

has been reduced, the "acid" phosphatase in the blood drops to the normal amount. At the same time, the "alkaline" phosphatase increases, indicating healthy, cancer-inhibiting activity of the bones. When the cancer that has spread to the bones has been checked, this "alkaline" phosphatase also returns to normal.

Science News Letter, June 14, 1941

Iodized Oil Helps Sinus

SUCCESS with iodized oil treatment of sinus disease, in some cases with only two treatments, was announced by Dr. Henry M. Goodyear, of Cincinnati.

The iodized oil is injected into the sinuses, and is helpful even after irrigation which is sometimes necessary in acute cases, Dr. Goodyear reported. He started to use it after patients who had had the injection previous to X-ray pictures, in which the oil was used to make the sinuses opaque so they will show on the X-ray film, reported their sinus trouble was better.

Science News Letter, June 14, 1941

Advices X-Ray Treatment

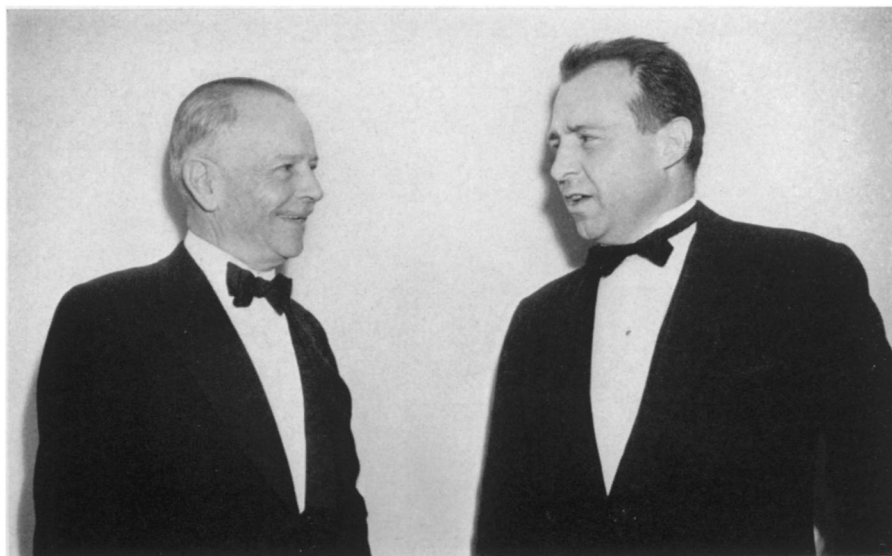
PATIENTS with Hodgkin's disease, a condition marked by inflammatory enlargement of the lymph glands, for which no cure is known, can be given much comfort, freedom from pain, and a somewhat longer lease on life by X-ray or radium treatment, Dr. Ovid O. Meyer, of Madison, Wisconsin, declared.

The treatment is not a cure but saves the victims of this fatal ailment many months of invalidism, he explained. One woman gave birth to two children while she was ill without any demonstrable effect on the illness. She lived 45 months, which is as long as the average. A 14-year-old boy, bedridden last November, left the hospital in December and by April was walking without crutches and has gained 37 pounds.

Science News Letter, June 14, 1941

● RADIO ●

J. A. Hyslop, principal entomologist in charge, Division of Insects and Pests, U. S. Department of Agriculture, will describe some of the greatest insect pests of today as guest scientist on "Adventures in Science," with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, June 19, 3:45 p.m. EDST, 2:45 EST, 1:45 CST, 12:45 MST and 11:45 a.m. PST. Listen in on your local station. Listen in each Thursday.



GROWER OF EUCALYPTS

Dr. Edmundo Navarro de Andrade (left), with Robert C. Cook of the American Genetic Association, from which organization Dr. Navarro received the Meyer Medal in recognition of his lifetime of work in promoting the cultivation of eucalyptus trees in Brazil.

FORESTRY

Honor Brazilian Botanist for Millions of Eucalyptus Trees

Since 1903, He Has Grown More than 130 Species In Brazil, Trying to Find Which Will Give Best Yield

ONE of the greatest tree planters in the world, Dr. Edmundo Navarro de Andrade, who has devoted his life to the development of eucalyptus tree cultivation in Brazil, recently received the Meyer Medal for distinguished services in plant introduction. This medal was founded by the American Genetic Association. Presentation was made at the Plant Introduction Station of the U. S. Department of Agriculture at Glendale, Md.

The eucalyptus, native to Australia, thrives well in Brazil, and Dr. Navarro's researches have been devoted to finding which of its many species will grow best and furnish largest returns in wood in the shortest time. He has grown more than 130 species of eucalyptus in Brazil, and from them has made his selection of the ones found most economically profitable. In the single Brazilian state of Sao Paulo there are now more than 100 million of the trees, in forests covering nearly 500 square miles.

Elsewhere in Brazil there are probably another 100 million eucalyptus trees.

In the course of his search for the best trees for Brazilian conditions, Dr. Navarro has travelled all over the earth, for eucalyptus is cultivated in many lands outside of Australia. The present is his fifth trip to the United States. California has extensive plantings. Some of the most successful introductions into the republic are from seeds borne by these emigrant trees, rather than directly from Australian forests.

Dr. Navarro, who has been at work on the project since 1903, was impelled in the first instance by the fuel needs of one of Brazil's most important railroads. Coal in Brazil is scarce and of poor quality, and wood is the common railroad fuel. The forests along the line of the Paulista Railroad were being rapidly depleted, and the president of that company, Antonio Prado, foresightedly called Dr. Navarro into conference on the situation. The botanist

felt that eucalyptus held most promise for the production of a quick-growing firewood crop on the warm, moderately dry uplands of Sao Paulo, and undertook what has turned out to be a lifetime of research on this one subject.

In the course of his work he has had to

encounter much opposition, which has frequently taken a fiercely emotional turn. However, he has at all times had the unwavering support of President Prado of the Paulista Railroad Company, and now sees his long efforts crowned with full vindication.

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ASTRONOMY

Million Degree Temperatures Near the Surface of Sun

Theory of Harvard Astronomer, Based on Discovery By Swedish Scientist, Indicates Present Values Wrong

TEMPERATURES of millions of degrees prevail just above the surface of the sun, instead of the 10,000 degrees that astronomers have previously measured, if the theory proposed by Dr. Donald H. Menzel, of the Harvard College Observatory, is correct.

At a Harvard conference on the sun and solar-terrestrial relationships, he said that his ideas follow from recent discovery made by Dr. Bengt Edlén, of the University of Upsala in Sweden. This explained the origin of the previously mysterious lines in the spectrum of the sun's corona, its outermost envelope.

They are actually caused, he has found, by elements such as iron, calcium and nickel, from the atoms of which a great many outermost electrons have been torn off. Of the 26 outer electrons in the iron atom, as many as 13 are removed, Dr. Edlén found. He was able to imitate the effects in the laboratory by battering atoms with powerful electric sparks.

Measurements of the surface temperature of the sun, based on the light of the ordinary colors that comes to us, have given a value of about 10,000 degrees Fahrenheit. But, Dr. Menzel said, such an extremely low value would not fit in with the new theory, conditions of excitation must be far greater than this—around several millions of degrees—in the innermost parts of the corona. In spectrum photographs which he made at recent eclipses the outer part of the corona shows lines, but that of the part nearest the sun's surface is a continuous band of color. This indicates that atoms in this region are broken up on account of the high temperatures, and do not show usual lines.

"Perhaps the sun has sprung a leak,"

he said, "and these hot gases stream out from the sun's interior through holes and pores."

It might seem, Dr. Menzel suggested, that these gases, encountering lower pressures as they emerged, would expand, and the expansion would produce a great cooling. But, he speculated, it might be that great whirlpools inside the sun expand the gases before they are ejected. In that case they would still be as hot as the interior even after they were outside. This theory, he said, is preferable to others which might be offered in explanation.

Apparently the inner corona is the birthplace of the prominences, great flame-like clouds of gas which can be seen and photographed with proper instruments. Dr. Menzel announced that his associate, Walter Roberts, who is in charge of the special Harvard Observatory at Climax, Col., for studying the sun's corona from an altitude of 11,500 feet, actually saw this happen. A flare in the corona, in which he detected the characteristic green spectrum line, condensed into a prominence, and extended down to the solar surface.

Similar formation of prominences above the sun's surface, apparently out of nothing, have been filmed in astronomical motion pictures taken at the McMath-Hulbert Observatory of the University of Michigan.

Dr. Robert R. McMath, Director of the Observatory, showed some of these to the meeting. According to Dr. Menzel, this may be due to the atoms recombining. Torn apart, they do not give ordinary light, and are not detected, but as they cool and their parts come together again, they give the familiar spectrum, and then are visible.

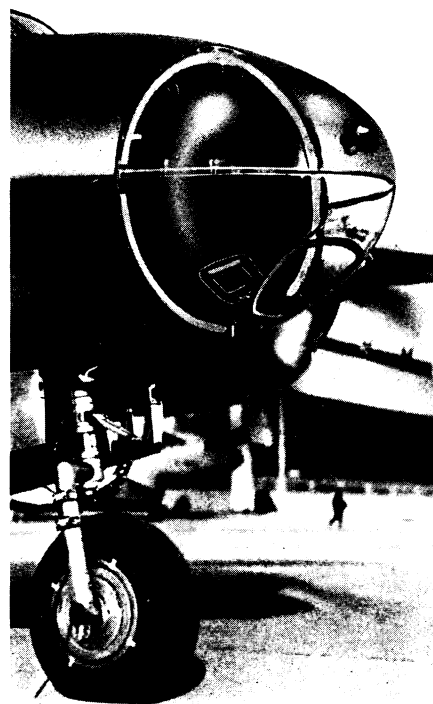
ABRONAUTICS

Plastic Bubbles To Protect Flyers From 400-Mile Gale

WITH plastic bubbles made from such opaque materials as coal and oil, more transparent than glass as well as lighter and stronger, bombardiers and gunners on American bombing planes are protected from a gale that would tear off their clothes if they were exposed to its fury.

In the first World War, goggles supplied the necessary protection to a gunner, who could stand in his cockpit without great difficulty. But that was when 100 miles an hour was considered fast. New planes are making 400 miles per hour, and even more, so adequate enclosures are a vital necessity. To give complete visibility, and avoid blind spots in which an enemy plane might sneak in unobserved, they must be transparent.

The plastic shells, which are being made in Philadelphia for both U. S. and British planes, are formed by drawing heated sheets, then soft and pliable, over cloth-covered molds. They are clamped in position, and, when cool, they hold their shape in tropical heat or Arctic



PLASTIC NOSE

Inside this transparent plastic nose of a Martin B-26 bomber, the bombardier, at his bomb-sight, will aim the explosive eggs as they are laid.