States of today, with the added feature of permanent darkness the whole season through. Hence the animals of the ancient Arctic must have been able to find their food even in the dark, or by moon or aurora light, as the caribou and musk-ox and polar fox do now; or else they must have dodged the problem by going into hibernation and sleeping the winter out. There was, of course, more food, as the presence of such enormous gross feeders as woolly mammoth and hairy rhinoceros and giant bison have testified with their bones.

The discovery of a land-living dinosaur in the Arctic would be a somewhat embarrassing thing for Dean Berry's hypothesis. Fossils of sea dinosaurs, like Ichthyosaurus, have been found in the far north; but these need not count. They lived in the water, and probably moved about the world as freely as whales do now. But a terrestrial dinosaur—at least one of any size—would indicate either a fairly high year-round temperature or else some adaptation to cold weather not possessed by any existing reptile or other cold-blooded animal. While warm-blooded creatures can brave the winter, the cold-blooded beasts must get out of the way. Land-living reptiles, and many aquatic ones as well, burrow into the ground or mud when autumn chill warns them, and emerge when the sun warms the earth in spring.

But a Diplodocus was too big to be a successful burrower—to twist Falstaff a bit, he would have required a mountain for his mummy-case. It is just possible that he might have wallowed himself deep enough into a swamp or lake bottom, but really not very likely. However, although dinosaur bones have been found pretty well up in Canada, and abundantly in Mongolia, none are on record yet from the lands of the long dark, so Dean Berry's idea is still safe from being tramped on by their ponderous feet.

Science News Letter, March 21, 1936

PSYCHIATRY

Discovery of Brain Defect Clears Patient of Charges

HOW a special kind of X-ray picture, which showed an absence of part of the brain tissue in a 19-year-old boy, cleared the young patient of criminal charges was told by Dr. Spafford Ackerly of the University of Louisville School of Medicine at the meeting of the American Orthopsychiatric Association.

The patient was facing a long term sentence because of persistent automobile stealing when he was brought by his family lawyer to the psychiatrist. The patient had a record of petty stealing and misbehavior at school. He was given to "impulsive wanderings," when he would suddenly drop what he was doing and depart for distant cities, hitch-hiking or, more often, going in a stolen automobile.

Physical and neurological examination and ordinary X-ray pictures of his head showed nothing wrong. He had a normal intelligence rating and had reached the second year of high school. The lad was a convincing talker, made a good impression and was so well-mannered that he was termed a "little Chesterfield." After one of his escapades he would be very contrite, but this feeling did not prevent another escapade.

Finally the psychiatrists decided to make an encephalogram. This is a special kind of X-ray picture. Some of the fluid within the brain and spinal cord is withdrawn and an equivalent amount of air is injected. X-ray pictures taken after this procedure show the various cavities or ventricles of the brain more clearly than plain X-rays do.

The encephalogram of this 19-year-old boy showed a defect in the front part of his brain. Operation was then performed and a "marked absence" of this part of the brain, called the prefrontal lobe tissue, was found on both left and right sides.

Scientists are not yet sure just what the function of this part of the brain is, although it is being extensively investigated at present.

In the case Dr. Ackerly reported, discovery of the absence of this brain tissue resulted in clearing of the criminal charges against the patient, who has since been put under proper supervision to protect himself as well as the community.

"Without the encephalogram procedure, injustice to both parents and patient would have continued," Dr. Ackerly reported.

Science News Letter, March 21, 1936

GENERAL SCIENCE

"Who Owns Our Science?" Writer Wants to Know

THE GREATEST and deadliest of plagues is poverty, the lack of wherewithal with which to buy what people are collectively willing and able to produce.

Dr. Paul de Kruif, he of "Microbe Hunters" and "Hunger Fighters," in his new book probes with literary lance this cancer of money lack, satirically titling it with a query about little, helpless children: "Why Keep Them Alive?" (Harcourt, Brace).

Dr. de Kruif tells tales of medical advances made ineffective by money lack. There was Joan, who died of rheumatic heart disease, an illness that passes by well-fed children. Little Joan whose father was on relief, little Joan whose heart might not have beat itself out if she had had an economic chance.

Joan's story stirred Dr. de Kruif to ask, how this infamy in a land of enormous wealth could continue? This suggestion lost him a friend, grown rich from applying science to human use.

So Dr. de Kruif formulates his new understanding in fighting, vibrant words: "I knew that the clever men who monopolized the common inheritance of science would never share it, fundamentally. I knew that their greed, based upon fear, made them indifferent to a heartbroken child.

"I understood that the question today, that will finally set friend against friend, brother against brother, is this one—who owns our science?

"I saw that once the plain people, the mass, understand the whole truth of the story of children like our Joan, once they get it clear in their heads what it is that limits the food, the clothes, the shelter, the science that

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.

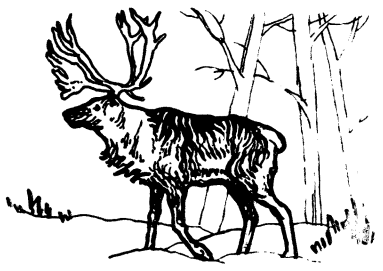
The pot belly is a menace to health as well as to manly appearance. Dr. Kerr, with the aid of two patients and numerous charts, showed how the sheer weight of the "bay window" throws the body out of line, interferes with breathing and eventually leads to failure of heart and lungs.

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

BOTANY

NATURE RAMBLINGS by Frank Thone



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.