are substantially homogeneous in energy. This energy corresponds approximately to the potential difference across the discharge. This is the region where the discharge forms a useful source of electrons of homogeneous velocity for use in high-speed cathode-ray tubes and electron diffraction cameras.

(*b*) At higher pressures and lower voltages, the electron beam possesses a wide range of energies. The general form of this energy distribution is independent of current and voltage. The maximum of the distribution curve occurs always at the maximum energy, and this in turn corresponds closely with the potential across the cathode region of the discharge. In general, at constant pressure the greater the current the greater is the proportion of electrons which possess the full energy. As the pressure is increased, the relative number of electrons in the lower energy regions increases while the fraction of the current carried by electrons decreases. It would appear that in all cases the greater number of electrons originates at the surface of the cathode itself. Except at the highest pressures, there is no support for the conclusion of J. J. Thomson that ionization is uniform throughout the cathode dark space, an assumption which has been accepted generally as necessary to explain the observed potential distribution.

A detailed account of these experiments will be published elsewhere at a later date.

R. M. CHAUDHRI.

Muslim University,
Aligarh.

Early Logarithmic Works

READERS of J. Henderson's bibliography of logarithmic tables ("Tracts for Computers", No. 13, Cambridge, 1926) will be aware of the interest attached to Ezechiel de Decker's "Tweede Deel vande Nieuwe Tel-konst" (Gouda, 1627), in which was first published the important de Decker-Vlacq table of 10-decimal logarithms of numbers from 1 to 100,000. After the existence of this work had been doubted by many authorities, a complete copy was found at Utrecht by van Haaften in 1920.

In September of this year my attention was directed by Mr. H. G. Ward, of the Harold Cohen Library of the University of Liverpool, to the existence of a copy of Vlacq's "Arithmetique Logaritmetique" (Gouda, 1628) among a collection of books bequeathed to the University by T. G. Rylands in 1900, and now housed in the Harold Cohen Library. On examining the volume, I found, bound in at the end, pages 1–36 (a–d^4, e^2) of the "Tweede Deel", forming a treatise on the use of logarithms in arithmetic. Title-page and foreword (both reproduced in facsimile in Henderson's tract) are wanting, so that neither the name de Decker nor the date of publication occurs. The logarithmic table, which is known to have been published in both de Decker 1627 and Vlacq 1628, is wanting as a part of de Decker's work, since the Liverpool copy of the table has the French (not the Dutch) sub-title, and belongs to Vlacq's work, as a part of which it is collated.

There is nothing obviously incomplete about the Liverpool copy of the introductory treatise; rather the reverse, in view of the final half-section e^2. It may well prove to be complete, when it becomes possible to obtain detailed information about the Utrecht copy. In the meantime, it seems desirable to put on record the existence of a copy in Liverpool.

Also bound in the same volume is a copy of the rare extra section of 12 pages of Briggs's "Arithmetica Logarithmica" (London, 1624), containing 14-decimal logarithms of numbers from 100,001 to 101,000, and 11-decimal square roots of numbers from 1 to 200, with first differences in each case. I mention this now because the section has also been described by De Morgan and by Glaisher (see Henderson's tract, p. 41), and in respect of the table of square roots their descriptions differ from one another and from the above.

A. FLETCHER.

Dept. of Applied Mathematics,
University of Liverpool.
Nov. 18.

John Mayow, 1641–79

ACCORDING to numerous histories of science and similar works, John Mayow was born in London of Cornish descent. The writers of these works give the date of his birth variously as 1640, 1643, 1644 or 1645, with a preference for 1645. This preference is presumably due to a statement made by Anthony à Wood that Mayow was "descended from a gentile family of his name living at *Bree* in *Cornwall*, was born in the parish of S. *Dunstan in the West* in *Fleet-street, London*, admitted Scholar of *Wadham* Coll. 27. *Sept.* 1661 aged 16 years"[1].

In some recent researches, which are too long to describe here and which will shortly be detailed elsewhere, I have been able to show that Wood's statement is wrong. As it now appears that the present month of December is as near as can be ascertained to the tercentenary of Mayow's birth, we may here briefly summarize this new evidence that he was born in Cornwall in 1641.

C. S. Gilbert describes Mayow as "a descendant from the ancient and genteel family of his name, living at Bray, in the parish of Morval"[2]. The manor of Bray was acquired by the Mayows in 1564 when Phillip Mayow of East Looe bought it from Christopher Copplestone[3]. Wood's "Bree" is, therefore, the manor of Bray in the parish of Morval near Looe in Cornwall. A search in the parish registers of Morval, by the courtesy and with the assistance of the Rev. E. A. Saunders, vicar of Morval, showed that John Mayow, the second son and third child of Phillip Mayow and his wife, Frances Stukeley, was baptized in Morval Church on December 21, 1641. As confirmatory evidence we may quote here, with the kind permission of the Warden of Wadham College, Oxford, the following extract from the records of the College: "John Mayow (Mayouwe), matriculated 2 July 1658, received as commoner, but admitted scholar 23 Sept. 1659, said to be of Bree, Cornwall and aged 17". Thus the John Mayow of Wadham College is also the John Mayow of Bray in Cornwall, who, being aged seventeen in September of 1659 (he would have been eighteen in December), or possibly said to be of that age in July of 1658 (he would have been seventeen in December of that year), was baptized in Morval Church on December 21, 1641.

DOUGLAS MCKIE.

History of Science Department,
University College,
London.

[1] "Athenæ Oxonienses", 1st ed., 2, 474 (London, 2 vols., 1691–2); 2nd ed., 2, 637 (London, 2 vols., 1721). Italics occur in original.
[2] "Historical Survey of the County of Cornwall" etc., 1, 140 (Plymouth-Dock and London, 2 vols. in 3, 1817–20).
[3] *ibid.*, 2, 197.