PSYCHOLOGY

Emphasizing Problems Helps Mental Patients

➤ EX-MENTAL patients may make a better impression on employment officers if they emphasize their personal problems rather than their nervous condition, psychologists have demonstrated.

When 16 patients told employment counselors and interviewers they were in the hospital to find solutions for their problems with personal relations, they made a favorable impression, Drs. Paul Rothaus, Philip G. Hanson, Sidney E. Cleveland and Dale L. Johnson of the Veterans Administration Hospital, Houston, found.

When these same patients told other interviewers they had nervous conditions and were put in the hospital for treatment of their nerves, they did not make such a good impression.

The idea of mental illness arouses damaging and negative stereotypes. When a patient describes himself as mentally ill, employment counselors think it is hard to place him on a job.

The results of this research, reported in the American Psychologist, may be helpful to persons who do not want to hide the fact that they were in a mental hospital, but who do not want to suffer the consequences of telling potential employers that they were mentally ill.

• Science News Letter, **83:152** March 9, 1963

MEDICINE

Impure Drug Causes Early Sexual Maturity

➤ SEVEN BOYS and girls, aged one to nine, in a tuberculosis ward at the San Francisco General Hospital, showed signs of abnormally early sexual maturity after taking their usual prescribed dosage of isoniazid (INH), a well-known antitubercular drug.

The cause was an improperly cleaned tablet-making machine containing a hormone-like drug, diethylstilbestrol. The artificial estrogen had heavily contaminated the INH tablets.

Fortunately, the small amounts of the contaminating drug taken are not expected to have any lasting or detrimental effects on these children, but the investigators point out that other contaminants could carry far greater risks.

The tablets taken by the seven children were in 50 milligram size from a single manufacturer's lot number. The normally developing children had not taken any of this lot of medicine.

Federal authorities said that more than 100,000 tablets had been manufactured in this entire lot. Later investigation showed that six of the manufacturer's other products had been contaminated also by the improperly cleaned machine.

The increasing number of drugs with serious side effects makes it imperative that they not become accidental contaminators of other medicine, the investigators point out.

They urge that industry and government cooperate in preventing further episodes such as they report.

Dr. Moses Grossman of the University of California School of Medicine, San Francisco, and others from the University and the State Department of Public Health, Berkeley, collaborated on the report in the New England Journal of Medicine, 268:411, 1963.

• Science News Letter, **83:152** March 9, 1963

PUBLIC SAFETY

Deaths in Refrigerators Much Increased in 1962

➤ ICE-BOX deaths among children are still high in spite of the many warnings issued. Thirty-five children crawled into refrigerators and died there last year, making the 1962 death toll from such accidents the worst on record, according to the National Safety Council.

Not since 1953, when 30 died, have so many children suffocated in the "death boxes." In 1961, 25 died; in 1960, only 6.

The hazard is growing as more people buy new refrigerators and discard old ones.

The danger season for refrigerator suffocations begins in March and hits its peak in June. Three out of four of the victims are from 3 to 6 years old and boys are more likely to be trapped than girls.

These precautions are suggested to render old refrigerators harmless:

Completely remove the door.

Wrap metal strapping around the refrigerator to secure the door if it cannot be removed.

Lock it with a padlock.

Set the door ajar with a toggle and plate device.

Install a metal or wood block that leaves a sliver of air between the door and the cabinet.

• Science News Letter, **83:152** March 9, 1963

GEOPHYSICS

Climate Change Started Man's Evolution

➤ THE FIRST EVIDENCE for the climate change that started the evolution ending in man has been found in debris brought up from beneath ocean floor.

The change was to a colder, ice-age climate and occurred more than 800,000 years ago. This created an environment in which only the most hardy primates survived, leading eventually to man as he is known today.

Time of the change could have been considerably more than 800,000 years ago, three scientists from Columbia University's Lamont Geophysical Laboratory, reported in Science, 139:727, 1963.

The change was dated by the absence of certain kinds of tiny sea animals that are particularly sensitive to temperatures in long cores of sediments dragged up through the ocean from beneath the ocean floor. The studies were made by Dr. Maurice Ewing, director, and his co-workers, Dr. David B. Ericson and Goesta Wollin.

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IN SCIEN

PUBLIC SAFETY

National Forest Fires Set New Low Record

➤ A NEW LOW in the number of acres burned in the national forests was set last year.

More and better firefighters, better equipment, and Smokey Bear, who helped alert the public, are responsible for smothering fires throughout the nation with such success.

The new record of 87,903 acres burned last year in the forest areas is a little more than a third of the 224,394 acres burned in 1961. The previous low record was 107,816 acres in 1937.

Follow-up firefighting attacks have also brought fire under control. The U.S. Department of Agriculture reports there are now eight inter-regional crews of 25 to 30 men each, compared with five such crews in 1961. Within two hours, for instance, these men can be flown from Missoula, Mont., to an Oregon fire, where they can back up firefighters already there.

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PUBLIC HEALTH

New and Better Killer For Rats and Mice Ready

➤ A NEW AND BETTER rat and mice killer that adds an antibacterial agent to standard warfarin will be on the market soon.

The Wisconsin Alumni Research Foundation's development of warfarin as a rodenticide some years ago has brought great progress in rat and mouse control. But there are still many rodents that have survived the anticoagulant bait, and the new development is aimed at them.

The resistance of some rodents to warfarin's anticoagulant action is at least partially due to the presence in their digestive system of certain bacteria that produce vitamin K, the antidote for anticoagulant bait. Foundation researchers point out that the feeding habits of mice are erratic, and some mice may not eat enough warfarin bait to obtain a lethal quantity.

To overcome this, the scientists formulated an antibacterial agent to be added to warfarin baits, and have trademarked it Prolin. This new bait will be on the market soon.

Laboratory tests with caged wild rats and mice have shown consistently better results with Prolin bait than with warfarin alone. Control of the rodents was obtained more quickly, and the control achieved was more thorough and efficient in overcoming the differences in susceptibility, diet habits or health that have permitted some rodents to elude control measures with warfarin alone.

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CE FIELDS

PSYCHIATRY

Racial Mental Health Statistics Slanted

➤ REPORTS that Negroes have more cases of mental disorder than whites may be based on slanted facts and figures.

In the name of science, information on mental illness rates for Negroes in comparison to whites may be collected and applied against integration.

When scientists use incomplete or wrong information, they may end up with a distorted picture, Dr. Benjamin Pasamanick, Ohio State University psychiatry professor and director of the Columbus Psychiatric Institute, told SCIENCE SERVICE.

The misinformation may be used to give scientific support to the opinion that desegregation is bad.

Recent Baltimore, Md., studies show that Negroes do not have higher rates of mental illness than whites, in the psychotic, neurotic and psychophysiological categories, but they do for mental deficiency.

Figures on state, private and veterans' hospitals, as well as on non-institutionalized individuals, were used in this research, reported by Dr. Pasamanick in the American Journal of Orthopsychiatry, 33:72, 1963.

When only state hospital figures are used, great differences in the Negro and white mental illness rates can be obtained. Many Negroes, still low in social status and in economic level, do not have the outside facilities that the whites have, and so they go to the state hospital for treatment, Dr. Pasamanick explained. The whole story on mental illness rates cannot be told from state hospital records alone.

Race is just one of the variables Dr. Pasamanick is studying to try to find out what causes mental illness.

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BIOLOGY

Microscopic Plant Traps And Kills Tiny Pests

➤ A NEWLY DISCOVERED fungus can capture and destroy nematode eelworms.

Neither the fungus nor its nematode victim has any known economic importance, yet this research is another vital step in finding new biological methods to control plant pests, among which are other nematodes that are very destructive.

Dr. Charles Drechsler of the U.S. Department of Agriculture's Agricultural Research Service found the microscopic fungus plant, called *Acaulopage pectospora,* captures the eelworm *Bunonema sp.* with a sticky substance secreted from small knobs growing at the ends of its short branches. After the fungus has caught its prey, it quickly grows an extension of one of the branches, inserts it into the nematode and starts to feed.

The fungus was found by Dr. Drechsler in a tuft of moss taken from moist organic soil material.

Scientists have known about fungi that capture and destroy nematodes and other tiny organisms since the last part of the 19th century. During the past 30 years, about three-fourths of the predatory species have been identified by Dr. Drechsler, world authority on predacious fungi, who is now retired but still active in research.

Some predatory fungi capture their prey by entangling them with adhesive networks. Others develop rings with which they strangle the nematodes. About 60 of the identified fungi capture and destroy nematodes; another 30 capture tiny one-celled animals; and at least one species captures an insect—a sub-microscopic springtail.

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TECHNOLOGY

Fuel Cell Power Unit For Gemini Developed

➤ THE FIRST operating fuel cell that will power many of Gemini's instruments in flight has been delivered by the General Electric Company, Lynn, Mass., to McDonnell Aircraft Corporation.

About one foot in diameter and two feet long, the battery will provide the full power requirements for Gemini life support equipment, communications, radar and vehicle control while the spacecraft is in orbit. The fuel cells will also provide drinking water for the two astronauts who will ride in the two-man Gemini.

The fuel cell package, weighing less than an astronaut, produces up to 2,000 watts of d.c. electricity through the electrochemical reaction of hydrogen and oxygen.

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PSYCHOLOGY

Floundering Period Helps Disabled Workers Adjust

➤ OLDER DISABLED workers usually rebel against the inevitable "floundering period" in which they move from one temporary or seasonal job to another. But a New York professor says this difficult period serves a purpose.

"As in the case of working youth," Dr. Herbert Rusalem of Hunter College and Columbia University says in Rehabilitation Literature 24:34, 1963, "the floundering period has an important function in that it educates the older and disabled person to his new vocational status."

It provides him with opportunities to modify his self-concept as a worker and prepares him gradually for total withdrawal from the labor market.

Rather than confronting the individual with an abrupt change from work to non-work, the floundering period serves as a bridge. It allows him to function in a "gray" area in which both types of experience—work and leisure—are available to him.

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CHEMISTRY

New Way of Making Fresh Water From Sea

➤ A MAJOR STEP in making fresh water from sea water is claimed by the Westinghouse Research Laboratories at Pittsburgh, Pa. The new technique is said to reduce the cost of sea water conversion substantially below the $1-per-thousand-gallon mark.

The new technique, known as "thin-film vapor compression," desalts ocean water by changing it to a vapor and condensing it back again to a liquid, leaving the salt and other impurities behind.

This basic principle of salt water conversion is well established. Westinghouse-built evaporator plants already installed have a capacity of more than 6,000,000 gallons of converted seawater a day. Newest is the 1,000,000-gallon-a-day Point Loma flash evaporator plant of the Office of Saline Water near San Diego, Calif.

Thin-film vapor compression incorporates into a single system several advanced concepts for seawater conversion by evaporation now under study by the Office of Saline Water, U.S. Department of Interior.

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MEDICINE

Heart Patients' Inactivity Should Be Lengthened

➤ SOME HEART patients should be kept inactive for six to eight weeks after an attack, instead of the three-week period now prescribed by many doctors.

This recommendation grows out of studies with tiny, radioactive beads that show how "detours" become available when highways carrying blood to vital heart tissues have been blocked.

The studies were carried out by Dr. Eliot Corday, Dr. Henry Jaffe and Harvey Alpern and Robert Blum of the Cedars of Lebanon Hospital and University of California, Los Angeles, Medical School.

The research was concerned with the kind of heart attack that occurs when fatty deposits and blood clots suddenly block an artery supplying blood to the heart muscle. Recovery from such heart attacks depends on how fast detours are opened up, providing collateral blood circulation.

Three weeks were thought sufficient for this, and post-heart-attack care was based on this timetable. The study has indicated that six to eight weeks are required for development of these detours. Smallest beads were about twice the size of a red cell.

Detours utilize a system of existing by-ways—unused vessels in the heart muscle tissue that are initially microscopic. Prior to a heart attack only a few of the smallest beads could squeeze through the vessels.

Three weeks after a heart attack, 30% of the larger beads, about four times the size of a red blood cell, could get through. From six to eight weeks after the attack, almost all the larger beads were going through the detour, demonstrating collateral circulation was effective.

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