

apparatus ever designed for the explanation of a highly complex phenomenon.

In 1869 Professor Lyman, accompanied by his colleague, the eminent astronomer, Professor Newton, went to Europe to purchase physical and mechanical apparatus from a fund given for that purpose by Peter Collier, of the class of 1861, Yale College. Aside from the requisite and familiar instruments of the physical cabinet not already at command, a remarkably full collection of acoustic apparatus was included. The recent discoveries of Helmholtz in the field of sound sensations had enormously enhanced the interest of physicists in that of acoustics, and Professor Lyman utilized this portion of the equipment not only in the classroom but also in a number of public lectures. It was in these lectures that he first made public his ingenious apparatus for compounding pendulum motions at right angles to each other. The enthusiasm with which his audiences received his clear expositions and admirably chosen illustrative experiments left an enduring impression on the memory of his assistant.

A mind so richly stored with the experiences of a singularly varied life could not be otherwise than stimulating in the highest degree to his more thoughtful students, but more than any other teacher known to the writer he awakened a personal affection among all of them which was as freely expressed as it was unusual.

EFFECTS OF FOREST FIRES ON FOOD AND GAME FISHES

THE *Fisheries Service Bulletin* calls attention to the fact that everyone is more or less familiar with the loss of valuable timber sustained each year from forest fires, but there are other serious losses of valuable natural resources from this cause that have received but comparatively little attention. We refer to the wild life of the woods and streams, and particularly to the game and food fishes. Based on a monetary valuation the loss of wild life from forest fires may appear insignificant compared with the loss of timber, but when we consider that the U. S. Forest Service estimates that some 6,000,000 people annually visit our natural forests, many or most of them interested in the fish and game, we become aware to some extent of the importance of the wild life of our forests. Any game and fish commission or conservation commission will be able to vouch for the real value of good fishing to a community.

In line with the growing tendency to place a large portion of the responsibility of conserving our natural resources on those who reap the greatest benefits therefrom, it seems proper to invite the attention of those persons who find pleasure and healthful recreation in fishing in the waters of our forests to the destructive effects of forest fires on the fish. There is a deplorable lack of reliable information and very few recorded observations on the subject. A few of the most immediate effects detrimental to fish life that may be expected to follow forest fires are a sudden rise in the temperature of the water, a lowering of its oxygen content, a change in its chemical properties, and destruction of shade. The slightly acid condition natural to most forest streams, and recognized as suitable for trout, is changed to alkaline from the ash deposited therein. A large amount of ash in the water may be expected to have a deleterious mechanical effect on the fish aside from the chemical changes.

These are but a few of the more obvious and immediate results of fires, and they take no cognizance of the most far-reaching though not immediately apparent effects that probably occur—the destruction of food, increased turbidity, decreased protection against floods and drought, etc. Reliable information on the subject is meager, though an appreciation of the loss of fish from this cause and a record of intelligent observations thereon are of importance. It will be appreciated if persons having knowledge of such occurrences will communicate it to the Bureau of Fisheries.

CONFERENCE ON WORLD METRIC STANDARDIZATION

No less than twenty-seven national scientific societies were represented in the Conference on World Metric Standardization which was held at the Carnegie Institute of Technology on September 6, simultaneously with the Pittsburgh meeting of the American Chemical Society. Dr. E. C. Bingham, of Lafayette College, presided, and opened the discussion.

The conference was called because it was deemed advisable to take cognizance of the organized opposition to the spread of the metric system which has developed in certain

quarters.¹ The delegates, however, devoted very little time to consideration of the relative merits of the metric system and the English system, since the superiority of metric measurements seemed to be conceded by every one present. Discussion turned rather on questions of the best methods of furthering general adoption of the metric system. Representatives spoke on behalf of such diverse fields as architecture, astronomy, chemistry, civil engineering, education, electricity, medicine, optometry, pharmacy, physiology, public health, and other branches of pure and applied science.

Physicists, chemists and pharmacists, on the one hand, reported that the metric system is already in general use and the battle won as far as their portions of the field are concerned. Representatives of the medical societies, on the other hand, reported a surprising inertia on the part of physicians to make use of gram and milligram units instead of apothecaries' weight in writing prescriptions, although only metric units are used in recent editions of the pharmacopœia. Better instruction and drill in the actual use of metric units was demanded of all schools, and in particular of the medical schools.

The civil engineers and the architects stand apparently in a passive attitude, content to continue in the use of the English system until a demand on the part of the public indicates a greatly reduced inertia with reference to the abandonment of inches, feet and miles.

As far as the writer knows, this is the first conference at which the relative merits of gradual adoption of the metric system *vs.* compulsory universal adoption have been debated by a group of scientific men who have then gone definitely on record as favoring the policy of gradual adoption. The opposition has proceeded upon the assumption that the change to the metric system must be completed suddenly, or else it can not be made at all. As a result they conclude that the change must be made at an appalling cost to industry. The conference went on record unanimously as of the opinion that the gradual introduction of the metric

system is practicable. The question of how legislation may be used to assist in bringing about the gradual change was not taken up at this conference.

Dr. W. A. Noyes read a paper by Dr. T. C. Mendenhall representing the National Academy of Sciences. In it Dr. Mendenhall combated with historical facts many of the fallacious arguments which have recently been advanced against the spread of the metric system. The paper will appear in full in SCIENCE.

Formal action was taken by the conference on four points, as follows:

1. *Voted*, that it is the sense of this meeting that we favor the gradual adoption of the metric system wherever practicable.

2. *Voted*, that this body take up with the United States Bureau of Education and other agencies, a plan for the better teaching of the metric system in the schools.

3. *Voted*, that the United States secretary of commerce be asked to secure information as to the extent to which the metric system is actually used at present in those countries which have made its use compulsory by law; and also in those countries where its use is not obligatory.

4. *Voted*, that the system of double-marking all goods be encouraged. (This vote was adopted by only a small majority.)

W. V. BINGHAM,

Secretary of the Conference

CARNEGIE INSTITUTE OF TECHNOLOGY

ACTIVITIES OF THE ROCKEFELLER FOUNDATION

THE *Journal* of the American Medical Association reports that the minister of education has accepted on behalf of the Japanese Government an invitation from George E. Vincent, president of the Rockefeller Foundation, New York, to name and send a commission of Japanese medical scientists to visit the medical institutions of the United States and Canada, as guests of the Rockefeller Foundation. This idea originated from the success that attended the visits to America of similar commissions from Great Britain, Brazil and Belgium. The commission will consist of four or five men, well known as representatives of the important branches of medical science and of the principal medical universities and institutes of the

¹ See this journal, June 23, 1922, "Are Scientists Encouraging Popular Ignorance?"