

PUBLIC HEALTH

Public Health Service Announces Malaria Test

A SIMPLE new blood test aiding in recognizing malaria has just been announced by the U. S. Public Health Service. The new test was devised by H. O. Proske, chief medical technician, and Dr. Robert B. Watson, senior malariologist of the Tennessee Valley Authority.

The test is based on the fact that a certain fraction of the proteins in blood, the euglobulins, is increased in most cases of malaria and this increase can be shown by a chemical color test.

Malaria cannot always be diagnosed from the symptoms, it is explained, because many of these are similar to those of other diseases. Clinching the diagnosis by searching for the malaria germs in the blood is also sometimes difficult, especially if the number of these germs in the blood is small. The new test, which is easy to perform in any clinical laboratory, gave 97.4 per cent. positive reactions in a series of known malaria cases as compared with 81.9 per cent. found by microscopic examination.

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PSYCHOLOGY

New Baby Stirs Rivalry In Primitive Child Mind

RIVALRY that children feel when a brand-new baby arrives is just as real in primitive families as in civilized homes.

This situation of childish rivalry for the mother's attention is a universal experience, found whenever a mother has more than one child in her care, explains Dr. David M. Levy of New York in a report of experiments to the *American Journal of Orthopsychiatry*.

Dr. Levy, psychiatrist, and Miss Jeanette Mirsky, anthropologist of Columbia University, have been finding out how primitive Indian children in Guatemala feel about "the youngest." It takes knowledge of mental processes plus knowledge of primitive customs to fathom the deep-lying emotional currents in the breasts of youngsters in surroundings so different from civilized life.

To get at a little Indian girl's feelings, the experimenter would set dolls before her and draw the child out to tell her own narrative of what happens to the doll family when a new baby arrives.

Similar experiments in Argentina by other investigators have yielded similar

evidence. The child who has been the youngest, and is replaced, is the one who has the hardest problem in emotional adjustment. Primitive youngsters struggle with jealousy, hostility, guilt, and other reactions typical of children in civilized homes, as they strive to adjust to a less favored place in the mother's care.

Among Quekchi Indians studied by Dr. Levy, a child typically receives maternal love and care for two years or longer and then is relegated to care of an older child in the family. The older child apparently takes this responsibility well, Dr. Levy reports, though in the child's mind there may be varying degrees of satisfaction or discontent.

The last-born child escapes the emotional upsets of being displaced as the baby. The last-born is typically a favorite, Dr. Levy found, and often spoiled, and in psychiatric terminology the last-born makes a "good adjustment."

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PHYSIOLOGY

Suggests Adding Vitamin B₁ To Candy And Liquor

MANUFACTURERS of candy, white bread, refined cereals and sugar as well as alcoholic beverages should add thiamin chloride to their products as a health protective measure, Dr. Norman Jolliffe, New York University College of Medicine professor, suggested at a meeting of the New York Academy of Medicine.

Thiamin chloride is vitamin B₁, which gives protection against nervous disorders.

It would be much better, Dr. Jolliffe pointed out, if people would get their necessary ration of this vitamin by substituting whole wheat bread and whole grain cereals for white bread and refined cereals and by cutting down on the annual per capita consumption of 100 pounds of vitamin-free sugar and vitamin-free alcohol. Failing this, he suggests the incorporation of enough of the vitamin in the vitamin-free foods to insure that each person gets enough in his daily diet.

A protest against the present vogue of "vitamin cure-alls" was made by Dr. Gilbert Dalldorf, director of laboratories at Grasslands Hospitals, Valhalla, N. Y. Dr. Dalldorf said that from the common sense viewpoint an "essential weakness of the practice is that those individuals able to afford a dollar a week for vitamin pills usually do not need them and those who might be benefited cannot afford them."

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IN SCIENCE

TECHNOLOGY

Photography Is Century Old, Rubber's Vulcanization Also

ONLY by looking back a hundred years is it possible to realize how young is science—or how long it takes man to utilize the knowledge he acquires, painfully, slowly by his inquiries into nature and experiments with new things.

Photographs play such a major part in our daily life that it is difficult to imagine a civilization without them. Yet the art of photography can be dated from a century ago.

Nothing excited more interest and enthusiasm in the scientific circles of 1839 than the publication of an account of Daguerre's method of obtaining pictures on metal plates. Arago, a leading French astronomer of the day, reported Daguerre's invention to the French Academy of Sciences on Jan. 7. Later in the year the French government purchased the invention. A full description of the process was given in a pamphlet published in France and the *Journal of the Franklin Institute* in Philadelphia, still a leading science journal, published for Americans a description in its November 1839 issue.

In England there was another notable step in early photography. Just a few days after the French scientists heard of Daguerre's work, the great Faraday at the Royal Institution described Fox Talbot's invention of "photogenic drawing."

To rubber also 1839 is a significant year. It was then that Charles Goodyear here in America discovered his process of vulcanization, basic in almost every significant use of this important material.

It was only a century ago that man came to realize that he and all the higher animals and plants are made up of cells. This discovery was announced in 1839 by the naturalist Theodor Schwann and Matthias Jakob Schleiden.

Josiah Willard Gibbs of Yale was born in 1839. His name will always be associated with the phase rule in chemistry and he applied the second law of thermodynamics to the relation between chemical, electrical and thermal energy. Robert Henry Thurston who organized America's first mechanical engineering laboratory at Cornell had 1839 as his birth year.

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E FIELDS

PUBLIC HEALTH

Milk-Borne Disease Danger In 726 U. S. Cities

DANGER of disease carried in milk exists in 726 municipalities in the United States. These cities and towns, the U. S. Public Health Service finds, "are still subjecting their citizens to milk-borne diseases by failure properly to require all milk distributors to show safe milk ratings."

These 726 municipalities are among the 874 in the nation that have adopted the uniform milk ordinance recommended by the U. S. Public Health Service. Of the entire number, however, only 148 are enforcing the ordinance adequately, the state health departments have reported to the federal health service.

"From the standpoint of milk-borne disease," the report declares, "the safest communities are those in which all milk is pasteurized and in which the pasteurized-milk rating is 90 per cent. or more."

Diseases that can be carried by milk are tuberculosis, typhoid fever, scarlet fever, diphtheria, septic sore throat and undulant or Malta fever.

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PHYSIOLOGY

New Reason for Anti-Noise Campaign

IF you are engaged in an anti-noise campaign, whether on a small scale in your own surroundings or on a large public scale, you now have a new weapon to use in your fight. Noise is not only an annoyance, hard on the ears and injurious to the nervous system. It also is or can be injurious to the larynx.

This is the organ in your throat from which your voice comes. When you have to talk loud enough to be heard above the din of street noises, machines, typewriter, or subway trains, you are abusing your larynx. Abuse of the larynx, if severe enough, may lead to loss of voice.

Maybe you think the loss or ruin of a voice is important only to the singer, teacher or public speaker. If so, try to remember your last attack of laryngitis that made you temporarily voiceless, or try to stop talking for a few hours.

The dangerous results of abuse of the larynx are explained by Drs. Chevalier Jackson and Chevalier L. Jackson, Philadelphia physicians, in *Hygeia*, an American Medical Association publication.

"The human larynx" they state, "is too beautiful, too useful and too delicate an instrument to be used in mere creation of din."

"Shouting and cheering at football games, like forceful singing and speaking, often cause little hemorrhages on the vocal cords; these hemorrhages develop into the vocal nodules and various kinds of tumors that ruin the voice unless removed."

Talking to persons who are hard of hearing is a common form of vocal abuse. Alcoholic beverages are bad for the voice because the alcohol dilates the tiny blood vessels in the lining of the larynx. One drink does this and a few drinks a day will risk eventual impairment of the voice. An oil in tobacco smoke is injurious to the larynx, and you may be affected by sitting in a smoky room, even if you do not smoke yourself.

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ENGINEERING

Riderless Bicycle for World's Fair Race

ARIDERLESS bicycle went into training here for the world's first hundred-thousand-mile phantom race, which will start next May at the New York World's Fair.

At its "helm" is an "electric eye", a photo-cell which keeps it running upright along the straight and narrow—a groove which doesn't begin anywhere and doesn't go anywhere either. The bicycle will follow this routine at the Fair, rolling up an impressive mileage total.

No wires or braces of any kind support the bicycle which coasts along in the groove formed by three metal rollers. A pair of movable weights fastened to the handlebars and front mudguard, the photo-cell and a "Silverstat" keep the wheel in proper position.

If the bicycle tilts, varying amounts of light are reflected from a mirror under the pedals to the photo-cell. The electric current thus created operates the Silverstat, which in turn regulates a motor. The motor steers the front wheel and moves the two weights to make the wheel keep its balance.

Built for the Westinghouse exhibit at the Fair, the bicycle will show the nature and ability of electrical control mechanisms.

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AGRICULTURE

Friday Fish Is Being Turned Into Everyday Bacon

FRIDAY food is being turned into breakfast bacon for the rest of the week, at the Dominion Experimental Farm in Nappan, Nova Scotia. S. A. Hilton, of the Farm staff, has found that fish meal is an excellent meat-making diet to feed to bacon pigs, comparing very favorably with skim milk as a supplementary protein ration.

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MATHEMATICS

Center to Coordinate Work On Calculating Machines

MASSACHUSETTS Institute of Technology has founded a new center of mathematical analysis, coordinating the work on its calculating machines, in order to further the development of new types of calculators and also to facilitate the use of the M.I.T. equipment by other research institutions and industry.

The new center will have a staff of ten, and an advisory board will decide on the priority of applications for use of the apparatus in mathematical solutions. It is being financed by a grant of \$45,000 from the Carnegie Corporation of New York, and is expected to be open for work in the fall.

Equipment made available for use through the center will be the original differential analyzer, developed under the direction of Dr. Vannevar Bush; a new, larger, faster, and more accurate differential analyzer, now under development; a cinema-integrator; the network analyzer; simultaneous calculator; a group of punched card machines; and miscellaneous commercial and special machines.

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RADIO

Streamlined Microphone Reduces Reverberations

See Front Cover

NEWEST type of radio pickup is the cardioid directional microphone developed by the Western Electric Company and pictured on the front cover of this week's SCIENCE NEWS LETTER.

Streamlined in its external appearance, the new device reduces reverberations and noise which are objectionable when heard in the studio but which are highly undesirable when they issue from the source of radio sound in the home—the loudspeaker.

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