through another oil plant that also came from China, the soy bean. Soy bean oil is now being produced in considerable quantities, with the principal center in Illinois and neighboring Corn Belt states. The oil is in considerable demand for food uses and in the manufacture of soap, but its greatest potential market is as a paint ingredient.

Used alone in paint, soy bean oil is that thing anathema to all good painters, a slow drier. But if the proper proportion of heat-treated tung oil is added, the performance of the paint is very greatly improved. American production of soy bean oil is away out in front at present; it is up to tung oil to catch up.

America is not the only country where tung trees are being cultivated. In the warmer lands of the vast British Empire—India, South Africa, Australia, the Pacific islands—large-scale experiments are going on. Argentina, Paraguay and Brazil are among the potential tung-oil countries in South America. And latterly the Soviet Union has had delegations of experts visiting our plantings in the South, with a view to setting out trees in the warmer lands of interior Asia.

Tung oil, it would appear, is about to step out.

Science News Letter, July 17, 1937

EDUCATION

Deafness Is Handicap In Learning To Write

DEAFNESS, known to be an almost insuperable obstacle to the learning of speech, now appears also to be a handicap in learning how to write good English. At the meeting of the American Association for the Advancement of Science, Prof. William H. Thompson of the University of Omaha reported a study of 16,000 school assignments by 800 deaf children, which lend strong support to this thesis.

Of the children studied, 47 per cent. were born deaf, 21 per cent. became deaf before the age of five years, and 32 per cent. after five. All the children had more difficulty in learning written English composition than normal children would have had. Children who had once been able to hear averaged better than those born deaf. The errors of those who lost their hearing after the age of five closely resemble the errors of normal public school children.

Science News Letter, July 17, 1937

BOTANY

Arctic Botanist Gathers Poppies Through Snowbanks

Pere Artheme Dutilly Does His Botanizing During The Long Cool Days of the Arctic Summer

FAR in the northernmost Canadian lands, where the cold polar sea laps coasts that are mostly sullen and inhospitable, the long day of the Arctic has brought spring at last. In the thin layer of soil that thaws above the ever-frozen level at a few inches beneath, flowers are beginning to bloom—delicate harebell, bold dandelion, Indian paintbrush that is a brawl of color, flaming Arctic poppy, and a whole constellation of others.

To this, his high-latitude botanic garden, now returns the Botanist of the Arctic, Pere Artheme Dutilly, of the Oblate Missions. He has been away from his Arctic for a winter and spring, while he worked up his collections and notes in the laboratories of the Catholic University of America in Washington, D. C. Now he is buckling up his last straps, and in a few days will be on a small steamer nosing its way along Labrador's forbidding face.

This summer he will botanize the region around the northern end of Hudson Bay. It is familiar territory; he has been there before. Pere Dutilly's botanizing trips have taken him along all the Arctic coasts of Canada: around Labrador, in Baffin Land, on the Keewatin Peninsula, across the long coast of the Northwest Territories, up the Mackenzie and Slave rivers. He has plucked Arctic poppies growing through the snow at Latitude 76 North on Ellsmere Island, and pulled up trees by the roots alongside the Alaskan boundary.

(That latter feat, by the way, was no Paul Bunyan exploit; the birch and willow trees of the Arctic coast never grow more than six inches high.)

Four years Pere Dutilly spent in the Arctic before he "came out" to where he could get at library and laboratory facilities, arrange his specimens and send them to the herbaria that are to house them, and get the Eskimo kinks out of his tongue with a little French and English conversation. He will come back again next fall, for he still has a lot of work to do in Washington.

He expects to write a book on the plant ecology of the Arctic—ecology tells not merely what plants, but how they get along with the climate and their relations one to another. He has seen some interesting things that still await telling.

For example, there is the matter of foliage color. Arctic plants tend to be purple instead of green. The higher the latitude the deeper the color. Pere Dutilly can tell, from looking at another man's specimens, about how far north they grew. His rule might be summed up: "The norther, the purpler."

Plants, however, are not the whole of Pere Dutilly's interest. After all, he is a missionary, and a human being too. He loves his Arctic and the Eskimos among

SUMMER GARB

Pere Artheme Dutilly showing what the well-dressed young botanist should wear this summer when he goes flower seeking in the late Arctic afternoon (about 11 p. m. and still daylight).

GROWING IN SNOW

An Arctic poppy, one of those gathered by Pere Dutilly when he goes botanizing in the icy north.

whom he and his 60 fellow Oblates work. They live on even terms with them: even his superior, Bishop Pierre Fallaize, emulates his Galilean namesake and catches fish for his own eating. Sometimes fish is all the Bishop of the Arctic has for dinner.

Eskimo health, Pere Dutilly reports, is being badly undermined by the kerosene stoves which the traders have introduced. The stoves overheat the snow igloos in winter, changing the walls to ice which lets the heat escape. The traders cannot be induced to stop selling stoves and kerosene because they make money that way, so the missionaries are showing the Eskimos how to set up their summer tents of skin inside the igloos and thus prevent at least part of the damage to the snow walls.

Pere Dutilly applies in Eskimoland the old adage, "Love me, love my dog." Fond as he is of the Eskimo, just so fond is he of the "husky." The big sledge-pulling dog he calls "horse of the North." Along the middle shores of Hudson Bay, where it is far enough south to do a little gardening, he has seen dog teams pulling a plow in summer, and in winter dragging logs out of the timber.

Science News Letter, July 17, 1937

Limes are more acid than lemons.

Crosses between radishes and cabbages have been made in scientific experiments.

MEDICINE

Great Advance Noted in Struggle Against Cancer

Death Rate Among Older People Is Increasing But Disease Is Not Killing More of Those Under 70

A "GREAT advance in the struggle against cancer" was reported by Dr. W. Cramer, of the Imperial Cancer Research Fund, London, to *The American Journal of Cancer.*

This is the fact that the increase in cancer during the last 20 years, in England at least, is almost all in the age groups over 65 years. This is true for cancer of the organs most frequently attacked by cancer, such as the tongue, esophagus, stomach, intestines, liver and pancreas in men, and the uterus in women. The only exception is in the case of breast cancer in women. Here there is a significant increase even in the earlier age groups.

"To the average person and his relatives," Dr. Cramer points out in reporting this encouraging advance in the fight against cancer, "the question of importance is not whether he dies from cancer or some other disease, but at what age he dies from any disease whatever."

The increase in cancer mortality is not so frightening when it is realized that cancer is not killing any more people before they have approached the Biblical span of life than it did 20 years ago.

Dr. Cramer also pointed out that a new chapter in cancer research has opened with the discovery that breast cancer can be produced in mice by injecting female sex hormones under the animals' skin.

This means that cancer can be caused by a substance normally present and active in every person's own body. (A certain amount of female sex hormone is present in a man's body as well as a woman's, recent research has shown.) Common sense, of course, will prevent any alarm over the fact that a person is carrying a powerful cancer-causing substance in his own body, because while everyone has some of this hormone, not everyone develops cancer.

The discovery that female hormones can play a part in cancer causation does not give the solution of the cancer problem but it may start scientists on the right road to that solution by enlarging their outlook on the problem.

Scientists heretofore have believed that cancer resulted from a combination of internal and external factors. The internal factor is a special susceptibility, probably inherited. The external factor is something outside the body that irritates until cancer develops. This could be radium, which causes skin cancer on prolonged exposure; parasites (germs in common parlance) which get into intestines or liver and set up cancer-producing irritation; or chemicals such as coal tar, cause of "chimney sweeps' cancer."

Now, Dr. Cramer says, scientists have evidence for the existence of a cancer-causing environment which is entirely within the body. This not only gives them a new direction for research but explains among other things why cancer can develop in organs not exposed to influences coming from without the body.

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