Variable Stars.

Star.	R.A. h. m.	Decl. ° ′				h. m.	
U Cephei	0 52·3	81 16 N.	...	Sept.	5,	19 6	*m*
λ Tauri	3 54·4	12 10 N.	...	,,	7,	4 14	*m*
V Geminorum	7 16·8	13 19 N.	...	,,	9,		*M*
R Leonis Minoris	9 38·8	35 2 N.	...	,,	10,		*M*
δ Libræ	14 54·9	8 4 S.	...	,,	5,	4 31	*m*
					,,	9, 20 14	*m*
U Coronæ	15 13·6	32 4 N.	...	,,	9,	4 52	*m*
U Ophiuchi	17 10·8	1 20 N.	...	,,	5,	5 32	*m*
			and at intervals of 20			20 8	
X Sagittarii	17 40·5	27 47 S.	...	Sept.	7,	22 0	*m*
W Sagittarii	17 57·8	29 35 S.	...	,,	9,	0 0	*m*
U Sagittarii	18 25·2	19 12 S.	...	,,	10,	5 0	*M*
β Lyræ	18 45·9	33 14 N.	...	,,	9,	0 0	*M*
η Aquilæ	19 46·7	0 43 N.	...	,,	7,	0 0	*M*
δ Cephei	22 25·0	57 50 N.	...	,,	5,	2 0	*m*

M signifies maximum ; *m* minimum.

Meteor-Showers.

	R.A. °	Decl. °		
Near φ Tauri	62	37 N.	...	Swift ; streaks.
,, 15 Orionis	74	14 N.	...	Swift ; streaks.
,, α Andromedæ	355	39 N.	...	Very swift.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, August 22.—M. Janssen in the chair. —On the eclipse of August 19, by M. J. Janssen. The reports received from the various stations in European Russia and Prussia are generally described as unfavourable, owing to the clouded state of the weather at the critical time. A telegram, however, from M. Stanoiewitch states that at the Petrovsk station it was clear enough to take some photographs and to make a few observations. Much regret is expressed that so few observers could be induced to visit the Siberian stations, where much more successful studies might have been made.—On the cooling of the terrestrial crust, by M. Faye. This is a protest against the Rev. Ch. Braun, who, in his recent work on " Cosmogony from the Stand-point of Christian Science," adopts without acknowledgment the author's fundamental theory that the chilling process goes on more rapidly and more deeply under the seas than under the continents. M. Faye complains that M. Braun refers to him by name when criticizing his views, but omits to do so when adopting and reproducing them.—Solution of a problem, by M. J. Bertrand. Supposing a scrutiny of the ballot for two candidates, A and B, the number of voters being μ ; A, the successful candidate, obtaining *m* and B μ − *m* votes, what is the probability that during the scrutiny the number of votes for A will throughout exceed those of his rival ? A rigorously algebraic solution is given of this problem, and it is added that the result may perhaps be shown in a more direct way. Thus, if the number of voters be sixty, the successful candidate must have obtained forty-five votes in order that the probability of keeping the majority throughout the scrutiny be equal to ½.— Remarks accompanying the presentation of a memoir on the means of avoiding collisions at sea, by M. Moise Lion. The author considered that optical signals of great intensity could alone present sufficient guarantees of penetration in foggy weather. On board ships in motion the warning signal should consist of an electric focus projecting its light obliquely to the horizon and revolving round a vertical axis. He insists on the great advantage of imparting to the light an oscillatory motion in order to increase its luminosity.—On the partial lunar eclipse partly visible at Orgères (Eure-et-Loire) on August 3, by M. Edm. Lescarbault. The shadow cast on the upper left part of the moon was almost black ; but to the left, and especially to the right, there were noticed two curvilinear triangles of 2′·5 to 3′·5 length at base, where the shadow was ruddier than a very deep maroon. The triangle to the left was even darker than that to the right, while both were connected by a thin streak of the same colour, but deeper to the south of the moon. The inner edges of these maroon surfaces blended insensibly in the black shadow, and within them could be very faintly distinguished a few cirques, which could not be otherwise accurately determined. On the disk the shadow was edged with a grayish straw-coloured band, two and a half or three times as broad as

Tycho, the common edge of this band and of the shadow being somewhat sharply traced.—On the coefficient of self-induction of two bobbins combined in quantity, by MM. G. Maneuvrier and P. Ledeboer. In a previous paper the authors dealt with the problem whether from the stand-point of self-induction it was possible to compensate two bobbins combined in quantity by a single bobbin, and consequently whether it might be possible to assign to such a system a determined coefficient of self-induction ·in the strict sense of the term. A fresh series of experiments are here described which have been carried out for the purpose of determining how far the results already obtained may be approximately verified for the most general case. These experiments lead to the conclusion that for the general case the system of two bobbins cannot be compensated by a single bobbin, and consequently that such a system has no coefficient of self-induction properly so called.—On the compressibility of some solutions of gas, by M. F. Isambert. From the experiments here described the author infers that a simple solution of gas changes very little the coefficient of compressibility of the solvent ; further that the solution of ammoniac gas in water behaves in the same way as that of a true chemical compound. —On the titanates of zinc, and more particularly on a trititanate, by M. Lucien Lévy. Metallic titanates are obtained either by the action of the metallic oxide on the titanic acid in the presence of the chloride or the fluoride, or else by the action of a mixture of the metallic sulphate and an alkaline sulphate on the same acid. Applied to the production of the titanates of zinc these two processes have yielded different results. The first, which is here more specially dealt with, leads in general to a trititanate. The second, on the contrary, furnishes several salts according to the proportions employed.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Science and Art Schools and Classes Directory, 1887 (Eyre and Spottiswoode).—Calendar of Durham College of Science, Newcastle-on-Tyne, 1887–88 (Newcastle-on-Tyne).—Insects Noxious to Agriculture and Plants in New Zealand ; The Scale Insects : W. M. Maskell (Wellington).— Electrical Distribution by Alternating Currents and Transformers : R. Kennedy (H. Alabaster and Co.).—Proceedings of the Liverpool Naturalists' Field Club, 1886–87 (Liverpool).—Economic Forestry : Prof. Boulger.— Transactions and Proceedings of the New Zealand Institute. 1886. vol. xix. (Wellington).—Quarterly Journal of the Geological Society, vol. xliii. Part 3, No. 171 (Longmans).—Journal of Physiology. vol. viii. Nos. 4 and 5 (Cambridge).—Annalen der Physik und Chemie, 1887, No. 9 (Barth, Leipzig)— Quarterly Journal of Microscopical Science, August (Churchill).—The Asclepiad, No. 15, vol. iv. : Dr. B. W. Richardson (Longmans).

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