

PSYCHIATRY

Women Who Feel 'Not Well' May Need to Lose Tempers

► **SOME** women who go to the doctor complaining they don't feel well need to be encouraged to lose their tempers more often. This advice was given by Dr. Irving D. Harris of the Institute for Juvenile Research, Chicago, at the meeting in Montreal of the American Psychiatric Association.

The advice is meant for women who do not have any organic disease and whose chief symptom is feeling "not well." To a lesser extent they may also have headaches and get tired easily.

Giving vent to their feelings of anger is advised because it releases tension. When the anger is "held in" the tension accumulates and finally is released into the muscles, heart and blood vessel system or other parts of the body. Then the patient feels "not well," even though the doctor can find nothing wrong with her.

The anger may come from resentment over frustration of the need to be loved and esteemed. In cheerful persons, Dr. Harris said, most of these needs are being satisfied. Consequently they have very little tension to release and do not need to let out their anger.

A feeling of good health, Dr. Harris said, depends both on gratification of basic needs for love and esteem and an ability to show anger outwardly and "rather completely" when the needs are not gratified.

Dr. Harris' report was based on interviews with 120 mothers of children routinely referred to the institute because of some behavior difficulty.

Science News Letter, June 4, 1949

VOLCANOLOGY

Old Faithful Geyser Still on 1870 Schedule

► **OLD FAITHFUL**, most famous of all geysers, is still performing on the same schedule it followed in 1870, when it was first carefully observed. It has the same interval between eruptions, plays to the same height, apparently discharges the same amount of water now as it did then.

Reports that the great natural hot-water spring is "losing its pep" simply aren't so, declares Dr. Philip F. Fix, formerly of the U. S. National Park Service and now of the U. S. Geological Survey. He bases his declaration on many measurements and recordings which he himself made during a seven-year period of service in the Park, and on records made by several other observers covering a total of 78 years of Old Faithful history.

Average interval between eruptions, for the entire period, is 65 minutes, six and a fraction seconds, Dr. Fix states. This is quite close to figures obtained by half-a-dozen competent observers in the 1870's

when the Park was new. There is not the slightest evidence that Old Faithful is slowing down, with eruptions becoming less frequent.

Old Faithful is not, and never has been, "as regular as a clock," despite earlier tall tales told to impress "dudes" from the East, he continues. There is always a slight irregularity in its timing, and sometimes the intervals between eruptions vary a good deal. Shortest interval on record was 34 minutes; longest authentically recorded lapse between eruptions was 91 minutes.

Height to which the column of hot water is thrown is difficult to determine, especially since different observers have used different methods. Estimated average heights therefore vary from 120 to 150 feet.

The volume of water discharged at each eruption has been much exaggerated in most estimates, Dr. Fix points out. A figure commonly given is 750,000 gallons per eruption; but this is many times too high. Fairly accurate gauging methods employed 20 years ago set a figure of from 10,000 to 12,000 gallons per eruption.

Details of Dr. Fix's observations are published in the *AMERICAN JOURNAL OF SCIENCE* (April).

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AERONAUTICS

Wide Use Predicted for Propeller-Turbine Engines

► **GAS TURBINES** driving conventional propellers were predicted for wide use in airplanes at the English-American joint aeronautical conference sponsored by the Institute of Aeronautical Sciences in New York.

The propeller-turbine engine shows an advantage in efficiency over the pure jet engine at speeds up to 500 miles an hour, the meeting was told by F. M. Owner of the Bristol Aeroplane Co., Ltd., England. It also has an advantage over the piston-engine, the most commonly used power plant in airplanes today, both in efficiency and in comfort to passengers because of the lack of vibration and noise in the fuselage.

He discussed the experience gained in the first 1,000 engine-hours of operational use of a turbo-prop, as this type of propeller turbine engine is called, by the Royal Air Force Transport Command over the run from England to Egypt.

Costs of overhauling, he said, will be economical in comparison to the piston-engine experience. Initial engines of the turbo-prop type have reached a life of 200 hours with virtually no maintenance whatsoever. Improvement in operating characteristics, such as reduced fuel consumption, ease and simplicity of control, and satisfactory functioning in climatic conditions, should be achieved soon.

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IN SCIENCE

BACTERIOLOGY

Starving Virus Is New Method in War on Disease

► **HOPE** of stopping virus-caused diseases such as parrot fever, mumps, infantile paralysis and influenza, appeared in a report to the Society of American Bacteriologists in Cincinnati.

The method would be a modern scientific application of Grandma's adage, Feed a cold and starve a fever. It will be the viruses causing the diseases, not the patient, that get the starvation treatment.

One virus, that causing parrot fever, or psittacosis, can be stopped by starving it of the B vitamin, folic acid, Dr. Herbert R. Morgan of the University of Michigan School of Public Health told the bacteriologists. The virus cannot grow without folic acid to nourish it, he discovered.

"This is the first time a special vitamin has been found to be necessary for the growth of a virus," Dr. Morgan explained.

The vitamin-starvation treatment of the virus is done by giving an anti-vitamin chemical called a folic acid antagonist. Several of these have been manufactured synthetically and are being tested in cancer-fighting research as well as in virus-fighting. The anti-vitamin chemical prevents the use of folic acid by the parrot fever virus.

Parrot fever, or psittacosis, has long been treated successfully by penicillin, so doctors are not likely to start giving an anti-folic acid chemical to patients with parrot fever. But Dr. Morgan's discovery may lead to knowledge of vitamin requirements of other viruses and thus to the kind of starvation treatment to stop them and the diseases they cause.

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GENERAL SCIENCE

Spell It Thiamine, Says Vitamin Authority

► **"APPROVED spelling"** for the chemical name for vitamin B₁ is thiamine, not thiamin, says Dr. R. R. Williams of New York, who first synthesized this vitamin. In a note to *SCIENCE* (May 20) he says he is asked periodically about the spelling.

"Thiamin" is the spelling he suggested in 1937, shortly after he had synthesized the chemical. Later, however, the U. S. Pharmacopoeia adopted the spelling, "thiamine," adding the final "e" to indicate the chemical characteristics of the compound. Chemical and medical journals have now followed this lead.

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CE FIELDS

MEDICINE

Discover That Alcoholics Have "Sludged Blood"

➤ DIFFERENT and possibly better treatment of alcoholics may come from the discovery that they have "sludged blood." The discovery was reported by Dr. William T. Dixon of the New York Hospital and Cornell Medical College to the American Psychiatric Association meeting in Montreal.

In sludging of blood, individual clumps of cell masses move at a slower than normal rate, leaving gaps between clumps which occasionally block the blood vessel. In normal blood, the red cells tend to repel each other and the blood follows smoothly along the vessels. The term "sludged blood" was coined some years ago by a University of Chicago anatomist, Dr. Melvin H. Knisely, who concluded that all humans with serious enough sickness to seek medical aid have sludged blood.

Alcoholics, Dr. Dixon finds from his study, show more frequent and more severe sludging of their blood than other psychiatric patients and than normal persons. Whether the sludging of blood in alcoholics is important, whether it is a predisposing factor or an effect of the alcoholism are questions yet to be settled. Dr. Dixon thinks the sludging may represent a type of unstable physiology. If true, this would suggest treating alcoholics with medicines as well as along psychiatric lines.

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NUCLEAR PHYSICS

Light Geiger Counters Made for Uranium Search

➤ A ONE-POUND Geiger counter for uranium prospecting, developed by the Canadian National Research Council, together with several weighing from six to 11 pounds, will make possible a systematic search for this essential atomic energy mineral without the use of the much heavier Geiger counters now in use.

Radium and uranium prospecting before the war was largely a hit-and-miss affair, based principally on visual observation. Geiger counters eliminate the hit-and-miss method because this electronic instrument, now used for many years in detecting radioactivity, will register even trace amounts of radioactive substances. Several lightweight portable types have been developed since uranium has become so important in the atomic energy field, but none, as far as known, as light as the new Canadian one-pound, pocket-size instrument.

The Geiger-Mueller tube, the heart of

the counter, is small in itself. Its power requirements at first were disproportionately large. Portable counters were made possible by the new miniaturizing techniques used in the construction of electronic circuits.

This Canadian miniature Geiger counter can be lowered by cable into a deep drill hole in a search for any radioactive material through which the hole might have passed. One of the steps which had to be taken was to overcome the interference of the cable itself which weakened and distorted the voltage pulse from the counter tube.

"Success came at last only recently when it was discovered that the resistor coil in all circuits was needlessly large," the Council states, "and it was found that the power of the resistor coil could be reduced to almost one-hundredth of its previous power."

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ZOOLOGY-BOTANY

Panda Discoverer's Book Translated into English

➤ UNQUIET conditions in China made travel as risky and rugged in the 1860's as it is today, but that did not prevent some of the most scientifically productive journeys that have ever been made. The Abbe Armand David, one of that long line of French missionary-naturalist-explorers whose restless feet have carried them into all the far places of the earth, was constantly on the trail, and his discoveries still astound the world.

Best known of all the scores of beasts and birds and flowers he made known to the Occident, without doubt, is the giant panda. He even got one of them alive to Paris, where it created a great stir, though it did not survive long. His own interest was primarily in birds, but he observed, collected and made notes on everything he saw alive, and he took specimens of rocks and fossils as well.

His diaries, published in French, have long been classics of science. Now they are available in a new English translation, made by Helen M. Fox and published by the Harvard University Press. There are 17 full-page illustrations, partly reproduced from the Abbe's own monographs, partly the exquisite work of Chinese artists.

The Abbe David was born in 1826 and died in 1900. He decided as a boy that he wanted to be a foreign missionary and spend his life laboring for the conversion of the Chinese. Although he finally achieved his great ambition of going to China his ecclesiastical superiors, recognizing his great talents as a student of natural history, kept him going so constantly on long, hard journeys of scientific discovery that his evangelical function could be exercised only incidentally. It was only when his health broke in 1873 that he had to give up and return to his native France, where he spent most of the remaining years of his life.

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BOTANY

Nicotinic Acid Helps Orchid Seedlings Growth

➤ ORCHIDS of certain species need nicotinic acid or niacine, the pellagra-preventing vitamin, to get a good start in life.

This has been demonstrated in experiments by Dr. Richard B. Bahme, University of California botanist, who reports his results in the journal, *SCIENCE* (May 20).

Dr. Bahme's experiments represent a step in the solution of one of the classic riddles of plant growth. In nature, orchids always have a heavy growth of fungus threads on their roots—as have many other plants also. It was long assumed that this association of a higher and a lower plant was a biological mutual-benefit society, known technically as symbiosis.

However, it was proved some years ago, first by Prof. L. Knudson of Cornell University and later by others, that orchid seedlings would grow under aseptic conditions in test-tubes without the presence of the fungus partner. Yet some orchid species, growing poorly under such conditions, grew much better if extract of killed fungus were added to their nutrient solution.

In Dr. Bahme's experiments, his orchid seedlings showed similar improvement in growth rate when they were given small quantities of nicotinic acid. This indicates that it may be a needed vitamin normally supplied by the root-fungus.

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GENERAL SCIENCE

Judges Named for Annual Science Writing Awards

➤ EIGHT judges for the 1949 George Westinghouse Science Writing Awards were announced by Dr. Howard A. Meyerhoff, administrative secretary of the American Association for the Advancement of Science. The awards of \$1,000 will go to the writers of the outstanding news story on science and the outstanding magazine article on science in a general circulation, non-technical magazine.

Judges of the fourth annual science writing competition are: Dr. Morris Meister, retiring president of the National Science Teachers Association; Dr. Henry R. Aldrich, secretary, Geological Society of America; Dr. Detlev Bronk, president, The Johns Hopkins University, and chairman, National Research Council; Kent Cooper, executive director, The Associated Press; Dr. John R. Dunning, nuclear physicist, Columbia University; Clifton Fadiman, a member of the board of judges of the Book-of-the-Month Club; Dr. Rudolph Flesch, readability consultant; and Edward Weeks, editor, *THE ATLANTIC MONTHLY*. Dr. Meister is chairman of the board of judges.

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