the 615,922 soldiers held prisoners of war in other lands, and the 4,207,023 wounded. The dead numbered 1,676,696, and the missing most of whom are presumably dead, 373,770, a total of 2,000,000 killed in the war.

UNIVERSITY AND EDUCATIONAL NEWS

THE will of General Horace W. Carpentier has now been filed. The estate is valued at $3,606,000. The principal beneficiaries are Columbia University and Barnard College, each of which receives $1,420,000. Other beneficiaries include the Presbyterian Hospital, $200,000; Sloan Hospital, $200,000, and the University of California, $100,000.

BY the will of the late Charles W. Lenney, of New York, $50,000 is left to Boston University.

MR. ARTHUR BALFOUR has been nominated for election as chancellor of Cambridge University, in succession to his brother-in-law, the late Lord Rayleigh.

COLORADO COLLEGE has again opened its forestry school, which was closed for two years because of the war. Mr. J. Gordon Parker has been appointed assistant professor of forestry in charge of the school.

A NEW department of physiological chemistry has recently been established at the University of Kansas. Dr. C. Ferdinand Nelson has been elected professor of biological chemistry and head of department.

AT Yale University Arthur Phillips, M.S., has been appointed assistant professor of metallurgy; in the Sheffield Scientific School; James Albert Honeij, M.D., at present assistant professor, professor of clinical medicine in charge of radiology, and Wilder Tileston, M.D., at present assistant professor of medicine, professor of clinical medicine.

DR. C. W. HEWLETT, professor of physics in the North Carolina College for Women, Greensboro, N. C., has been appointed assistant professor of physics at the University of Iowa.

RECENT appointments in the medical school of Loyola University, Chicago, are as follows: S. A. Matthews, M.D., professor and head of the department of physiology, pharmacology and therapeutics; A. C. Ivy, A.M., Ph.D., formerly instructor in physiology at the University of Chicago, associate professor in physiology; E. S. Maxwell, formerly instructor in pathology at Vanderbilt University and more recently first lieutenant in the U. S. Medical Corps, associate professor in bacteriology and pathology.

DR. HARRISON R. HUNT has resigned as assistant professor of zoology at West Virginia University to become head of the department of biology at the University of Mississippi, Oxford, Mississippi.

DR. J. W. SHIPLEY, professor of chemistry in the Manitoba Agricultural College, has resigned his position in order to accept an appointment as assistant professor in chemistry in the University of Manitoba.

DISCUSSION AND CORRESPONDENCE

THE RIGIDITY OF THE EARTH

TO THE EDITOR OF SCIENCE: An account of an experiment to determine the rigidity of the earth was published in *The Astrophysical Journal* and in *The Journal of Geology*, March, 1914 and in SCIENCE, June 26, 1914. This gave the ratios of the amplitudes of tides observed in N.–S. and E.–W. pipes to the amplitudes computed for the same pipes on the assumption of a perfectly rigid earth, as .523 and .710 respectively.

The work of reducing a new set of automatically recorded observations made by an interference method, which was interrupted by the war, was recently resumed, and it was found that the N.–S. and E.–W. ratios were very nearly equal to each other.

It was then noted that $\frac{.523}{.710} = .7366$ and that the cosine of the latitude of Yerkes Observatory, where the experiment was performed, is .7363. It seemed highly probable therefore that $\cos\phi$ had been introduced erroneously into the computed formula far the N.–S. tides.

We have just been informed by Professor

Moulton that he has gone over the old formulæ used and has found that the computer introduced the factor $\cos\phi$ erroneously into the N.–S. computation.

The N.–S. ratio should therefore have been $\frac{.523}{.7363} = .710$, which oddly enough is exactly equal to the E.–W. ratio.

The new observations point to a value of about .69 for both E.–W. and N.–S. ratios.

A. A. Michelson,
Henry G. Gale

The University of Chicago,
September 10, 1919

AN UNUSUAL MIRAGE

Most people are probably familiar with the type of mirage often seen over paved streets on still hot days. In its simplest and most common form one appears to see merely a wetted portion of the pavement some distance ahead. In more striking cases this assumes the appearance of a pool of water in which buildings, trees and vehicles are seen reflected. As is well known this is due to the presence just above the pavement of a layer of air which being warmer than that above it is lighter and hence has a lower index of refraction than the air a little distance from the surface of the earth. These mirages are oftenest seen in mid-afternoon, and when motoring through the country such a pool often appears to continually recede and thus remains in sight for a long time. Recently while traveling from San Francisco to Portland with Professor W. C. Morgan we encountered such a mirage under rather unusual conditions.

The section of the Pacific Highway which traverses the Sacramento valley being paved with cement and under a hot sun is an ideal place for such mirages which had been visible much of the afternoon. Just after dusk (about nine o'clock) a car with powerful lights came over a slight rise a mile or so ahead. A moment later the lights of a second car appeared some distance in front of the first as though the driver had just turned them on. These lights were about half as brilliant as those of the first car and the impression was that two cars were approaching—a small one followed by a larger one. The large car was seen to gradually overtake the small one until finally the two sets of lights coalesced and a minute later we met and passed—a single car. "I thought there were two of them," said Dr. Morgan. So did I. We had seen a mirage at night.

A. A. Knowlton

Reed College

QUOTATIONS

THE ROCKEFELLER FOUNDATION

A review of the work of the Rochefeller Foundation in various countries during 1918 by the president, Mr. George E. Vincent, shows that its activities extended literally from China to Peru. The foundation has shown practical interest in advanced medical education in hygiene in two ways. In the first place it has by gifts for building, equipment, and maintenance, rendered possible the opening last October of the school of hygiene and public health at Johns Hopkins University in Baltimore. In the second place it has, since 1915, followed the policy of granting a number of international fellowships and scholarships to students from foreign countries and American missionaries at home on leave. In 1918 there were 68 fellowships and scholarships distributed as follows: Brazilian physicians 3, Chinese graduate physicians 11, Chinese undergraduate medical students (formerly students of the Harvard Medical School of China) 10, Chinese pharmacists 3, Chinese nurses 6, medical missionaries on furlough 26, candidates under consideration for the new schools at Peking and Shanghai 9. The International Health Board has adopted a system of "study leave," by which members of its staff of medical officers, now nearly 60 in number, may, under favorable conditions of salary, pursue at the expense of the board special courses in public health at leading American or foreign institutions. In this way the equivalent of additional graduate fellowships has been created. Provision was also made for the bringing to the United States French medical men for special train-