

MEDICINE

# Latin America Menaced by Disease Causing Blindness

## Tropical Malady Due to Parasitic Roundworm Transmitted By Widely-Distributed Group of Blood-Sucking Insects

**T**HE TROPICAL DISEASE, coastal erysipelas, which causes blindness, can become a Pan-American problem like malaria and yellow fever, in the opinion of Dr. Alfons Dampf, chief entomologist of the Mexican Government, who reported his investigations on the subject in the Chiapas region of southern Mexico to the Pan-American Medical Association.

### Spreading from Interior

The disease is caused by a parasite which spends part of its life in blood-sucking insects like buffalo gnats or black flies. Dr. Dampf made a special study of these bloodsucking insects and found that one of them is distributed from Trinidad, West Indies, to northern Mexico and another of them from British Honduras to the state of Vera Cruz and from Guatemala to the state of Oaxaca. As the disease in Mexico is slowly spreading from the interior to the coast, and as the transmitting insects are present in a much greater area, the conclusion is inevitable that onchocercosis, as the disease is known scientifically, can become distributed over the greater part of Central America, invading perhaps also South America.

The parasite which causes the trou-

ble is a nematode or roundworm of the Filaria family, from one to twenty inches long. It lives coiled up in tumor-like swellings under the skin of human beings. The larvae of this worm, in the form of the so-called microfilaria, swarm up from the cysts or swellings to invade the peripheric lymphatic ducts and are there picked up by bloodsucking insects of the Simulid family (buffalo gnats or black flies). The larvae undergo a transformation in the gnats, after which, the next time the gnat sucks blood, the mature microfilaria are passed from the proboscis of the fly or gnat to another person, Dr. Dampf explained.

As a result of the joint efforts of the commission of the Harvard Medical School under Prof. Richard P. Strong, working in Guatemala, and of the various commissions of the Mexican Public Health Department, of which Dr. Rafael Silva is chief, which studied conditions in Chiapas and Oaxaca, the clinical aspects of the disease and the biology of the transmitting insects were learned. These investigations also showed that the vision of man is affected by actual invasion of the eye by the microfilaria. What species of Simulids and how many were concerned in the spread of the disease had still to be

shown. Dr. Dampf's study supplies this necessary information.

In view of the danger of spread of the disease, the Mexican Government, through the Public Health Department, has begun an active campaign against the Simulids, the transmitting insects, in Chiapas. The people are being forced to clean the breeding places in the mountain brooks and rivulets, to avoid in this way the imposition of the flies on the submerged vegetation. A special Onchocercosis Commission, under the leadership of Dr. S. Gonzalez Herrejon, sent a staff of medical officers to the infested places, with the order to operate on every person having tumors and in this way to eliminate the danger of infection.

According to Dr. Dampf's report, the parasite was probably brought from Africa with Negro slaves who escaped their masters and found a refuge in the interior of Guatemala, where transmitting Simulids are plentiful. In the same way two other disease-producing parasites, *Filaria loa* and *Dracunculus medinensis*, were once brought from Africa to South America.

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ETHNOLOGY

## White Men Copy Indians Who First Copied Them

**N**AVAJO Indians, famed for their dyed-in-the-wool conservatism, are taking to new ideas in house building. Navajo hogans with glass windows and stovepipes may be seen along roads in the Navajo reserve in New Mexico and Arizona. Other hogans are made of stone and discarded railroad ties—a ven-



NEPTUNE'S BODYGUARD

Plesiosaurs or giant long-necked sea-lizards and fish-lizards—creatures which were terrors of the seas one hundred and twenty million years ago, as restored in a large mural painting recently presented to Field Museum of Natural History by Ernest R. Graham. Charles R. Knight is the artist.

ture in "lifetime homes" which is something new to these Indians.

These innovations have been adopted only by more progressive members of the tribe.

For centuries the Navajos have seen in their wanderings the stone dwellings inhabited by Pueblo Indians. But fixed abodes of stone were not for the Navajos. They preferred their wood and mud hogans and the light, easily constructed summer shelters ingeniously made of interlaced juniper trees.

The late interest of the Navajos in better homes has had a strange boomerang effect upon white residents of the region. White men have begun to construct houses like these new-fangled

Navajo hogans. The style of architecture is peculiar. The modernized hogans are round stone structures with adobe roofs, resembling somewhat the round domed concrete "pill boxes" used in the World War.

Whether this form of architecture will take hold upon the greater portion of the Navajo tribe remains to be seen. Perhaps as long as the vast spaces of Navajo land remain unfenced, and the great herds of sheep and goats wander in gray-brown floods over the pastures, the old type log and mud hogan will serve to house many Navajos in the fashion that was good enough for their ancestors.

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#### ENGINEERING

## Magnesium Cement Developed Having Hardness of Granite

THE EXPRESSION "as hard as rock" will have to be changed to "as hard as cement" if the experiments of Dr. Howard S. Lukens, of the University of Pennsylvania Chemistry Department, work out as he has reason to think they will. For six years Dr. Lukens has been working with a combination of magnesium oxide and magnesium chloride, and he now has a cement which has the tensile strength of 2000 pounds per square inch. It is as hard as granite.

The catch is that the cement so far can be used successfully only for interiors, for water does something to it and it disintegrates. However, it is now possible to fabricate a stable magnesium cement product which does not absorb moisture from the air, and that is something ordinary Portland cement has never overcome.

Dr. Lukens has made some pieces of magnesium cement which have been lying in his laboratory for three years, and have not even been warped by the air. They are in perfect condition, and are excellent, Dr. Lukens said, for inside walls and floors.

"This cement," Dr. Lukens stated, "is of an extraordinary hardness and tensile strength. It sets quickly. It can be used with many aggregates to make other products. It is excellent for insulating wall plaster. Gypsum plaster, for instance, has no strength. The magnesium cement is very strong and very durable. It needs only one coat from

one-quarter to three-eighths of an inch thick, while in ordinary wall plastering three-quarters of an inch is necessary. With the magnesium product less labor and less material are needed to give a harder, denser coat."

Dr. Lukens made the cement by mixing magnesium oxide and magnesium chloride in water.

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#### SOCIOLOGY

## Huxley Says Birth Control Threatens World Depopulation

THE DANGER of depopulation during the next hundred years stares in the face even those countries where overpopulation has been considered a threat, due to deliberate prevention of conception by large sections of the population, Prof. Julian S. Huxley, biologist of King's College, London, predicted to the British Association for the Advancement of Science.

"We face the problem of regulating the quantity of human members and preventing under or overpopulation," he said.

Deliberate birth control is the largest factor in limiting population. It is unique to human species. But post-

#### PSYCHOLOGY

## Laborers Can be Taught To Make Most of Energy

INDUSTRIAL workers, interested only in how much they can produce, and resting or keeping to their tasks as their feelings alone dictate, may be the rule in the factories of tomorrow. Tests made at Purdue University, under the direction of Profs. George H. Shepard and George Brandenburg, have shown that workers can easily be taught to make the most of their energy.

Ordinary laborers, trying to give a maximum output at piece work or under similar stimulus, will resist fatigue until the resulting sensations become severe, the investigation concluded. As this tendency is exactly wrong, the workers must be taught to rest for a time at the first feeling of fatigue, a course followed by workers of superior physique and intelligence without being trained to do so. After following a special task routine, however, the usual worker can rely on his sensations as a basis of efficient choice for work and rest periods.

Students at Purdue University, a report to the Society of Industrial Engineers states, were used in the tests. The workers, all physically fit, went through gymnasium routine, resting at intervals to have their weight, pulse and other measurements of fatigue recorded.

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ponement of marriage and many remaining permanently unmarried, also contribute to the situation, Prof. Huxley declared. Differential fertility of individuals, classes and nations demands urgent study, with the objective of improving the average quality of the human population.

Prof. Lancelot Hogben reinforced Prof. Huxley. If birth control continues, he said, it will be "difficult to foretell what extensive change in family economics and social organization will be requisite to create new incentives to parenthood to insure against gradual extinction."

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