# BEHAVIOR

## Auto fatalities—disguised suicides

Yukio Mishima, a noted Japanese author, killed himself on November 24, 1970. The week following his suicide, there were 117 motor vehicle deaths in California, the state where Mishima resided. In a complex statistical analysis, a University of California at San Diego sociologist has determined that auto deaths rose disproportionately the week after Mishima's death, and, that a number of those fatalities were "imitative suicides."

The Mishima story is just one example of the apparent mass psychological rippling effect that highly publicized suicides have on the public, says UC's David P. Phillips. In a study of 23 such suicides over the 1966 to 1973 period in California, Phillips reports in the June 24 SCIENCE that during the week following front page newspaper accounts of a suicide, motor vehicle fatalities increase by an average 9.12 percent above what they were calculated to be normally during corresponding control weeks in other years.

Phillips correlated the suicide coverage of five California newspapers, including the Los Angeles Times and the San Francisco Chronicle, with the number of statewide autos deaths during the week following the stories. The results were compared to control periods when no well-known suicides had occurred.

The sociologist reports that fatalities not only rose following a suicide, but did so at a rate that increased with the amount and prominence of newspaper coverage. "Because the results are statistically significant, they cannot plausibly be ascribed to chance fluctuations in the data," Phillips says. He concludes that publicized suicide stories "appear" to "stimulate a wave of imitative suicides, and some of these imitative suicides are disguised and recorded as motor vehicle accidents."

## Gay gulls: Sick or adaptive?

It now appears as though an extraordinarily large colony of female homosexuals has taken up residence on Santa Barbara Island. Before Anita Bryant makes her plane reservations, however, it should be noted that the afore-mentioned colony is composed of western gulls (*Larus occidentalis*).

George L. Hunt Jr. and Molly Warner Hunt of the University of California at Irvine's Department of Ecology and Evolutionary Biology report their findings in the June 24 SCIENCE. In 8 to 14 percent of the observed gull pairs, female twosomes occupying egg clutches containing larger than average numbers of eggs indicated both females contributed to and were sharing the same nest.

The researchers are not sure whether the "female-female pairing in western gulls is pathological or if it has adaptive value." There may be an excess of females in the population, they suggest.

## Easing the pain

A sure sign of problem drinking, it is believed, is the transformation of a social drinker into a solitary drinker. Now it appears that those who drink alone literally achieve their goal of easing the pain, according to a study of 51 male volunteers by researchers at Tufts University and the Veterans Administration Hospital in Brockton, Mass. The results show that alcohol reduces pain (in the form of pressure and cold applied to the hands) in solitary barroom drinkers, but that comparable levels actually increase sensitivity to pain among those who customarily drank at home with family or friends. The results point to definite effects of the drinker's psychological predisposition, the researchers conclude in the JOURNAL OF ABNORMAL PSYCHOLOGY (86:179).

# BIOMEDICINE

## Human heart in 3-D

In nuclear medicine diagnosis, a patient swallows radioactive material. A radioisotope scanner or camera then records areas of material accumulation in the patient, obtaining images of various tissues or organs.

Now nuclear medicine diagnosis should receive a major boost from a camera being developed at the Lawrence Berkeley Laboratory. The positron ring camera, as it is called, can provide information on the physiology of tissues and organs. Conventional nuclear medicine and X-ray diagnosis can provide information only on their anatomy. For instance, the camera can take three-dimensional pictures of a beating human heart, showing not only several different layers of heart muscle but blood flowing through it. Thus it should assist early diagnosis of heart disease and help prevent heart attacks.

The camera works in this manner. Radioactive material is injected into a patient. Positron decay radioactivity from the material produces sparkles in radiation detection crystals surrounding the patient's body. The light from the sparkles is converted into electrical impulses, and through a computer, the impulses are converted into three-dimensional images on a television screen.

## Fasting zaps involuntary nerves

Norepinephrine is the neurotransmitter used by sympathetic nerves (part of the involuntary nervous system of the body). Numerous physiological states have been associated with increased norepinephrine turnover and hence with increased sympathetic activity. Now, the first physiological state that reduces norepinephrine turnover and hence decreases sympathetic activity is reported in the June 24 SCIENCE by James B. Young and Lewis Landsberg of Harvard Medical School. It is fasting.

Their research, conducted on rats, shows that two-day fasting suppresses sympathetic activity not only in the heart but in the pancreas, small intestine, liver and other organs and that the decreased activity is reversed by one-day feeding.

The association of decreased nerve activity with fasting, they explain, has at least three important implications. The reduction in sympathetic activity may be a mechanism whereby the body attempts to conserve calories; therefore manipulation to increase sympathetic activity may be useful in the treatment of obesity. Because sympathetic nerves are crucial for the body's "fight or flight" response to stress, dieters and persons suffering caloric deprivation may have an impairment of this survival response. Since high blood pressure probably involves the sympathetic nerves, caloric manipulation may be valuable in its treatment.

## How tumors prevent diabetes

For years researchers have been able to transplant insulin-producing tissue into diabetic animals to reverse diabetes. However, disease reversal has not lasted long because the recipients rejected the transplanted tissue as foreign. Now this rejection problem has finally been overcome by Ronald Dudek, Padmaker Dixit and their colleagues of the University of Minnesota by using benign tumors of insulin-producing cells.

First the researchers produced benign tumors of insulin-producing cells. Then they transplanted the cells into diabetic rats of the same strain from which the tumors came. The tumors not only corrected the rodents' diabetes but were not rejected by them. Nor did the tumors spread to other areas of the animals' bodies.

As the investigators explained at the annual meeting of the Endocrine Society in Chicago in June, they will now see whether the tumors also resist rejection in other strains and species.