in geography. The catalogue includes descriptions of simple instruments for map making and other field work, determination of position, and meteorological observations.

IN the notice of "Oologia Universalis Palæarctica" in NATURE of May 24 (p. 79) reference was made to the shortcomings of the English text. Messrs. Williams and Norgate ask us to state that arrangements have been made with Mr. Oliver G. Pike to revise the English text, so that in future the work may not suffer from imperfections of expression due to poor translation.

THE "Statesman's Year-book" (Macmillan, price 10*s.* 6*d.* net) continues to grow in size and value. The 1906 issue is some 150 pages larger than its immediate predecessor. Separate notices of the States included in the American union have this year been introduced for the first time. Recent important events have led to other changes in the year-book, and among these may be mentioned the dissolution of the union between Sweden and Norway, the peace between Russia and Japan, the mission to Tibet, and the last general election. The maps and diagrams, which are always an attractive feature of the publication, this year deal with the economic development of the United States, the new provinces of Canada, the division of Bengal, the Anglo-Portuguese Barotse boundary, the political changes in the Far East, the races of Russia, and the tariff chart of the world. The volume now runs to lxiv+1604 pages. The editor, Dr. J. Scott Keltie, is to be congratulated upon the forty-third issue of this indispensable work of reference.

OUR ASTRONOMICAL COLUMN.

ASTRONOMICAL OCCURRENCES IN JUNE:—

June 2. 15h. Conjunction of Venus and Neptune. (Venus 2° 24′ N.).
7. 10h. 45m. to 11h. 51m. Moon occults μ Sagittarii (mag. 4·0).
10. 3h. Jupiter in conjunction with the Sun.
,, 13h. 43m. to 14h. 46m. Moon occults ι Capricornii. (mag. 4·3).
12. 18h. Saturn in conjunction with the Moon. Saturn 0° 56′ N.).
15. Venus. Illuminated portion of disc =0·849. Of Mars =0·997.
16. 10h. 19m. Minimum of Algol (β Persei).
21. 21h. Sun enters Cancer. Summer commences.
24. 10h. Venus in conjunction with the Moon. (Venus 2° 29′ N.).
26. 5h. 3m. Moon approaches very near to α Leonis (Regulus).
28. 16h. Uranus in opposition to the Sun.
,, Saturn Outer major axis of outer ring =41″·47. Outer minor axis of outer ring =2″·31.

PHOTOGRAPHING THE CORONA WITHOUT A TOTAL ECLIPSE.—Numerous experiments have been devised and carried out in the attempt to obtain photographs of the solar corona during ordinary sunlight, without waiting for the rare occasions on which the sun is totally eclipsed. Hitherto no decided success has rewarded these efforts, but another attempt is to be made by MM. Millochau and Stefanik with an equipment mounted on the summit of Mont Blanc.

These observers propose to employ a spectroheliograph such as is now used at several solar physics observatories to obtain monochromatic images of the chromospheric clouds and prominences, but, instead of using one of the calcium or hydrogen lines on the second slit, they propose to isolate the chief corona line, at λ 5303, and to eliminate the light of other radiations by means of an appropriate green screen.

Preliminary experiments with this apparatus at Meudon have given encouraging results, and the observers hope that, in the clear atmosphere of the mountain summit, indubitable success will be attained (*Comptes rendus*, No. 17, 1906).

TERRESTRIAL TEMPERATURES AND THE SOLAR RADIATION.—In the report of the Smithsonian Institution for the year ending June 30, 1905, Mr. C. G. Abbot, who has charge of the Astrophysical Observatory, discusses the recent observations of solar radiation and its connection with terrestrial temperatures.

This matter was discussed by the late Prof. S. P. Langley in the *Astrophysical Journal* for June, 1904, who then arrived at the conclusion that the evidence available indicated that the total solar radiation may vary in comparatively brief periods, and that the irregular variations were frequent and large enough to produce considerable changes of the earth's mean temperature.

In the present communication Mr. Abbot summarises the results obtained since 1902, and, by comparing the values found for the transmission of the solar envelope, and the consequent transmission of the solar radiations to the earth, with the variations of temperature at a number of stations situated in the terrestrial north temperate zone, he has deduced evidence which strongly supports Prof. Langley's theory.

High values of solar radiation and solar transmission appear to precede and to accompany high temperatures in the north temperate zone, and *vice versâ*.

The tables and curves which appear in the report substantiate this view, and Mr. Abbot expresses the hope that the study of the solar radiation will soon prove a valuable aid in forecasting climate.

THE DISTRIBUTION OF THE STARS.—In No. 7 of the Publications of the Groningen Astronomical Laboratory Prof. Kapteyn published the material on which he based his studies on the distribution of the stars in space, the distribution of cosmical velocities, &c., and also gave the results of five separate computations based on three different values of the precession and three different positions of the apex of the solar motion.

In this publication 2640 stars of Bradley's catalogue were grouped in ten degrees of declination, and the results given in two tables, the first of which contained the stars having spectra of Secchi's second type, the second the stars of type i. and unknown spectra.

No. 9 of the same publications contains the results of a *sixth* computation based on more refined data and arranged in a different manner. Instead of grouping the stars according to declination, Prof. Kapteyn has arranged them in zones of Galactic latitude, because, in considering the structure of the universe, it is obviously desirable to take the Milky Way as the fundamental plane. Also, instead of including the stars having unknown or peculiar spectra with those of type i., he has placed them in a table by themselves. In this way he has discussed the distribution and proper motions of 1093 stars belonging to type ii., 1144 stars belonging to type i., and 381 stars the spectra of which have not yet been recognised as belonging to either of Secchi's groups.

The complete catalogue should prove of exceptional interest and usefulness to anyone engaged in any discussion on cosmical evolution, and it would be exceedingly interesting to see what modifications might be necessary if the stars were divided into subgroups according to their ascending and descending temperatures as given in Sir Norman Lockyer's classification.

OBSERVATIONS OF COMETS.—The results of a number of observations of various comets, made at the Chamberlin Observatory (Denver) by Prof. H. Howe during the period November, 1904, to June, 1905, appear in No. 4091 of the *Astronomische Nachrichten*.

Six comets are included, of which comet 1905 i. (Encke) was observed from November 11 to December 27, 1904, and at times appeared to have a faint nucleus and an eccentric, fan-shaped tail. At 6h. 20m. (local M.T.) on December 5 a star of mag. 9·0 shone so lustrously through the comet that the nucleus was invisible.

Half an hour later the nucleus, which was near the following end of the comet, was plainly visible.