

the execution of the mission of the empire, to the two warring camps of the capitalist class on the one hand and the social democracy on the other. The growth of industrial as against rural population means progress of these two powers. Hence higher duties on agricultural imports are required to maintain the balance of class power, capitalist, wage-class and agrarian. One may read here the effort of the privileged classes of German society to equalize more nearly these three economic classes as the three points which must determine the plane of well being of the privileged interests. The truth seems to be that Wagner's alarms are ill-founded. The landed gentry's estates, those of the 'gentleman farmer' who spends much of his time and substance away from his estates entrusted to second hands, comprise the weak spot in German agriculture. It is not protection so much as a deeper sense of economic responsibility, on the part of this class, that German agriculture needs. "The demonstration that the German peasantry can not exist with prices as they are is extremely specious. In some districts they may groan under hardships, but in others they do pretty well. Growing towns and increasing industrial districts furnish splendid markets for them; it is in the mainly agricultural and not in the mainly industrial districts that the agricultural population decreases. The tide of immigration is strongest where the big estates for the landed gentry and semi-feudal nobility prevail."

JOHN FRANKLIN CROWELL.

#### COOPERATION IN SOLAR RESEARCH.

At its last annual meeting, the National Academy of Sciences appointed a committee on solar research, consisting of George E. Hale, chairman, W. W. Campbell, S. P. Langley, A. A. Michelson and C. A. Young. At the invitation of this committee, various societies in Europe and the United States have appointed similar committees as follows:

*England*—*Committee of the Royal Society*: The president of the Royal Society (Sir William Huggins), the Astronomer Royal (Mr. W. H. M. Christie), Sir Norman Lockyer, Professor A. Schuster, Mr. H. F. Newall. *Committee of the*

*Royal Astronomical Society*: The president of the Royal Astronomical Society (Professor H. H. Turner), with others to be appointed. Professor Turner, with others not yet named, will represent the two societies at the conference of delegates.

*France*—*Committee of the Société Française de Physique*: M. Henri Poincaré, M. Charles Fabry, M. A. Perot, and others not yet named. The views of the French spectroscopists on the question of standard wave-lengths are being ascertained by the committee, and MM. Fabry and Perot have been requested to prepare a memoir on the subject for presentation to the conference of delegates, where the society will be represented by M. Poincaré and others.

*Germany*—*Committee of the Deutsche Physikalische Gesellschaft*: Professor Ebert, Kayser, Kreusler, Lummer, Pringsheim, Runge, Straubel, Wilsing. The names of delegates have not yet been announced. Professor Kayser is preparing a memoir for the conference on the subject of standard wave-lengths.

*Holland*—*Committee of the Royal Academy of Sciences, Amsterdam*: Professors Kapteyn and Julius. Professor Kapteyn will represent the academy at the conference of delegates.

*Italy*—*Committee of the Società degli Spettroscopisti Italiani*: Professor Tacchini, Professor Riccò, and others to be appointed. Professor Riccò will represent the society at the conference.

*Russia*—Director Backlund will probably attend the conference as the representative of Russia. Committees of the Russian societies will be appointed later.

*United States*—*Committee of the National Academy of Sciences*: Professor W. W. Campbell, George E. Hale, A. A. Michelson, S. P. Langley, C. A. Young. *Committee of the American Physical Society*: Professors J. S. Ames, Henry Crew, Percival Lewis, C. E. Mendenhall, E. F. Nichols. *Committee of the Astronomical and Astrophysical Society of America*: Professors E. B. Frost, C. G. Abbott, L. A. Bauer, C. D. Perrine, F. L. O. Wadsworth.

Other societies which were invited to appoint committees have not yet been heard from.

*Conference of Delegates*.—The conference of delegates will meet in St. Louis on Thursday, September 22, in conjunction with the International Congress of Arts and Science. Members of the committees who expect to attend the conference are requested to notify the undersigned.

The principal topics for discussion at the conference of delegates will probably include the following subjects: (1) Plans for cooperation in solar research, and the preparation of a general program of observations; (2) formation of an international committee to conduct this work; (3) adoption of a system of standard wave-lengths.

---

*INVITATION TO THE INTERNATIONAL CONGRESS OF ARTS AND SCIENCE.*

THE organizers of the congress, to be held at the universal exposition, St. Louis, on September 19-25, 1904, desire to invite the special attention of professors and men of science in the United States and Canada to the unexampled opportunity which it offers to meet and hear a great number of eminent men of learning. It is expected that more than three hundred eminent scholars of Europe and America will deliver discourses in the various departments and sections of the congress, and that several hundred shorter communications will be made by those present.

It is the desire of the directors of the fair and of all concerned in the organization that professors and instructors in our colleges and universities, and members of the learned professions generally, shall, so far as possible, do honor to our distinguished visitors by attending the congress. For this no fee is charged and no formality is necessary except enrolment on arrival. It is, however, desirable to apprise Mr. Howard J. Rogers, director of congresses, Universal Exposition, St. Louis, Mo., in advance, what departments of the congress one desires to attend. A program of its proceedings, with such other instructions as may be necessary, will be sent by Mr. Rogers on application.

NICHOLAS MURRAY BUTLER,

*Chairman of the Administrative Board.*

SIMON NEWCOMB,

*Chairman of the Organizing Committee.*

---

*SCIENTIFIC NOTES AND NEWS.*

THE nomination of Dr. George H. Darwin, Plumian professor of astronomy and experi-

mental philosophy at Cambridge, as president of the British Association for the Advancement of Science was confirmed by the general committee at the Cambridge meeting, and he will preside at the meeting to be held next year at South Africa. Dr. John Perry, professor of mechanics and mathematics at the Royal College of Science, London, was elected treasurer in succession to Professor Carey Foster. The association will meet in York in 1906. It held its first and its fiftieth meeting at York, and two years hence will celebrate its seventy-fifth anniversary.

ON the occasion of the meeting of the British Association at Cambridge the university conferred its doctorate of science on the following men of science: Johan Oskar Backlund, director of the Central Nicolas Observatory at Poulkovo; Henri Becquerel, professor of physics in the École Polytechnique, Paris; Julius Wilhelm Brühl, professor of chemistry in the University of Heidelberg; Adolf Engler, professor of botany in the University of Berlin; Paul Heinrich von Groth, professor of mineralogy in the University of Munich; Albrecht Kossel, professor of physiology in the University of Heidelberg; Henry F. Osborn, professor of zoology in Columbia University, New York; Nikolaas Gerard Pierson, sometime Prime Minister of the Kingdom of the Netherlands; Vito Volterra, professor of applied mathematics in the University of Rome; Sir David Gill, F.R.S., his Majesty's astronomer at the Cape of Good Hope; Alfred William Howitt; Sir Norman Lockyer, F.R.S., director of the Solar Physics Observatory, South Kensington; Major Percy Alexander MacMahon, F.R.S., late Royal Artillery, formerly professor of physics, Ordnance College, Woolwich; Sir William Ramsay, F.R.S., professor of chemistry, University College, London; Arthur Schuster, F.R.S., professor of physics in the Victoria University of Manchester; Sir William Turner Thiselton-Dyer, F.R.S., director of the Royal Botanic Garden, Kew.

THE Seventh International Zoological Congress will meet in Boston in 1907 under the presidency of Mr. Alexander Agassiz.