

free from the adverse conditions inherent in a competition of this nature.

THE Paris correspondent of the *Times* states that M. Callizo, the French airman, has created a world "record" for altitude by reaching the height of 11,841 metres (38,843 ft.) in a flight made on October 10. M. Callizo's barogram has been verified at the École des Arts et Métiers. The previous record was held by M. Sadi-Lecointe, who reached a height of 35,239 ft. at Villesauvage, France, on September 5, 1923.

THE "Cobb" lectures, which were delivered before the Royal Society of Arts in March and April of the present year by Dr. T. Slater Price on "Certain Fundamental Problems in Photography," are published in full in the Society's Journals for September 5, 12, and 19. The three lectures form a concise but comprehensive statement of the present state of knowledge concerning the gelatino-bromide photographic plate. Dr. Slater Price deals first with gelatin and especially its physical properties and matters related thereto. He passes on to the colour of silver deposits produced in gelatin films by photographic processes, the nature of the developable as well as of the printed out image, the theories of the nature of the action of light and the "centres" of sensitiveness in the grains, and other matters. Those interested in these things will find it a great help to have the various results brought together as they are here,

with the valuable critical and comparative remarks of the lecturer.

THE latest catalogue of Mr. F. Edwards, 83 High Street, Marylebone, W.1 (No. 462, British Empire Series, No. 5), deals with books, engravings, drawings, and maps relating to Canada, West Indies, British Guiana, and Falkland Islands.

WE have received from Mr. W. H. Robinson, Nelson Street, Newcastle-upon-Tyne, a copy of his catalogue No. 11, 1924, of second-hand books. The catalogue, which is of a miscellaneous character, contains the titles of a good many works likely to interest readers of NATURE, e.g. a section is devoted to books illustrated by Thomas and John Bewick, and others to botany, natural history, folklore and archæology. The prices asked appear to be reasonable.

A NEW book by Prof. Ellsworth Huntington is announced by Charles Scribner's Sons. It is entitled "The Character of Races: their Formation and Modification by Environment," and is a study of the ways in which racial character is moulded and modified by environment. Another book in the same publishers' announcements is "Racial Realities in Europe," by L. Stoddard. In this volume the following subjects are dealt with: racial realities, kindred Britain, the Nordic North, composite France, the Mediterranean South, Alpinised Germany, disrupted Central Europe, the Alpine East, the Balkan flux, Turkey, Arab lands, and the new realism of science.

### Our Astronomical Column.

COMETS.—Encke's Comet has brightened remarkably, and is now on the verge of naked-eye visibility. A photograph by Mr. G. Merton shows a short tail. It is 138 years, or 42 revolutions, since the comet was first seen, but the loss in brightness during that period is not noticeable, in spite of the small perihelion distance. Some thirteen years ago the late Mr. W. T. Lynn suspected that the comet was fading, but the loss of light, if present, was only temporary.

Dr. W. Baade succeeded in photographing Reid's Comet, 1924a, on September 27 with the Bergedorf reflector. It was of magnitude 16 as compared with the calculated magnitude 10, indicating great physical loss of light. The position was within 4' of the Copenhagen orbit.

MARS.—*L'Astronomie* for August contains several drawings of the planet Mars, made during June and July. The southern hemisphere was then in its spring, the summer solstice being passed on September 30. The southern polar cap was large and showed much interesting detail. It was crossed by two large dark rifts, and the region Argyre on its edge was brighter than the rest of the cap.

M. Antoniadi, who has been observing with the 30-in. Meudon refractor, gives a series of measures of the size of the polar cap in the *Comptes rendus* of the Paris Academy of Sciences for September 22. Several years ago he contributed a paper to the Royal Astronomical Society indicating that the size and rate of melting of the cap vary with the solar cycle. The size is greater and the melting slower in times of sunspot minimum and diminished radiation.

It is noted that the present results are in full accord with this, and that the late winter and spring of the Martian southern hemisphere appear to have been colder than the average.

THE SPIRAL NEBULÆ.—Dr. K. Lundmark contributes a paper to the *Observatory* for September, dealing with the radial velocities and proper motions of the spiral nebulae. He includes some nebulae of the class described by Reynolds as globular, since they share the high radial velocity. He finds the following values for the solar apex and motion:

(1) From the radial velocities of 43 spirals—

R.A. of apex . . . . .	20 <sup>h</sup> .3 ± 3 <sup>h</sup>
Decl. . . . .	+75° ± 30°
Velocity . . . . .	651 ± 135 km./sec.

The large K term of +793 ± 88 km./sec. is indicated.

(2) From the very small and uncertain proper motions of seven spirals—

R.A. of apex . . . . .	1 <sup>h</sup> .7 ± 5 <sup>h</sup>
Decl. . . . .	+63° ± 46°
<i>q</i> . . . . .	0.0074" ± 0.0055"

Deduced mean distance of spirals 61,000 light years.

No allowance has been made for proper motion of comparison stars, which were of about magnitude 16.

The two positions of the apex do not differ more widely than we should expect from the large probable errors. Both R.A. and Decl. are considerably larger than the values, 18<sup>h</sup> and +30°, given by the nearer stars, suggesting that the whole group of stars round the sun is drifting relatively to the group of nebulae.