CII. THE ENZYMIC PRODUCTION OF VOLATILE PRODUCTS FROM NICOTINE UNDER THE INFLUENCE OF TOBACCO-LEAF EXTRACTS.

(A REPLY TO A. FAITELOWITZ.)

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A PAPER has been published in this *Journal* by Faitelowitz [1927] dealing with experiments from which it may be concluded that mixtures of fermented cigarette-tobacco with water are infected by bacteria in the open air; at the same time an alkaline reaction develops, which is not the case if chloroform is applied. Probably no one will doubt that these facts are correct.

We wish to point out, however, that in our experiments [1925] the macerates were prepared "under the usual conditions of sterility" (p. 830), *i.e.* by using toluene and thymol, and, nevertheless, decomposed nicotine.

The formation of acids during tobacco fermentation was not denied by us; on the contrary the formation of carbonic acid during the decomposition of nicotine has been noted (p. 831).

Since the publication of our paper in this *Journal* we have reported on many additional experiments with regard to the question of tobacco fermentation [1926]. We found a strong parallelism between the decomposition of nicotine and the amount of oxygen absorbed by moistened tobacco leaves, which is a further argument in support of our view that the reaction is one of oxidation. Furthermore, we found an oxygen absorption even after filtering the macerates through porous clay filters or after adding germicides, *e.g.* vucine, mercuric chloride, and even potassium cyanide. Neither the respiration, nor the decomposition of nicotine connected with it, is in any way associated with bacterial processes. Our views on the sum-total of the fermentation process are presented in the above-mentioned paper.

REFERENCES.

- Faitelowitz (1927). *Biochem. J.* **21**, 262.
Fodor and Reifenberg (1925). *Biochem. J.* **19**, 830.
—— — (1926). *Z. physiol. Chem.* **162**, 1.