

Student survey cites drug use slowdown

It's no surprise that a majority of young people have used illegal drugs, but researchers at the University of Michigan's Institute for Social Research report that the use of most illicit drugs is leveling off or declining among high school seniors. Lloyd Johnston, Jerald Bachman and Patrick O'Malley have conducted the nationwide survey of 17,000 students every year since 1975 (SN: 5/3/80, p. 279). Initial increases in marijuana use began to sag after 1977, and the proportion of seniors using pot in the month preceding the survey fell from 37 percent in 1979 to 34 percent in 1980. Daily use has also dropped from 11 percent in 1978 to 9 percent in 1980. But 65 percent of the seniors report using some illicit drug during their lifetime. The proportion of those who have used a drug other than marijuana has increased from 35 percent in 1976 to 39 percent in 1980. Much of this increase, the researchers say, is due to the popularity of cocaine and prescription stimulants such as amphetamines. They conclude that the shifts in drug use are due to media coverage of potential marijuana hazards, growing concern about health risks among the young, increasing peer disapproval of drug use and the conservative mood of recent years. □

Nuclear explosions and 'zoo events'

On Dec. 16 an early warning satellite gliding over the South Atlantic Ocean recorded a flash of infrared radiation. Early press reports speculated that the flash had the markings of a nuclear explosion. Another flash had been recorded on Sept. 22, 1979, in the same region by another satellite, part of the Vela system, and the Defense Department contends that it was most likely the result of a nuclear weapons test. But the latest measurement was of a heat source rather than a light flash. Pentagon spokesmen now say that the heat generated as a meteor entered the atmosphere at high velocity was probably responsible for the satellite's reading. Both flashes were recorded in the general area of South Africa, which fueled speculation that South Africa or another country trying to develop nuclear weapons had conducted tests. South Africa denied any involvement in nuclear testing.

While agreement exists that the latest flash was non-nuclear, there is still contention over the origin of the Sept. 22 flash. The Pentagon maintains that it had the signature of a nuclear explosion. Vela satellites carry two meters that measure rapid changes in light intensity, and previous nuclear blasts have resulted in char-

acteristic double-humped graphs recorded by both devices. Graphs from Sept. 22 have the double-hump signature, but a White House panel of scientists issued a report last July that concluded the flash was a "zoo event," a signal of unknown origin, possibly caused by the impact of a small meteoroid on the satellite. No supporting evidence, such as radioactive debris, could be found to confirm a nuclear explosion. The panel said that the ratio of signals during the second hump was significantly different from what would be expected from nuclear blasts near the earth's surface. A light source near the satellite would most likely cause the greater sensitivity of one meter over the other. After reconvening in December to examine new data, the panel came to the same conclusion. Both the Pentagon and the White House panel stand firm on their opposing interpretations. □

Alcohol affects fetal hippocampus

Alcohol consumption during pregnancy has been linked with fetal abnormalities such as small head size, mental retardation, tremors and other central nervous system abnormalities. In addition, alcohol reduces brain weight and alters the cerebellum, an area of the brain involved in balanced and coordinated muscle movements (SN: 5/17/80, p. 311). Now more on how alcohol damages the fetal central nervous system at the tissue or cellular level is reported in the Feb. 27 *SCIENCE* by James R. West, Cheryl A. Hodges and Asa C. Black Jr. of the University of Iowa College of Medicine in Iowa City, Iowa. They find that alcohol is capable of altering nerve fibers in the fetal hippocampus, an area of the brain involved in learning and memory.

In the study, female rats were mated then put on a diet with alcohol comprising one-third of the caloric intake. Control animals were fed the same number of calories but no alcohol. After both groups of rats gave birth, the pups were turned over to foster mothers on a standard nonalcoholic diet. At 60 days of age the pups were sacrificed, and nerve fibers in their hippocampi were examined and compared. (West and his colleagues examined the hippocampus rather than some other brain area because it is easy to detect subtle structural changes in the hippocampus.) Nerve fibers in the hippocampi of the rats that had been exposed prenatally to alcohol were found to have dramatic aberrations not seen in the rats that had not been exposed to alcohol. Such hippocampal nerve anomalies, West and his team conclude, may be responsible for some of the more blatant central nervous system abnormalities seen in children exposed to alcohol during pregnancy. □

SCIENCE ON TV

SCIENCE NEWS prints the latest written word of scientific developments and noteworthy news. We've set this space aside to inform our readers of programs of scientific interest that are scheduled on television. Check your local listings for exact times.

• **March 8 (PBS) "A Prospect of Whales"** A look at the life cycles of animals at the remote Bay of Valdes, Argentina.

• **March 11 (PBS) National Geographic Society — "National Parks: Playground or Paradise?"** is the question that hangs over some of our most beautiful wilderness: how to make the parkland accessible to all without causing further damage to it.

• **March 15 (PBS) "The Greatest Adventure"** is the story of the U.S. space program. It features original NASA footage of many of America's space flights, including the historic landing on the moon.

• (PBS) **"NOVA": March 3 "Beyond the Milky Way"** looks at developments in astronomy during the past century, tracing the advances in technology that made landmark discoveries possible and pondering what current discoveries will reveal in the future; **March 10 "The Asteroid and the Dinosaur"** examines one of the greatest mysteries of science — the disappearance 65 million years ago of 75 percent of all animal and plant life, including the dinosaur; **March 17 "Animal Olympians"** The beauty, endurance and raw power of animals in the wild are shown juxtaposed with film of Olympic athletes performing feats that parallel those of the animal kingdom; **March 24 "A Secret Dove Affair"** African collared doves, ideal for courtship and mating studies, had never been studied outside the laboratory before a team of scientists conducted field experiments in West Africa; **March 31 "The Pinks and the Blues"** is a repeat look at the children raised after a decade of sex role redefinition.

• (PBS) **"Odyssey": March 7 "The Chaco Legacy"** looks at one of the most comprehensive building projects ever — a 900-year-old complex featuring an extensive water-control system, a network of roads connecting 70 pueblos and several mammoth structures; **March 14 "Cree Hunters of Mistassini"** follows the Cree Indians of Canada on their annual trek northward to hunt and trap game; **March 21 "Key to the Land of Silence"** is a look at the Rosetta Stone, whose hieroglyphics hold the key to understanding life in ancient Egypt; **March 28 "The Sakuddei"** An examination of a lifestyle threatened by the attempts of the Indonesian government to help the Sakuddei.