20). An assistant lecturer in chemistry in the University of Birmingham—The Secretary, University, Edmund Street, Birmingham (Sept. 20). An assistant part-time lecturer in the biology department of the Plymouth and Devonport Technical College—The Secretary for Education, Education Office, Plymouth (Sept. 20). A lecturer in botany at the Sunderland Technical College—The Chief Education Officer, Education Offices, 15 John Street, Sunderland (Sept. 22). Civilian education officers with a degree in engineering, in the R.A.F. Educational Service—The Secretary, Air Ministry, Gwydyr House, Whitehall, S.W.1 (Sept. 22). An assistant lecturer in mathematics at the University College of Swansea—The Registrar, University College, Singleton Park, Swansea (Sept. 24). An agricultural mycologist at the Agricultural Institute and Experimental Station, Kirton, Lincs—The Principal, Agricultural Institute, Kirton, near Boston, Lincs (Sept. 27). A senior lecturer in education in the University of Liverpool—The Registrar, The University, Liverpool (Sept. 30). A lecturer in chemistry in the Egyptian University, Cairo—The Dean of the Faculty of Science, Egyptian University, Abbassia, Cairo (Oct. 14). A professor of pathology at the Medical College, Vizagapatam, Madras—The High Commissioner for India, General Department, India House, Aldwych, W.C.2 (Nov. 3).

ERRATUM.—NATURE of Aug. 23, p. 272, col. 2, line 19, for " west to east " read " east to west ".

Our Astronomical Column.

Meteoric Theory of the Lunar Craters.—*Scientia* for August contains a paper by A. C. Gifford in which he supports the meteoric origin of the lunar craters and walled plains, as against the volcanic theory. He refers to Meteor Crater in Arizona, and the gigantic Siberian meteor of June 30, 1908, as evidence that large meteoric masses still traverse the solar system; he assumes that they were much more numerous in the early days of the planetary system, since he adopts the planetesimal theory in preference to the gaseous filament theory proposed by Jeans and Jeffreys.

The objection that oblique impacts would not produce circular craters is answered by the assertion that the crater is not due to the impact itself, but to the explosion resulting from the violent heat produced by the sudden stoppage of the meteor. Mr. Gifford claims that the greater part of the matter scattered by the explosion would be driven out horizontally, forming the wall of the crater, while the matter that was thrown upwards would, on its descent, form the central peak or peaks. The explosion would reduce the material to fine powder, thus explaining the whiteness of many of the craters; it is noted that black glass appears white when finely powdered. Such matter as was reduced to a molten state by the impact would on solidification produce a dark surface, like that seen in the interior of Plato and other craters. The systems of radiating bright streaks surrounding Tycho, Copernicus, etc., are explained by supposing that in these cases the meteoric impact cracked the lunar crust, and molten matter was driven through the cracks from the interior, afterwards solidifying in a crystalline form.

Mr. Gifford compares his theory with that put forward in 1903 by Prof. N. S. Shaler. The latter also postulated the impact of large meteoric masses on the moon, but did not adopt the view that a great explosion would result from the sudden stoppage of the meteor and its reduction to a gaseous form; he supposed that the lunar surface would be liquefied and produce an extensive level region of a dark colour. In other words, he ascribed the *maria*, not the craters, to meteoric impact.

The Radcliffe Observatory and South Africa.—Mr. F. Robbins, the treasurer of the British Astronomical Association, has contributed two articles to the *Journal* of that body (vol. 40, Nos. 7 and 8) in which he describes the present general recognition of the value of South Africa as a centre for astronomical observation. This was pointed out by La Caille nearly two centuries ago; later on, Fallows and Sir John Herschel gave similar testimony. In the present century, Dr. Innes has spoken so enthusiastically of the climate of Johannesburg that astronomers from the United States, Leyden, and Berlin are establishing observatories in that region. The second article deals with the Radcliffe Observatory, the removal of which to Pretoria is now contemplated. John Radcliffe was a celebrated physician who died in 1714 at the age of sixty-one years. He left a large sum to be expended in Oxford. This is partly represented by the Library in the Radcliffe Camera. The remainder was devoted in 1770 to the building and endowment of the Radcliffe Observatory. The observations made by Dr. Hornsby, the first observer there, have not yet been fully reduced, but this is now being done by Dr. Knox Shaw. Mr. Robbins's article summarises the work done at the Observatory since its foundation, and includes eight reproductions of illustrations of the building and instruments.

Slitless Spectrograms of the Orion Nebula.—In a recent communication to the Royal Astronomical Society (*Mon. Not.*, **90**, p. 580), Dr. W. J. S. Lockyer publishes some slitless spectrograms of the Orion nebula, extending from the green 'nebulium' lines to the pair at λ3727, obtained with much higher dispersion than has been previously used for this work. The results are discussed in relation to earlier work of the same kind by Pickering and Mitchell and to the researches of Keeler, Hartmann, and Reynolds, who photographed monochromatic images, using specially prepared light-filters. The results endorse in the main those of the investigators named, and show that the radiation from the central portion of the nebula—the so-called Huyghenian region—is almost entirely due to hydrogen, and the two 'nebulium' lines, N_{12}, now traced to O III. The 'Messierian' branch, to the east of the central portion, emits this radiation together with the λ3727 pair of O II, and the outlying regions radiate the λ3727 pair with practically nothing else. Numerical estimates are given, on an arbitrary scale, of the intensities of each of the several radiations in different regions. The relative faintness of the λ3727 images compared with those obtained by other workers—Reynolds, for example—is doubtless attributable to absorption in the lenses of the telescope; Reynolds, who obtained much stronger images, used a reflector. On p. 523 of the same volume of the *Monthly Notices* appears another communication from the Norman Lockyer Observatory—a further list of spectroscopic parallaxes and spectral types of *B*-type stars determined by Mr. D. L. Edwards. Data for 175 stars are tabulated and discussed in comparison with the results of other observers, with which they agree very well.