Technical Thermometry. Pp. ix+62. (Cambridge: The Cambridge Scientific Instrument Co., Ltd., 1906.)

THIS pamphlet contains detailed, illustrated descriptions of the various types of instruments for temperature measurement made or sold by the Cambridge Scientific Instrument Co., which has long been in the front rank in the manufacture of electric thermometers of all kinds.

It deals first with the well-known platinum resistance thermometers of the Callendar-Griffiths type. These are made in many different forms. Among the most interesting of the apparatus used in connection with them is the ingenious direct-reading temperature indicator, which gives without any calculation the direct centigrade or Fahrenheit temperature on the air-scale, with a sensitiveness of considerably less than 1° up to 1200° C. The various types of resistance-boxes used in accurate platinum thermometry are all arranged to be capable of self-verification. We believe that this self-testing type of resistance-box was among the first examples of a high-class physical instrument intentionally arranged by the makers to encourage periodical standardisation by the user rather than complete dependence upon the original adjustment. The Callendar recorders, in their various forms, can now be made to give with very low energy consumption continuous records of resistance, temperature, radiation, E.M.F., current or power within very wide limits.

Among the thermoelectric appliances is a new form of recording millivoltmeter, in which the galvanometer boom is depressed every half minute on to an inked thread, thereby leaving a dotted record on the paper. The instrument can be made sufficiently sensitive for recalescence curves. The radiation pyrometers of Prof. Féry are also described and illustrated. In these the radiation from the object the temperature of which is to be measured is concentrated upon a minute thermocouple at the focus of a mirror or lens, and the E.M.F. set up is measured in the ordinary way by a suitable millivoltmeter.

In an appendix are given an excellent summary of the principles of electric thermometry with tables of constants, and a list of trustworthy melting and boiling points obtained from the National Physical Laboratory; also a good bibliography of recent thermal research.

Astronomischer Jahresbericht. Band vii. Literature of 1905. By A. Berberich. Pp. xxxvii+646. (Berlin: Georg Reimer, 1906.) Price 20 marks.

THIS volume is the seventh issue of a series of most useful compilations, and it is a matter of deep regret that the founder and chief worker of such an admirable publication is no longer with us. Herr Walter Friedrich Wislicenus died last year on October 3, but, as we are told by Dr. Walter de Gruyter in a brief obituary notice, he contributed a considerable portion of the present volume. The frontispiece to this issue, therefore, fittingly presents us with an excellent portrait of the founder, whose place is now taken by Herr A. Berberich.

With regard to the book itself little need be said, except that the high standard of former years has been maintained. The 600 pages of references, with their brief and concise abstracts, cover the domain of astronomical literature for the past year, and a very complete name index concludes the volume. It may be incidentally remarked that the total solar eclipse of August, 1905, is responsible for no less than ninety-five references, which help somewhat to increase the bulk of the present volume.

Zoologischer Jahresbericht für 1905. Herausgegeben von der Zoologischen Station zu Neapel. Redigirt von Prof. Paul Mayer. (Berlin: R. Friedländer und Sohn, 1906.) Price 24 marks.

THE always welcome "Naples Jahresbericht" appears, as usual, well up to time, and its familiar features remain unchanged. Purely taxonomic papers are not included in the programme, but this limitation has been generously interpreted by some of the recorders. Where we have been able to test the lists we have found them full and accurate, and many of the summaries are models of terseness and clearness. If we look at the first section we are at once struck with the rapidly increasing number of important researches on the Protozoa; if we look at the last section we are similarly impressed with the number of papers dealing with Mendelian phenomena. The indefatigable editor, Dr. Paul Mayer, is responsible for the reports on Protozoa, Bryozoa, Brachiopoda, on part of the Arthropoda, and on general biology—truly a heavy piece of work for a man who does so much else. To him and to his *collaborateurs* we offer in the name of zoologists our hearty thanks.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. *No notice is taken of anonymous communications.]*

Absorption of the Radio-active Emanations by Charcoal.

PROF. RUTHERFORD in his interesting letter in NATURE of October 25 (vol. lxxiv., p. 634) on the "Absorption of the Radio-active Emanations by Charcoal" has no doubt quite unintentionally mistaken the general results of my experiments, and therefore I feel that some slight addition ought to be made to his communication.

In the first paragraph of his letter Prof. Rutherford says that "the interesting property of certain kinds of charcoal, notably that of the cocoa-nut, of rapidly absorbing gases, *except the inert gases belonging to the argon family*, is now well known since the recent experiments of Sir James Dewar."

Now, the statement made in the part of the paragraph I have italicised is not accurate. In my papers entitled "The Absorption and Thermal Evolution of Gases Occluded in Charcoal" (Proc. Roy. Soc., 1904), "The Separation of the more Volatile Gases from Air without Liquefaction" (Proc. Roy. Soc., 1904), "Nouvelles Recherches sur la Liquefaction de l'Helium" (*Comptes rendus*, 1904), and "New Low Temperature Phenomena" (Proc. Roy. Inst., 1905), I have shown that all the inert gases without exception can be condensed in charcoal as effectively as ordinary gases provided corresponding conditions of temperature, pressure, and concentration are maintained.

In speaking of the "many avenues for future inquiry" opened up by the charcoal method of separating gases, I said (Proc. Roy. Soc., p. 130, 1904):—"The method I have described will be equally applicable to the treatment of the gaseous products from minerals containing helium, hydrogen, &c., and also to the radium products of the same kind. It seems even probable that the separation of the less volatile constituents in the air may be improved by a slight modification in the mode of working." As a matter of fact, at the time of these communications to the Royal Society in 1904, I had made a few experiments on the condensation of the radium emanation by charcoal *in vacua*, and also on the separation of krypton and xenon; but during the last two years my health has been so indifferent that many lines of investigation have had to be abandoned. In my Royal Institution lecture of June 6, 1905, I ex-