

MEDICINE

Radiation Protection

► **BETTER PROTECTION** against ionizing radiation, whether from atomic bombs or the X-rays used in treatment of disease, may come from the metal, cobalt.

When fed to white mice for several days before and after irradiation of their entire bodies, this metal cut the mortality rate over a 30-day period by more than half, Drs. W. Parr, T. O'Neill and A. Krebs of the Army Medical Research Laboratory, Fort Knox, Ky., find.

These scientists tried the anti-irradiation effects of cobalt because it is generally believed that the key to recovery after irradiation damage is the ability of the body to form new blood. Cobalt is known to have a stimulating effect on the blood-forming system of the body. It is contained in the anti-anemia vitamin B-12.

Cobalt has other effects which may account for its anti-irradiation power, the Army scientists point out in *Science* (Feb. 13).

It interferes with the breathing of cells and produces an oxygen lack in them. Lack or deficiency of oxygen has been reported to increase resistance against irradiation damage.

Cobalt may block the important sulfhydryl chemical groups and perhaps other chemical groups necessary for many body chemical processes.

Which of these effects or whether all of them together account for the cobalt protection remains to be investigated, the scientists point out.

The cobalt they used to protect their mice was in the form of a cobalt chloride solution mixed with the ordinary laboratory fare of the animals.

If cobalt can protect against radiation damage, it will make this metal triply useful to humans, since besides its anti-anemia activity it can, when made radioactive in the atomic pile, help fight cancer.

Science News Letter, February 28, 1953

NUTRITION

Check Toddler's Eating

► **MOTHERS SHOULD** watch carefully the diet of the toddler. The child at this age, from one to three years, is a slow and untidy eater, mother knows well.

In her effort to teach him to use spoon, cup and other utensils better and more neatly, and with her attention also, perhaps, given to older children and a new baby, she may not pay enough attention to what the toddler eats.

At this age, the child is learning to chew, and he chews poorly compared to older children, Dr. Genevieve Stearns of the University of Iowa pointed out at the U. S. Department of Agriculture conference on nutrition. As a result, his meal is apt to consist of the foods he can manage with a spoon or eat from his hand.

If left to fend for himself, the mainstays of his diet, she has observed, often are pota-

toes and gravy, bread and butter. This means that his fare is poor in protein and too rich in carbohydrates.

Yet in these early years the child's need for protein is as great as during infancy. This is a period of changing body composition though of slow growth, as far as outward appearance is concerned. The muscles are growing far more rapidly than the rest of the body—or should be, if the child gets enough protein in his food.

He is changing from the infant whose locomotion depends on others to a child taking an upright position and moving about by himself—and this is a great change. At this age the skeletal muscles should increase by about a third. But, says Dr. Stearns, all too often there is little or no increase, and the result is a child with habitual fatigue posture and little energy.

Science News Letter, February 28, 1953



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INVENTION

Optical Lenses Made From Titanium Glass

► **LENSES FOR** special telescopes and other optical instruments will be made of a titanium compound, an invention now patented promises.

This substitute for glass is strontium titanate, and it possesses refractive and dispersion qualities very different from ordinary glass. The inventors are Leon Merker, New York, and Langtry E. Lynd, South Plainfield, N. J., and they have as-

signed their patent, number 2,628,156, to the National Lead Company, New York.

The lenses are made of a monocrystalline mass of the compound, which is prepared at temperatures of 2,100 degrees Centigrade. An oxygen-hydrogen torch is used to achieve these high temperatures.

A lens made from strontium titanate has a very high refractive index, as compared with flint glass and crown glass lenses, and a very low reciprocal relative dispersion. The inventors say it will be particularly useful for telescopic and microscopic objectives, achromatic lenses and prisms, and for other optical purposes which advantageously utilize wide fields, high apertures and short focal lengths.

Science News Letter, February 28, 1953

MEDICINE

Cortisone Helps Painful Thyroids

► **CORTISONE**, FAMOUS as an anti-arthritis drug, is now recommended for treatment of painful thyroid gland inflammation. The recommendation comes from Drs. Dwight E. Clark, Thomas S. Nelsen and Robert J. Raiman of the University of Chicago and is based on good results in three cases they report in the *Journal of the American Medical Association* (Feb. 14).

The drug is given in small daily doses for 12 to 14 days. Pain is relieved within 24 hours and within the first week the swollen, hard gland in each case had become smaller and softer. In all cases the gland returned to normal size and consistency within two months and there have been no recurrences.

Previous treatment for this condition has included anti-thyroid drugs, surgery, antibiotics and X-rays. An infection of some kind is believed the cause of the condition.

Science News Letter, February 28, 1953

Do You Know?

The *ferret* is a domesticated kind of polecat.

Balloons used in recent scientific experiments were about as high as a 10-story building.

Adequate *protein* in the diet of the school-age child increases his resistance to infection of many diseases.

The U. S. Air Force is using fruit flies in a stratospheric research project to study the effects of *cosmic rays* at very high altitudes.

Ocean currents flowing 10.92 miles an hour were recently measured in the Gulf Stream 15 miles from Miami; this is the fastest current yet reported.