

troms was of no use to the plants in Mr. Hoover's experiments, but they could still manufacture at least a little food under the invisible radiation in the lower ultraviolet region, up to about 3650 Angstroms. The limit of visible violet light is about 3900 Angstroms.

Science News Letter, March 27, 1937

AERONAUTICS

Airships to Make Their Own Ballast While Aloft

ZEPPELINS of the future will be able to take off without ballast, and once in the air will "manufacture" water, with a new reaction chamber invented by Ludwig Schirmer of Berlin. The fundamental idea is very simple: hydrogen and hydrogen compounds are present in the airship's lifting gas; the air contains plenty of oxygen to combine with them and form water. Thus instead of valving gas and thereby losing valuable reserve "lift," Herr Schirmer's invention will transform it into ballast, thus making a double gravitational gain. It is the reverse of lifting oneself by the bootstraps.

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PUBLIC HEALTH

Midwest Conquering Goiter With Iodine in Salt Cellars

Communities Need to Exercise Caution, However, That Salt Contains Iodine in Proper Amounts

FAMILIES in the Midwestern "goiter belt" began filling their salt shakers with iodized salt ten or twelve years ago.

The happy result is that in these homes goiter has practically disappeared.

Nobody disputed Dr. David Marine when he said twenty years ago that a normal thyroid gland could be found only along the seacoast.

Michigan and Ohio can successfully refute anyone who makes that statement today.

There is Midland County, Michigan, where in 1924 one-third of all the school children showed a well-developed goiter and where a questionable enlargement of the thyroid was seen in almost every child.

Now in Midland County anatomically normal thyroids are found in 90 per cent of the children. They have been taking iodized salt to make up for the deficiency in food iodine in that locality.

In this same county live five families whose doctor warned them against iodized salt, saying the children would develop acne. These families followed their doctor's advice for from three to six years.

When the goiter committee from the state health department made a state-wide survey recently, it was especially interested in these families. The children did not have acne—it is true—but eight of them had moderately enlarged, soft, spongy hyperplastic goiters.

Recently the committee examined 3,000 children who had been using iodized salt regularly for years. Less than 2 per cent of them had goiter. Nor did the committee find more cases of acne than would be expected.

Dr. O. P. Kimball of Cleveland, who reports (*Journal, American Medical Association, March 13*) on the program of goiter prevention in Michigan and Ohio, tells of an interesting contrast in two Michigan cities.

In Houghton County are Houghton and Calumet, towns thirty miles apart. Calumet is a mining town and during 1932 the copper mines closed. Many families were on relief and only bag salt (not iodized) was given to relief

families. While in Houghton the percentage of goiter cases remained low, in Calumet without the iodized salt, which was the only source of food iodine in half of the homes for three years, endemic goiter became proportionately as prevalent as it was before prevention was initiated.

In Detroit the incidence of goiter dropped from 35 per cent in 1924, when the goiter prevention program was begun, to 5 per cent in 1936. However, in Cleveland the drop was from 31 per cent to only 18.5 per cent.

The city health department investigated and found that two local salt manufacturers were labeling their various brands of salt "iodized" when it contained only one-third of the amount of iodine stated on the label and one brand contained no iodine at all.

"In each study made in various cities," declares Dr. Kimball, "we found the iodine content of nationally advertised brands and the trade brands prepared by these manufacturers for other companies to approach closely the amount advertised."

Dr. Kimball advises every state in which goiter is endemic to educate the public to use iodized salt. He further urges state health departments to analyze every brand of iodized salt at least every other year.

"Attempts to interest and educate the public need not be aimed solely at the deformity of the neck," Dr. Kimball explains.

"One should think of the number of cases of feeble-mindedness, the many cases of boys and girls who do not mature normally through puberty, the many cases of cretinism and myxedema, and the thousands of large tumorous goiters with an occasional cancer, each of which is only a sequela of endemic goiter."

"For over twenty years Dr. Marine and I have consistently emphasized the importance of the replacement of the food element iodine. In meeting this deficiency we are preventing infinitely more than meets the eye, the goiter."

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