logical and kindred sciences, and includes the important collection of the late Prof. H. Dove. It is arranged under subjects, with the titles under each entered according to authors or institutions, while an alphabetical index at the end facilitates the reference to the subject catalogue. Opinions differ as to the best method of publishing such a work, the strictly alphabetical arrangement, such as followed by Prof. G. Hellmann in his excellent *Repertorium der Deutschen Meteorologie*, or the Royal Society's catalogue of scientific papers, possesses great advantages, and obviates the necessity of indexing one book under several sections; but as the Seewarte originally adopted another method, it has perhaps done well to keep to the same plan, and has rendered good service to science by its careful preparation and timely publication of the catalogue. The first part was issued in the year 1890.

THE additions to the Zoological Society's Gardens during the past week include a Rhesus Monkey (*Macacus rhesus*, ♂) from India, presented by Mr. Hugh H. Collis; a Macaque Monkey (*Macacus cynomolgus*, ♂) from India, presented by Mr. E. Laundy; a Vervet Monkey (*Cercopithecus lalandii*, ♀) from South Africa, presented by Mrs. Edward Webb; two Brown Capuchins (*Cebus fatuellus*) from Guiana, presented by Major W. S. D. Liardet; two Black-eared Marmosets (*Hapale penicillata*) from South-east Brazil, presented by Mrs. H. V. Friend; a Suricate (*Suricata tetradactyla*) from South Africa, presented by Mr. J. Lewis; a Purple-capped Lory (*Lorius domicella*) from Moluccas, presented by Mr. T. Bailey; two Tarantula Spiders (*Mygale*, sp. inc.) from Trinidad, presented by Mr. J. Hoadley; six Grey Parrots (*Psittacus erithacus*) from West Africa, deposited; a Collared Fruit Bat (*Cynonycteris collaris*), a Ypecha Rail (*Aramides ypecaha*), bred in the Gardens.

OUR ASTRONOMICAL COLUMN.

REAPPEARANCE OF SWIFT'S COMET.—The *Edinburgh Circular*, No. 44, publishes a telegram from Kiel announcing that Comet Swift was seen by Mr. E. E. Barnard, at the Lick Observatory, on the 20th and 21st inst. The comet is described as faint, and its position and daily motion are given as follows:—

Local Mean Time.	R.A.	Decl.
	h. m. s.	° ′ ″
1895, August 21, 11 23·7 ...	0 30 11·4. ...	+5 38 55
Daily Motion ...	+2 48 ...	+ 10

THE LATITUDE VARIATION TIDE.—One of the most interesting outcomes of the recognition of the variability of the earth's axis of rotation has been the search for the tide, corresponding to the latitude variation. The separation of the axis of rotation from the axis of figure must cause at any point on the earth's surface successive divergences of the sea-level, from that which would exist if the figure of the earth remained a fixed ellipsoid of revolution. This consideration naturally led to the inquiry whether a small oscillation in the mean sea-level could be actually detected, having the same period as the displacement of the pole. The earliest results published were those obtained by Dr. Bakhuyzen (*Astr. Nach.* No. 3261), who used the tidal observations for the years 1855 to 1892, registered on a mareograph at the Helder, and these results showed a satisfactory agreement with those deduced from astronomical observations.

In the meantime Mr. A. S. Christie has been at work on the records made at the United States Coast Survey mareograph stations, and his results, embodied in a paper read before the Philosophical Society of Washington, are now before us. The paper is divided into two sections, the first of which is devoted to the derivation of the formulæ necessary for the elimination of the effects of other tides, and the second contains the results of the application of these formulæ.

The observations employed are obtained from two series, made at stations in the vicinity of San Francisco, namely, at Fort Point (1856–70) and Sausalito (1877–91). Mr. Christie has also used a similar series made at Pulpit Harbour, Penobscot Bay, Maine (1870–88). It will be sufficient to give here the final result arrived at by combining the results at San Francisco and Pulpit Harbour. The period deduced is 431 ± 4 days, and the value of the half-range tide is 15 ± 2 mm.; while the dates at which the critical phases of the tide occurred are:—

	San Francisco.	Pulpit Harbour.
Min.,	1872, July 15 ± 15 days ...	1878, August 22 ± 10 days.
Max.,	1873, Feb. 15 ± 15 ,, ...	1879, March 25 ± 10 ,,

Dr. Bakhuyzen's value of the half-range is 8·2 mm., a result that does not differ greatly from the mean here given, 15 mm., or from either of the two results, 17·4 mm. and 12·5 mm., on which this value rests.

Reduced to the latitude of Berlin, we have another comparison between the investigations of the American and Dutch astronomers, and the results are still fairly satisfactory, as shown below:—

Julian Date of Maximum Latitude of Berlin.

Bakhuyzen,	from astronomical observations 2405141 Julian
,,	from discussion of Helder tides ... 201
Christie,	from San Francisco tides ... ... 153 ± 16

It seems possible, therefore, that this difficult question of the motion of the earth's pole may be attacked by two quite separate processes.

THE SOLAR PARALLAX FROM MARS OBSERVATIONS.—With the view of making a new and trustworthy determination of the solar parallax, a scheme was suggested in 1892 by the authorities of the Washington Observatory for the observation of the difference of declination at the time of meridian passage between Mars and a number of selected stars. The horizontal equatorial parallax of Mars reached in that year a maximum of 23″·4, a sufficiently favourable condition, though the small altitude of the planet in the northern observatories was likely to introduce considerable uncertainty in the amount of refraction. Among the observatories that replied to the invitation of Washington to take part in this scheme are those of Gotha and the Cape of Good Hope. The result of the combination of the two sets of observations has recently been published by Dr. Paul Harzer, and are of especial interest, since Gotha lies nearly on the northern limit of the region in which observations of Mars could be made with sufficient accuracy.

It was a part of the original suggestion—to which some exception was taken at the time—that in addition to the method of fixing the declination of the centre of Mars by the employment of a pair of wires, separated by about 16″ to cut off equal segments from the northern and southern limbs of the disc, a reflecting prism should be mounted outside the eyepiece, and that half the observations should be made with, and half without the use of this additional apparatus. The result of the precaution is shown in the following figures, in the case of the two observers who took part in the series:—

	Dr. Harzer.	Dr. Rohrbach.
Mars stars ...	+0″·253±0″·039 ...	−0″·383±0″·129
Mars	−0″·270±0″·091 ...	−0″·523±0″·262

These figures imply that Dr. Harzer placed the stars too low and the planet too high with reference to the threads, Dr. Rohrbach, in both cases, too high.

The observations were continued from June 22 to September 23, and when combined in three groups, formed on the assumption that the error of the ephemeris is constant throughout each group, the resulting values of the solar parallax are—

Group	I. ...	$\pi = 8''\cdot680 \pm 0''\cdot081$
,,	II. ...	$= 8''\cdot890 \pm 0''\cdot089$
,,	III. ...	$= 8''\cdot828 \pm 0''\cdot065$

or combined into one, $\pi = 8''\cdot799 \pm 0''\cdot044$.

The complete combination of the whole series formed into 20 normal places, and in which the possible variation of the error of the ephemeris is also sought, gives $\pi = 8''\cdot800 \pm 0''\cdot039$, and the value of $d\delta$ is expressed in the form

$$d\delta = \frac{-1''\cdot147 + 0''\cdot288t}{\Delta},$$

where t and Δ are reckoned from August 7·000, and the unit for t is 50 days.