

hazardous-waste laws, and funds to consolidate state and federal toxic-substances management.

In some ways the Carter budget was merely an exercise in fiscal planning. President Ronald Reagan has vowed to overhaul and tighten the budget within his first month in office. In another sense, however, the Carter budget represents a taunting challenge from the departing administration to the incoming one. Scientific and technological development play a major role in maintaining economic productivity and national security — high-priority issues with Reagan. If the new President attempts major excisions in the research budget, he risks charges of jeopardizing those vital interests. □

## Staving off future gloom and doom

Last July a three-year federal study known as Global 2000 (SN: 8/2/79, p. 70) painted a grim and detailed portrait of a world whose resources had become impoverished and seriously degraded. The vision is a forecast of the gross ecological havoc likely to occur if drastic changes aren't made in the world's social and environmental practices. Last week a follow-up study identified steps the United States could take toward preventing that nightmarish vision from becoming reality.

Called Global Future, this 255-page report was developed under the joint aegis of the State Department and President's Council on Environmental Quality. In response to a request by former President Jimmy Carter, it recommends ways to improve federal programs already tackling some of the problems that Global 2000 identified as most urgent and serious.

For instance, the report claims, "A sustained commitment to development assistance by the richer nations... is critical to breaking [the] cycle of hunger, misery, and resource degradation in the Third World." Yet the United States ranks 15th of 17 major industrial nations in the share of gross national product it contributes as foreign aid. The study singles out programs and changes that are "strategically well planned, where the U.S. contribution is meshed with those of other countries and international organizations, and where recipient countries both need the assistance and are able to use it effectively." By way of example, it suggests investing in the World Bank's five-year fuelwood program to double the rate of tree plantings in lesser developed countries.

There are over 165 recommendations, from initiation of programs to increase fertilizer-use efficiency to development of hazardous wastes export regulations. Probably most vital, the report says, is a need to change policies inhibiting U.S. agencies from efficiently providing foreign nations aid, advice or data. □

## Smoking: Dangerous to your spouse

Passive smoking — involuntary exposure to cigarette smoke — increases a person's risk of getting lung cancer, says a report in the Jan. 17 *BRITISH MEDICAL JOURNAL* by Takeshi Hirayama, chief epidemiologist of the National Cancer Center Research Institute in Tokyo.

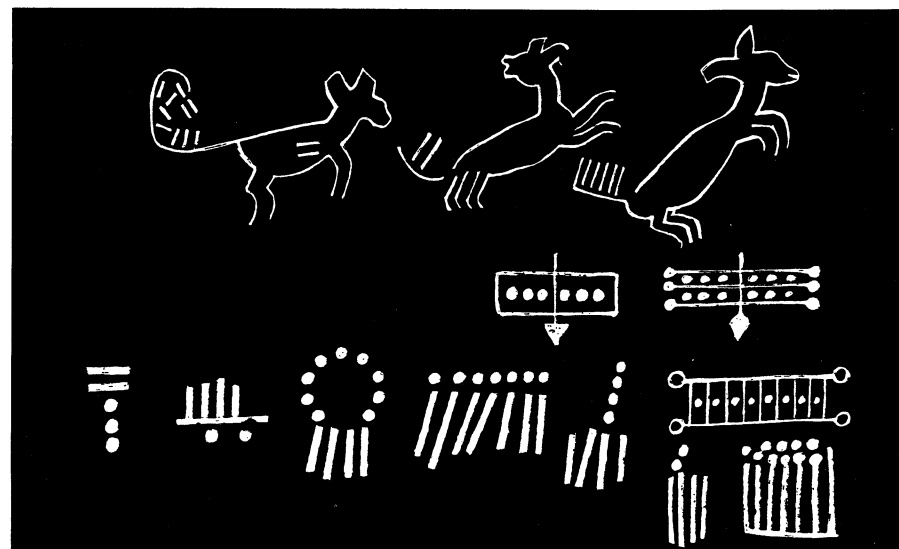
Between 1965 and 1979 Hirayama studied several hundred thousand men and women 40 years of age and older (many of them husbands and wives) in 29 of Japan's 800 health center districts. He now reports that the susceptibility of nonsmoking wives to lung cancer is linked statistically to the smoking habits of their husbands. There was up to a twofold increase in the death rate from lung cancer for nonsmoking women who were continually exposed to their husbands' smoke. Nonsmoking women whose husbands smoked more than 20 cigarettes a day were found to have a risk of lung cancer 2.08 times higher than nonsmoking women whose husbands did not smoke. If the husbands smoked fewer than 20 cigarettes a day, the risk was 1.61 times higher than for nonsmoking wives of nonsmokers. The relative risk of developing lung cancer was even higher in certain subgroups of nonsmoking women with husbands who smoke — notably those in agricultural settings — further strengthening the evidence that the lung cancers of nonsmoking women were due to their husbands' smoking, not to air pollution. □

This study adds to the evidence that passive smoking is harmful. In 1974, scientists found that parents' smoking can make children more susceptible to pneumonia and bronchitis (SN: 12/14/74, p. 376). In 1976, psychologists found that a smoke-filled room makes nonsmokers feel anxious and tired (SN: 9/16/78, p. 197). Last year, a study suggested that passive smoking can damage the small airways in the lungs (SN: 4/5/80, p. 221). These and other studies that document the dangers of smoking should, eventually, have an effect on smoking habits. And there are indications that this is now happening.

Lloyd Johnston, Jerald Bachman and Patrick O'Malley of the University of Michigan's Institute for Social Research in Ann Arbor conducted nationwide annual surveys of thousands of U.S. high school seniors between 1975 and 1980. Since 1977, the surveys show that smoking among high school seniors of both sexes has been dropping. In 1977, 29 percent said they smoked daily, but by 1980 only 21 percent said the same, with about half of that decrease occurring between 1979 and 1980.

The reason teen smoking is dropping off, the surveys suggest, is that teens are increasingly concerned about the health risks of smoking. For instance, nearly two-thirds of both male and female seniors surveyed in 1980 thought that there was "a great risk" in smoking a pack or more a day. Three-quarters of seniors of both sexes surveyed in 1980 also believed that their friends would disapprove of their smoking, whereas only about half of seniors of both sexes surveyed in 1975 thought so. □

## Reading the rocks in Amazonia



The petroglyphs, or rock carvings, found in the Upper Amazon have generally been passed over as unfathomable art. But Guyanese archaeologist Denis Williams (recently at the Smithsonian Institution's Museum of Natural History) has surveyed hundreds of them and concludes—based on the punctate marks and furrows typically found with representations of fish, plants and game—that they were an important tally system rather than an art form. If Williams is right, the petroglyphs may help trace the dates and movements of hunter-gatherers who lived in the Amazon region as early as 7,000 years ago.