

Do You Know?

A living evidence of fishy ancestors is the fact that *frog* eggs hatch out into tadpoles with fins, tail and gills which in a few weeks become full-lunged, terrestrial, carnivorous quadrupeds.

Rayon laminated *plastics*, consisting of a number of layers of resin-treated fabrics pressed together into a compact plate or molded article, are used for cabinets, table tops, trays, machine parts and household utensils.

Concrete *floors*, made of standard mixtures to which about 3% of asphalt emulsion has been added, have a shock-absorbing elasticity that makes them easy on the users and does not decrease strength or durability.

Helium, the noncombustible gas used in American blimps and balloons, is now usable for aluminum welding by the so-called helium-shielded arc method used in magnesium welding, thanks to a new development.

OCEANOGRAPHY

Dust Makes Ocean Blue

New explanation of old question was found in research on light in submarine warfare. Dust particles reflect sunlight to water surface.

► WHY IS the ocean blue? A new answer to this age-old question has been found in a newly reported research attempt to use light rays in anti-submarine warfare.

In attempting to find ways of combating German submarines, two American scientists discovered that there exist in every cubic inch of clear ocean water about a million and a half dust-like particles, each about one fifty-thousandth of an inch in diameter.

These particles reflect sunlight back to the ocean surface. But the light that gets back to the surface has been filtered; water absorbs the red and yellow colors of light, leaving greens, blues and violets, the combination of which is the indigo blue common to deep ocean water.

Previously the scientific explanation for this color had been attributed to the scattering by molecules of water, just as the blue of the sky is explained by scattering due to air molecules. Less scientific explanations held that the ocean's color was a reflection of the blue sky.

The scientists, Dr. F. A. Jenkins, professor of physics at the University of California, and Dr. I. S. Bowen, now director of the Mount Wilson Observatory, conducted the research in 1941 at the U. S. Navy Electronics Laboratory in San Diego, using some of the facilities of the University of California's Scripps Institution of Oceanography.

Drs. Jenkins and Bowen found that the tiny particles played a major role in blocking their efforts to devise anti-submarine devices using light.

They found, for example, that the billions of particles suspended in the ocean, intercepting light as it passes through water, set a limit of penetration of a ray of light at a maximum of 580 feet. This limitation eliminated hopes of silhouetting submarines by dropping airplane flares below them, since it was impractical below about 200 feet.

Scattering of light by the particles also prevented bouncing light rays off submarines, similar to the use of radio waves in radar.

The same limitation was found in at-

tempts to devise an optical proximity fuze for depth charges by installing a light projector in the nose of the projectile.

Drs. Jenkins and Bowen discovered and counted the tiny particles with an ultra-microscope, which makes it possible to see objects smaller than light waves. Light is scattered by the particles, bringing them into visibility.

Dr. Jenkins said, in explanation of colors such as green, light blue, and red near shore in shallow water, that it must be assumed some colored materials are in the water. These colored materials could include microscopic marine life.

Where non-indigo colors are found in deep water, such as the reddish brown of the Red Sea, the Gulf of California, and the green in waters such as Lake Tahoe, the explanation can be almost entirely attributed to animal and plant life.

Science News Letter, March 1, 1947

Listen to this Record!



SPEAK SPANISH
FRENCH, GERMAN, OR ITALIAN

BIG OPPORTUNITIES awaiting Americans who speak SPANISH. Learn as a child—"by listening" to these new CORTINA recordings.

Only 15 Minutes a Day



The CORTINAPHONE METHOD famous FOR 60 YEARS teaches you to speak SPANISH LIKE A NATIVE—right at home, relaxed and at ease. THOUSANDS have found it the most fascinating method. Quick, easy way to learn SPANISH for PLEASURE and BUSINESS. Investigate!

Sent on 5 Days Approval

"The Cortina Short-Cut"—tells just what you want to know. Interesting. Get it!

Write Today--NOW

CORTINA ACADEMY (Language Specialists for 60 Years)
 Suite 602D, 105 W. 40th St., New York 18, N. Y.
 Please send me—without obligation—your free booklet, "The Cortina Short-Cut." I am interested in (mark):
 SPANISH French Italian German
 Name,
 Address



LANGUAGE IS POWER

... Forge ahead, win special assignments, promotion, better job in global peace time opportunities through ability to speak a foreign language.

MASTER A NEW LANGUAGE quickly, easily, correctly by LINGUAPHONE

The world-famous Linguaphone Conversational Method brings voices of native teachers INTO YOUR OWN HOME. You learn the new language by LISTENING. It's amazingly simple; thousands have succeeded

HOME-STUDY COURSES IN 29 LANGUAGES

Available to Veterans under G I BILL OF RIGHTS

Send for FREE book—
LINGUAPHONE INSTITUTE
 31 RCA Bldg., New York 20 • Circle 7-0830

LINGUAPHONE INSTITUTE,
 31 RCA Bldg., New York 20, N. Y.
 Send me the FREE Linguaphone Book.

Name.....
 Address..... City.....
 Language Interested.....

