

MEDICINE

# Unbalanced Nerves Can Cause Heart Disease and Ulcers

## Acetylcholine, Chemical of Nerves, In Bodies of Animals, Produces Heart Disease Artificially

**A**NIMAL studies which apparently prove the nervous origin of one type of heart disease and of such digestive derangements as stomach ulcers were reported by Dr. G. E. Hall of the Banting Institute, University of Toronto, at the meeting of the American College of Physicians in New York.

The type of heart disease is that in which the arteries of the heart itself and also other arteries in the body are affected by hardening and other changes. Because this condition occurs chiefly in the high-strung business or professional man, doctors have long suspected a nervous origin.

Dr. Hall was able to produce this same condition in animals by giving daily injections for as many as 400 days of small amounts of acetylcholine. This chemical substance is produced every time an impulse passes down one of the nerves of the parasympathetic system. These are the nerves which, with the sympathetic nerves, work together to keep the organs of the body, heart, stomach, lungs and all the others, functioning properly.

Acetylcholine is the substance by which the parasympathetic nerves do their part in this nerve teamwork. Acetylcholine normally is rapidly destroyed in the body after its task is done.

### Produced in Animals

The fact that Dr. Hall could produce heart and artery disease in animals, exactly like that in man, by keeping more than normal amounts of acetylcholine in their bodies shows that an excess of this chemical must be at the root of such diseases in man. The excess is probably produced because the two sets of nerves are out of balance, the parasympathetic system doing more than its share of the work.

A new chemical to relieve attacks of the heart ailment angina pectoris, was reported to the Federation of American Societies for Experimental Biology meeting in Baltimore.

The new heart disease medicine is octyl nitrite. It was prepared by Drs.

John C. Krantz, Jr., C. Jelleff Carr and Sylvan E. Forman of the University of Maryland School of Medicine. While it is related chemically to amyl nitrite now generally used in angina pectoris, the octyl nitrite is better and its effects last longer.

### Rickets Inherited

Rickets, or at least a tendency to this deforming disease, can be inherited, it appears from studies reported by Dr. Louise Pearce of the Rockefeller Institute for Medical Research at Princeton, N. J.

At one time, Dr. Pearce pointed out, heredity was considered a more or less important factor in human rickets. Then scientists discovered that proper diet, including plenty of calcium and vitamin D, and sunshine could prevent or cure

the disease and the hereditary angle was forgotten.

Dr. Pearce rediscovered the importance of heredity in studies on rabbits. Deformities of the bones like those in human rickets appeared in racial lines representing six different breeds of rabbits. A predisposition to these abnormalities is definitely inherited in the rabbits and it appears that heredity is also a factor in human rickets.

### Dogs Have Nervous Breakdown

Dogs get nervous breakdowns just like humans and from the same cause—too great a mental conflict, it appears from studies reported by Dr. W. Horsley Gantt and associates of Johns Hopkins University.

Social factors, such as the presence of a human in the room or of a friendly dog, reassures the nervous animal so that he does not have an attack. Drugs such as bromides were not as effective. Prolonged rest on a farm was also helpful.

The condition lasted for five years in one animal. During this time anything in his environment which had been there during the first attack would bring on another, characterized by labored asthmatic breathing, heart palpitation, whin-



### WARPED ROCKS

*Rocks, millions of years ago, warped into complicated curvate shapes by mountain-building forces at the east front of the Rocky Mountains, buried by debris washed from the higher peaks, then bared by the waters released by melting glaciers and snowfields were caught by the camera of Dr. K. E. Lohman, of the U. S. Geological Survey, during the progress of field work in the South Fork Valley of the Shoshone River, near Valley, Wyo.*