

could have made her strong and happy—they will unite at last, remembering the martyrdom of the millions of those like Joan.

"They will remember the wars between nations that have served so well to divert them from anger at their own starvation, at the murder of their own children by poverty.

"They will ask: If, in war, there is always limitless credit to kill people, so that no war ever stops for lack of dollars, francs, marks, or pounds, why then isn't there limitless wherewithal to arm our science so that it will give life to all future heartwrecked children like Joan?

"At last the fundamental issue will be clear and absolutely simple, as it must be to move the mass to anger, to action.

"At last there will be the tramp, tramp, tramp of humanity marching, in spite of the tear gas and vomit gas bombs, in spite of the machine guns, till finally the leaders of the mass will stand face to face with those who now monopolize our common heritage, then those leaders will ask—

"Who owns our science?

"And they will give their own answer."

Science News Letter, March 21, 1936

PHYSIOLOGY

Increasing Waistline Called Menace to Health

WARNING for the man of forty whose waistline is so rapidly increasing that he must bend over to see his feet is to be found in a clinic held at the meeting of the American College of Physicians by Dr. William J. Kerr of San Francisco.

The pot belly is a menace to health as well as to manly appearance. Dr. Kerr, with the aid of two patients and numerous charts, showed how the sheer weight of the "bay window" throws the body out of line, interferes with breathing and eventually leads to failure of heart and lungs.

To relieve this condition, Dr. Kerr and his associate, Dr. John B. Lagen, first give the patient a heavy two-way-stretch elastic support to hold the heavy abdomen in place. When this is put on the patient, he immediately stands better, holds his head a little higher and straightens the sway-back. Next step in the treatment is diet to gradually reduce the big abdomen to normal. With this are prescribed strengthening exercises.

Science News Letter, March 21, 1936



The Importance of Lichens

LICHENS are those peculiar spreading patches of green and yellow and gray that look like spots of paint on the surface of rocks. They are sometimes loose and crumbly, like paint films that have peeled and cracked and curled up. Other kinds of lichens are loosely misnamed "moss," like reindeer moss, and the beard-lichen which Longfellow immortalized:

"The murmuring pines and the hemlocks,
"Bearded with moss . . ."

Lichens are strange among plants in that they literally lead double lives. Each patch of lichen is composed of masses of two entirely distinct kinds of plants: long fibers or filaments and fruiting bodies of a fungus, related to the molds and the mushrooms, and innumerable little one-celled green plants of the low order called algae. It has long been standard botanical doctrine that this is a mutual benefit society, but of recent years opinion has been swinging round to the idea that the fungus takes advantage of the alga, as a parasite. If the lichen is a plant society, it is a master-and-slave society.

Lichens are important to man in many and curiously diverse ways. Outstanding, however, is the lichens' function in turning stones into bread. Not that lichens are themselves much eaten by human beings. They are used as food only by peoples most hard-pressed for food, like the Japanese.

But lichens almost invariably the first attackers on the face of rock that is eventually to become soil. Their slow-creeping filaments, which take no account of years, can live through heat and cold, drought and wet, on the naked surface of the rock. Whenever conditions are right for them to grow a little more,

they secrete a little acid, that slowly etches and roughens the rock surface, and thus begins the long cycle of its breakdown into soil that other plants can live in. It is an immensely slow process, but in the long aggregate an immensely effective one.

Lichens not only help to give man bread; they give at least some of us meat. The lichen known as reindeer moss is the mainstay of reindeer in northern Eurasia and of caribou on the Arctic slopes of North America. Hence it means meat in the pot, and skin clothes on the back, for Lapps and Tunguses and Eskimos and the Athapascan Indians. Nor must it be forgotten that once upon a time our own forebears, in Ice Age Europe, were hunters and eaters of reindeer.

Lichens finally are friends of the chemist. Litmus, without which a chemical laboratory can hardly be imagined, is the product of a lichen.

Science News Letter, March 21, 1936

ASTRONOMY

Plan Joint Expeditions To Study Solar Eclipse

AN expedition to Soviet Russia to observe the total eclipse of the sun June 19, 1936, will be sponsored by the Harvard College Observatory in collaboration with the Massachusetts Institute of Technology.

The totality belt, about 75 miles wide, starts in the Mediterranean and then swings northeastward across Greece, the Black Sea, Manchuria and northern Japan, ending at some point well out in the Pacific Ocean. The eclipse will not be visible in the western hemisphere.

By **Max Born**

The Restless Universe

The mystery of perpetual change and the puzzles which relativity, electricity and the newer mathematics have presented are explained with authority and clarity in almost ABC language by an eminent physicist, who at present is Stokes Lecturer in Mathematics at the University of Cambridge. "The tremendous task of making the marvelous achievements of modern inquiry in physics, chemistry and astronomy intelligible to the lay reader . . . is performed in masterly fashion." — *Book-of-the-Month Club News*. Uniquely illustrated: by flipping the pages you can actually see atoms in action. \$2.50

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