

CHEMISTRY

Chairman: K. N. CAMPBELL, University of Notre Dame

Mr. Edward J. Hughes, Eli Lilly Co., Indianapolis, was elected chairman of the section for 1943.

Some modern aspects of the Dumas method for the determination of nitrogen. K. N. CAMPBELL, University of Notre Dame.—The Dumas method is the oldest, and still one of the best methods for analyzing organic compounds for nitrogen. The older macro technique, however, is not much used at present because of the relatively large sample required, and because of the time needed for a single determination. The Pregl micro method requires a special balance and the technique needed is too complicated to teach, in general, to students who have had no experience with more rugged methods. The more recently developed semi-micro methods are less sensitive to errors than is the Pregl method. A five place balance is, however, desirable and considerable technique is needed. For these reasons a hemi-macro method has been devised for teaching undergraduate students. This method is more rugged than the semi-micro and micro methods, but is more rapid and uses a smaller sample than the macro method. A description of the method is given. The results appear to be as accurate as those obtained by other methods.

Notes on the cause of color in precious stones. FRANK B. WADE, Shortridge High School, Indianapolis.—The best thought in modern physics attributes optical effects among the elements to the valence electrons. Evidence is presented to show that this is the case in the matter of color effects in gems. It is suggested that we are probably dealing with a *resonance* effect among the outer energy level electrons of the atoms of these transition elements. Relatively slight changes in the energy content of these coloring elements make marked changes in the color effects