thermic decompositions. The laboratory methods used are designed to deal with decompositions in both solid and dust air phases. Preliminary results are promising finding application in plant practise, insuring more uniform quality in the dyes produced.

Some problems in the identification of dyes: E. F. Hitch and I. E. Knapp. It is pointed out that before the American dyestuff manufacturers can develop new colors, they must be able to duplicate the staple foreign dyes, especially the more recent ones, and those which are unclassified. In order to do this it will be necessary to identify these dyes, and in many instances to determine their chemical constitution. The first class of problems that are likely to be met includes (1) the identification of two or more dyestuffs, the composition of one of which is known; (2) the determination of the chemical constitution of an unknown dyestuff; and (3) the separation and identification of the component of a mixture of dyestuffs. The problems in class two deal with the identification of dyestuffs on the fiber. The methods which have been proposed for the solution of these problems are reviewed. In conclusion, a plea is made for closer cooperation between the universities and the dyestuff industry. Several ways are shown in which such cooperation might be effected.

Indicators and their industrial application: H. A. Lubs. The most recent and useful developments in the field of indicators are largely due to need for a series of brilliant and sensitive compounds for the colorimetric determination of H^+ ion concentration of biological fluids. This necessity has given rise to the study of the ranges, and of the salt, protein and other errors of a large number of compounds, as well as to the synthesis of new indicators. The sulfophthalein series of indicators are brilliant compounds and cover a wide range of H^+ ion concentration. These compounds are superior in a number of respects to indicators in general use at the present time and their application in a number of industrial operations would be highly advantageous. The lack of reliability in the case of test papers of litmus and phenolphthalein is pointed out and the use of sulfophthaleins is suggested. Examples of certain procedures in the preparation of dyes and intermediates in which indicators can be of assistance are given.

Vat dyes: M. L. Crossley.

Gentian violet and its selective bactericidal action: M. L. Crossley.

The importance of intensive and original research in the development of the dye industry in America: M. L. Crossley.

Logwood in its relation to the silk industry: Emil Lesser and David Wallace.

Some engineering aspects in the manufacture of dyes: Clarence K. Simon.

Observations on the estimation of the strength of dyes: W. H. Watkins.

Application of physical chemistry research on dyes: E. K. Strachan.

Crystallographic identification of five isocyanines: Edgar T. Wherry. Five isomeric or closely related isocyanine dyes have been prepared in the Color Investigation Laboratory of the Bureau of Chemistry by Dr. E. Q. Adams, and crystallized from alcohol. The crystals prove to show brilliant color phenomena, and especially the rare effect known as reflection-pleochroism, the reflection of light of different colors in different crystallographic directions. Models of these crystals have been prepared (and were exhibited at the meeting). It is ordinarily not practicable for any one not specifically trained in crystallography to carry out measurements of interfacial angles of random crystals, because it is a matter of great difficulty to orient given crystals correctly. The fact that the crystals of these dyes have definite colors associated with definite crystallographic directions makes such orientation comparatively easy, and which dye is represented in a given sample can be rapidly and certainly ascertained by a few simple observations of angles, far more readily than by any known chemical method.

The dye situation in the United States and England: T. Frusher.

Charles L. Parsons,
Secretary

(*To be continued*)

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