

cil. He plans to return to research work in physiology, a field of endeavor that has won him international honors. Dr. Howell will continue as chairman of the executive committee of Science Service.

As a geographer, Dr. Bowman has conducted researches in various parts of the world and he was recently elected president of the International Geographical Congress. Under his guidance the American Geographical Society has greatly promoted fundamental research in geography and cartography.

Adding to his many other honors, Dr. William H. Welch of the Johns Hopkins University, known as the "dean of American medicine" has been elected honorary vice-chairman of the National Research Council, an office that has just been created.

Science News Letter, June 24, 1933

PUBLIC HEALTH

Long Preparation Planned For Future Specialists

IMPORTANT to the public needing special treatment for diseases of the nose and throat, the eyes, or other parts of the body are plans discussed at the meeting of the American Medical Association in Milwaukee for regulating more closely the practice of the special branches of medicine. In the future, a physician will not be able to set himself up as a specialist on his own statement. Instead he will be required to take special training for several years and to pass examinations in order to qualify as a specialist, if the plans now under discussion are carried out.

Science News Letter, June 24, 1933

THE METROPOLITAN MUSEUM OF ART

Ultra-Violet Rays

By James J. Rorimer

\$2.00 in paper; \$2 50 in cloth

The Restoration of Ancient Bronzes

By Colin G. Fink and Charles H. Eldridge

50 cents

The Decoration of the Tomb of Per-nēb

By Caroline Ransom Williams

\$8.00

For a list of all the publications of the Museum, write to The Secretary, Fifth Avenue and 82nd Street, New York, New York.

BIOCHEMISTRY

Sea Water Nitrates Increased By Unknown "Something"

THERE seems to be something in sea water, something that may not be alive, which nevertheless can change ammonia into nitrate when sunlight shines upon it.

This discovery, highly important in its bearing on the understanding of both "pure" marine biology and such practical applications as fisheries problems, is announced in *Science* by C. E. ZoBell of the Scripps Institution of Oceanography.

Nitrates are necessary for the growth of plants, both in the sea and on land. On land, there are groups of soil bacteria that attend to the conversion of other nitrogen-containing compounds into nitrates, making them available for plant use. But such bacteria have never been found in the sea, and when Mr. ZoBell checked up on the work of previous investigators he also was unable to demonstrate their existence. Even when he purposely planted nitrifying bacteria in sea water and gave them the most favorable food and temperature conditions, they all died. There remains, of course, the possibility that there are other kinds of nitrifying bacteria in the sea that have not yet been detected; but this is necessarily only a conjecture.

Yet the nitrifying process goes on in

the sea. Mr. ZoBell was able to prove, by chemical tests, that sea water changed ammonium salts into nitrates when sunlight shown upon it, though it did not do so in the dark. Passed through a fine-pored filter to strain out all bacteria, sea water still possessed this nitrifying power under sunlight. But sea water heated in an autoclave under steam pressure no longer formed nitrates. Neither did artificial sea water, synthesized out of distilled water and appropriate quantities of various salts.

Exposure to radiation from a mercury arc, rich in ultraviolet rays, speeded up the nitrifying power of sea water very much. Under such radiation as much ammonium was changed into nitrate in two hours as could be produced in two weeks under natural sunlight.

What is the mysterious stuff in sea water that does the work of nitrifying bacteria for the plants of the sea? Mr. ZoBell does not say. But he is continuing his researches.

Science News Letter, June 24, 1933

A kind of slate called basanite is the "touchstone" used to test the purity of gold: the amount of alloy is shown by rubbing the metal against the basanite and noting the color on the stone.

POPULATION

Native White Birthrate Now Constant in Parts of Country

THE DECLINE in the number of children borne by native white women of the United States, which has so concerned those interested in population trends, seems to have struck bottom in some sections of the country.

In northern New England and rural New York the ratio of children to married native white women of child-bearing age has remained practically constant during the past thirty years, even after allowance is made statistically for those classified as "native" who are of foreign or mixed parentage. And this constant ratio is contrasted with a sharp decline

in child-bearing or "natality" in most parts of the country. The most rapid decline in recent years has occurred in the South and Rocky Mountain states where birth rates are still very high.

These facts and the suggestion that the native-white population of the United States seems to be reaching a fair degree of stabilization are contained in a report by Dr. Frank Lorimer, of the Eugenics Research Association. This report will appear in full in the July issue of the Milbank Memorial Fund *Quarterly Bulletin*.

Science News Letter, June 24, 1933