

unfortunate than war; but just settlements of wars would go far to prevent war.

The human race needs above everything else the conviction that the principles of science rule everywhere, and that the problems of personal and national life are not solved so long as any important forces are ignored. The need is especially great in our own country where isolation from other countries and the existence of immense reservoirs of natural resources have let us seem to keep up with international progress in spite of our wasteful and inefficient methods. It were well to recognize that entry upon world affairs, which we can not long avoid, will reveal costly weaknesses.

The appeal of science for the adoption of scientific methods in the daily life of the people, in the governments of community, state and nation, in the settling of international questions, is not an appeal for efficiency at all costs. The life that is forever bent over the exact equation, two plus two are four, a life that tries to express all its experiences in equations equally exact, is liable to be narrow, distorted, unhappy and misspent. The man who worships scientific efficiency, like the man who is a slave to gold, or the man who pushes his religion too far, may acquire a harsh and selfish view of life; pity and charity may drop out of his vocabulary.

Our appeal is for the scientific method of treating the problems which are before us for solution. The scientific method is that which takes account of all the forces acting. It is therefore the just method. It is in full harmony with the Golden Rule, "Do unto others as you would have others do unto you." It is, if you please, in full harmony with the spirit of Christ. Support is given to research by the governments and by generous men and women in order that the truth may be found and be made available in the service of mankind. The inves-

tigational laboratories of the universities, the observatories, the private institutions for research, have precisely these ideal purposes, and no other purpose. The various activities of the world contribute to the advancement of civilization in proportion as they contain the ideal and the unselfish. That which is purely practical, containing no element of idealism, may sustain existence and to that extent be valuable, but it does not civilize. I believe it is the idealism of pure knowledge, the idealism in applied knowledge, the idealism in industry and commerce, the idealism in literature and art, the idealism in personal religion, which leavens the life of the world and pushes forward the boundaries of civilization.

W. W. CAMPBELL

INDUSTRIAL ACCIDENT STATISTICS

THE United States Bureau of Labor Statistics of the Department of Labor has just issued as Bulletin 157 a report on *Industrial Accident Statistics* by Frederick L. Hoffman. The adoption of the principle of workmen's compensation by more than half of the states within the last few years emphasizes the importance of the industrial accident problem and foreshadows the time when such compensation for industrial accidents will become universal throughout the United States.

As one method of measuring this importance, the bulletin presents an estimate of the number of fatal and nonfatal industrial accidents occurring among American wage-earners in a single year. The conclusion reached is that the number of fatal industrial accidents among American wage-earners, including both sexes, may be conservatively estimated at 25,000, and the number of injuries involving a disability of more than four weeks, using the ratio of Austrian experience, at approximately 700,000. These numbers, impressive as they are, fail to indicate fully the number of industrial accidents, for such studies as have already been made show that of the accidents involving disabilities of one day and over at

least three fourths terminate during the first four weeks.

The industries which contribute the greatest number of fatal accidents are railroad employments and agricultural pursuits, each group being responsible for approximately 4,200 fatalities each year. Coal mining contributes more than 2,600, and building and construction work nearly 1,900. General manufacturing, while employing large numbers, produces only about 1,800 fatal accidents. When the fatality rates are considered, metal mining ranks as most hazardous, with a rate of 4.0 per 1,000, coal mining coming next with a rate of 3.5, and fisheries and navigation following with a rate of 3.0 per 1,000. Manufacturing industries as a whole rank lowest, with a rate of 0.25 per 1,000, but the fact should not be overlooked that this low average rate covers manufacturing groups varying widely in hazard, including, on the one hand, boiler making and the various departments of the iron and steel industry, in some of which fatality rates as high as those in metal and coal mining have prevailed, and, on the other hand, the textile and clothing industries, in some of which the risk of fatal accident is practically negligible.

These estimates are derived from the best sources available. At the present time there are no entirely complete and trustworthy industrial accident statistics for even a single important industry in the United States. This lack of trustworthy industrial accident statistics is due to the absence of any uniform requirements in the various states as to the reports of industrial accidents. Prior to the establishment of workmen's compensation systems, no state received reports of all the accidents, or even of all the fatal accidents in its industries.

THE AMERICAN SOCIETY OF AERONAUTIC ENGINEERS

THE American Society of Aeronautic Engineers, which was organized at the request of Mr. Thomas A. Edison, and which was requested by the secretary of the navy to appoint two members to serve on the navy's ad-

visory board, has, after polling its members for their selection, nominated Messrs. Henry A. Wise Wood and Elmer A. Sperry, together with a special committee of the following aeronautic engineers and experts to cooperate with them:

Orville Wright, Glenn H. Curtiss, W. Starling Burgess and Charles M. Manly, to advise on matters pertaining particularly to the theory and construction of aeroplanes and aeronautical motors.

Peter Cooper Hewitt, John Hays Hammond, Jr., and Joseph A. Steinmetz, to advise on matters pertaining particularly to the application of aircraft for warfare.

Captain Thomas S. Baldwin, A. Leo Stevens, Ralph H. Upson and Raymond B. Price, to advise on matters pertaining particularly to dirigibles, balloons and parachutes.

Messrs. Henry A. Wise Wood and Elmer A. Sperry constituted the popular selection, being nominated by eight tenths of the total votes. Both are scientific engineers, recipients of the Elliott Cresson and John Scott gold medals of the Franklin Institute, respectively, awarded for inventions of a basic character. Mr. Wood is president of the American Society of Aeronautic Engineers, vice-president of the Aero Club of America, and was a member of the aerodynamics laboratory committee appointed by President Taft in 1912. Mr. Elmer A. Sperry is vice-president of the American Society of Aeronautic Engineers. The Sperry gyroscopic stabilizer for aeroplanes in June, 1914, was awarded the first prize for safety devices of \$10,000, by the French government.

The special committee of aeronautic engineers and experts was appointed as a result of many suggestions received from members of the society who, in sending in their selections, pointed out that no two men in aeronautics to-day have expert knowledge of every branch of the science of aeronautics. In most cases, therefore, they proposed additional names of experts in different branches of the science.

In the organization of the American Society of Aeronautic Engineers it was provided for the addition of directors to be appointed as