PSYCHOLOGY-MEDICINE

Psychogenic Rheumatism Comes in Two Varieties

➤ MANY a patient with symptoms of rheumatism has a disease which originates in the mind. But many another has organic arthritis, with definite changes in body tissues, which has been precipitated by mental and emotional factors.

The differences between these two kinds of psychogenic rheumatism, as doctors term it, were explained by Dr. Edward Boland of Los Angeles and Dr. Edward Weiss of Philadelphia when they appeared as guests of Watson Davis, director of Science Service, on Adventures in Science, heard over the Columbia Broadcasting System.

Dr. Boland first used the name psychogenic rheumatism to describe these particular forms of the disease. Among 450 consecutive cases diagnosed as arthritis which he and an associate examined at an Army General Hospital during the war, he found that about one-third were incapacitated because of psychogenic causes.

One kind of psychogenic rheumatism, he said, "is an ache or pain, or perhaps a chronic fatigue, which is not traceable to actual organic causes but which does have its origins in the mind. Its symptoms are very often quite similar to those of arthritis or rheumatism of organic origin, but it is not an organic disease. The other form of psychogenic rheumatism is actually organic, it really is rheumatic in nature, but it is brought on by some emotional disturbance."

"Smoldering resentment," of which the patient may be entirely unaware, is usually the kind of emotional disturbance involved in psychogenic rheumatism, Dr. Weiss stated.

"When a child resents but also loves a parent, or when a wife feels love but also resentment toward her husband, there exists tension which often cannot be expressed by word or deed," he explained. "Sometimes, the body expresses the situation by developing symptoms of arthritis where no organic cause is present; and sometimes, as Dr. Boland pointed out, the symptoms of arthritis which have existed but have been latent may be brought on."

Science News Letter, June 11, 1949

PSYCHOLOGY

Normal Happy Persons Will Get Scientific Study

➤ NEW research aimed at finding out about normal, happy and successful persons —not the psychologically maladjusted who have gotten so much attention from scientists—is being made under grants announced by the Rockefeller Foundation.

Pres. Chester I. Barnard of the Foundation points out that it's the "normal happy persons whose personalities hold the key to successful living."

Thus, the foundation has made a grant to Prof. Henry A. Murray, Jr., of Harvard University, for the study of the personality development of "strikingly happy and successful persons." Another study will be made of "normal" Harvard undergraduates by Dr. Arlie V. Bock, on a Rockefeller Foundation grant.

Physicians, anthropologists, psychologists and other scientists are participating in a program of research on the growth and development of children at the Child Research Council of Denver, also under a grant from the Foundation. This work of Dr. Alfred H. Washburn and associates will be aimed at discovering what is normal for each child, by studying him from infancy to adulthood.

Science News Letter, June 11, 1949

GENERAL SCIENCE

Laymen Understand Science Better from New Gains

➤ WILL YOU, if you're not a scientist, understand science better if you study the seventeenth-century development of the air pump than if you plunge right into the recent, twentieth-century discovery of the man-made atom-bomb element, plutonium?

Plutonium is your best bet, contends a scientist who has been teaching university chemistry for four decades. This "psychological" approach to understanding the scientific method was proposed by Dr. Joel H. Hildebrand, University of California chemistry professor. Dr. Hildebrand presented the 1949 Remsen Memorial Lecture in Remsen Hall at Johns Hopkins University in Baltimore.

The California chemist disputed the idea of Harvard President James B. Conant who believes the work done on the air pump in the 1600's is an effective subject for giving the layman an insight into the techniques of science.

This "historical approach" goes against educational psychology, Dr. Hildebrand feels. You are more likely to be interested in the immediate problems of nuclear energy, he argues, than in the historical scientific problems of the past.

The chemistry professor criticized the "survey" or "integrated" science courses now offered by some universities and colleges for the non-science student. Also faulty, he believes, is the idea of giving one introductory science course for the pre-science student and another for the non-scientist.

"There is a profound difference between knowing some elementary facts about a variety of sciences and knowing what science itself is about," Dr. Hildebrand cautioned.

Learning "what science is about" cannot be done entirely in the lecture room, he added.

"Athletes, even amateurs, are developed on the field, not on the bleachers," the speaker pointed out.

Science News Letter, June 11, 1949

IN SCIEN

MEDICINE

Find Rheumatics Are Right They Can Predict Weather

➤ RHEUMATISM sufferers who claim they can predict changes in the weather are right. Why was explained in a report by Dr. Jonas H. Kellgren of Manchester, England, to the 7th International Congress on Rheumatic Diseases in New York.

It appears that in some forms of arthritis pain increases when the temperature starts dropping as is the case preceding bad weather.

This is based on his discovery that there are two distinct kinds of pain. Experiments in which certain nerves were blocked off from sensation revealed that the body's sensitivity to deep pain and surface pain could be distinguished. It is the deep pain which responds to the rapid cooling.

Dr. Kellgren pointed out that pain and its origin is basic to the study of many types of rheumatic diseases and their diagnosis. Doctors recognize at present that pain appearing in an arm or leg may really stem from pressure on a nerve which has its origin in the spinal column where a vertebra may be affected. It has also been found that there are "trigger points" of pain which will radiate to distant parts of the body under pressure.

Science News Letter, June 11, 1949

MEDICINE

Diabetes Is Prevented With Diet Alone

➤ SUCCESS in preventing diabetes by treatment with diet alone was announced by Dr. Bernard A. Watson of the Clifton Springs Sanitarium and Clinic to the American Diabetes Association in Atlantic City.

He said that in 80% of the cases patients can be returned to a normal state of sugar utilization by sticking to a prescribed diet.

The treated patients came from a group of approximately 603 who had sugar in their urine. Fifteen percent of these showed an abnormal amount of sugar excretion when given the standard sugar tolerance test for diabetes. After a follow-up period of two to five years those whose condition became worse were put on the diet.

The diet made it possible to reverse this process back to normal even in the early clinical stages of the disease, Dr. Watson stated. However, even though the disease can be prevented when caught early, it cannot be cured, he pointed out. If the patient eats immoderately the condition will return.

Science News Letter, June 11, 1949

SCIENCE FIELDS

MEDICINE

Joint Fluid Reveals Kind of Disability

➤ THE fluid that cushions the joints of your body is also proving a good diagnostic tool for the doctor, Dr. Marian W. Ropes of Massachusetts General Hospital, Boston, told the 7th International Congress on Rheumatic Diseases meeting in New York.

Slight cell changes occur in this fluid when the joint swelling is caused by an injury. If the swelling is induced by rheumatoid arthritis or infectious arthritis, major changes occur, such as clotting of cells and increase in their number, Dr. Ropes said.

For diagnosis, the doctor sticks a needle into the joint area and draws some of the fluid into a syringe. Laboratory tests are then made on the fluid. An injured joint will yield on an average 1,000 of these distinctive cells. The cells count may go up to 14,000 for rheumatoid arthritis and up to 65,400 for infectious arthritis.

Science News Letter, June 11, 1949

AGRICULTURE

Cotton's Lead Challenged By Synthetic Fibers

➤ COTTON is still America's number one textile fiber, used more than all others combined, but other American natural fibers and man-made fibers are forging ahead and gradually decreasing the cotton lead.

Cotton supplied 57.4% of the nation's needs in 1948, compared to 58.4% in 1947 and 60.6% in a five-year period preceding the war. These are figures just released by the U. S. Department of Agriculture. Rayon held second place, 14.9% of the total, with wool, jute, sisal and Manila hemp, flax, and synthetic fibers other than rayon supplying most of the rest. Wool is widely used in many textiles, but this animal fiber makes up only 10% of the total fiber consumed in the United States.

Rayon consumption in 1948 reached an all-time high of 1,017,000,000 pounds. Flax is a minor fiber in American production, the total used being only 0.2% of the total fiber consumption. Synthetic fibers other than rayon are beating even the rayon increases; 70,700,000 pounds were consumed in 1948. These include nylon, glass fiber, casein fiber, zein fiber and synthetic resin fibers.

Until about 1935, rayon was the only synthetic fiber produced commercially in the United States. It was made from cellulose. Glass fiber is the oldest non-cellulosic synthetic fiber. Its output, commercially, began about 1936. About two years later production of Vinyon, made of Vinylite synthetic resin, was started. Commercial production of nylon, most important of the synthetic fibers, began in 1939, following a short period of pilot-plant operation.

Considerable research is under way to develop additional synthetic fibers, particularly from vegetable proteins and synthetic resins. Included is work on peanut and soybean protein fibers, already developed but not yet produced commercially in America. Process for the production of fibers from cottonseed protein and from the metal salts of carboxymethylated cellulose are under study at the department's Southern Regional Research Laboratory.

Science News Letter, June 11, 1949

AERONAUTICS

Twin-Rotor Helicoper Is Safe and Easy To Control

➤ BEAUTY is not a feature of the new Kaman twin-rotor helicopter making frequent test flights at Windsor Locks, Conn., where constructed, but it is an aircraft easy to maneuver, easy to control, able to carry a good pay load, and it has high factors of safety.

The familiar helicopter in the American sky has but one set of rotating blades, the mechanism that lifts the aircraft from the earth and keeps it in the air and, when tilted from the horizontal position, gives it forward, backward or sidewise movement. There are several types that utilize two sets of rotating blades, positioned either side by side or in tandem. The British are building a 24-passenger helicopter with three rotors. The unique features of the Kaman craft, with two sets of rotating blades side by side, are their simplicity and their control.

The design of the craft simplifies the rotor hub and blade construction, and substantially reduces the factors of weight, cost and maintenance. Another feature is what the makers call a servo flap control which promotes ease of handling in hovering, flight in all directions, extreme maneuvers and auto-rotation.

This helicopter, although capable of carrying two passengers and the pilot, or a pay load of 800 pounds, is designed for utility purposes in agriculture and the industries such as insecticide spraying, aerial surveying, pipeline and electric powerline inspection, and similar jobs. It has a 190-horsepower Lycoming engine, an empty weight of 1,700 pounds, a cruising speed of 70 miles an hour and a range of 235 miles. Its intermeshing rotors have a blade clearance of 8.5 feet. Rotating in opposite directions, they eliminate torque, or the tendency of single-rotor helicopters to spin in the air.

Science News Letter, June 11, 1949

GENERAL SCIENCE

Science Clubs Working for Future Scientific Gains

➤ WORLD'S largest science organization is not made up of today's scientists but tomorrow's.

The organization, Science Clubs of America, boasts 250,000 members—all boys and girls interested in science. Watson Davis, director of Science Service which administers Science Clubs of America, described the work of the Science Clubs at a convocation at Denison University in Granville, O.

These quarter-million boys and girls are members of more than 10,000 clubs, affiliated with the national organization. Most of them are junior and senior high school students.

"Experience shows that many of our leading scientists of today were within these years of their lives when they first had aroused their research enthusiasm and curiosity," Mr. Davis pointed out.

"Ten years of age is not too young to get a future scientist started, and if he has the opportunity of science experience, he will be largely self-starting," the director of Science Service declared.

Science News Letter, June 11, 1949

VETERINARY MEDICINE

Eskimos Get Trichinosis From Eating Walrus Meat

➤ TRICHINOSIS, which people in temperate and tropical climates get mainly through eating undercooked diseased pork, has been detected in several cases among the Eskimos of Greenland. They apparently picked up the parasites by eating walrus meat.

A report of a study of these cases is presented by Dr. Hans Roth of the Royal Veterinary and Agricultural College, Copenhagen, in the British science journal, NATURE (May 21).

The cases had at first been diagnosed as paratyphoid. It is now considered probable that other baffling sicknesses in Greenland, diagnosed as typhoid and "meat poisoning", were really trichinosis.

Dr. Roth had samples of the flesh of a number of Arctic animal species collected and sent to him for examination. Wild animals infected with trichinae were found to be polar bear, arctic fox and bearded seal.

Much more serious, however, is the case of the Eskimos' sledge dogs. Out of 66 samples of dogs' flesh examined, 46, or 70%, were found to contain trichinae. Disabling of dogs, the Eskimos' only draft animals, threatens as serious consequences to the people's life as sickness among the population itself, Dr. Roth points out.

Science News Letter, June 11, 1949