Photographic Action of Printer's Ink.

IN your issue dated April 28, I notice an article reporting the Bakerian Lecture given by Dr. W. J. Russell.

One paragraph states that printing ink *at a distance* will act upon a photographic film. Is that the explanation of the following curious circumstance?

An Ilford ordinary plate, which I had kept in its box unopened for five years, was exposed recently upon a poorly-lighted subject; upon development I found, instead of my subject, the matter of the advertisement which was upon the outside wrapper. This came up strong and quickly, but nothing was seen of the subject upon which the plate had been exposed in the camera.

The image was a positive, and the large type word "Ilford" was very prominent.

So it would appear that the sensitised plate had been acted upon by the printer's ink, through the lid of the box and three wrappers of paper, two of which were brown.

W. TRUEMAN TUCKER.

Parkside, Loughborough, May 8.

A VERY interesting result. The picture no doubt arose from the printer's ink, and it shows what great length of time will do. The plate must have been face upwards. W. J. R.

May 9.

Electrical Impressions on Photographic Plates.

SOME simple variations of the inductoscript may be of general interest.

A photographic glass negative is placed on a plate, and a ¾-inch induction coil is sparked for one or two minutes on the outsides: a perfect positive with fine detail can be developed.

If printed paper is so treated, a clear image of the reading is made, white letters on a dark ground: a coin gives dark letters.

If the exposure to the spark is prolonged, an indistinct image of the print, which is on the other side of the paper, will also appear.

More or less perfect images can be made, if ink or pencil writing or a photographic print be put on the plate. When thin paper is placed between a coin and a plate, a fair, but less perfect, reproduction of the coin will be produced.

It makes very little difference whether fast or slow plates are employed. A. S. BATES.

Winchester College.

Bacteria on an Ancient Bronze Implement.

A FEW days ago an ancient bronze implement was brought to me showing small excrescences, the centres of rapid oxidisation, which the owner told me had only very recently developed.

On examining the material scraped off one of these excrescences under the microscope with fairly high powers (a ⅛ inch and ⅙ inch objective), it was found to be swarming with bacteria, which seemed to be the cause of the rapid oxidisation. I have not been able to trace any reference to bacteria inhabiting a similar nidus, and I should be much obliged to any correspondent who could direct me to the literature on the subject, and inform me of the best way of sterilising the implement without injury. WM. EDWARD NICHOLSON.

Lewes, May 3.

THE ROYAL SOCIETY SELECTED CANDIDATES.

THE following are the names and qualifications of the fifteen candidates selected by the Council of the Royal Society, to be recommended for election into the Society this year:—

HENRY FREDERICK BAKER,

M.A., Fellow and Lecturer of St. John's College, Cambridge; University Lecturer in Mathematics. Author of "A Treatise on Abel's Theorem and the Allied Theory" (1897); and of the following papers, among others:—"Weierstrassian Formulæ applied to the Binary Quartic and Ternary Cubic" (*Quart. Journ. Math.*, vol. xxiv., 1889); "Gordon's Series in the Theory of Forms" (*Messenger Math.*, vol. xix., 1889); "The Full System of Concomitants of Three Ternary Quadrics" (*Camb. Phil. Soc. Trans.*, vol. xv., 1889); "The Application of Newton's Polygon to the Singular Points of Algebraic Functions" (*ibid.*, vol. xv., 1893); "On Euler's ϕ-Function" (*Proc. Lond. Math. Soc.*, vol. xxi., 1890); "Fundamental Systems for Algebraic Functions" (*ibid.*, vol. xxvi., 1895); "On Noether's Fundamental Theorem" (*Math. Annalen.*, vol. xlii., 1893); "On a Geometrical Proof of Jacobi's I-Function Formulæ" (*ibid.*, vol. xliii., 1893); "On the Theory of Riemann's Integrals" (*ibid.*, vol. xlv., 1894); "The Practical Determination of the Deficiency and Adjoint ϕ-Curves for a Riemann Surface" (*ibid.*, vol. xlv., 1894); "On a Certain Automorphic Function" (*Camb. Phil. Soc. Proc.*, vol. viii., 1895); "On the Hyperelliptic Sigma-Functions" (*Amer. Journ. Math.*, vol. xx., 1897).

ERNEST WILLIAM BROWN,

Professor in Haverford College. Formerly Fellow of Christ's College, Cambridge. Author of the following papers:—In the *American Journal of Mathematics*—"On the Part of the Parallactic Inequalities in the Moon's Motion, which is a Function of the Mean Motions of the Sun and Moon" (vol. xiv., pp. 141–160, 1892); "The Elliptic Inequalities in the Lunar Theory" (vol. xv., pp. 244–263, 321–338, 1893); "Investigations in the Lunar Theory" (vol. xvii., pp. 318–358, 1895). In the *Monthly Notices Royal Astronomical Society*—"On the Determination of a Certain Class of Inequalities in the Moon's Motion" (vol. lii. pp. 71–80, 1891); "Notes on Lunar Theory" (vol. lii. pp. 408–9, 1892; liv. p. 471, 1894; lv. pp. 3–5, 1894); "Note on Hansen's Lunar and Planetary Theories" (lvi. pp. 52–3, 1895); "Note on Mr. Stone's paper, 'Expressions for the Elliptic Coordinates of a Moving Point to the Seventh Order of Small Quantities,'" 1896. In the *Proceedings Cambridge Philosophical Society*—"On the Part of the Parallactic Class of Inequalities in the Moon's Motion which is a Function of the Ratio of the Mean Motions of the Sun and Moon" (vol. vii. pp. 220–1, 1891). Before the London Mathematical Society, November 1896—On "The Application of Jacobi's Dynamical Method to the General Problem of the Three Bodies"; "On Certain Properties of the Mean Motions, and the Secular Accelerations of the Principal Arguments used in the Lunar Theory." Author of "An Introductory Treatise on the Lunar Theory" (Cambridge University Press, 1896, pp. viii.–292).

Supplementary Certificate.—"On the Mean Motions of the Perigee and Node"; "On the Theoretical Values of the Secular Accelerations of the Lunar Theory"; "Note on the Mean Motions of the Perigee and Node," in the *Monthly Notices R. Astron. Soc.*, 1897; "Theory of the Moon, containing a New Calculation of the Coordinates of the Moon in Terms of the Time" (Part I.–IV. *Memoirs R. Astron. Soc.*, vol. liii., 1897, pp. 39–116).

ALEXANDER BUCHAN,

M.A., LL.D., F.R.S.E. Secretary, Scottish Meteorological Society, from 1860. Member of the Meteorological Council from 1873. Author of the following contributions to Meteorology: "Mean Atmospheric Pressure and Prevailing Winds of the Globe and Handy Book of Meteorology," 1868; "Weather and Health of London," jointly with Sir Arthur Mitchell, 1875; "*Challenger* Report on Atmospheric Circulation in 1889"; "*Challenger* Report on Oceanic Circulation in 1895"; "Specific Gravities and Oceanic Circulation in 1896"; "Meteorology," in the "Encyclopædia Britannica"; Reports on the Meteorology of Ben Nevis, &c.

SIDNEY FREDERIC HARMER,

M.A., Superintendent of the University Museum of Zoology, and Fellow of King's College, Cambridge. Engaged for many years in researches in Embryology and Comparative Anatomy. Discoverer of important facts connected with the Anatomy of Cephalodiscus, which largely assisted in fixing its systematic position; and of the occurrence of a process of extensive Embryonic Fission in certain Polyzoa. Author of numerous papers on zoological subjects, including the following:—"On the Structure and Development of *Loxosoma*" (*Quart. Journ. Micros. Sci.*, vol. xxv., 1885); "On the Life-history of Pedicellina" (*ibid.*, xxvii., 1887); "On the British Species of *Crisia*" (*ibid.*, xxxii., 1891); "On the Nature of the Excretory