

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