

ORNITHOLOGY—PUBLIC SAFETY

Birds With the Cigarette Habit Cause Fires

A NEW feature in the dangers of the nicotine habit arises with the report that many fires have been traced to small birds who pick up lighted cigarette butts from the street and, leaving a trail of smoke like a tracer bullet, carry them off to their nests in the eaves of old buildings or warehouses.

A report to the Railway Fire Protection Association states that the representative of a well-known fire insurance company charged small birds, the sparrow in particular, with being fire-bugs. The origin of this new angle of fire-causes is an incident in which an abandoned theater in Rockwood, Tenn., was destroyed by a fire originating at a point where sparrows made their nests.

As the narrative goes, citizens sitting in the cool of the evening before the town hotel had seen sparrows pick up discarded cigarettes and fly off with them still burning.

Fire-Chief Johnson, of Knoxville, was also quoted as having accused small birds of starting fires. He reported that a locomotive engineer whom he knew had seen a sparrow pick up a lighted cigarette and fly away with it, leaving a thin wraith of smoke behind him, to the eaves of a nearby dwelling. Several days later that house had been destroyed by fire.

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MEDICINE

Paraffin Bath Used To Treat Arthritis

BATHING rheumatic joints of hands, feet, wrists and ankles in hot paraffin is a valuable means of treating these conditions in arthritic patients, Dr. Bernard Langdon Wyatt of Tucson, Ariz., has reported to the American Congress of Physical Therapy.

The paraffin bath enables the physician to apply greater heat to the painful, crippled joints than is possible with solutions, packs, fomentations, oils or radiant heat, Dr. Wyatt explained. The reason seems to be because a tiny insulating space forms between the patient's skin and the inner layer of the paraffin coating which he gets over his hands or feet when the paraffin bath is used according to Dr. Wyatt's method. The insulating space helps the patient to endure

very high temperatures. The high temperature causes an increased supply of blood to the affected part which relieves the pain and stiffness and enables the patient to move his joints more freely.

The paraffin treatment produces more prompt and longer lasting relief of symptoms than other methods of applying heat, Dr. Wyatt has found. He does not recommend using this method exclusively in treating arthritis, but points out that it is valuable in conjunction with such other forms of treatment as rest, diet, elimination of infections, drugs, vaccines and the like, according to the requirements of the individual patient.

Paraffin baths have been extensively used in Europe for treating arthritis but have not been very popular with American physicians, Dr. Wyatt stated. He described a new type of apparatus for giving them which he believes will eliminate the objections of physicians in this country.

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PHYSICS

Electric Conductivity of Gold Unchanged With Cold

PRODUCING extreme cold only fifteen hundredths of a degree above absolute zero, the "farthest south" of temperature, Drs. W. F. Giauque and D. P. MacDougall of the University of California find that gold remains electrically steadfast under this extreme treatment and does not become less resistant to electricity as do all other metals so far tested. They reported this result, at variance with the effects of extreme cold on other metals, before the meeting of the American Association for the Advancement of Science.

To the wonder of scientists, lead, tin and other metals cooled to near the lower limit of temperature became superconducting, that is, an electrical current would flow nearly unimpeded in a coil for hours.

Failure of gold to act in this way interests scientists greatly, and they are eager to know whether the yellow metal will become superconducting in the mere fraction of a degree of temperature remaining for cold to be pushed.

The record low achieved so far by Drs. Giauque and MacDougall is a tenth of a degree above absolute zero. This is very nearly the world's record cold.

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IN SCIEN

PHYSIOLOGY

Blood Flow Rate Gauges Physiological Processes

THE WAY in which the human body is using its energy in its business of living, what the physiologists call basal metabolism, can be determined approximately from a patient's pulse rate and blood pressure, Drs. J. Marion Read and Charles W. Barnett of the Stanford University School of Medicine reported to the meeting of the American Association for the Advancement of Science.

This indirect measure of the amount of oxygen required at the moment by the body is expected to prove of practical use in fighting disease, particularly those ills accompanied by fever.

The making of a standard basal metabolism test requires complicated apparatus and the fasting of the person for fourteen hours before the test. The new approximate method is intended to allow the physician to count the pulse, take records of the contraction and expansion beats of the heart, and then compute the metabolism rate to within about ten per cent.

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ENTOMOLOGY

European Corn Borer Common in Far East

THE EUROPEAN corn borer is not limited to Europe—nor the United States—but occurs in China as well, says Dr. W. B. Cartwright of the U. S. Department of Agriculture. Searching primarily for insect parasites which might be developed to a point where they might be utilized in the control of the corn pest, Dr. Cartwright found corn in Japan, Formosa, Korea and eastern China infested during his investigations in 1928-1930.

In these regions, Dr. Cartwright reports that the pest not only attacks corn, but also millet, sorghum, hemp, beans, indigo, and hops.

Dr. Cartwright's searches were rewarded by the discovery of thirteen active parasites of the borer.

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CE FIELDS

CHEMISTRY

Pronunciation of Chemical Names Is Determined

HOW do you pronounce iodine? Or chloride?

A list of 361 such questions has been sent to 400 American, Canadian, and British chemists by the American Chemical Society in order to get an idea of the most prevalent ways of pronouncing the terms.

The list of answers shows that iodine and chloride are almost universally pronounced "iodeen" and "klorid," the *i* in chloride as in *rid*. Other ordinary words which seem to present difficulties are citrate and oxide. Citrate appears with a short *i*—"sit-rate," and oxide is pronounced "ox-id," also with a short *i*.

Quinine seems to worry the chemist as much as the layman. It has two pronunciations, *kwi* (as in "quill")-neen and *kwinine* with both *i*'s long as "eye," the second being the most popular usage.

One reason which the American Chemical Society gives for the variations in technical terminology is the international nature both of science and the men who deal with it. A great number of our students travel yearly to foreign universities for post graduate work, and many foreign students come to American institutions.

The resulting oral polyglot is attributed to words which in a great many cases have the same spelling here and abroad, but which pick up new pronunciations on the tongues of many different nationalities.

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MEDICINE

Throat Secretion Seems To Combat Rheumatic Fever

SOME CHILDREN may be safeguarded from rheumatic fever by an enzyme or secretion back of the nose or in the upper part of the throat. Less fortunate brothers and playmates who do not have this protecting substance are unable to resist an attack of the disease.

This suggestion was made by Dr. Albert D. Kaiser of Rochester, N. Y., who reported a study of twelve hundred rheumatic children at the meeting of the American Medical Association.

Rheumatic fever is a serious disease not only because of the pain and disability during an attack but also because it may seriously affect the child's heart. Many deaths from heart disease in the early thirties are attributed to childhood attacks of rheumatic fever.

Control of rheumatic disease will not be achieved until physicians understand better why some children are susceptible and others can resist it, and more is known of its cause, Dr. Kaiser asserted.

Social and economic factors do not play any significant role in the malady. In the children whom Dr. Kaiser studied, the most severe attacks followed attacks of tonsillitis and dental infections. Tonsillitis or sore throat preceded the rheumatic attack in more than half the cases.

Removing a child's tonsils when it has an attack of rheumatic fever does not seem to have much effect, either on the severity of the attack or in warding off subsequent attacks. But the child whose tonsils are removed before he has had an attack of rheumatic fever has twice as good a chance of surviving as the child whose tonsils are still in when he gets his first attack.

Removing the tonsils seems to give the child a little better chance of escaping the disease; but Dr. Kaiser thinks that whether a child gets rheumatic fever or not hinges on whether he is susceptible to it or has resistance.

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AGRICULTURE

Waxy-Coated Fruit May Retain Spray Poisons

CLEANING of apples for the removal of deleterious particles of lead and arsenic deposited during preventive spraying may not always be effective, especially when an oil spray has been used, according to Drs. K. S. Markley and Charles E. Sando of the U. S. Department of Agriculture.

The scientists state that when the apple has a very thick cuticle, or waxy coating, and it has been sprayed with an oil spray, there may be a dissolving effect on the cuticle and the lead and arsenic particles become embedded in a waxy matrix and not, therefore, amenable to any cleansing bath.

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NUTRITION

Meat-and-Potatoes Diet Receives Medical OK

THE COMBINATION of meat and potatoes at the same meal was given the stamp of scientific approval at the meeting of the American Medical Association. The dictum put forward by some food faddists that proteins such as meat, and carbohydrates such as potatoes and sweets should not be eaten at the same meal was called incorrect, dangerous and lacking in scientific justification.

Experiments on patients in a hospital showing that even chronic invalids could properly digest the combination of meat and potatoes were reported by Dr. Martin Rehfuß of Philadelphia. The patients were sufferers from stomach, heart, kidney, liver, or lung diseases and infections. The average time their stomachs required to digest a meal of Hamburg steak alone was three hours and fifty-one minutes. A meal of Hamburg steak and an equal amount of mashed potatoes required three hours and fifty-four minutes. When butter was added to the potatoes and meat, another eight minutes was required for the stomach to do its job.

"There is no evidence either in scientific literature or our investigations to lead us to believe that proteins and carbohydrates are incompatible in the stomach," Dr. Rehfuß declared.

It may be true that many persons overeat and would be better off with less carbohydrate in their diet, Dr. Rehfuß observed. But the teaching that these two classes of foods can not be eaten together is dangerous because it may lead to serious undernourishment and lighting up of tuberculosis and other old infections.

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ZOOLOGY

Mouflon are Thriving In Mountains of Germany

MOUFLON, the European equivalent of the American bighorn or Rocky Mountain sheep, are thriving mightily in the Harz mountains, which lie in north central Germany, about halfway between Berlin and Cologne.

A nucleus of twenty animals was introduced in these mountains in 1905. Now the herd numbers about 250.

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