

## Questions

**ANIMAL HUSBANDRY**—How can calves be made to produce good meat on scanty diet? p. 258.

• • •

**ARCHAEOLOGY**—What new method has been developed for dating archaeological finds? p. 265.

• • •

**ENGINEERING**—Why are heat pumps not practical for home heating now? p. 258.

• • •

**MEDICINE**—Why can't you take a pill for polio protection at present? p. 259.

• • •

**PHYSICS**—How good a memory has barium titanate? p. 264.

How is the shortage of selenium being relieved? p. 261.

What data have been obtained at 40 miles above the top of the world? p. 263.

What speed is reached by particles in the new 60-inch cyclotron? p. 264.

• • •

Photographs: Cover, Argonne National Laboratory; p. 258, Dravo Corporation; p. 259, U. S. Army; p. 263, U. S. Navy; p. 272, Bakelite Company.

### TECHNOLOGY

## Bolivian Tin Smelter

➤ **AMERICA'S TIN** refinery in Texas, a war-time project sponsored by the federal government, may find itself without ore to handle in the relatively near future.

Built to refine concentrates from Bolivian mines, the refinery now faces a loss of its raw materials with a recent decision of Bolivia to construct a refinery in that country.

If there are any important tin deposits in the United States, they are well hidden and so far have escaped detection. A few tons a year are all that are produced in the United States, while 100 tons a year are produced in Alaska. This country, which consumes about one-half the tin mined in the world, needs approximately 70,000 tons of new tin annually.

Bolivia has the only large deposits of tin yet discovered in the western hemisphere. Principal tin producers of the world are Malaya and other Far East countries. The Belgian Congo and Nigeria, Africa, produce much lesser amounts.

Shipping lanes from these distant countries, however, could be easily cut by an active enemy in another world war, if one should come, and the United States would

be forced to rely largely on Bolivia for a metal that plays a big part in any defense program.

In September, 1952, Bolivia took two notable and unprecedented steps relative to its tin industry, a bulletin from the Malayan Tin Bureau states. These steps, it says, are the Bolivian government announcement that it has decided to nationalize the country's three major tin-mining companies, and that it has signed an agreement with an Argentine financial group for the construction of a smelter in Bolivia to produce 99.9% tin metal.

In nationalizing the mines, the government is hoping for a solution to the many political, social, economic and physical difficulties now faced by the Bolivian tin-mining industry.

The ore is found high in the Andes at altitudes where work is difficult. Again, the ore is in irregular veins and is recovered only by underground mining. The ores are complex and present difficult problems in reduction. Transportation is difficult and costly because of the mountainous terrain and the lack of railways or highways.

Science News Letter, October 25, 1952

### DENTISTRY

## Straightening Teeth Diet

➤ **SPECIAL RULES** on diet and tooth-brushing for the child or grown-up who is wearing appliances to have his teeth straightened have been set forth by Dr. Sidney I. Kohn of Jersey City, N. J.

Absolutely no sweets or starches should be eaten during the first two weeks after the appliances are put in. The no-sweets rule applies during the second two weeks also, though some starches may be allowed then.

The reason for this rule, Dr. Kohn explained, is that bacteria that act upon carbohydrates—sugars and starches—to form tooth-destroying acid show a marked increase after insertion of appliances. When sugars and starches are omitted from the diet, there is a rapid reduction in the number of these bacteria.

Cakes, pies, pastries, cooked cereals, white bread, preserved fruit, flavored drinks, ice cream, creamed foods and candies should be avoided, particularly during the first two weeks the appliances are in the mouth, Dr. Kohn said.

Detergent foods—such as fresh fruits and vegetables—should be eaten at the end of meals by persons wearing appliances because these foods help remove the carbohydrates in food debris that can accumulate around appliances.

The teeth should be brushed regularly and carefully after meals to remove the remaining food debris around appliances.

These present difficulties in tooth brushing. Neither the type of brushing nor the type of brush usually recommended is satisfactory. Patients wearing appliances should be taught to use the tufts at the end of the brush to clean bands, wires, attachments and enamel.

Dr. Kohn recommended that toothbrushes with bristles of equal length should be trimmed so that the bristles create a plane, inclining from the end of the brush toward the handle. The bristles nearest the handle are shortest, about half their original height, while those at the extreme end retain their original length. This type of brush permits the patient to use the end tufts for cleaning the teeth and appliances, and the full length for supporting structures of the teeth.

Science News Letter, October 25, 1952

### BIOCHEMISTRY

## Two Pituitary Hormones Separated for First Time

➤ **TWO HORMONES** from the pituitary gland, oxytocin and vasopressin, have been isolated in highly pure form and, for the first time, separated from each other, Dr. Vincent du Vigneaud of Cornell University, New York, announced at the symposium on the occasion of the opening of the biochemistry and virus laboratory of the Uni-

NOW IT'S EASY!

## LEARN ANOTHER LANGUAGE

IN YOUR OWN HOME

with **NATIVE SPEAKERS**

Yes, you too can learn to speak a foreign language like a native—faster, more easily than you ever dreamed possible—with the amazingly successful books and records originally developed for the U. S. Govt. and State Dept. Already used and endorsed by thousands of schools and colleges, business firms and home students!

**DOUBLE TRAVEL ENJOYMENT AND CAREER OPPORTUNITIES!**

The **HOLT SPOKEN LANGUAGE** Courses start you speaking immediately—with accurate pronunciation, natural inflection. You simply listen to native speakers—and then repeat, building your command of the language from simple practical phrases to fluent and natural conversations. You learn to speak like a native with a native!

**WRITE FOR FREE BOOKLET** and discover how you, too, can learn a foreign language easily at a fraction of the cost you would pay for a tutor or language class.

On  
**Long-Playing  
or 78 RPM  
Vinylite  
Records**

- **FRENCH**
- **SPANISH**
- **ITALIAN**
- **GERMAN**
- **RUSSIAN**

or any one of  
**21 valuable  
languages**



### HOLT SPOKEN LANGUAGE COURSES

**HENRY HOLT & CO., Dept. XX**  
383 Madison Ave., New York 17, N. Y.

Please send me, without obligation, the free illustrated booklet describing the famous Holt Spoken Language Courses.

Name .....

Address .....

City, Zone, State.....