

## MEDICINE

# Scleroderma Weapon

A chemical closely related to vitamin D has proved successful in treating the strange hidebound condition of the skin.

► SUCCESSFUL treatment of scleroderma, the strange hide-bound condition of the skin sometimes seen in "the man who turned to stone" of the circus side-shows, is reported by Dr. Eugene T. Bernstein and Dr. Lewis A. Goldberger, of Mount Sinai Hospital, New York. (*Journal, American Medical Association, March 2*)

A chemical closely related to vitamin D is the remedy they used. The name of the chemical is dihydrotachysterol. This chemical does not have the anti-rickets action of vitamin D, but it exerts a powerful effect on calcium utilization in the body.

The cause of scleroderma is not known but in recent years scientists have found that the calcium metabolism is disturbed in this condition. In some patients the amount of calcium in the skin was increased by about 30% which

seems to give a good basis for the "turned to stone" description of the patients. Their skin is also described as leathery, boardlike, hidebound and glistening with a characteristic ivory white sheen. It cannot be picked up between finger and thumb. The face looks like a mask.

The patient reported by the New York physicians had an operation for thyroid gland enlargement a year before she developed scleroderma. Damage during the operation to the neighboring parathyroid glands, which play an important part in regulating calcium metabolism, was suspected. For this reason dihydrotachysterol was given. The response was "almost dramatic," the physicians state, and her skin returned to its normal condition except for some areas of color change.

*Science News Letter, March 9, 1946*

## ELECTRONICS

# Television in the Sky

Experiments now being carried out on relay stations carried in blimps. If successful, it will give a wider television range.

► TELEVISION broadcasting from relay stations carried aloft in blimps is now proposed, and General Electric Company engineers in Syracuse, N. Y., are experimenting with relay equipment installed in this type of lighter-than-air craft to study increased relay range of a station at varying altitudes. A somewhat similar scheme is under investigation by the Westinghouse Electric Corporation, using airplanes traveling in lazy circles high above the earth.

The experiments of General Electric are part of a broad program of research to determine the best methods of relaying television—a necessary step if television programs are to have wide range. Direct programs from television stations rarely extend beyond the horizon, usually less than about 50 miles. For wider range of television transmission through the air by radio waves, booster or relay sta-

tions are necessary. Ground stations for this purpose have to be erected about 35 miles apart. By the use of stations far above the surface of the earth, either in planes or blimps, the number of relays can be very much reduced, it is expected.

With the use of coaxial cables, television, of course, is transmitted long distances, but this type of electric cable is expensive. Radio-wave transmission will probably prove less costly provided too many relay stations do not have to be erected and maintained. The Bell System will soon be in a position to make determining comparisons between coaxial transmission and transmission by ground-based relay stations with its new coaxial installation between New York and Washington, and the other between New York and Boston. The value of airborne stations is a matter of future determination.

If Westinghouse engineers are correct, one station in a plane slowly circling over New York at an elevation of 30,000 feet would deliver direct television radio waves to both Washington and Boston, and to the area between these cities and far to the west of New York. The plane-carried relay they propose would blanket the earth's surface like a giant ice-cream cone, covering an area 422 miles across.

General Electric, in its initial blimp relay tests, operated an airship over territory between Schenectady and New York. It is an area where General Electric, and Globe Wireless, Ltd., will operate an experimental radio relay network. The companies already have government permission to erect ground booster stations between these two cities, and also between New York and Washington.

*Science News Letter, March 9, 1946*

Protein can be removed from peanut meal by treating it with mildly alkaline water and then acidifying the solution.

Bunches, or stems, of *bananas* vary in weight from 22 to 62 pounds, with the average bunch received in the United States weighing 50 pounds.

A new Russian *helicopter* of metal construction has two motors and airscrews placed on either side of the fuselage and joined to it by a metal frame.

The most common and deadly *cancer* is that of the stomach; about one-half of all cases of cancer in men, and one-third of those in women, involve cancer of the stomach.

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