



"EXTINCT" FISH FOUND IN 1939

Almost like finding a live dinosaur was the discovery of this strange fish, captured early in the year off the eastern coast of South Africa. It belongs to a family supposed to have been extinct for millions of years. It is now the prize possession of the East London, S. A., museum, whose curator, Miss Courtney Latimer, has been made its scientific godmother: its generic name is *Latimeria*.

PHYSICS

Powerful Electron Microscope Magnifies 12,700 Diameters

Photographs Taken With New Toronto Instrument
Are Further Enlarged by Photomicrography to 180,000

WHAT is believed to be the world's most powerful microscope, capable of magnification of 12,700 diameters, has been developed at the University of Toronto by Drs. E. F. Burton, J. Hillier and A. Prebus. (*Physical Review*, Dec. 1)

The Toronto apparatus is an electron microscope in which high speed electrons fly down a large vacuum tube, penetrate thin layers of the material being examined and then fall on a photographic plate. Pictures of what colloidal gold looks like at a magnification of 12,700 diameters are shown in the scientists' report. To make the pictures suitable for magazine reproduction they are enlarged still further, by photomicrography, until the total magnification amounts to 180,000 diameters.

This additional enlargement is not the crucial magnification of the instrument, determined by its resolving power which amounts to 60 Angstroms, or 0.00006 of a millimeter.

The best previously reported resolutions of electron microscopes have come from Germany claiming resolution of 0.00001 of a millimeter.

Most powerful microscope of the ordi-

nary optical type is that announced in 1938 by Drs. E. C. Dane, Jr., and L. C. Graton of Harvard University which—while capable of total magnification of 50,000—had a limit of resolution of 6,000 diameters. The new Toronto electron microscope exceeds this magnification by over 2.5.

Dr. V. K. Zworykin, scientist of the Radio Corporation of America and authority on the construction of electron devices, has placed the theoretical resolving power of electron microscopes at 0.000001 of a millimeter. Thus the Toronto apparatus is only six times above this limit.

Science News Letter, December 23, 1939

MEDICINE

New Syphilis Medicine To Be Taken in Pills

A NEW syphilis medicine which can be taken in pills has been developed by Dr. Paul J. Hanzlik and assistants of Stanford University School of Medicine.

Success with exacting trials of the drug for over four years, in syphilis

clinics in San Francisco, Los Angeles, Cleveland, and Philadelphia, was announced recently. At the same time the American Medical Association in Chicago announced that its council on pharmacy and chemistry has accepted the new medicine as an anti-syphilitic agent.

Sobisminol is the name of the new syphilis medicine. It is a bismuth compound. Its great advantage is that it can be taken in pills, or capsules, at home, thus cutting down the number of visits to clinic or doctor's office and, of course, making unnecessary the hypodermic injections of bismuth which have been part of syphilis treatment.

The new medicine, however, is not a short-cut to a syphilis cure. It must be taken in combination with injections of arsphenamine or one of the other arsenical compounds. The total course of treatment still takes nearly two years, made up of alternating periods of six to 10 weeks of weekly arsphenamine injections and 10 to 20 weeks of taking the sobisminol capsules.

The new medicine will be sold on a physician's prescription only. Bismuth, the active ingredient, is a poison which is not safe for patients to prescribe for themselves. The new medicine is protected by patent held by Stanford University and the licensing agreements already made with three drug manufacturing firms restrict the sale of the drug without prescription and also forbid its exploitation to laymen by newspaper advertising, radio, or window displays. Royalties will be used for further research in syphilis and related problems.

Sobisminol is said to produce quite prompt healing of syphilitic lesions and to have a killing effect on syphilis germs

● RADIO

"Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, will be augmented with special programs due to the many scientific meetings during the Christmas season.

Monday, Dec. 25, 4:30 p. m. EST, Watson Davis will present the highlights of the year in science, speaking from Washington.

Tuesday, Dec. 26, 6:15 p. m. EST, Dr. Wesley C. Mitchell, retiring president of the American Association for the Advancement of Science, will discuss public relations of science. Introduction by Dr. Walter B. Cannon, president. From Columbus.

Friday, Dec. 29, 4:00 p. m. EST, Dr. F. R. Moulton, permanent secretary, A.A.A.S., will join with Watson Davis in interviewing leading scientists attending the A.A.A.S. meeting. From Columbus.

Monday, Jan. 1, 4:30 p. m. EST, Watson Davis, director of Science Service will forecast advances of science for 1940. From Washington.

Listen in on your local station. Regular programs will continue each Monday, 4:30 p. m. EST, 3:30 CST, 2:30 MST, 1:30 PST.