

MEDICINE

Lead on Heart Problems

Isolated cell parts rather than intact cell manufacture cholesterol, believed to play role in artery hardening. Discovery was accidental finding of cancer research.

► **CANCER RESEARCH** has accidentally turned up a finding that may aid in the fight against diseases of the heart and arteries.

The finding is that the fatty chemical, cholesterol, is manufactured in the body by isolated cell parts rather than by the intact cell. Disturbance of cholesterol manufacture is believed to play a role in hardening of the arteries, but heretofore no one has known how cholesterol is made in normal tissues.

The latest discovery on cholesterol was made by Dr. Nancy L. R. Bucher of Massachusetts General Hospital and Harvard Medical School. The American Cancer Society, which supported her research, reports how the discovery was made:

Dr. Bucher had been trying to develop a technique for separating liver cells so that they might be studied singly in suspension. While the isolated cells looked normal, they didn't behave like normal liver cells.

The Boston scientist tested the isolated cells' ability to manufacture normal cell chemicals. To contrast their product with that of a control substance, she used as controls a fine mince of liver in which no whole cells could be seen under the microscope. Dr. Bucher placed the isolated cells in one

laboratory dish and the cell mince in another. To each of the samples she added acetate that contained radioactive carbon atoms.

To her surprise, since previous investigations had contrary findings, the cell mince manufactured from the acetate more radioactive cholesterol than was made by the suspension of cells.

In other experiments, the mince produced more cholesterol than whole liver slices.

The implications of these findings already have excited some scientists concerned with heart and vascular disease research. They, as well as Dr. Bucher, are now attempting to isolate and identify the cell components responsible for cholesterol synthesis.

If it turns out that one of a few enzyme systems are responsible for the production of cholesterol, the search for the cause, prevention and possibly even cure of the most prolific killers of man today may be narrowed substantially. The cholesterol-producing systems may prove controllable by diet or drugs.

This is the first time that a cell-free mince of adult cells has been shown to produce cholesterol in amounts comparable to that produced by the cells.

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ZOOLOGY

Elephant's Kin Can Climb

► **NAME AN** animal that looks like a guinea pig, is equipped with hooves but can climb trees, and whose nearest relative is the ponderous elephant.

The answer: the hyrax, a little rabbit-sized animal found only in Africa and a few places in the Near East.

Just what position this odd creature occupies on the animal family tree has enlivened many a scientific meeting for generations. It looks like a rodent at first glance. But it has hooves, four toes on the forefeet and three on the hind ones. Its teeth are similar to those of elephants, too.

Unlike elephants, however, it is covered with close brown hair. And no one would think of an elephant's cousin being the size of a guinea pig, or a tree-climber.

In the course of time, the little hyrax has been shuffled around taxonomically from the *Rodentia* to *Perissodactyla* (odd-toed hoofed mammals, including horses), and are now fairly secure in their own little order, *Hyracoidea*.

Still, the debate quietly raged: are the hyraxes kin to elephants? A British scien-

tist, Bernard Weitz of the Lister Institute of Preventive Medicine, now thinks he has evidence enough to answer yes.

Testing blood sera of a wide range of species of mammals, Mr. Weitz found that the serological properties of both hyrax and elephant blood were very similar, so much so that it can be assumed the two are closely related, he said.

Mr. Weitz's experiments are described in *Nature* (Feb. 7).

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ANTHROPOLOGY

Stuttering Clue to How Indians Treated Young

► **A STUDY** of stuttering among Indian tribes may be a key to whether various cultures "spared the rod and spoiled the child" or vice versa.

Dr. Edwin M. Lemert, University of California at Los Angeles anthropologist, in a study of stuttering among Indians of the Northwest Pacific Coast, found that

every tribal language studied in the area contained words that meant stuttering.

The ceremonially-rich tribal culture of the Northwest demanded competitive participation of the growing child. A speech defect was a handicap that might cause a family or an entire clan to lose status in the tribe. This led to specific anxieties on the part of both parents and children.

Studies elsewhere have shown that stuttering did not occur among Bannock and Shoshone Indians and, in fact, that they did not even have a word for it. This is probably because the two tribes appear to have made few stringent demands upon growing children. Family treatment of abnormal children was sympathetic but not over-protective.

Indian "cures" for speech defects were unique, Dr. Lemert found. One method was to recite the Indian words for "I give my stuttering to you" through a knothole every morning, and then blow through the hole in order to get the stuttering out of the throat.

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BIOPHYSICS

Need Several Treatments For Radiation Injuries

► **TREATMENT OF** future victims of atom bomb or other radiation injury should be multiple, to combat successive stages of radiation damage, Drs. Thomas J. Haley and Bonnie M. Rhodes of the Atomic Energy Project at the University of California School of Medicine at Los Angeles declare.

They base this advice on the finding that certain drugs prolong the survival time without saving the lives of mice damaged by X-rays.

The drugs are synthetic chemicals related to atropine and known as MK-02, Win-2299 and Bentyll. They are anti-spasmodic, or relaxing, like atropine, but are less toxic than atropine.

The way these drugs prolong survival time after radiation is apparently by relaxing the intestines and thus decreasing intestinal damage. Early deaths from ionizing radiation in mice, it has previously been reported, are due to intestinal damage.

The drug-induced intestinal relaxation would not be enough to save the lives of the animals, because the relaxing drugs do not affect the bacterial, or germ, and hemorrhagic phases of radiation damage. For this reason, the scientists advise multiple treatment, each step designed to overcome a particular phase of radiation damage.

They report their findings in *Science* (Feb. 6). Chemical names for the drugs used are: tropine benzhydrol ether methane sulfate, or MK-02, made by Merck and Co.; 1-methyl-3-piperidyl-methyl-phenyl-2-thienyl acetate, or Win-2299, made by Winthrop Chemical Co.; and 1-cyclohexylhexahydrobenzoic acid, beta-diethylaminoethyl ester, or Bentyll, made by Wm. S. Merrell Co.

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