shah's doctors decided that his lymphoma had reverted to the milder form, and was he rid of diffuse histiocytic lymphoma? So it would seem, but the doctors haven't said.—MARK BLOOM

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For the 1980's, Beware All Expert Predictions

The experts promised us programmed dreams and picturephones in the 1970's, and continued subjection of women

Knowing what not to expect in the 1980's is easy—just listen to what the pundits are predicting, and bear in mind what they forecast for the 1970's.

Zbigniew Brzezinski, for instance, promised in *Between Two Ages* (1970) that we would be living in something called the "technetronic era," but if we are, no one seems aware of the fact. Alvin Toffler in *Future Shock* (1970) warned of society's psychic problems in keeping up with an accelerating rate of technological change. Unfortunately in 1980 it is the deceleration in national innovativeness that is the subject of widespread concern.

The brothers William and Paul Paddock published in 1967 a book with the unequivocal title of *Famine—1975!* "The timetable of food shortages will vary from nation to nation, but by 1975 sufficiently serious food crises will have broken out . . . so the problem will be in full view. The Time of Famines will have begun," the Paddocks predicted in their clear and forceful prose.

India, they supposed, would be the first country to go under: "By 1974 India will have increased her population by 120 million. India cannot, literally cannot, feed that many more mouths." India is at present self-sufficient in food production.

Population growth in the 1970's was not so bad as the demographers expected: estimates for world population in the year 2000 have fallen from 6.5 billion in the early 1970's to under 6 billion as of present. The green revolution, all the criticisms notwithstanding, was one factor that helped world grain production increase at an average of 3.1 percent a year during the 1970's, well ahead of the average increase in population.

The Paddocks were undeterred by the world's failure to keep to their timetable. In 1976 they reissued their lively jeremiad with not a word changed, except for the title; the book is now called *Time of Famines*.

Every fortune teller knows the short-sightedness of hamstringing good predictions with overprecise dates. United Nations Secretary-General U Thant neglected this rule in a forecast of 1969, reprinted as the introduction to *Limits to Growth*:

I do not wish to seem overdramatic but I can only conclude from the information that is available to me as Secretary-General, that the Members of the United Nations have perhaps ten years left in which to subordinate their ancient quarrels and launch a global partnership to curb the arms race, to improve the human environment, to defuse the population explosion, and to supply the required momentum to development efforts. If such a global partnership is not formed within the next decade, then I very much fear that the problems I have mentioned will have reached such staggering proportions that they will be beyond our capacity to control.

While Malthusians purveyed scenarios as cheerful as Ezekiel's vision, the dreadful army of Panglossians, with Herman Kahn at their head, offered a technological paradise. The world in 2176, predicted Kahn in 1975, would have a population of 15 billion and a per capita income of \$20,000. Kahn himself may not be around at that date when people come asking for their money, but he gave some nearer term hostages to fortune in an essay of 1965.* Together with Anthony J. Wiener he listed 100 subject areas "in which technological innovation will almost certainly occur" by the year 2000. With a third of the period of prediction

*"Toward the year 2000: work in progress," *Daedalus* (summer 1967).

already elapsed, there is not much sign yet of "widespread use of nuclear reactors," "use of nuclear explosives for excavation and mining," "some control of weather or climate," "human hibernation for relatively extensive periods," "permanent manned satellites and lunar installations," "chemical methods for improved memory and learning," "new biological and chemical methods to identify, trace, incapacitate or annoy people for police and military uses," or "artificial moons and other methods of lighting large areas at night."

And where, Herman, are the "programmed dreams" and "individual flying platforms" you promised us?

The Nixon White House fell under the spell of the Kahn-do philosophy. To lift the nation's sights, its National Goals Research Staff published a report in 1970, complete with an eloquent introduction by Daniel P. Moynihan, which offered examples of the technological marvels "which many experts now believe will be emerging in the 1970's." From the vantage point of 1980, a certain pleasure can be taken from such of the many experts' predictions as:

"Picturephones, already in limited use, may become widely disseminated."

"An increasing number of experts feel that some capability for modifying weather could become feasible during the decade."

"Some experts believe that during the 1970's a number of new capabilities for the influence of learning processes and improving memory . . . will be successfully demonstrated."

"As research on human reproduction continues, new forms of fertility control . . . could substitute a 'shot per year' for a 'pill per day.'"

Technological events are hard enough to predict, but political events are the very devil. "The dominant feature of international politics during this period," wrote Harvard's Samuel P. Huntington of the period from 1965 to 2000, "was the expansion of the power of the United States. . . . Future historians will, I think, view the Soviet Union, China and the United States as expansionist powers during this period, but they will view the U.S. as a highly successful expansionist power and the other two as frustrated expansionist powers."* MIT political scientist Ithiel de Sola Pool, in a prediction

*"Toward the year 2000: work in progress," *Daedalus* (summer 1967).

that has another 12 months to run, predicted in 1965 that "Around 1980, there will be a major political crisis in the Soviet Union, marked by large scale strikes, the publication of dissident periodicals . . . and an open clash between major sectors of the bureaucracy over questions of military policy and consumer goods." The same essay, however, also foresaw that "major fighting in Vietnam will peter out about 1967" and that Lyndon Johnson would be re-elected in 1968.

A major development of the 1970's was the women's liberation movement. Which sociologists predicted that? One who did not was Harvard's David Ries-

man, who wrote in 1965: "For young women, the floor under their fall may be higher even though the ceiling over their rise is lower than that for men. For, to some extent, young women live within an enclave where even in the year 2000 it may be more damaging to be thought homely or lacking in sex appeal than to be stupid. . . . Their standing will still depend at least as much on the men to whom they attach themselves as on their own accomplishments in meritocratic terms."

Prediction, according to the delicate Chinese proverb, is very difficult—especially with regard to the future.

—NICHOLAS WADE

Trade Bans Are Hard Weapons to Use

Trade, being by nature of mutual benefit, is hard to turn into a weapon. However much grief the grain and high technology embargoes announced by President Carter on 4 January may cause the Soviet Union, there will also be a certain price to pay by the United States.

The essence of the Administration's game plan on the grain embargo is for the government to buy the 17 million tons denied to the Russians, at a cost of some \$2.2 billion, and to convert some or most of it into gasohol-ready ethanol. The production of ethanol will save oil imports and help get the grain out of the storage bins, where otherwise it would act as a permanent future dampener on farmers' prices.

The plan, which has yet to be described in detail, sounds fine in theory, but in practice there will be serious problems. Most existing distillery capacity in the United States has already been drawn into production by the 1978 federal tax exemption for gasohol. Building a new distillery seems to take at least two years and around \$50 million per plant. The government may seek to encourage investment in new plants by offering its corn, purchased at some \$2.50 a bushel, at peppercorn terms. But what will the new distillery owners do for feedstock when the government's cheap grain is used up? Further incentives, paid for by the taxpayer, will quite probably be needed to keep the new distilleries in business, especially if the Russians come back into the grain market in future years.

Another long range consequence of creating a gasohol distillery business concerns the economic impact of its by-products. The distillation process takes only the starch from the corn, leaving the protein to be sold in the form of a feed known as distillers dried grains. If large amounts of distillers dried grains enter the feed market from gasohol distilleries, they may drive out or depress the price of soybeans. Farmers who at present grow both soybeans and corn as a price hedge against falls in the price of either may be constrained to rely only on corn.

The embargoed grain amounts to some 4 percent of total Soviet needs. Since other grain exporting countries seem likely to respect the American embargo, the Soviet Union may not be able to find other suppliers. The grains were intended for animal feed; without them, livestock herds

will have to be reduced, and Russian consumers will have less meat to eat.

The details of the high technology embargo have also yet to be worked out. Whether or not the embargo has bite will depend heavily on the cooperation of Japan and the other western suppliers of high technology. As McGeorge Bundy observed to the Senate Banking Committee in November, "Our position is particularly unimportant in the field of high technology products; in 1977 our exports of such products to the U.S.S.R. amounted to less than 10 percent of such exports from the 'industrialized world'—we rank well behind West Germany, Japan and France."

"The capitalistic economy," Lenin observed, "plants the seeds of its own destruction in that it diffuses technology and industry, thereby undermining its own position." American governments have in general been so heedful of Lenin's dictum that high technology trade with the Soviet Union has been tightly controlled. Of about \$700 million of nonagricultural products exported to the Soviet Union in 1978, less than \$200 million involves products that could be classified as high technology. When political winds blow chilly and the Administration of the day seeks to punish the Russians, the trade stick is often found to be too short to make an effective weapon.

The picture may be different if other countries see their interest as lying in joining the high technology embargo. A framework for such collective action exists in the shadowy entity known as COCOM, the Coordinating Committee on East-West Trade. Its members are NATO countries, minus Iceland and plus Japan; it holds weekly meetings in Paris to pass or veto applications to sell items of strategic significance to the Eastern bloc.

COCOM "remains a viable, albeit imperfect organization," notes the Office of Technology Assessment in its recent report *Technology and East-West Trade*. The United States, if it could persuade its allies to extend and strengthen the COCOM list of controlled items, might well succeed in presenting the Soviet Union with the perceived threat of at least a serious inconvenience factor. Without such cooperation, the embargo may be of little significance to the Russians, who seem already to have made the United States a supplier of last resort against this very eventuality.—NICHOLAS WADE