

# behavioral sciences notes

## DREAM RESEARCH

### Women Dream in Cycles

Women have a dream cycle that seems to follow their menstrual cycle, a Tufts University psychiatrist says.

After menstruation, women dream about one hour a night; before menstruation, they dream almost two hours a night, reports Dr. Ernest Hartmann, who is also director of the sleep and dream laboratory at the Boston State Hospital. Average dreaming time in humans is 90 to 100 minutes.

Dr. Hartmann studied the brain wave recordings of seven women for 18 nights each over a period of three to four months. He says the dream cycle appears especially strong in women who complain most of premenstrual tension.

He suggests tentatively that if increased dreaming is related to premenstrual tension, women might be helped by sleeping a few extra hours on the nights before menstruation.

Hormonal changes caused by the cycle may regulate the changes in dreaming, Dr. Hartmann believes. It is well-known that these hormones cause irritability, depression, anxiety and tiredness in many women, perhaps all, just prior to menstruation.

## DRUG ABUSE

### LSD and Birth Defects

A pregnant woman who took four hallucinogenic trips on LSD has delivered a child with congenital defects, including a deformed right leg and foot.

The woman took no other drugs during pregnancy, and pediatricians who report the case believe LSD is at fault.

Dr. Hans Zellweger and associates at the University of Iowa reported in the November 18 issue of *THE LANCET*, a British journal, that neither parent had a family history of birth defects.

The Iowa case is the first full report attributing birth defects to LSD use, though there have been other indications of such defects during the past few months.

San Francisco General Hospital, for example, has noted cases of malformation among babies born to mothers who had taken LSD. Doctors there, however, do not feel they have enough evidence to link the two definitely.

Dr. Zellweger reports that both mother and father showed chromosomal breaks in blood cells. The blood cells generally reflect what is happening in other areas, such as reproductive cells, and high rates of breakage have recently been found among LSD users (SN: 11/11).

## PRIMATE MATING

### Monkeys Follow Rain Calendar

Seasonal reproduction in the New World squirrel monkey follows a rain calendar, with mating during the dry season and bearing during the wet season, two Florida researchers report. Their report is the first description of seasonal reproduction in New World primates, say Frank V. DuMond of Monkey Jungle, Inc., and Dr. Thomas C. Hutchinson of the University of Miami School of Medicine.

In addition, the team notes prominent yearly sexual changes in the male squirrel monkey on a scale not seen in Old World primates.

During the mating season, the male monkey becomes heavy and fluffy around upper torso, shoulders and arms. Simultaneously, males establish a dominance hierarchy which lasts until the birth season. Then both fattened appearance and masculine behavior disappear. "Males become virtually rejected neuters" during this period when females take over, the investigators explain in the Nov. 24 issue of *SCIENCE*.

They discovered the rain calendar cycle by comparing squirrel monkeys from Peru, Colombia and Florida. Animals in the Monkey Jungle colony were imported from Peru in 1960 and within three years their birth season had shifted by six months from winter to summer. There is a six months' difference in rainy season between Peru and Florida.

The researchers believe precipitation controls the cycle either through vegetation and nutrition or through solar radiation modified by atmospheric moisture.

## WORLD POPULATION

### Nuclear Power Could Support Nine Billion

A world population of some nine billion people could probably be supported at the United States standard of living with nuclear-generated electricity, according to Dr. Harrison Brown, foreign secretary of the National Academy of Sciences. World population now stands at 3.5 billion and could double by the end of the century.

Dr. Brown told a University of Michigan conference on world fertility that nuclear power could make it possible to place cities in arid coastal regions and supply them with desalinated water. He called the envisioned areas "agroindustrial complexes" which would be completely powered with nuclear-generated electricity and which would possess highly mechanized agriculture.

"Such a development would open up vast areas of India, Pakistan, the Middle East and North Africa, Brazil, Chile and Peru for human habitation," says Dr. Brown, who is also a professor of geochemistry at the California Institute of Technology.

Theoretically, the new areas could support either 40 billion people at subsistence levels or nine billion at current U.S. levels.

## CORRECTIONS

### Plastic Surgery Cuts Prison Returns

Plastic surgery seems to help keep criminal offenders out of jail. Prison returns dropped more than a third below normal among prisoners whose physical disfigurements were corrected by surgery, reports a team of New York investigators after three years of study.

Conducted by the Montefiore Hospital, the study covered 168 individuals, of whom 118 were heroin addicts and 50 were non-addicts. In all, 74 prisoners were given operations.

Plastic surgery mainly benefited the non-addicts, report the investigators, headed by Dr. Michael Lewin of Montefiore.

Among non-addicts, prison return rates were 36% lower than normal after the surgery. Among the addicts, recidivism dropped by eight percent.