

telephones

PROCEEDINGS  
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PAPERS READ BEFORE THE ACADEMY.

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I.  
RESEARCHES IN TELEPHONY.

BY A. GRAHAM BELL.

Presented May 10, 1876, by the Corresponding Secretary.

1. It has long been known that an electro-magnet gives forth a decided sound when it is suddenly magnetized or demagnetized. When the circuit upon which it is placed is rapidly made and broken, a succession of explosive noises proceeds from the magnet. These sounds produce upon the ear the effect of a musical note, when the current is interrupted a sufficient number of times per second. The discovery of "Galvanic Music," by Page,\* in 1837, led inquirers in different parts of the world almost simultaneously to enter into the field of telephonic research; and the acoustical effects produced by magnetization were carefully studied by Marrian,† Beatson,‡ Gassiot,§ De la Rive,||

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\* C. G. Page. "The Production of Galvanic Music." Silliman's Journ., 1837, XXXII., p. 396; Silliman's Journ., July, 1837, p. 354; Silliman's Journ., 1838, XXXIII., p. 118; Bibl. Univ. (new series), 1839, II., p. 398.

† J. P. Marrian. Phil. Mag., XXV., p. 382; Inst., 1845, p. 29; Arch. de l'Électr., V., p. 105.

‡ W. Beatson. Arch. de l'Électr., V., p. 197; Arch. de Sc. Phys. et Nat. (2d series), II., p. 113.

§ Gassiot. See "Treatise on Electricity," by De la Rive, I., p. 300.

|| De la Rive. Treatise on Electricity, I., p. 300; Phil. Mag., XXXV., p. 422; Arch. de l'Électr., V., p. 200; Inst., 1846, p. 83; Comptes Rendus, XX., p. 1287; Comp. Rend., XXII., p. 482; Pogg. Ann., LXXVI., p. 637; Ann. de Chim. et de Phys., XXVI., p. 158.