

BEHAVIOR

Alcoholism and the double standard

The double standard may not be all bad. At least it seems to have a beneficial effect on women as far as alcoholism is concerned. In broad terms, society teaches men to drink and drink heavily to solve their problems. The same society reacts negatively to female alcoholics. Because of this double standard women are less likely to become alcoholics, and if they do, they generally become aware of the problem earlier and seek professional help sooner than men do. This is the finding of Harold A. Mulford, director of alcoholism studies at the University of Iowa in Iowa City.

In a study of 395 women and 3,132 men who sought help from Iowa's 43 county alcoholism service centers in 1974, Mulford found that women move through the alcoholism process twice as fast as men. Female alcoholics become aware of other's criticisms and become unhappy with their own drinking behavior almost immediately after onset of alcoholic drinking. They make the first serious efforts to quit drinking a year and a half later and enter treatment centers three and a half years after the onset of alcoholism. Men average seven years between the start of alcoholism and their first appearance at a treatment center. Instead of fostering alcoholism among women, the double standard apparently pushes them in a different direction. Regular use of drugs other than alcohol is much higher among women. Twenty-four percent of the females, compared with nine percent of the males, report using drugs other than alcohol more than once a week. The drugs used are primarily barbiturates, prescribed by physicians.

Schizophrenia increasing

By 1985 there may be close to one million additional people diagnosed as schizophrenic in the United States. This was among the findings presented this month at the Second Rochester International Conference on Schizophrenia of the University of Rochester Medical Center. Morton Kramer of the National Institute of Mental Health has plotted the anticipated growth in the incidence of schizophrenia. He concludes that by 1985 there will be an increase of approximately 30 percent or about 970,000 additional cases.

Kramer's data are derived from statistics contained in the psychiatric case register maintained by the University of Rochester. The increase, it is suggested, will be a result of the growing proportion of the population in the 20-to-40 age group, the age group most likely to develop schizophrenia. The increase is expected to be 28 percent for the white population and 34 percent for nonwhites. Lyman C. Wynne of the University of Rochester said that the prospect of reduced government funding for mental health programs is "particularly unfortunate in view of this projected increase in the dimensions of the problem. Today's cutbacks will make tomorrow's problems worse."

Marijuana medicine

Glaucoma is a disease of the eye characterized by high intraocular pressure that can result in total loss of vision. It has long been known that marijuana (or its active ingredient, THC) can reduce the pressure associated with glaucoma. And now Kieth Green of the Medical College of Georgia in Augusta reports that animal tests indicate that marijuana eye drops may be the most effective method of treating glaucoma. One drug firm has already applied to the Food and Drug Administration for permission to begin testing the treatment on human volunteers. The volunteers may be in for a high time since marijuana reaches the bloodstream and brain quickly when administered by eye drops.

BIOMEDICINE

Cell cultures on the assembly line

The astounding progress in biomedical research during the 20th century has stemmed, to a great extent, from advances in research techniques. And one of the most crucial is the technique of growing cells in the laboratory. Cell culturing, which was first tried in 1909, has allowed biologists to learn incredible things about both healthy and diseased cells, to test viruses, bacteria and drugs on cells, even to create lifesaving vaccines.

Cell culturing is taking another gargantuan leap forward, once again promising to accelerate biomedical research, especially gene mapping, virus assays, screening for mutants, carcinogens and birth defect-causing chemicals. Donald A. Glaser, Nobel prize-winning physicist and molecular biologist at the University of California at Berkeley, has developed a new technique that will allow biologists to process up to 100 million cell cultures at once, subjecting them to controlled environments with automatic surveillance and screening for mutant cells in accordance with computer-programmed instructions.

The technique is called the Dumbwaiter. In brief, it's a machine two stories high and 40 feet long that incubates cell cultures and moves them along and up and down the production line like a dumbwaiter. It contains cameras, colony inoculators, spraying devices and other accessories, as well as picture windows for observing the culturing progress.

Neuroscience: An explosive arena

One of the fastest growing areas of biomedical research today is that of the brain and nervous system. A few years ago only 500 neuroscientists attended the annual meeting of the Federation of American Societies for Experimental Biology. Now neuroscientists have their own meetings and number 4,000.

There are several reasons why this research discipline is skyrocketing, neuroscientists explained at the recent Society for Neuroscience Seminar for Science Writers. One has been the arrival of chromatography to study small peptides in the brain and, in turn, to link them to learning, memory, behavior and pain (SN: 4/28/73, p. 268; 3/13/76, p. 169; 5/15/76, p. 309). Still another is the arrival of molecular biology and its application to the central nervous system. For instance, during the past 10 years neuroscientists have learned how to incorporate radioactive isotopes into DNA in the brain and thereby use them as markers for DNA synthesis.

Computers are now being used to answer questions about the shape of the nervous system. Immunology is advancing neuroscience, too. During the past five years, neuroscientists have been making antibodies to enzymes that make neurotransmitters and using the antibodies to study the enzymes' activity.

Cancer virus genes at work

For a decade now, biologists have known that cancer virus genes integrate themselves into the genes of host cells, and that such integration is necessary for the cells to become cancer cells. Little has been known, however, about the molecular details of integration.

Now some insight is reported in the April PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES by Gary Ketner and Thomas J. Kelly Jr. of Johns Hopkins University School of Medicine. They have found that one mammalian cancer virus, SV 40, integrates its genes at different areas in host cell genomes, suggesting that integration is not absolutely site-specific. But their data do not exclude the possibility that integration occurs at specific nucleotide sequences if many such sequences are located at different sites on the host and/or viral genome.