



YOU CAN RUN IT

This railroad at the New York Museum of Science and Industry can be operated by visitors. James T. Dye of the Museum staff is putting finishing touches on one of the tunnels.

GENERAL SCIENCE

Vitamin K Can Prevent Fatal Hemorrhage of Babies

Prothrombin, Missing During First Week of Life, Leaves Infant Exposed to Dangerous Bleeding

BABIES, who used to be in danger of bleeding to death from trifling causes during the first week of their lives, are now much safer, thanks to the recently discovered vitamin K, Drs. Armand J. Quick and Arthur M. Grossman of the Marquette University School of Medicine told colleagues at the meeting of the American Association for the Advancement of Science in Milwaukee.

The danger comes from lack of a substance called prothrombin, which plays a vital role in making a clot across a wound and thereby checking hemorrhage. Normal adults have it, and so do babies just after they have been born. But for some unknown reason babies from two days to about a week old undergo a pronounced and dangerous prothrombin slump.

How dangerous bleeding can be during the first week of life was recognized in the Mosaic law, Dr. Quick reminded his hearers. Circumcision of male infants was obligatory, but the operation-ceremony was forbidden until the baby was eight days old.

The recently discovered clot-promoting vitamin K can be used for the safeguarding of new babies who are shown to be dangerously short of prothrombin. Feeding of a concentrate rich in this vitamin will fend off the danger of hemorrhage.

After the first week, the prothrombin content of the blood rises as steeply as it had dropped on the first day of life. Drs. Quick and Grossman suggested that vitamin K is being manufactured in the baby's intestine by the new population of germs taken in with the first feedings of milk.

Science News Letter, July 1, 1939

Diet Wards Off Surgery

A REALLY enlightened diet will not only prevent the so-called deficiency diseases, it will ward off many of the conditions that nowadays make surgical operations necessary, declared Dr. Victor G. Heiser of New York City, in the eighth Maiben Lecture, delivered at an evening session.

"There is every reason to believe," he

ENGINEERING

Boys—and Boys Grown Up—May Operate Railroad

THE DREAM of small boys—and the secret wish of many a small boy grown up—to be a railroad man is nearing realization at the New York Museum of Science and Industry where visitors soon will be able to operate, themselves, an entire model railroad system.

Multiple participation by visitors will be possible, for separate buttons control five trains which range from miniatures of puffing freights to the latest in streamlined speedsters.

Over 400 feet of track intertwine through a miniature landscape complete with waterfalls, farmhouses, churches, schools and industrial plants.

Automatic block signals and crossing gates move as the trains speed by, and a coal elevator dumps and loads coal cars on a siding.

The exhibit will be on display indefinitely to allow visitor participation in the exhibit which supplements the Museum's display of historic model locomotives and cars that show the railroad's evolution from earliest times to the present.

Science News Letter, July 1, 1939

said, "that the nation that can regulate its food consumption in accordance with scientific principles may not only produce a larger percentage of sound, healthy people, but at a cost infinitely less, and by inference become the leaders of the world."

He told of large-scale experiments with colonies of white rats, which lived in perfect health as long as they were given a physiologically adequate diet, but which, when placed on rations of what might be called the "civilized poverty" level, proceeded to develop such surgical conditions as sinus trouble, infection of the middle ear, gastric ulcer, kidney and bladder stones, gangrene, heart diseases and bad teeth.

Correct eating need not be expensive eating, Dr. Heiser urged: "All too often we eat far too much of a substance that is not needed, and still suffer from hunger if a needed substance is not present in sufficient quantity."

Science News Letter, July 1, 1939

Pseudo-Arteriosclerosis

A DISEASE that has the same apparent effects as arteriosclerosis, yet in which the arteries are not hardened, was described by (*Turn to page 14*)

From Page 7

Prof. P. F. Swindle, also of the Marquette University School of Medicine. Post-mortem examination of the patient shows that the arteries have become excessively twisted and looped, with the loops protruding into the tissues around them. This of course gives the heart as much trouble in pumping blood through the abnormal arteries as if they were stiff and inelastic through hardening. The condition is brought on by the weakening and softening of the surrounding tissues, which do not support the arteries as firmly as they should.

Science News Letter, July 1, 1939

Earliest American Dated

FOLSOM MAN, earliest known American, may have lived on this continent 25,000 years ago, at about the same time as the great artist-huntsman race of the Old World, known as Cro-Magnon Man. Steps of research and reasoning whereby this provisional date was assigned to Folsom Man were outlined by Drs. Kirk Bryan and Louis L. Ray of Harvard.

The ancient Folsom camp in north-eastern Colorado studied by the Harvard archaeologists is known as the Lindenmeier site. Considerable numbers of the typical stone weapon-heads and imple-

ments that mark the Folsom culture are contained there in an earth stratum above the floor of an ancient valley that can be traced into a terrace on a local stream. This terrace in turn is identified with others of known late Ice Age date.

"If correlation of this stage with the Mankato of the Middle West and the Pomeranian of Europe is correct," said Dr. Bryan, "the culture layer of the Lindenmeier site was developed at the end of the glacial advance dated by Antevs as 25,000 years ago."

Science News Letter, July 1, 1939

Hybrid Religions

INDIAN tribes are making religions of their own in modern America, to an extent not generally realized. Declaring that music is a key to these hybrid Christian-native religions, Miss Frances Densmore, ethnologist noted for studies of Indian music for the Smithsonian and other institutions, reported witnessing two native ceremonies and obtaining the songs from tribal leaders.

In the Yaqui Indian celebration of Holy Week, in Arizona, combining Roman Catholic practices with the native Deer Dance, the songs contain a charming native poetry concerning nature, Miss Densmore finds. The Native American Church, in which Indians of various tribes combine Protestant religious customs with the native use of the peyote plant, sings songs described by the ethnologist as "expressing the spirituality that characterized the old religious thought of the American Indian." She studied the music of the latter church among the Cheyenne in Oklahoma and the Winnebago in Wisconsin.

"The Indian race does not progress as a unit," she explained. "A large majority of the American Indians today are of double ancestry, Indian and white. Many have mental habits of the Indian, while conforming to the customs of the white race."

Science News Letter, July 1, 1939

● Earth Trembles

Information collected by Science Service from seismological observatories and relayed to the Jesuit Seismological Association resulted in the location of the following preliminary epicenter:

Thursday, June 22, 2:19.6 p. m., EST
Off Gold Coast of Africa. Latitude, 5 degrees north. Longitude, 1 degree west. Sharp shock.

For stations cooperating with Science Service in reporting earthquakes recorded on their seismographs see SNL, June 17.

CHEMISTRY

Sulfur Aids Roads, Kills Germs, Covers Textiles

TO THE children of an earlier generation spring meant sulfur and molasses but these days sulfur plays many another role whatever the season may be.

Down in Texas, where some of the largest sulfur mines in the world are located, chemists are studying the ability of sulfur to make paving mixtures for highways last longer and wear better. When used with asphalt as a binder for paving bricks the sulfur makes a superior adhesive agent. Under all-weather conditions of service it was found that the sulfur-asphalt binder did not extrude from between the bricks, causing slippery pavements and loss of filler.

In Alabama, at the University, two new series of organic sulfur compounds have been created in the laboratory which have rubber-like properties similar to the synthetic rubber-like compound "thiokol" which is high in its sulfur content.

Curious thing about the new sulfur compounds is that they lose their rubber-like properties when in solution and regain it upon precipitation with an acid. This now-it-has-it, now-it-doesn't ability offers the possibility that in these new sulfur compounds lies a way to impregnate cloth easily with rubber-like coatings. It has been found that two of the new series of sulfur compounds are the highest-containing organic substances so far produced, and are sulfur dyes.

A final new advance in the use of sulfur comes from Georgetown University where organic sulfur compounds are being studied for their ability to kill fungi and bacteria. More than 50 compounds have been tested.

Many of these inhibit the growth of such organisms but two—phenylbenzothiazol and mercaptobenzothiazol—work especially well on organisms in test tubes. It is a curious fact that the latter compound has been used for years by the rubber industry as an accelerator during the vulcanization of rubber.

Science News Letter, July 1, 1939

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