

## MEDICINE

## Vaccinations Are Needed For Foreign Travel

► IF YOU are going abroad on business or pleasure, you will need to have certain vaccinations against various diseases. You will not be able to enter the United States, even if you are an American citizen, without a certificate showing satisfactory evidence of vaccination against smallpox within the three years before entering this country. There are a few exceptions to this, such as for travelers from Canada, Bermuda, and the Bahamas. The vaccination should be done at least two weeks before you leave this country, and the reaction at the site of vaccination should be carefully observed and recorded on the third and ninth days after vaccination.

For your own protection, you are advised by the U. S. Public Health Service to be immunized against typhoid and paratyphoid fevers. This is done in three "shots" at intervals of seven to 10 days.

If your work abroad may put you in danger of accidents or piercing or crushing wounds, you should also get shots against tetanus, popularly known as lockjaw. This calls for two doses at four- to six-week intervals, or of three doses at three- to four-week intervals, according to which preparation is used.

Children under 15 years going any place overseas should be given shots against diphtheria. Grown-ups under 35 years should have a Schick test and if this is positive, should be immunized also.

Besides these immunizations, you will need shots against typhus, cholera and yellow fever if you are going to or through certain countries where the diseases exist. In order to avoid delays, it is best to get these before you leave home, and to have the proper entries for them made on an International Certificate of Inoculation and Vaccination. A blank for this certificate will be sent you with your passport when that is issued by the Department of State.

More information on these requirements can be obtained from the U.S. Public Health Service, Washington 25, D. C.

Science News Letter, April 30, 1949

## CHEMISTRY

## Cooler Summer Clothes May Come from Seaweed

► COOLER summer clothes may come in the future from using man-made seaweed.

The synthetic seaweed fibers have been used to weave very light, delicate woolen and cotton materials. This new process was described to the American Chemical Society meeting by Drs. J. David Reid and George C. Daul of the U. S. Department of Agriculture's Southern Regional Laboratory in New Orleans.

Seaweed-like fibers are prepared from

wood, cotton or other forms of cellulose. They are spun in much the same way as rayon or nylon. These fibers are woven into a fabric and later washed out by soapy water to produce fluffy and porous materials.

It also is possible to weave the man-made seaweed fibers into special patterns which give unique, novelty fabrics when dissolved out.

Fluffier fabrics made by this dissolving-out method could be used for such things as summer suits, men's undershirts, ladies' blouses or lace curtains.

Science News Letter, April 30, 1949

## MEDICINE

## Two Kinds of Nerves Are Involved in Itching

► IT TAKES two kinds of nerves to make an itch, Drs. David T. Graham and Helen Goodell of New York Hospital-Cornell Medical College reported at the meeting of the Federation of American Societies for Experimental Biology in Detroit.

One of the nerves involved in itching is a "fast" nerve. The other is a "slow" one.

The scientists found out about the nerves involved in itching sensations by putting cowhage on the skin of the forearms or backs of human volunteers. Cowhage, also known as cowitch, is a nettle plant with hairy leaves and stems that cause unbearable itching.

The itch resulting from cowhage applications has two parts:

1. a superficial pricking and 2. a deeper burning sensation. Cutting off the blood supply temporarily to the forearm abolished the superficial pricking part of the itching but not the deeper burning sensation. Blocking a skin nerve by injecting the local anesthetic, procaine, prevented the burning itch but let the pricking itch develop.

The pricking part of itching is carried by fast nerves while the burning part is carried over slow nerves, the scientists reported. These are the rapidly and slowly conducting pain nerve fibers from the skin.

Pinpricks in an itching area or in areas adjacent to it or in the same area of nerve supply, even 11 or 12 inches from the itching area, stop the itching for 20 to 60 seconds.

In another experiment, the scientists applied an interrupted electric current over a skin nerve. This made the whole area extremely sensitive to pain. After this pain had gone, cowhage was applied. It induced either pain or no sensation, but not itch.

To understand the nerve mechanisms concerned in itching, their experiments show, it is necessary to consider not only phenomena near the surface of the body but also processes in the central nervous system, presumably in the spinal cord.

Dr. Graham hoped the studies would give some clues on what to do to stop itching, but so far they have not.

Science News Letter, April 30, 1949

# IN SCIENCE

## BIOLOGY

## Fertility Hormone Is Isolated in Pure Form

► THE follicle-stimulating hormone, a pituitary gland secretion which holds sway over fertility in both men and women, has been isolated in pure form for the first time.

This was reported to the meeting of the American Society of Biological Chemists in Detroit by Dr. C. H. Li, noted scientist of the University of California's Institute of Experimental Biology.

Called FSH, the hormone stimulates the growth of the ovarian follicles in the female, paving the way for ovulation, while it may stimulate the sperm-producing tubules in the male.

Dr. Li said the hormone may be suitable for human use. Its availability in pure form will open up a whole new field of research in reproductive physiology, which eventually might lead to benefits for mankind. The scientist stressed, however, that the hormone will be used in animal experimentation for the present.

Pure FSH is almost crystalline, and chemically it is a protein as are the other pituitary hormones.

FSH is one of two fertility hormones. Its action is the initial preparation for fertility, while the second one, the interstitial cell-stimulating hormone, takes over in the second stage.

Dr. Li has now isolated five pituitary hormones: FSH, the interstitial cell-stimulating hormone; the lactogenic hormone, which stimulates the production of milk in new mothers; the adrenocorticotrophic hormone, which regulates the function of the adrenal gland; and the growth hormone, which regulates growth.

Science News Letter, April 30, 1949

## MEDICINE

## New Evidence Found That Virus Can Cause Cancer

► NEW evidence that a virus can cause at least some types of cancer has been reported by an English researcher.

Dr. Ida Mann of the Imperial Cancer Research Fund in London has successfully transmitted spontaneous mammary cancer in mice, using dried cancer tissue. Last month, Dr. W. E. Gye, director of the Fund, announced that he had transmitted chemically-induced cancer in mice, indicating a virus cause. In Dr. Mann's experiment, the cancer was not induced artificially by chemicals.

Science News Letter, April 30, 1949

# CIE FIELDS

## ANTHROPOLOGY

### Dispel Myth That Receding Chin Indicates Weakness

► DENTISTS at the University of California have pretty well dispelled the myth that a receding chin has any connection with inherited character weakness.

Facial features, a study at the University's College of Dentistry shows, seem to be more the result of physiological dice shaking by nature than anything else.

Oddly enough, report Drs. Wendell Wylie and William A. Elsasser in the *AMERICAN JOURNAL OF PHYSICAL ANTHROPOLOGY*, a long cranium is often the cause of the receding chin.

The upper jaw is hinged to a forward part of the skull, the dentists explained, while the lower jaw is hinged to the middle and back of the skull. A little added length to the cranium pulls the lower jaw back far enough to give the receding chin effect, with malocclusion, even though both features are normally developed.

Other causes of receding chin are overdevelopment of the upper jaw or underdevelopment of the lower jaw. The study indicates the condition is caused more often in males by overdevelopment of the upper jaw and in females by underdevelopment of the lower jaw.

The study was made with a cephalometer, an instrument for making precise head measurements. Subjects were male and youngsters in need of orthodontic treatment and a comparable group of normal youngsters.

Science News Letter, April 30, 1949

## PSYCHIATRY

### Mental Hospital Aide of The Year Gets \$500 Award

► BECAUSE, like a modern Pinel, he successfully abolished cuffs, camisoles or straight jackets and other restraints on mentally sick persons in his care, Roland J. Brand, an attendant at the Milwaukee, Wis., County Asylum has been named "Psychiatric Aide of the Year" for 1948.

With the citation goes a \$500 cash award, Richard Hunter, executive secretary of the National Mental Health Foundation, stated in announcing the award. This foundation and the Catherwood-Kirkbride Fund for Research in Psychiatry are joint sponsors of the award.

Five other candidates who reached the finals in the competition are being cited for Honorable Mention. They will receive \$50 awards and appropriate citations for their

exemplary performances in the care of the mentally ill. They are: Mrs. Elizabeth Guy, St. Elizabeth's Hospital, Washington, D. C.; Mrs. Zella Bauer, Chicago State Hospital, Chicago, Ill.; Joe Collins Hisle, Jr., Veterans Administration Hospital, Lexington, Ky.; John Robert Hull, Ypsilanti State Hospital, Ypsilanti, Mich.; and Thomas R. Cobb, Jr., Veterans Administration Hospital, Roanoke, Va.

Every mental hospital in the country, both public and private, was given an opportunity to nominate the attendant or psychiatric aide on its staff who had turned in most meritorious performance during 1948. In all, more than 15,000 eligible candidates were considered by hospitals throughout the country before the final selections were made by a board of judges, prominent in the field of mental health.

Science News Letter, April 30, 1949

## METEOROLOGY

### New Thunderstorm Warning Service Utilizes Radar

► RADAR warnings of thunderstorms at least 30 minutes in advance will enable airlines, ships and electric light companies to "get set" this summer in New York City.

Radar equipment, installed by the U. S. Weather Bureau, on the top of the Whitehall Building, will give an accurate picture of when and where the storm will strike. Plans for the new project were disclosed by Weather Bureau scientists at the meeting of the American Meteorological Society in Washington.

Radar can also be used to determine the amount of rain which falls on any given area. Donald C. Bunting and Marinus H. Latour, of the University of Florida, compared the amount of rainfall as found from radar measurements and from actual rain gage measurements. Knowing the amount of water which falls in a certain area is important in flood control work.

Radar equipment designed especially to detect storms was described by Lester A. Zurcher of Evans Engineering Laboratories. William B. Gould of the same laboratory reported that radar is being used to determine the exact heights of clouds.

Dr. F. W. Reichelderfer, chief, U. S. Weather Bureau, explained that radar enables the weather man to "see" the weather for 150 miles instead of five miles. As new equipment is developed specifically for weather work, radar will become more and more valuable, he predicted.

At the present time two weather stations can measure the rate of weather movement accurately only when the movement is in a straight line between them. If these same two stations were equipped with radar, they could predict from a radar fix the rate of weather movement at any angle between them.

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## NUCLEAR PHYSICS

### Dust Is an Atomic Bomb Hazard, Study Shows

► ADD atomic age hazards: dust in the air.

This finding—of a new danger from an atomic bomb blast—comes from behind the Iron Curtain. The experiments were made in a laboratory near Prague, Czechoslovakia, not at the site of an A-bomb explosion.

C. Jech of the department of physics of the Radiotherapeutical Institute, Prague-Bulovaka, reported his findings to the British scientific journal, *NATURE* (April 9).

The radioactive gas, radon, was found to leave a deposit on glass, the scientist explains. His tests showed that this was caused by the radioactive atoms clinging to dust.

"It is reasonable to suppose that artificial radioactive atoms, for example, atoms left in the air by the explosion of an atomic bomb, will similarly be adsorbed on (cling to) dust particles," concludes the Czechoslovakian scientist.

Science News Letter, April 30, 1949

## GENERAL SCIENCE

### Reorganize Agricultural Board of Research Council

► THE Agricultural Board of the division of biology and agriculture of the National Research Council has been recognized and will serve as an independent scientific review body, the Council has announced.

Jobs of the newly-reorganized board will include advancing and interpreting scientific knowledge pertaining to agriculture, initiating and providing recommendations relative to agriculture and disseminating the group's technical and deliberative conclusions.

Dr. Roy C. Newton, director of research for Swift and Company, Chicago, is chairman of the new board. Dr. Leonard A. Maynard, director of the Cornell University School of Nutrition, is vice-chairman, and Dr. LeRoy Voris of the NRC Food and Nutrition Board is acting executive secretary.

Members of the Board named thus far are:

Dr. R. V. Boucher, Pennsylvania State College; Dr. J. S. Davis, Food Research Institute of Stanford University; H. R. Gilbert, University of California; Prof. W. A. Hagan, New York State Veterinary College, Cornell University; Dr. W. E. Krauss, Agricultural Experiment Station, Wooster, Ohio; Prof. W. J. Loeffel, College of Agriculture, Nebraska; Dr. L. C. Norris, Cornell University; Dr. B. T. Simms, Bureau of Animal Industry, U. S. Department of Agriculture; and Dr. W. W. Spink, University of Minnesota Medical School.

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