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SOME REFLECTIONS CONCERNING VALENCE VARIATION AND ATOMIC STRUCTURE¹

By Professor M. GOMBERG

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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

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.

THE KARLSRUHE CONGRESS

To-morrow, September 3, will mark the seventy-first anniversary since the occurrence of the interesting gathering of chemists, in 1860, in the peaceful little city of Karlsruhe, Baden. The delegates came from all countries in Europe, in response to an invitation sent out by a self-appointed committee. Among the 45 signatures attached to the invitation were those of Liebig, Wöhler, Bunsen, Frankland, Williamson, Pasteur, Dumas, but the moving spirit of the organization was young Kekulé. The object of the meeting was to see if by exchange of opinions some reasonable agreement could be reached in regard to the precise

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

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