

MEDICINE

**New Medical Journal
For Mind and Body**

A NEW medical journal is about to appear with the objective of bringing together medical knowledge relating to both mind and body. The new quarterly is titled *Psychosomatic Medicine*.

The first issue will have a leading article on "Psychological Aspects of Medicine" by Dr. Franz Alexander, Chicago psychoanalyst, and groups of articles on the hypothalamus gland and hypertension or high blood pressure.

Dr. Flanders Dunbar, practicing psychiatrist of New York, will edit the new journal, which is sponsored by the National Research Council's Committee on Problems of Neurotic Behavior, headed by Dr. Walter R. Miles, professor of psychology at Yale University.

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MEDICINE

**What Happens After
TB Patient is Cured?**

WHAT happens to the patient who has had tuberculosis after he has been cured? Unless you know someone who has been in this position, you probably have never considered the problem. But it is a major problem, and one which concerns the public far more than is generally realized.

In order to determine the size of the problem and how best to attack it, the National Tuberculosis Association is tracing the many thousands of patients who left tuberculosis sanatoria throughout the country in 1933.

The facts are not yet all gathered, but it has already been learned that almost half the patients discharged in that year have since died from a recurrence of tuberculosis. Most of these deaths occurred within the first two years after discharge. About one-fourth of the patients are found to be working and self-supporting.

Discussing the problem at a tuberculosis conference in Philadelphia, Dr. Kendall Emerson, managing director of the National Tuberculosis Association, pointed out, among other things, how this problem of after-care in tuberculosis affects the public. On the one hand there is the tremendous economic burden of supporting the patients after they have left the sanatoria, if they are not in shape to support themselves. On the other hand, there is the fact that if the patient gets sick again he may again spread the disease to others. When tuberculosis has been arrested, the patient is not infec-

tious. When the disease recurs he is again infectious.

Treating tuberculosis and preventing new cases from arising are important measures in the fight against tuberculosis. But it may well be questioned what good it does to save lives unless those saved are enabled to live their lives in a happy, normal way.

Rehabilitating the tuberculosis patient should be started, Dr. Emerson pointed out, long before the patient is discharged from the sanatorium. Best results are obtained with those patients who were least seriously ill—the minimal cases.

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TEXTILES

**Bacteria Destroy New
Synthetic Wool Cloth**

THE MAKING of synthetic wool-like fibers from the casein of milk is a truly amazing development of modern chemistry. When such fibers are blended with natural wool, beautiful and serviceable fabrics are obtained.

But milk is quickly acted upon by bacteria, and scientists have been wondering if the synthetic fibers too might be susceptible to attack by micro-organisms.

Two Dutch scientists have investigated these "wool-from-milk" fibers and have found that bacteria, which ordinarily are able to destroy proteins of the casein class, succeed in completely dissolving the synthetic fibers. In a fabric made entirely of the synthetic fibers the destruction was complete. In a mixture of 50 per cent. synthetic wool and 50 per cent. genuine wool only the synthetic wool was destroyed.

Jan Smit, lecturer in microbiology at the University of Amsterdam, and his colleague B. van der Heide, of Wageningen have reported on their experiments proving these findings.

"It was found," they state, "that nearly all casein-splitting micro-organisms, isolated from soil or manure, or gathered by infection from ordinary atmosphere, are able to attack the (synthetic) wool."

The action of the organisms appears to be by means of an enzyme, i.e. by liberating a chemical that attacks the synthetic wool.

Heating the fibers and bacteria to the temperature of boiling water appears to destroy the enzyme reaction so that one might speculate whether wearers of such synthetic wool clothing would have to boil their suits periodically.

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IN SCIENCE

ARCHAEOLOGY

**Germans Work to Uncover
Stadium At Olympia**

REMOVING the earth blanket from the most famous athletic field in the world is a goal of German archaeologists now working at Olympia, Greece.

When modern Olympic games at Berlin in 1936 inspired Herr Hitler to renew German digging at the original scene of Olympics, German archaeologists cast about to think what they could dig for.

Germans had excavated Olympia sixty years ago, with enough thoroughness to give the world a good idea of the place. The walled-in sacred grove, the religious heart of Greek Olympia, was completely uncovered and its ruined temples, altars and pedestals were revealed. Olympia's famous statues of gods and heroes proved the chief disappointment. Few statues could be found either within the sacred area or outside of it—for the excavators spread their investigations to important buildings around the temple area, digging at times through nearly 20 feet of earth to reach the ruins. They worked six seasons, spent \$200,000. The report required five volumes.

Still, Olympia is yielding pay dirt to the present expedition. Foundations of an impressively large portico that bordered the sacred area at south and east, have been entirely uncovered, and a quantity of Doric architectural fragments have been found and replaced.

Bronze objects, some showing offerings made in early centuries of Olympic games, have been found.

As for the stadium east of the temples, the job there is to dig out 75,000 one-ton truck loads of mud and soil that river floods have spread over it. The earlier expedition found the start and finish points, proving that Greek athletes ran a straight course here, 210 yards. Spectators sat on embankments, no seats being provided. The present expedition, now in its second season, has trenched through the covering earth to virgin soil, finding that the ancient stadium went through five stages of improvements and renovations from the sixth century B. C. to the Roman era.

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FIELDS

PSYCHOLOGY

Left-Right Argument Is Affecting Higher Education

AN IDEA can kill. This seems strange for we are inclined to think of ideas as peculiarly personal and intimate affairs. We think of philosophers as remote from the activities of the workaday world.

Yet Europe is inflamed because of ideas—you may call them ideologies if you will. In America, where speech is still free to almost all, these same ideas are the subject of heated controversy and Congressional investigation. They have influence in many spheres of daily life.

Effects of the philosophies of leftist groups and rightist groups on American higher education were noted by Dr. Leonard Carmichael, psychologist, in his inaugural address as president of Tufts College.

The left wing, Dr. Carmichael pointed out, would make of education an instrument of social indoctrination. The right wing would return to the spirit of the classics and make of education a discipline for exercise on mental chest weights.

Both extremes have in common an opposition to recent American trends toward recognition of individual differences in a free elective system. They would both cut the educational pattern to fit their respective philosophies instead of allowing philosophies to develop as a natural result of education and scientific advance.

In America, where are more psychologists than in all the rest of the world, higher education has been adapted to conform with the findings about the human mind.

Psychological studies have shown that "the mind" does not gain in strength with mental gymnastics, but that intellectual power does result from training in techniques of scientific thinking.

Progress in measurement of the mind has disclosed the vast importance of individual differences. The new science of mental hygiene has brought attention to the importance of individual happiness and satisfactory adjustment to the world in which we live.

Such discoveries should be reflected

in a democratic individualistic educational system in which each person is fitted for life in our society and also prepared for life in a constantly changing social order.

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PHYSIOLOGY

14,000,000 Kinds Of Gland Activity Possible

OVER 14,000,000 combinations of glandular activity may occur in your body. This astounding figure was reached through mathematical calculations by Dr. R. G. Hoskins of the Memorial Foundation for Neuro-Endocrine Research at Harvard Medical School.

The actual figure of possible combinations is 14,348,907. Not all of these represent diseases, though many of them do.

The combinations refer only to activity of the glands of internal secretion, called the endocrine glands. These are the ones that manufacture chemicals, called hormones, which influence growth, sex and many other body activities.

There are thirteen of these glands: pituitary and pineal in the head; thyroid and four parathyroids in the neck; thymus in the chest; two adrenal glands above the kidneys; the Islands of Langerhans in the pancreas; and two sex glands. At a conservative estimate, these glands produce at least fifteen different hormones. One part of the pituitary gland alone produces six hormones.

For each hormone there is the possibility of a normal amount being produced and also of less than normal or more than normal quantities being produced. This gives three conditions for one hormone alone. But a striking thing about glands and hormones is that they are not individualists. They act together, either reinforcing each other, or substituting for each other, or interfering with each other. You can get diabetes, for example, because of something gone wrong in your pituitary gland as well as by the more usual situation of something being wrong with the Islands of Langerhans in your pancreas.

All this makes trouble for the doctor trying to find out why you are sick. If one gland is concerned there are only three possibilities. If two are concerned, there are not six but nine possible combinations of gland activity. With three glands or hormones to consider, the permutations rise to 27. For the fifteen hormones, the number of permutations rises to 3^{15} or 14,348,907.

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MATHEMATICS

Danger of Death by Bomb Expressed Mathematically

YOUR chances of being killed by a high-explosive bomb dropped from an airplane can be calculated mathematically—if that's any consolation to you. Prof. J. B. S. Haldane, biologist of University College, London, does it.

The factors involved in Prof. Haldane's formula include the number of bombs expected to drop on your town and the probability of one falling close enough to blow down the house or shelter you are in, and involves the use of the calculus.

The policy of evacuation of cities, adopted in Britain and France during the recent crisis, is intended to reduce the likelihood of a hit in one's personal danger zone, though it may increase the likelihood of demolition of one's shelter, "as when a child is evacuated from a fairly solid house into a flimsy hut," the British scientist points out.

The policy of dispersal within a dangerous area does not reduce either danger, he continues. "It merely ensures that no single bomb will kill a large number of people, while increasing the probability that any given bomb will kill at least one. It is likely to save a few lives by equalizing the numbers of wounded to be treated in different hospitals; and the psychological effect of having 20 killed in each of 10 areas may perhaps be less than that of 200 killed in one area."

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ECONOMIC ENTOMOLOGY

Sweetcorn Protected by Two New Chemical Methods

CORN-on-the-cob need not have worms in it any more. Two ways of keeping corn earworms out are described in the annual report of the Bureau of Entomology and Plant Quarantine.

One attack on the earworm's citadel consists in shoving a small tablet of hexachloroethane into the tip of the ear and fastening it in place with a paper clip. The chemical gives off fumes which do not harm the corn grains but are most discouraging to the worms.

The second method is even simpler. The gardener merely goes around with an oilcan full of light, highly refined mineral oil, squirting a few drops on the cornsilk. The oil penetrates the whole mass of silk, smothering the small worms and driving out the larger ones.

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