behavioral sciences

Injectable birth control

The contraceptive controversy, centering around issues of safety and efficacy, is far from over. The more effective a pill, cream, device or method seems to be, the more dangerous it seems to be. This holds true for the first and only injectable contraceptive to go on the market. The drug, Depo Provera (medroxyprogesterone), approved by the Food and Drug Administration for limited use as a contraceptive, is already on the market as a treatment for cancer of the uterus.

This drug is more effective than other methods, primarily because it has to be injected only at three-month intervals. But, says the FDA, "While the drug is clearly effective in preventing pregnancy, it presents the risk of infertility when use is discontinued. In addition, the drug has other adverse effects associated with the oral contraceptives." Evaluating eight years of research, the FDA has found that most women who use the drug can become pregnant, but only several months after discontinuance. Other adverse effects include possible relationships to breast tumors and blood clotting.

Money and mental illness

The causes of many types of mental illness remain a mystery, but M. Harvey Brenner of Johns Hopkins University suggests that money may be at the root of this particular evil. In *Mental Illness and the Economy* (Harvard University Press, Nov. 1973) Brenner documents the direct relationship between national economic instability (low employment rates, etc.) and mental illness. Economic and institutional data from 1841 to 1967 show that this relationship has remained constant. "It is clear," he says, "that instabilities in the national economy have been the single most important source of fluctuation in mental-hospital admissions or admission rates."

More on marijuana

The latest of the myriad marijuana reports indicates that chronic cannabis use causes no harmful effects. An 18-month study, commissioned by HEW, was performed on the island of Jamaica by the Research Institute for the Study of Man in New York and the University of the West Indies in Kingston.

For the study, 30 confirmed marijuana users (some had used the drug for 37 years) were matched with 30 controls who had never used the drug or who had only slight experience with it many years ago. None of the 60 had used heroin, morphine, LSD, amphetamines, barbiturates or jimson weed. Extensive clinical and psychological tests found no significant differences between the groups.

Parents, peers and pot

The role of peer pressure in adolescent drug use is well known. Most young users get turned on for the first time by their friends. But, says Denise Kandel of Columbia University, the adolescent most likely to be a regular user of marijuana is one whose parents and peers both use psychoactive drugs. Kandel studied 8,000 New York State high-school students. The proportion of them who had used marijuana 60 times or more jumped from 2 percent among those whose friends had never smoked dope to 48 percent among those whose friends were 60-time users. This figure went up to 67 percent among those whose friends and parents were drug users.

environmental sciences

Worldwide environmentalism still shaky

The problems of industrialization without destroying valuable natural resources in developing countries was the subject of an international conference in New York City last month. Sponsored by the World Federation of Engineering Organizations, the conference was attended by 95 scientists, engineers and administrators from 34 countries. The attitude of most, according to a report in CHEMICAL AND ENGINEERING NEWS, was that economic and industrial growth must come before ecology in developing nations.

"In developing countries one can feel less anguish over future generations owing to the already sufficiently anguishing situation of the present generations," said Mohamed A. Isli, secretary general of the Union of Algerian Engineers.

The situation appears particularly critical in India where sulfur dioxide levels reach 0.223 micrograms per cubic meter of air in Delhi and 0.71 in Calcutta. The permissible limit in the United States is 0.1 and in Russia, 0.05.

A recent study conducted by the Ford Foundation tends to confirm the conclusion that economic and social pressures are forcing developing countries "to exploit rapidly their natural wealth at the expense of future consequences." The study cites an example of aerial crop spraying killing large numbers of fish and cattle recently in Indonesia.

To help meet the challenge, a World Environment and Resources Council was recently formed, bringing together various national engineering and scientific associations as charter members.

American peregrine falcon almost gone

Despite efforts to reestablish America's peregrine falcon population (SN: 9/8/73, p. 158), the species has almost disappeared from the United States, according to an announcement by the Fish and Wildlife Service of the Department of the Interior.

Once ranging from Georgia to Alaska, no peregrines in the wild are left east of the Rockies, and only 65 active nesting sites are known in western Mexico, the United States and southern Canada. A study of 14 of these sites, conducted by James H. Enderson of Colorado State University, found that only three eyases were successfully fledged this year.

The major cause of the decline, the announcement states, is eggshell thinning because of DDT. This long-standing explanation of the bird's decline received further confirmation during the present study when unhatched eggshells were found to contain high concentrations of the pesticide and its metabolites. Thin shells are easily broken by adult birds sitting on the nest. A 20 percent thinning of peregrine eggshells is now common.

Do-it-yourself pollution monitoring

An Oregon State University botanist has developed a method for laymen to estimate accurately the average, long-term air pollution in their areas by observing lichens, the crinkly colonies of fungus and algae that grow on rocks and trees. The study, conducted by William C. Denison for the National Science Foundation, concluded that some lichens are so hardy while others are so sensitive to pollutants that a scale could be devised whereby the pollution in an area can be gauged by which native lichens have survived. (Denison's work is available under the title "A Guide to Air Quality Monitoring with Lichens," for $3 including postage, from Lichen Technology Inc., Box 369, Corvallis, Ore. 97330).