

PHYSIOLOGY

Recording Track Running

► **MINIATURE** earthquakes made on the cinder track by the feet of runners sprinting for the finish line can be picked up by regular earthquake-detecting instruments, called seismometers, and recorded on portable electrocardiographs used by doctors to study heart action.

This new method of studying track running was announced by Drs. Peter V. Karpovich and Nathan Millman of Springfield, Mass., College at the meeting in Atlantic City of the Federation of American Societies for Experimental Biology.

The seismometers are placed along the track at 20-yard intervals. Direct measurements are made of the footprints left on lime sprinkled over the cinders. Time intervals are also recorded in tenths of a second.

Sprinters, the new method shows, take a longer and faster step with the right leg than with the left. This is because most people are right-handed and their left legs are stronger than their

right legs, the scientists explain. Left-handed people will show the reverse. But one left-handed man is an exception. He had developed the athletic habits of a right-handed man and therefore had his left leg stronger than his right.

During distance runs no difference in length of step was observed.

Science News Letter, March 27, 1948

Poor Diet Slows Reaction

► **AUTOMOBILE** drivers who do not step on the brakes fast enough in emergencies may owe their slow reaction time to poor diet. Short rations of the B vitamin called thiamin slowed the reaction time of a group of women at the State University of Iowa, Drs. W. W. Tuttle, Marjorie Wilson and Kate Daum of that institution reported. The tests were made on reaction time to a light stimulus, but presumably the findings apply generally and to men as well as women.

Science News Letter, March 27, 1948

PHYSIOLOGY

Human Ribs Found Weak

► **IF** you want to call that rib Adam lost in the Bible story a "weak sister", your pun won't be far wrong. All human ribs are relatively weak, Drs. Milton H. Joffe and F. A. Hitchcock of Ohio State University reported at the meeting of the Federation of American Societies for Experimental Biology in Atlantic City. It takes less than 20 pounds pressure to break a rib, they found.

The pressure required to break ribs was investigated in a study intended to gather facts about the strength of the human body for proper design of safety equipment. The study is said to be the first such ever made. The effects on the body of severe deceleration of aircraft is the primary objective of the study, but industrial workers as well as aviators will benefit from the findings.

The ribs are generally credited with providing protection for vital organs of the body against injury from crushing or body blows. But the major portion of the strength of the chest, Dr. Joffe now believes, comes not from the ribs alone but from the combination of these and the many muscles of chest and abdomen.

Ribs can absorb energy in the range of 10 to 100 inch pounds. But the chest can absorb energy up to 1000 foot pounds or more. Since all ribs show the same mineral content and structure, the studies show how much of the chest's strength comes from muscles.

Science News Letter, March 27, 1948

VETERINARY MEDICINE

Human Brucellosis Remedy Too Costly for Animals

► **FARMERS** and stockmen were warned against hoping to use a newly reported treatment for brucellosis, or undulant fever, to wipe out the disease in their cattle.

The treatment, consisting of a combination of the mold remedy, streptomycin, and a sulfa drug, has been successfully used to treat human brucellosis patients. But it would not be practical for use in treating cows, pigs or goats.

"Cost of the treatment is prohibitive from the standpoint of most farm budgets and therefore it would be warranted only for extremely valuable animals," Dr. J. G. Hardenbergh, executive secre-

tary of the American Veterinary Medical Association, Chicago, stated.

"Moreover, there is no assurance that it would produce the same results as it does in human beings."

A program now widely used for controlling brucellosis in livestock involves blood-testing to detect the disease, vaccination to prevent it, and segregation and slaughter of infected animals.

About 2,000,000 cattle and "very large" numbers of swine in the United States have the disease. Sheep, goats, horses, dogs, cats, poultry and wildlife may also harbor the infection. Its principal effect on animals is to cause abortion. In humans, it produces fever, chills and dizziness that keep recurring. Humans get the disease by contact with infected animals or by consuming unpasteurized milk from diseased cattle and goats.

Science News Letter, March 27, 1948

PHYSIOLOGY

Dogs Can Digest Starches, Experiments Indicate

► **DOGS** can digest and assimilate starchy foods, despite widespread notions to the contrary. And bones, though doubtless fun for Fido, are not essential.

These apparent heresies are offered by research veterinarians on the staff of the Ralston Purina Company, which includes prepared dog foods in its list of products. Their experiments showed that dogs can digest foods made from wheat and other grains, as well as the oft-forbidden potato. Dogs even thrive on diets that include sugar.

The veterinarians call attention to the fact that the classic experiments establishing the function of insulin in controlling the blood sugar level were performed on dogs. This would not have been possible if the dogs were not physiologically adapted for a diet consisting in part of carbohydrates.

Although dogs like red meat just as humans do, it is not in itself adequate for their whole diet. Dogs kept on an all-red-meat regimen soon became seriously ill.

Dog owners are advised against trying to treat their pets as if they were human beings, accustomed to three meals a day—and eating too much at that. They should be fed things that dogs like rather than things people like, and owners not be too shocked if they show a perfectly natural preference for smelly tidbits out of the garbage-can.

Science News Letter, March 27, 1948