

behavioral sciences

The electric sleeping machine

In a dark, quiet room electrodes are attached to the relaxing patient's eyes and mastoids (the protruding bone behind the ear). A very low-amplitude, pulsating direct current is then passed through the patient's head for up to two hours. The procedure is repeated daily for at least 10 days. The technique, known as cerebral electrotherapy (CET or electro-sleep), is supposed to induce and enhance a state of natural sleep. Russian and European investigators have reported CET to be effective in treating neuroses, psychoses, hypertension, asthma, peptic ulcers, migraine headaches, toxemia of pregnancy and insomnia.

With this background, CET is becoming popular in the United States. But Bernard L. Frankel of the National Institute of Mental Health is skeptical. He says the treatment has not been thoroughly evaluated. In the January *AMERICAN JOURNAL OF PSYCHIATRY* he outlines design procedures for future studies. These are especially important, he says, because an increasing number of electronics companies are citing inadequate studies in their promotional literature and implying that CET has been thoroughly researched. "In view of the paucity of carefully done research studies on CET," Frankel warns, "such an impression is not warranted at this time."

How do you taste?

Obese people taste better than elderly people. This is the conclusion of Susan Schiffman, a medical psychologist at Duke University who has tested the sensitivity of various groups to the taste and smell of foods they eat every day. Sixty-nine percent of the obese patients tested recognized the taste of strained bananas, but only 41 percent of the normal weight group and 24 percent of the elderly group recognized it. Some of the guesses made by the elderly volunteers included eggplant, mango, rhubarb and apricot.

These experiments, explains Schiffman, are designed to determine the nature of taste and ways that this knowledge can be used. For instance, older people often complain that most of the food they eat tastes bitter or sour. "It seems," says Schiffman, "that as people grow older the taste buds in the front—the ones responsible for identifying sweet and salty tastes—atrophy first, and the bitter and sour ones last." Taste experiments, therefore, may help to identify foods that older people like best and lead to ways of enhancing the flavors of foods and improving the diets of older people.

Marijuana: Take a deep breath

Marijuana users have reported that smoking dope helps them to breathe more freely. A researcher at the University of California in Los Angeles now confirms that marijuana opens up the air passages of people who suffer from asthma. In an experiment conducted by Donald Tashkin, 10 subjects showed improved breathing after smoking one marijuana cigarette. All 10 were asthmatics but were not having an attack at the time of the experiment. Some of the subjects, however, later told Tashkin that they subsequently used pot during an asthma attack and it helped.

Tashkin does not recommend marijuana for the treatment of asthma because there have been reports that the drug may induce bronchitis in chronic users. But he says there may be a way to extract the beneficial ingredients and at the same time eliminate the undesirable side effects such as irritation and dryness of the throat.

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biomedical sciences

Hospital whodunits

In a recently published whodunit, a wealthy patient was admitted to a hospital for surgery, but mysteriously died in the hospital for some other reason. It took some ingenious deductions by the hospital's pathologists and bacteriologists to figure out that the man had been murdered. A greedy son-in-law had put a flower vase in the patient's room that contained lethal pathogens.

This intrigue is not altogether fiction. Flower vases in hospitals do serve as reservoirs of dangerous pathogens, scientists at the University of Miami School of Medicine report in the Dec. 8 *LANCET*.

David Taplin and Patricia M. Mertz found that flower vases on surgical wards and in a burn unit in two Miami hospitals carried large numbers of potentially pathogenic bacteria in the water they contained. Bacterial counts reached 10 trillion colony-forming units per milliliter within three days of placing flowers in clean tap water. Six of the species they identified in the water are known to cause hospital infections, especially among critically ill patients. One of the species they found in flower vases in the burn unit had infected the wounds of the patients occupying the unit.

Birth control: Out of fashion?

"Research designed to improve methods of fertility control has missed out on the golden era of support for biomedical research [in the 1960's], and a short-lived support in national attention and funding appears to be at an end, just at a point when an impressive network of scientists and their students has come into being, when accomplishments in reproductive research over the last decade are substantial, and when the promise for future accomplishments is bright."

So declare the directors of the population programs at the Ford and Rockefeller Foundations in the current issue of *FAMILY PLANNING PERSPECTIVES*.

True, national funding for birth control research soared from \$15 million in 1967 to \$61 million in 1972, largely through the largesse of the National Institutes of Health. But funding did not really decline in 1973; rather it stayed at the 1972 level and is expected to remain at the same level during 1974. So while Cassandras see current funding levels as an ominous sign for progress in birth control, optimists assert that birth control research is doing well to maintain a steady state in view of drastic cuts in NIH funding of all aspects of biomedical research except for cancer and heart disease.

The first hormone

Glucagon is a hormone made by the pancreas and thought to participate in the regulation of glucose, movement of fats and secretion of insulin. Glucagon may well be the first hormone to act in the embryo, San Francisco endocrinology researchers report in the current issue of the *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES*.

Leslie B. Rall and his University of California co-workers have found that glucagon-producing cells appear earlier in the pancreas of embryonic rats than do insulin-producing cells. Also, the first secretions of glucagon by the pancreas are a hundred times greater than the first secretions of insulin. And as far as it is known, pituitary, thyroid and adrenal hormones are produced much later in an embryo than glucagon is.

So glucagon, the investigators conclude, may well be "the first hormone produced at functional levels."

29