

(CONTRIBUTION FROM THE KENT CHEMICAL LABORATORY OF THE UNIVERSITY OF CHICAGO.)

THE INFLUENCE OF ELECTRICAL WAVES ON CHEMICAL ACTION

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Though the influence of short ether waves on many chemical reactions has been carefully studied, nothing has been done with the longer electrical waves. A few experiments in this direction have been carried out, and though the results so far have been purely negative, the investigation will be continued, varying the length of wave and the reaction. Glass bulbs and afterwards tubes were filled with electrolytic mixtures of hydrogen and chlorine (1 to 1) and of hydrogen and oxygen (2 to 1). Some were then wrapped in cotton wool and put into wooden boxes, others were wrapped in tinfoil and put into tightly closed tin cans. They were then placed in the field of a modified Toepler-Holtz influence machine, giving rise to electrical waves of about 300 meters. After forty-five minutes bulbs protected from the waves by the metal and others not so protected were opened under salt water. No change of volume was observed and therefore the action was continued forty-eight hours. Bulbs were again opened under salt water, but there was no change of volume or absorption showing that electrical waves of 300 meters cause no reaction between hydrogen and chlorine, or hydrogen and oxygen.