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SOME REFLECTIONS CONCERNING VALENCE VARIATION AND ATOMIC STRUCTURE¹

By Professor M. GOMBERG

UNIVERSITY OF MICHIGAN

PERMIT me, please, to offer a word of explanation concerning the choice of the subject for this evening's talk. Many years ago it fell to my lot to become interested in a striking instance of valence variation, and the solution of that problem rested wholly on experimental laboratory evidence. A number of other similar cases of valence variation have been subsequently encountered by various workers, and their conclusions, also, rested on experimental evidence. Meanwhile, during the last ten years, and especially during these last five years, the theoretical aspect of the entire valence question has received much clarification as a result of certain theories based on the spectroscopic study of the elements. The question is alluring—do the empirical findings, in this branch, of the near past harmonize with the recent theoretical deductions? Obviously, the nature of the reply to this question

¹ Address of the president, the American Chemical Society, Buffalo, N. Y., September, 1931.

will be colored to some extent by the psychology of the questioner, but the correctness of the answer can only be in proportion to the requisite technical training possessed by the inquirer. On that last score, I bespeak your generous indulgence.

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