OCEANOGRAPHY

Icebergs Crowd Steamers Into Southern Track Early

ICEBERGS are getting into the transatlantic steamer tracks early this year, the International Ice Patrol reports. Recommendation that shipping shift from Track C southward into the safer Track B has already been made to the North Atlantic Track Conference by the U. S. Coast Guard, whose three patrol steamers, Champlain, Chelan and General Greene, are now on station in the berg-infested waters of the Newfoundland banks.

A small iceberg of the "growler" variety has been sighted in 43 degrees north latitude (latitude of northern Massachusetts) and a really big berg in 45 degrees north (latitude of southern Nova Scotia). Smaller ice masses have been frequent. It is this early southward migration of the ice that has caused the early recommendation for shift in steamer tracks. Usually shipping does not resort to the safer but longer southern track until April 11.

Science News Letter, April 8, 1939

AGRICULTURE

Three New U. S. Laboratories To Study Tung Oil Problems

HOW research in three new laboratories, at Bogalusa, La., Cairo, Ga., and Gainesville, Fla., will benefit agriculture in the South and the makers and users of paint, varnish, linoleum and a dozen other products everywhere, was told by Dr. Henry G. Knight of the U. S. Department of Agriculture, speaking at the meeting of the American Tung Oil Association in Gulfport, Miss.

Tung oil, the product of a Chinese nut tree, is used in quantities ranging from 100 to 175 million pounds a year. The new tung plantations along the Gulf Coast as yet yield only about four million pounds of the oil. Increased domestic production is sought, to keep the tung oil users' money at home as well as to improve the quality of the product.

No scientific research on either the oil or the trees that are its source, has ever been conducted in China. America must do its own researching as well as grow its own tung trees.

Two main lines of investigation will be pursued by the scientists in the new laboratories, which will be equipped and going concerns by May 1, Dr. Knight explained. Two U. S. Department of Agriculture bureaus, Plant Industry and Chemistry and Soils, will collaborate in all three places.

Biological scientists of the Bureau of Plant Industry will search for the causes of variation in size, rate of growth and especially productivity of the trees. They will study their reactions to different conditions of soil, moisture, temperature and other environmental factors. They will try to find or breed better varieties of tung trees, producing more nuts with higher content of better quality oil.

Indoors, chemists will work on better methods for extracting the oil. At present, pressing is the mode, and that leaves too much of the valuable oil in the press cake. Chemical solvents, like those used on some other kinds of oil seeds, will be tried on the tung nuts. By-product outlets for the wastes of the industry, particularly the troublesome huge quantities of nut hulls, and the oil cake left after completion of the pressing process, will also be sought.

Science News Letter, April 8, 1939

GENERAL SCIENCE

Scientist Group Boycotts German Apparatus

BOYCOTT of German-made scientific apparatus and supplies has been voted by the Boston and Cambridge branch of the American Association of Scientific Workers as an expression of "disapproval of the Nazi attitude toward science and scientists."

The organization, representing more than one hundred scientists of Harvard, Massachusetts Institute of Technology, and neighboring institutions, voted to enlist in the boycott the cooperation of other chapters of the A.A.S.W. and of other individuals and non-scientific groups, and to attempt to interest American manufacturers in producing satisfactory substitutes for German scientific goods.

American scientists as a body, it is believed, could exert pressure on about $8,000,000 worth of imports from Germany, including about $1,500,000 worth of equipment used in university research laboratories, and the rest in supplies used by industrial organizations. Last year the United States imported about $10,000,000 worth of German scientific equipment, cameras, and non-agricultural chemicals. Over 80 per cent. of American imports of scientific equipment came from Germany.

Most of the equipment might well be purchased outside of Germany, according to the findings of a special committee of the scientists.

The boycott will not apply to German scientific books and periodicals.

Science News Letter, April 8, 1939

IN SCIENC

MEDICINE

Babies Are Vaccinated Against Whooping Cough

VACCINATION for whooping cough attempted in a San Francisco clinic for well babies has demonstrated its efficiency.

The vaccine used conferred complete protection on some of the children and partial protection on others. Typical whooping cough developed in only three of the children exposed and they had been vaccinated at least 18 months previously.

Children vaccinated within the year escaped the disease even when exposed.

Annual reinjection with a small amount of vaccine is thought advisable by the Stanford University physicians, Drs. John J. Miller, Jr., and Harold K. Faber, who report on immunization for whooping cough. (*Journal, American Medical Association,* March 25)

Science News Letter, April 8, 1939

ECONOMICS

Anti-Nazis Have Advantage In the Sinews of War

THE ANTI-NAZI front of Great Britain, France and the U.S.S.R. commands an overwhelming superiority of raw materials and the sinews of war over the three powers of the Berlin-Rome-Tokyo axis, a survey prepared by Science Service showed.

Germany, Italy and Japan will have to fight a poor man's war if they and their opponents elect to make a battle of it. Almost every one of the major commodities without which no war machine can exist and without which the Imperial German army cracked nearly a generation ago is lacking inside the Reich's borders.

Iron ore, petroleum, wheat, rubber, copper, the lesser but just as vital minerals such as tungsten, molybdenum and tin—these and many more are to be found within the continental limits of the three allied powers or the empires and territories they control. Even without the resources of the United States, the anti-Nazi front will have an overwhelming superiority.

Science News Letter, April 8, 1939

E FIELDS

GENERAL SCIENCE

Rockefeller Foundation Warns of Cultural Crisis

WARNING that "for the moment at least the world is facing a cultural crisis in which reason is everywhere in retreat," the Rockefeller Foundation's annual report just issued states:

"If the problems arising out of human relations are to be solved at all, it will be through the same scientific approach to facts, made in the same dispassionate spirit of inquiry, which has given man command over this physical environment."

Acting on this faith, the report explains, the Foundation devoted $834,000 of its funds last year to objective research in international relations that gives promise of stemming the "retreat from reason."

Science News Letter, April 8, 1939

PHYSICS

Atomic Energy Cannot Compete as Power Source

NOW that scientists have discovered how to release a large share of the energy locked inside uranium atoms there is natural speculation on the use of atomic energy as a commercial source of power. Much quoted is the theoretically true statement that the energy locked within the atoms of a bucket of water would drive an ocean liner across the Atlantic.

However, a bit of figuring on the costs involved shows that even uranium cannot compete with coal as a source of power in terms of cost per energy available.

Scientists at Carnegie Institution of Washington who have actually been releasing uranium's energy in their experiments say that if coal costs ten dollars a ton, uranium in its purest state would have to sell for the ridiculously low figure of $2.50 a gram to compete with it on an energy basis. Uranium at $2.50 a gram means several million dollars a ton.

As a matter of fact the term pure uranium has little meaning for you cannot buy any pure uranium in the world at any price whatever. Uranium is associated with numerous isotopes that are most difficult to separate and the need for pure uranium has yet been unimportant.

Nearest indication of what pure uranium would cost to produce comes from cost figures for radium, which is much easier to obtain in a pure form, but which nevertheless sells for about $25,000 a gram. Probably it costs half that to produce. A fair guess is that a gram of pure uranium would cost, *not sell for*, about $25,000.

But note that uranium must sell for $2.50 a gram to compete economically with coal as a source of power. This means that uranium is some 10,000 times too expensive to become a rival of coal at the present time.

Science News Letter, April 8, 1939

PHYSIOLOGY

Vitamins Found Important To Health of Mouth

NEW findings which show the importance of proper diet with plentiful vitamin rations for mouth health have just been reported by Drs. N. H. Topping, H. F. Fraser and T. H. Tomlinson, Jr., of the U. S. National Institute of Health.

Monkeys kept on diets lacking in vitamins, their report shows, developed every kind of mouth ailment from bleeding, receding gums and loosened teeth to trench mouth or Vincent's infection and ulcers that went right through the cheeks from inside to outside.

The last condition, with the horrible sores on the cheeks, is like noma, a very fatal disease which used to be rampant in orphanages and other institutions. This is the first time noma has been produced in monkeys, the public health scientists point out in Public Health Reports, official publication of the U. S. Public Health Service.

Germs of the kind believed to cause trench mouth in humans flourished in the sore mouths of monkeys living on the vitamin-less diets. Some of these germs were inoculated onto the gums and cheeks of other monkeys living on a good diet. None of these monkeys on the good diet developed any signs of inflammation of the gums. Whether this means that poor diet instead of germs is the cause of trench mouth in humans cannot be determined without further study.

The poor diets that induced mouth ailments in monkeys were lacking in either vitamin A, or C, or D, or nicotinic acid or riboflavin.

Science News Letter, April 8, 1939

CHEMISTRY

Chemical Society Gives Two $1000 Awards

AWARDS of $1,000 each to two outstanding chemists were presented by the American Chemical Society at its Baltimore meeting. The Eli Lilly and Company Award in Biological Chemistry went to Dr. George Wald, instructor in biology in Harvard University, and the Borden Company Award to Dr. L. S. Palmer, professor of agricultural biochemistry in the University of Minnesota.

Dr. Wald, who is thirty-two years old, was honored for fundamental work in the field of biological chemistry, and particularly for his researches on the relation of vitamin A to the human eye.

Dr. Palmer received the Borden Award for "achievement in research in the chemistry of milk". He is a pioneer investigator in the chemistry of milk production, and his studies, reported in more than sixty scientific publications, embrace many fields, including the relation of dairy feeding to milk production, the pigments of milk and butter, cause of butter defects and storage troubles, the physical and colloid chemistry of milk and of the churning process, the physical chemistry of rennet coagulation of milk, and the mineral needs of dairy cattle.

Science News Letter, April 8, 1939

MEDICINE

High Blood Pressure Clue Found by Wrapping Kidney

AN IMPORTANT clue to the cause of high blood pressure has been discovered by Dr. Irvine N. Page, of the Lilly Laboratory for Clinical Research at the Indianapolis, Ind., City Hospital. Persistent high blood pressure has been produced in experimental animals by wrapping the kidney in sterilized transparent cellulose sheeting, Dr. Page reports. (*Science, March 24*)

It is possible, Dr. Page says, that some patients develop high blood pressure from inflammation of the peritoneal envelope and other tissues around the kidneys. Such inflammation may produce a constricting hull around one or both kidneys, probably diminishing the blood supply to these organs. Such a constricting hull was found around the kidneys of animals that developed high blood pressure after the wrapping had been applied.

Science News Letter, April 8, 1939