

reaction responsible for E_m and ϕ is the work function of the metal, (2) in this range of E_c , the number c of electrons emitted per one Cl atom entering into the reaction with the metal is approximately an exponential function of the chemical energy E_c , and (3) the reaction mechanism of most frequent occurrence is that in which only one of the two Cl atoms of the gas molecule reacts with the alloy.

ERRATUM.

In Part III, vol. 145, p. 33, fig. 7, delete the \circ , at ordinate 5 and abscissa 0.15.

*Studies on Explosive Antimony I—The Microscopy of Polished Surfaces**

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[PLATES 6, 7 and 8]

Introduction

In 1855 Gore† reported the discovery of a peculiar soft and lustrous form of antimony obtained by the electrolysis of antimony trichloride solutions. This deposit when heated or scratched underwent a sudden change in which a considerable quantity of heat was developed, the metal was badly shattered, and white fumes of occluded antimony trichloride were evolved. The metal after "explosion" was indistinguishable from ordinary antimony.

Different aspects of the phenomenon have since been the subject of several investigations of which the most comprehensive is that carried out by Cohen and his co-workers‡ during the years 1904–05. More recently Cohen and Coffin§ have succeeded in determining the factors governing the deposition

* Contribution from the Laboratory of Physical Chemistry, Dalhousie University, Halifax, Canada.

† 'Phil. Mag.,' vol. 9, p. 73 (1855); 'J. Chem. Soc.,' vol. 17, p. 365 (1863); 'Proc. Roy. Soc.,' vol. 12, p. 185 (1858); 'Phil. Trans.,' vol. 148, pp. 185, 797 (1858); vol. 152, p. 323 (1862).

‡ Cohen and Ringer, 'Z. phys. Chem.,' vol. 47, p. 1 (1904); Cohen, Collins and Strengers, *ibid.*, vol. 50, p. 291 (1905); Cohen and Strengers, *ibid.*, vol. 52, p. 129 (1905).

§ *Ibid.*, A, vol. 149, p. 417 (1930).