NOTE.

The Electron Conception of Valence. II. The Organic Acids.—In a criticism of my paper with the above title,¹ H. S. Fry² raised the question whether, with organic acids, a classification based upon the direction of the valences of th α -carbon atom should not include eight groups of acids; namely: I. \Longrightarrow C \rightarrow CO₂H; 2. \rightleftharpoons C \rightarrow CO₂H; 3. \bigoplus C \rightarrow CO₂H; 4. \bigoplus C \rightarrow CO₂H; 5. \bigoplus C \leftarrow CO₂H; 6. \bigoplus C \leftarrow CO₂H; 7. \bigoplus C \leftarrow CO₂H; 8. \bigoplus C \leftarrow CO₂H. In my paper I considered only the first four of these groups for the reason that I knew of no evidence for the organic acids taken up, making it necessary or advisable to treat the carboxyl group as a positive substituent as postulated in the last four groups. This limits the consideration to groups 1-4, in which the carboxyl group is present as a negative substituent, and, since the acids of group 4 are too highly ionized to give satisfactory ionization constants, only three groups of acids were considered in detail. This point should have been made clearer in my paper.

K. GEORGE FALK.

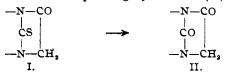
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[CONTRIBUTION FROM THE SHEFFIELD LABORATORY OF YALE UNIVERSITY.] HYDANTOINS: THE DESULPHURIZATION OF 2-THIOHYDANTOINS. [FIFTEENTH PAPER.]

BY TREAT B. JOHNSON, GEORGE M. PFAU AND WILLARD W. HODGE.

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Although it has been known for some time that 2-thiohydantoins are decomposed, when digested with silver, lead and mercury oxides, with formation of metallic sulfides,³ it was not until 1908, however, that it was shown that these thio compounds (I) can be desulfurized smoothly and converted into the corresponding hydantoins (II). Bailey and Ran-



dolph⁴ first effected this change by transforming the thiohydantoins into the thiohydantoic acids, by hydrolysis with alkali, and then digesting their salts (III) with mercury oxide. While the thiohydantoins are not desulfurized smoothly with mercury oxide the corresponding thiohydantoic

- ² Ibid., 34, 664 (1912).
- ⁸ Aschan, Ber., 17, 425. Marckwald, Neumark and Stelzner, Ibid., 24, 3287.
- 4 Ber., **41,** 2495.

¹ This Journal, **33**, 1140 (1911).