Building operations will begin early in 1915 and the dome should be ready for the telescope in the fall of that year. Word has been received that the 72-inch disc for the mirror has been successfully cast and annealed at St. Gobain, and work on its grinding and polishing will shortly be commenced. The design of the mounting, which has many new features, and will undoubtedly be better and more convenient in operation than any hitherto made, is practically completed and construction work on the heavy steel castings required has been begun. It is hoped, therefore, that the telescope will be mounted and ready for operation by the end of next year.

SCIENTIFIC NOTES AND NEWS

A REPLICA of the bust of Louis Pasteur by Dubois has been presented to the American Museum of Natural History for installation in the hall of public health, through the generosity of Dr. Roux, director of the Pasteur Institute in Paris and M. Vallery-Radot, son-in-law of M. Pasteur.

DR. CHARLES W. ELIOT, president emeritus of Harvard University, has been elected a corresponding fellow of the British Academy.

THE Canadian government has appointed Mr. James White to be assistant chairman of the Commission of Conservation, and Dr. C. Gordon Hewitt, dominion entomologist, to be Canadian representative on the permanent committee of the "International Conference for the Global Protection of Nature."

MR. JAMES BARNES, of the Barnes-Kearton expedition, which crossed Central Africa under the auspices of the American Museum, has returned to New York, bringing with him a series of motion-picture films. Mr. Barnes will give an exhibition of these films to the members of the museum in the fall.

THE Royal Institute of Public Health, in pursuance of the terms of a trust which enables it to award annually a gold medal to a public health medical official, at home or abroad, in recognition of conspicuous services rendered to the cause of preventive medicine within the British empire, has conferred the medal for 1914 upon Mr. James Niven, medical officer of health for Manchester.

WE learn from *Nature* that the honorary freedom of Newcastle-on-Tyne was conferred on Hon. Sir C. A. Parsons on July 10 in recognition of his achievements in science, particularly as the inventor of the steam turbine. It had been decided to confer a similar honor on Sir Joseph W. Swan, but he has since died. The symbols of the freedom—a scroll and casket—have, however, been presented to a representative of his family.

SIR JOHN TWEEDY, formerly president of the Royal College of Surgeons of England, has been elected president of the Medical Defence Union, in the room of Dr. Edgar Barnes.

V. I. SAFRO (Cornell, '09), formerly of the U. S. Bureau of Entomology and the Oregon Agricultural College, has been appointed entomologist with the Kentucky Tobacco Product Company, of Louisville, Kentucky.

THE following list of members of the Imperial Transantarctic Expedition is given in *Nature: Weddell Sea Party*—Sir Ernest H. Shackleton, leader of the expedition; Mr. Frank Wild, second in command; Mr. G. Marston, Mr. T. Crean, Captain Orde Lees, Lieutenant F. Dobbs, Lieutenant Courtney Brocklehurst, Mr. J. Wordie, geologist; Mr. R. W. James, physicist and magnetician; Mr. L. H. Hussey, assistant magnetician and meteorologist; Mr. F. Hurley, photographer and kinematographer; Mr. V. Studd, geologist; Lieutenant F. A. Worsley, in navigating command of the *Endurance* on the voyage from London to Buenos Aires and the Weddell Sea, and afterwards to take part in the surveying and exploring of the coast; Mr. Jeffreys, Mr. Hudson and Mr. A. Cheetham. *Ross Sea Party*—Lieutenant Aeneas Mackintosh, leader and meteorologist; Mr. E. Joyce, zoologist; Mr. H. Ninnis; Mr. H. Wild, and Dr. Macklin, surgeon. There only remain two vacancies, and these are to be filled by another doctor and a biologist. The arrangements for the Ross Sea ship *Aurora* are not yet quite

complete, but the *Endurance,* with the Weddell Sea party, has now sailed.

A BILL to extend the thanks of congress to the engineering members of the Isthmian Canal Commission has been reported to the House with a favorable recommendation by the Military Affairs Committee. The men who would receive this honor are Colonel George W. Goethals, General William C. Gorgas, Colonel H. F. Hodges, Lieutenant Colonel William L. Sibert and Civil Engineer H. H. Rousseau. The bill authorizes the president to advance Colonel Goethals and General Gorgas to the rank of Major General, the former of the line and the latter of the medical department. It is provided also that the president may, upon the retirement of Colonel Hodges, Lieutenant Colonel Sibert and Civil Engineer Rousseau, advance each of these officers one grade on the retired list.

SIR CLEMENTS MARKHAM has unveiled at Cheltenham a statue of Dr. Edward Adrian Wilson, who was born in that town, and perished with Captain Scott on the great ice barrier in March, 1912. The statue was designed by Lady Scott.

PROFESSOR FRANCIS HUMPHREYS STORRER, from 1865 to 1870 professor of chemistry in the Massachusetts Institute of Technology and, from 1870 to his retirement as emeritus professor in 1907, professor of agricultural chemistry at Harvard University, has died at the age of eighty-two years.

THE Rev. Horace Carter Hovey, fellow of the Geological Society of America and of the American Association for the Advancement of Science, known especially for his publications on caverns and subterreanean fauna and flora, died at his home at Newburyport, Mass., on August 27, in his eighty-second year.

DR. FREDERIC LAWRENCE KORTRIGHT, B.S. (Cornell, '90), Sc.D. (Cornell, '95), instructor in chemistry at Cornell University from 1892 to 1899, and subsequently assistant professor and professor at the University of West Virginia, author of contributions on the rare earths, citric acid, silica and other chemical subjects, died on July 13, at the age of forty-seven years.

PROFESSOR FRANKLIN WILLIAM HOOPER, director of the Brooklyn Institute of Arts and Sciences, the author of contributions on algæ and glacial geology, died on August 1 at the age of sixty-three years.

THE Rev. Osmond Fisher, at one time tutor of Jesus College, Cambridge, known for his important contributions to geology, died on July 12, at the age of ninety-six years.

THE death is announced, in his sixty-sixth year, of Sir Christopher Nixon, ex-president of the Royal College of Physicians of Ireland, and Vice-Chancellor of the National University of Ireland.

PROFESSOR PAUL RECLUS, the distinguished Paris surgeon, died on July 29, in his sixty-eighth year.

THE U. S. Civil Service Commission announces an examination for plant physiologist, experienced in plant metabolism, for men only, to fill a vacancy in the Bureau of Plant Industry, Department of Agriculture, at a salary of $3,000 a year. A Ph.D. or D.Sc. degree from a college or university of recognized standing, and at least five years' experience in plant physiology since receiving the bachelor's degree, are prerequisites for consideration for this position. Applicants must have reached their twenty-fifth but not their forty-fifth birthday on the date of examination.

THE Royal Agricultural Society of England is offering a medal for a monograph or essay, which has not been previously published, giving evidence of original research in any agricultural subject or any of the cognate agricultural sciences applicable to British farming.

THE German Paleontological Society is to hold its annual meeting this year in London at the British Museum of Natural History on September 2 to 5. On September 5 and 6 the members will visit Oxford, and on September

7, Cambridge. The society now has 210 members, of whom 19 are Americans.

The eighty-second annual meeting of the British Medical Association was held at Aberdeen on July 28, 29, 30 and 31, under the presidency of Sir Alexander Ogston. The address in medicine was given by Dr. A. E. Garrod, and that in surgery by Sir John Bland-Sutton. Professor J. Arthur Thomson delivered the popular lecture. Sixteen scientific sections were arranged as follows: Anatomy and physiology; dermatology and syphilology; diseases of children, including orthopædics; electro-therapeutics and radiology; gynæcology and obstetrics; laryngology, rhinology and otology; medical sociology; medicine; naval and military medicine and surgery; neurology and psychological medicine; ophthalmology; pathology and bacteriology; pharmacology; therapeutics and dietetics; state medicine and medical jurisprudence; surgery; tropical medicine.

The selection committee for the Captain Scott Memorial in London has unanimously chosen the design submitted by Mr. Albert H. Hodge. The London *Times* gives the following description of the plan of the Antarctic Monument: "A granite pylon is surmounted by a bronze group representing Courage sustained by Patriotism, spurning Fear, Despair and Death, the figure Courage being crowned by Immortality. Below the group the words 'For King,' 'For Country,' 'For Brotherly Love,' and 'For Knowledge' are inscribed. The front of the pylon bears the names of the five heroes, whose portrait medallions in bronze occupy the most prominent position on the monument. The medallions are brought into relationship by a broad band of laurel leaves. On the back of the monument is placed a trophy composed of a pair of snow shoes, a replica of the cross erected on Observation Hill, and a wreath—relics of the journey. Beneath are Scott's words: 'Had we lived, I should have had a tale to tell of the hardihood, endurance and courage of my companions, which would have stirred the heart of every Englishman.' Forming a base to the pylon is a podium, on the four sides of which are placed bronze relief panels depicting the Expedition. The subjects for these panels are taken from the inscription at Observation Hill: 'To strive' (showing the difficulties surmounted on the journey); 'To seek' (showing the start for the pole); 'To find' (showing the party at the pole); 'And not to yield' (showing the tent covered with snow—the last resting-place of the heroes). The whole monument is placed within a square raised upon steps, the total height being about 37 feet."

The Geological Survey has been issuing its final statistics of the 1913 mineral production which confirms in detail the preliminary estimates issued early in January for the principal minerals. In the large majority of cases these figures tell in one way or another the same story of industrial prosperity. In coal production the increase has been general, and it is this very fact that serves as an unmistakable index of general health in the industrial world. But as state after state is shown to have had its banner coal year—West Virginia, Illinois, Ohio, Kentucky, Alabama, Virginia, Oklahoma, New Mexico, Montana, Texas, Utah and Pennsylvania in both bituminous and anthracite, the record becomes spectacular. Ohio for instance had its floods, yet there was a substantial 6 per cent. increase in coal output, and the miners averaged more working days in 1913 than in 1912. Twelve other states showed increases varying from 3 per cent. in Iowa to 12 per cent. in Indiana and over 15 per cent. in Washington, and only Colorado, Maryland, North Dakota, Nevada, Idaho and Missouri show decreased output, the Colorado labor troubles explaining the only significant decrease. In a similar way, the figures of coke production give large increases, and coke, it may be noted, is a step nearer the metal industry. Petroleum production in 1913 exceeded all records, an increase of 25 million barrels and 72 million dollars over the 1912 returns. In metal mining, the iron and zinc mines had a banner year, while gold, silver, lead and copper showed a decline in many of the largest producing states. Structural materials on the other hand exhibit

marked gains almost without exception. Thus 1913 was the banner year for cement, which gains more than 11 per cent. over 1912, and record outputs are also shown for lime, building sand and gravel, sand-lime brick and glass sand. Other mineral products for which 1913 was a record-breaking year, are bauxite and aluminum, sulphuric acid, feldspar, mica, pottery, and talc and soapstone, while substantial increases are reported for gypsum, phosphate rock, abrasives, barytes, slate and salt. These production figures all express well-maintained activity in mines, smelter, furnace and mill, and prove that the American people are utilizing more of the nation's great natural resources than ever before. A few weeks later when figures are at hand for all of the mineral products, it is expected that 1913 will be found to have overtopped both 1912 and 1907 which have hitherto held the record.

UNIVERSITY AND EDUCATIONAL NEWS

MR. ASA G. CHANDLER has given $1,000,000 and citizens of Atlanta have guaranteed $500,000 for the establishment of an Atlanta University, under the auspices of the Methodist Church. It is said that a theological school will be the first to be opened.

BOWDOIN COLLEGE has received a gift of $15,000 from the estate of Dr. Frank Hartley, of New York, to establish a scholarship fund as a memorial to the testator's father, John Fairfield Hartley, of the class of 1829.

THE following changes take effect in the botanical department of the Michigan Agricultural College, September 1: Mr. E. F. Woodcock, of the botanical department of West Virginia University, has been appointed instructor in botany to succeed Dr. R. F. Allen, who has recently accepted a similar position at Wellesley. Professor H. T. Darlington, of Washington State College, has been appointed assistant professor of botany and will have especial charge of the botanical garden and herbarium. An industrial fellowship in cucumber diseases has been established by the H. J. Heinz Pickle Company, and is filled by Mr. S. P. Doolittle, who graduated from the institution this year.

IN the law department of Tulane University of Louisiana, Mr. C. P. Fenner, professor of Louisiana practise and acting professor of civil law, has been appointed dean of the department to succeed Mr. D. O. McGovney, who has been called to the University of Missouri.

DR. NATHAN FASTEN, Ph.D. (Wisconsin), has been appointed instructor in zoology at the University of Washington, Seattle.

MR. FREDERICK SODDY, lecturer in physical chemistry in the University of Glasgow, has been appointed to the chair of chemistry at the University of Aberdeen, in succession to Professor F. R. Japp.

PROFESSOR J. S. MACDONALD, professor of physiology in the University of Sheffield since 1903, has been appointed Holt professor of physiology in the University of Liverpool, in succession to Professor C. S. Sherrington.

MR. G. N. WATSON, M.A., fellow of Trinity College, Cambridge, has been appointed a member of the staff of the department of pure mathematics at University College, London, for the next year to fill the vacancy created by the resignation of Dr. A. N. Whitehead.

MR. T. B. JOHNSTON, M.B., lecturer on anatomy in the University of Edinburgh, has been appointed to the newly-created office of lecturer and demonstrator in anatomy at University College, London.

DISCUSSION AND CORRESPONDENCE

THE PROBLEM OF GRAVITY

TO THE EDITOR OF SCIENCE: Some recent public utterances from sources that command attention and respect in the scientific world as well as among the general public illustrate rather forcibly the crude and confused state of thought on this subject that continues to prevail up to the present day. These also suggest that the ordinary and obscure thinker need not be deterred from attempting a contribution that may possibly be helpful by the feeling of greatly superior attainments in this