by the chemical route. Having made a specialty of photographic theory and having a keen appreciation of scientific work both fundamental and applied, we venture the prediction that no director of the company will contribute more to the success of the corporation than Dr. Mees.

The election of chemists to high places in industrial organizations should not be so infrequent as to need editorial comment. The valuable qualities which the Eastman Kodak Company has discovered in Dr. Mees may be found by other commercial organizations among their own scientific staff. We venture to suggest that such an inquiry would reveal many men qualified to take such increased responsibility in the management of the company's affairs. Such a man will, of course, have native ability, made more valuable by the special training which a thorough grounding in chemistry and allied subjects is sure to give. With a little encouragement he will be able to pass sound judgment in differentiating between essentials and non-essentials in business, just as he must do in the course of his chemical work.—*Journal of Industrial and Engineering Chemistry.*

COMMITTEE ON LUMINESCENCE

THE Committee on Luminescence of the National Research Council met at Ithaca, N. Y., on August 17th. Present were Messrs. C. D. Child, H. L. Howes, H. E. Ives, E. L. Nichols and Miss Frances G. Wick.

Mr. Child reported on the present status of our knowledge of the luminescence of mercury vapor and suggested that special attention be called to the following phenomena of mercury vapor which deserve further investigation: (1) The continuous spectrum which may be obtained under certain conditions of pressure and temperature, (2) the abnormal broadening of the absorption spectrum which occurs with increasing pressure of the vapor, (3) the fact that the luminosity of the continuous spectrum does not commence at the instant the vapor is excited and that it continues for an appreciable time after the excitation has ceased, (4) the increase in chemical activity occurring under the same conditions as those required for the continuous spectrum, and (5) the apparent decrease in the ionization potential occurring under the same conditions. The following explanations which have been suggested should be tested further: (1) That newly vaporized vapor is more active in giving the continuous spectrum than other vapor, and (2) that molecules are formed from excited atoms, that is, from atoms in which an electron has been removed to an outer orbit.

Mr. Howes gave a résumé of investigations of the luminescence of the rare earths and in particular of the extended researches of Urbain in this field.

Mr. Ives reported on the relations between the photo-electric effect and luminescence so far as the same have already been developed and urged that observers in these fields should keep in mind the importance of more definitely determining the nature of such interdependences as may exist.

Mr. Nichols discussed the structure of luminescence spectra. He announced that measurements made under his direction, and soon to be published, indicate that the apparently continuous luminescence spectra of solid solutions in general are made up of submerged, over-lapping bands having a constant frequency interval and that this interval is characteristic of the activating element; also that the spectrum of incandescent oxides, of flames containing burning metals such as magnesium, calcium, aluminum, etc., and probably of all incandescent solids, have the structure above described.

Miss Wick described studies of the luminescence spectra of certain natural fluorites previously heated to fusion. Instead of the relatively broad bands observed by Urbain and others in such fluorites, the modified spectrum consists of fine lines readily identified as those of samarium, europium, dysprosium, etc.

The phosphorescence of these fluorites is greatly increased and prolonged by such heat treatment.

By invitation Messrs. D. T. Wilber and L. J. Boardman sat with the committee.

E. L. N.

SPECIAL ARTICLES

ULTRAMICROSCOPICALLY OBSERVABLE FLUORESCENCE

SINCE my last communication on the fluorescence of the blue-green algae, in which I expressed reserve regarding its visibility in chloroplasts, I have been able to demonstrate to others, observers of the highest competence, and thus to assure both them and myself that the chloroplasts of the leaves and of the green algae examined by me exhibit a marked degree of deep red fluorescence observable with the dark field condenser, when the optical conditions described (SCIENCE 58: 91–2. 3 Aug. 1923) are fulfilled. This observability gives new impulse to the study of the chloroplast.

Suspensions of living cells of a *Scenedesmus* and of a *Monostroma* are fluorescent to the eye when examined in a dark room in a narrow beam of strong light of w. l. approx. 530 and less, and their spectra in this light exhibit a strong band in the red, as K. Stern found for *Chlorella* (Ber bot. Ges. 38: 28. 1920). The same general statement may be made for suspensions of chloroplasts in water and in glycerine.