

sun's radiation at the present rate for 15,000,000,000,000 years. To put the argument in another form, the heat emitted by the sun each year has a mass of 120,000,000,000,000 tons; and if this loss of mass continued there would be no mass left at the end of 15,000,000,000,000 years."

Since all the other alternatives are eliminated, Prof. Eddington supposes that the source of the energy must be in the protons and electrons, charges of positive and negative electricity, of which the atoms are composed.

"We have to suppose," he says, "that a proton and electron run together, their electric charges cancel and nothing is left but a splash in the ether which spreads out as an electromagnetic wave carrying off the energy."

He admits the difficulty of some of these ideas, for apparently at a temperature of 70,000,000 degrees the energy is liberated so copiously that he asks, "can we suppose that energy issues freely from matter at 70,000,000 degrees as steam issues from water of 212 degrees? I think that physicists would be hard put to it to reconcile such extraordinary behavior with any accepted principles, yet that is what the astronomical observations taken at face value seem to insist."

In a reply to this suggestion, Prof. J. H. Jeans, president of the Royal Astronomical Society, denies that this can happen, for, he says, the transformation of matter to energy itself is a process which liberates more heat, and, "as soon as the center of a star reached 70,000,000 degrees, the heat generated would raise the neighboring parts to 70,000,000 degrees, these would generate more heat, and so on, the high temperature spreading explosively throughout the star. The true analogy would be, not the issue of steam from water, but the explosion of a magazine of gunpowder."

ROCKEFELLER FOUNDATION LEADS WORLD FIGHT ON DISEASE

Over nine million dollars were spent during 1925 by the Rockefeller Foundation in its great campaign throughout the world to oust disease.

Hookworm, yellow fever and malaria are the enemies of mankind its International Health Board especially aims to annihilate. This organization follows the policy of working only through governments of the countries to which it lends aid and helps out only at the invitation of an official agency. It concerns itself only with new methods, one of its primary ends being to help a health official prove to his community the value of an innovation, but the board undertakes cooperation only with the clear understanding that the project in hand is eventually to stand on its own financial feet.

In 18 different countries and in 220 counties in 26 different states in our country, the International Health Board backed up the local officials in their struggles with the hookworm problem with the result that nearly a million and a half people were treated. Around hookworm disease as a nucleus, the International Health Board has a general educational plan to instruct the populace of tropical and subtropical countries in sanitation and preventive measures against all disease. This idea has spread to Europe and cooperation along these lines has been extended to

France, Austria, Poland and Czechoslovakia.

In 1925 only three cases of yellow fever occurred in all the Americas, whereas formerly this disease made Central and South America and even New Orleans and other cities of the South, veritable pest holes. Now these same cities are represented to Northern tourists as health resorts with a fair degree of truth by their enterprising realtor citizens.

War on the yellow fever bearing mosquito has driven this former plague to a last stand in West Africa where experts sent out by the International Health Board, at the invitation of the countries concerned, are hard at work holding it in check lest it gain access to the Orient when the trans-African railways under construction are completed.

A new use for Paris green has been found in the contest with the malarial mosquito. Experience has shown that only by exterminating the insect that spreads the infection from person to person can malaria be stamped out since in the majority of cases patients will not continue doses of quinine long enough to be completely cured. Paris green has proved effective, cheap and safe as a means of eradicating the fever mosquitoes. In cooperation with the Italian government the International Health Board has been experimenting with the arsenic compound in Calabria and Sardinia, sprinkling the breeding areas with a powder composed of 99 parts road dust and one part Paris green. The small quantity of poison killed the wigglers without harming the fish native to the waters, and mosquito breeding was stopped at very low cost.

Work on malaria was carried on in twelve states in the United States, and in the West Indies, Brazil, Argentina, Palestine, the Philippine Islands, and Ceylon.

MINNOWS SENT TO AID ARGENTINE ANTI-MALARIA FIGHT

Two thousand minnows from the U. S. Bureau of Fisheries are enroute for Buenos Aires aboard the Argentinian battleship Moreno, to help stamp out malaria in the South American republic.

Top minnows are voracious feeders on the larvae of the mosquito carriers of the germ causing malarial fever. These larvae breed only in stagnant water and being air breathers stay almost entirely on the surface. Pools too large to have the air supply cut off by a film of oil have in many parts of this country been stocked with top minnows which have proved efficacious aids in keeping down the numbers of the anopheles mosquito.

The minnows now riding in state on the battleship have been sent from the Bureau of Fisheries at the request of the International Health Board to be used for breeding purposes and distributed throughout the malarial regions of Argentina to help in the campaign of that organization to rid the Americas of malaria and yellow fever.
