these subjects reference has already been made in our columns.

DURING the last few years Messrs. Thomas Murby and Co. have become known as publishers of books on geological subjects. Their geological supplies department, or at least the extent of its resources, is perhaps less familiar. A catalogue which they have recently issued can be consulted with profit by teachers and students who may from time to time desire to purchase apparatus and materials for geological work in the field or laboratory. Hammers, collecting bags, map cases, and clinometers are represented in great variety. Collections of rocks, minerals, ores, crystals, thin sections, and fossils are available, specially selected in several cases to illustrate standard text-books on mineralogy, petrology, and palæontology, together with card trays, cabinets, and slide boxes suitable for the storage or display of specimens. Petrological microscopes by well-known makers are supplied, and all the accessory apparatus required for petrographic methods. Crystal models and structural models of considerable interest for teaching purposes have recently been introduced. Intending purchasers of geological materials and accessories such as those mentioned should consult Messrs. Murby's catalogue.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned :—An assistant lecturer in geography at University College, Nottingham — The Registrar, University College, Nottingham (Nov. 26). A lecturer in elementary general chemistry at the National Bakery School, Borough Polytechnic—The Principal, Borough Polytechnic, S.E.1 (Nov. 28). A resident clinical pathologist at the Manchester Royal Infirmary—The Chairman of the Medical Board, Royal Infirmary, Manchester (Nov. 29). An assistant lecturer in geography at the University College of Hull—The Registrar, University College, Hull (Nov. 30). A whole-time head of the Aristotle Road, Clapham, Junior Commercial and Junior Technical Evening Institute—The Education Officer (T.7), The County Hall, Westminster Bridge, S.E.1 (Dec. 1). An assistant anatomist in the University of Cape Town—The Secretary, Office of the High Commissioner for the Union of South Africa, 72 Strand, W.C.2 (Dec. 17). A full-time pathologist at Napier Hospital, New Zealand—The Managing Secretary, Hawkes Bay Hospital Board, Napier, New Zealand (Jan. 10). A male assistant in the sheep department of the Rowett Research Institute Experimental Stock Farm—The Secretary, Rowett Research Institute, Bucksburn, Aberdeen.

Our Astronomical Column.

A Study of Spectroheliograms. — An important contribution to the study of the sun's atmosphere by means of spectroheliograms, which record the sun's surface in monochromatic light at different levels from the photosphere to the top of the chromosphere, is given by L. D'Azambuja in *Annales de l'Observatoire de Paris*, Section d'Astrophysique, à Meudon, Tome 8, Fas. 2. Hitherto most spectroheliograms have been obtained in the hydrogen light ($H\alpha$) and in that of ionised calcium (H and K), though Deslandres in 1894, Hale and Ellerman in 1903, and Fox in 1905 first respectively recorded the sun's surface in the light of other elements. D'Azambuja's present research is concerned chiefly with such elements as magnesium, iron, calcium (neutral), sodium, and strontium, that are characteristic of the lower chromosphere or reversing layer. For this work a powerful spectroheliograph such as that at Meudon is essential, and it was possible to study the changes as the narrow selecting slit was set respectively at the middle and at the edge of the spectral line used. As is well known, there are significant differences (explicable as being mainly due to difference of level in the sun's atmosphere) between spectroheliograms taken in the light which comes from the narrow central portion of the $H\alpha$, H, or K lines and those obtained when the edges of the lines are likewise isolated. A comparison of these established differences with those observable in the case of the lines due to lower-lying elements, together with a knowledge of the curves of intensity of the lines, forms the basis of the present discussion.

The memoir also contains results relating to the infra-red lines, λ8498 and λ8542, of ionised calcium. The possibility of obtaining spectroheliograms with these lines was indicated by C. R. Davidson at Greenwich in 1927, when he measured their intensities relative to those of H and K in the spectrum of the chromosphere. Using hypersensitised neocyanin plates, D'Azambuja has successfully obtained spectroheliograms in these radiations. The memoir, which contains excellent illustrations, whilst presenting new results, is a valuable book of reference to the work of others in this line of solar research.

Identity of a Minor Planet.—M. Delporte detected an interesting object at the Uccle Observatory on Sept. 29. He was doubtful whether it was a comet or minor planet, but there is now little or no doubt of its planetary nature. The following orbit is given in *Circular* 364 of the Berlin Recheninstitut by A. Kahrstedt :

M	327°·21	
ω	57·92	1930·0
Ω	1·01	
i	22·29	
e	0·2975	
Period	3·538 years	
q	1·631	

It seems very probable that the object is identical with 330 Adalberta, discovered at Heidelberg in 1892, but not seen since that year.

The following observations were then obtained (*Astr. Nach.* 3319) :

Heidelberg M.T.	Apparent R.A.	Apparent Decl.
1892 Mar. 18d 11h 23·0m	11h 57m 2·90s	0° 6′ 19·6″ N.
,, 20 11 40·0	11 54 28·30	0 8 34·3 S.

It was only by a curious chance that this object received a number and a name. Another planet discovered on 1892 Mar. 19 received the designation 330 Ilmatar ; this was afterwards found to be identical with 298 Baptistina, and the planet of Mar. 18 was given the number 330 in order to fill the gap.

If the new object is Adalberta, the period must be about 3·613 years, if 11 revolutions were completed between 1891 and 1931 ; or 3·31 years if 12 revolutions were completed. Prof. J. Comas Sola announces the discovery at Barcelona of a planet of mag. 10·7 in Pisces, but gives no position : it may be the Delporte object.