Declinationsrichtungen werden diesen Hülfskreis allgemein in je zwei Punkten schneiden, entsprechend den beiden verschiedenen Zeiten, wo eine gleiche Declination stattfindet, bis an den Grenzen, wo die beiden Schnittpunkte in einen einzigen Berührungspunkt übergehen, und somit die Maximal- und Minimalwerthe der Declination erscheinen. Im Uebrigen bleibt die Richtung der Zählung wie bei dem Zifferblatte der Uhr, oder rechts herum, und ausgehend von der mittleren Richtung.

Wegen der Verschiedenheit der Ortsconstanten werden hierbei ebenso viele concentrische Kreise um den Mittelpunkt C entstehen, ohne dass die Peripherie des einen Kreises einen Vorzug vor den anderen hätte, oder überhaupt einer solchen Kreisperipherie eine weitere allgemeine Bedeutung zukäme, als dass sie die jedesmalige magnetische Richtung für den zugehörigen Beobachtungsort angiebt.

Für die Beobachtungsörter auf südlicher Breite liess sich die Bestimmung des Convergenzpunktes der mittleren Richtungen der magnetischen Meridiane zunächst in folgender Gruppe übereinstimmend darstellen.

Nr.	Beobachtungsörter	Distanz	Winkel C	Breite v. C φ	Länge von C λ	Abweichung vom Mittel $d\varphi$	$d\lambda$	$\cos\varphi . d\lambda$
				S	E			
1	Cap St. Augustin-Bourbon	87° 34′	83° 45′	72° 33′	106° 58′	+0° 7′	+1° 38′	+0° 29′
2	Cap St. Augustin-Mauritius	89 23	89 24	72 1	107 51	−0 25	+0 45	+0 14
3	Bourbon-Fernando Noronha	86 59	76 23	72 18	106 38	−0 8	+1 58	+0 36
4	Bourbon-Rio de Janeiro	89 36	93 59	72 40	108 40	+0 14	−0 4	−0 1
5	Fernando Noronha-Mauritius	88 45	82 38	72 48	112 15	+0 22	−3 39	−1 7
6	Mauritius-Rio de Janeiro	91 28	95 55	72 17	109 15	−0 9	−0 39	−0 12
			Mittel =	72 26	108 36			

Auch andere südliche Oerter in geeigneter Lage zur Bestimmung des Convergenzpunktes der mittleren Meridiane gaben die Breite dieses Punktes niedriger als den entsprechenden Punkt auf nördlicher Breite, wie er vorher gefunden war; doch sprach sich in dem vorhandenen geringeren Beobachtungsmaterial bei den südlichen Oertern die Sache überhaupt nicht so entschieden für einen bestimmten Convergenzpunkt aus, wie bei den nördlichen Beobachtungsörtern.

Kiel 1895 März 18. *G. D. E. Weyer.*

Stars having Peculiar Spectra.
Eleven New Variable Stars.

(Communicated by *Edward C. Pickering*, Director of Harvard College Observatory.)

An examination of the photographs of stellar spectra taken at Arequipa, Peru, under the direction of Professor S. J. Bailey, and forming part of the work of the Henry Draper Memorial, has, during the last few months, shown marked peculiarities in the spectra of eleven objects enumerated in Table I, and has resulted in the discovery of eleven new variable stars enumerated in Table II. The first column of Table I gives the designation of the object and is followed by the approximate right ascension and declination for 1900, the catalogue magnitude, and a brief description of the photographic spectrum.

Table I.

Design.	α 1900	δ 1900	Magn.	Description
Cord. ZC. 3^h1404	$3^h46^m.7$	−43° 50′	$8^1/_2$	Type IV
BD. −22°1070	5 14.5	−22 19	8.7	Peculiar
NGC. 2070	5 40.5	−69 43	—	Bright lines. Gas. Neb.
Cord. GC. 8518	6 46.1	−32 24	4.0	$H\beta$ bright
Cord. GC. 9181	7 10.2	−26 10	5.4	$H\beta$ bright
—	7 19.5	+ 9 7	—	Bright lines. Gas. Neb.
Cord. DM. −31°5004	7 41.1	−31 41	9.2	Type V
Cord. ZC. 7^h2999	7 42.0	−34 8	$9^1/_2$	Bright lines. Gas. Neb.
—	16 16.8	−51 18	—	Type V
—	16 39.8	−67 36	—	Type IV
Cord. ZC. 17^h734	17 13.2	−66 15	$8^1/_2$	Peculiar

The gaseous nebula whose approximate position for 1900 is in RA. $7^h\ 19^m.5$ Dec. $+9°\ 7'$ was found in the examination of the photographs taken with the 8 inch Draper telescope at Cambridge.

The stars contained in Table II have a spectrum of the third type; having also the hydrogen lines bright, and their variability was at once suspected from this peculiarity. Conclusive evidence of their variation, as shown below, was in each case obtained on examination of chart plates of these regions. They are not here announced as suspected variables, but as variable stars, the variation, in each case, having been confirmed independently from an examination of the photographs by Professor Edward C. Pickering. The first column gives the constellation, and the second, the catalogue designation. This is followed by the approximate right ascension and declination for 1900, the number of photographs examined, and the maximum and minimum photographic magnitude as derived from the photographs.

Table II.

Constell.	Design.	RA.	Dec.	No. Plates	Magn. Max.	Magn. Min.
Tucana	—	$0^h18^m.4$	$-62°\ 14'$	15	8.7	<11.6
Pictor	Cd. GC. 5428	4 43.5	−49 25	16	8.1	9.5
Lepus	BD. −22°995	5 0.6	−22 2	13	8.2	10.9
Pictor	Cd. ZC. 5^h283	5 8.3	−48 38	16	8.6	<13.3
Scorpius	—	17 35.1	−43 42	37	9.3	12.7
Telescopium	—	20 7.6	−47 18	7	8.4	11.6
Indus	Cd. ZC. 20^h1539	20 49 0	−54 42	26	8.4	<12.4
Octans	—	20 57.4	−82 30	28	9.0	<12.5
Grus	—	21 42.1	−47 22	25	8.4	<12.5
Aquarius	—	22 13.2	−21 26	18	8.4	11.6
Phoenix	Cd. GC. 32334	23 53.9	−57 8	22	7.2	8.7

— Tucanae. RA. $0^h\ 18^m.4$ Dec. $-62°\ 14'$. The magnitudes of this star as derived from photographs taken on Sept. 11, Oct. 8, Nov. 28, 1889; Sept. 12, Sept. 23, 1890; Aug. 20, Sept. 17, Oct. 4, Oct. 4, Oct. 26, 1891; July 31, Sept. 5, 1892; Oct. 23, 1893; July 6 and July 23, 1894 are <10.9, 10.6, 9.4; 9.4, 9.7; <10.7, <11.3, <11.5, <11.6, 11.3; 8.7, 9.2; <10.3; 8.8 and 9.0 respectively.

— Pictoris. Cd. GC. 5428. The magnitudes of this star as derived from photographs taken on Sept. 26, Sept. 26, Oct. 4, Oct. 8, 1889; Sept. 23, 1890; Oct. 26, 1891; Sept. 28, Sept. 29, Dec. 8, 1892; Nov. 18, 1893; Aug. 21, Aug. 25, Sept. 14, Sept. 19, Sept. 19 and Oct. 19, 1894 are 8.5, 8.3, 8.5, 8.6; 8.8; 8.6; 8.6, 8.6, 9.5; 9.0; 8.1, 8.2, 8.4, 8.5, 8.5 and 8.9 respectively.

— Leporis. BD. −22°995. The magnitudes of this star as derived from photographs taken on Nov. 4, Nov. 17, 1889; Febr. 3, Sept. 19, Sept. 19, Dec. 29, 1890; Jan. 26, 1891; Nov. 18, 1893; Sept. 14, Oct. 24, 1894; March 5, March 9 and March 16, 1895 are 9.2, 8.4; 9.4, 10.5, 10.3, 8.4; 9.4; 8.2; 10.4, 9.0; 10.9, 10.8 and 10.8 respectively.

— Pictoris. Cd. ZC. 5^h283. The magnitudes of this star as derived from photographs taken on Sept. 26, Sept. 26, Oct. 8, Nov. 6, 1889; Sept. 23, 1890; Oct. 24, Nov. 23, 1891; Sept. 28, Oct. 6, Dec. 8, 1892; Sept. 27, Sept. 27, Nov. 18, 1893; Sept. 14, Sept. 19 and Nov. 5, 1894 are <10.8, <11.1, <11.8, <12.7; <13.2; <13.3, <11.4; 11.5, 12.0, <13.3; 10.6, 10.6, 11.4; 11.3, 11.0 and 8.6 respectively.

— Scorpii. RA. $17^h\ 35^m.1$ Dec. $-43°\ 42'$. The magnitudes of this star as derived from photographs taken on July 9, July 9, July 13, July 17, July 19, July 20, July 21, July 22, Aug. 6, Aug. 28, 1889; May 9, June 9, June 9, 1890; May 18, May 18, May 19, May 19, Sept. 8, 1891; April 19, June 6, June 10, 1892; April 27, May 1, May 1, May 8, May 8, June 24, 1893; May 23, June 1, June 1, June 1, June 1, June 14, July 20, July 20, Aug. 14 and Sept. 21, 1894 are 9.9, 9.8, 9.8, 9.6, 9.8, 9.6, 9.5, 9.5, 9.3, 9.6; 11.4, 10.7, 10.8; <11.8, <10.7, 12.4, <12.2, 9.6; <11.1, 10.8, 10.8; <11.1, 12.6, <11.6, 12.7, <12.4, 11.5; <12.3, <12.1, <11.8, <11.6, <11.3, <12.3, 11.4, 11.2, 10.7 and 9.9 respectively.

— Telescopii. RA. $20^h\ 7^m.6$ Dec. $-47°\ 18'$. The magnitudes of this star as derived from photographs taken on July 24, 1893; July 21, Aug. 21, Sept. 12, Sept. 15, Sept. 15 and Sept. 27, 1894 are 8.7; 11.6, 11.6, 9.0, 9.1, 8.9 and 8.4 respectively.

— Indi. Cd. ZC. 20^h1539. The magnitudes of this star as derived from photographs taken on June 20, July 5, July 19, July 21, July 22, Aug. 22, Oct. 26, 1889; May 21, May 22, June 2, June 10, June 10, July 16, 1891; Sept. 8, Sept. 8, Sept. 8, 1892; June 27, July 31, July 31, Sept. 23, Sept. 23, 1893; May 21, July 13, July 25, Aug. 11 and Aug. 11, 1894 are 10.3?, <11.3, <12.3, <11.9, <11.6, <12.4, <9.9; 11.3, 11.7, <12.1, <10.4, 12.0, <10.2; <11.1, <12.2, <12.2; 10.2, 11.3, 11.4, <12.2, <12.3; 8.4, 9.3, 9.7, 10.1 and 10.1 respectively.

— Octantis. RA. $20^h\ 57^m.4$ Dec. $-82°\ 30'$. The magnitudes of this star as derived from photographs taken on June 17, June 18, June 20, Aug. 8, Sept. 4, Sept. 16, Sept. 27, Oct. 1, 1889; June 9, June 13, June 14, Aug. 5, Sept. 5, 1890; June 11, June 11, June 11, June 14, June 19, Oct. 19, Oct. 19, 1891; May 3, June 23, 1893; July 16, July 16, Aug. 2, Aug. 13, Aug. 14 and Sept. 10, 1894 are 12.4, 11.8, <11.7, <10.8, <10.4, <10.3, <12.3, <11.8; 9.8, 9.5, 9.5, 10.3, 12.0; <11.2, <10.4, <12.5, <10.9, <12.5, 10.6, 10.6; <12.5, 9.8; 11.3, 11.2, 9.0, 9.1, 9.0 and 9.1 respectively.

— Gruis. RA. $21^h 42^m.1$ Dec. $-47° 22'$. The magnitudes of this star as derived from photographs taken on June 20, June 20, July 13, July 13, July 13, July 18, July 18, July 22, Sept. 11, Sept. 28, Oct. 8, 1889; June 12, 1890; May 20, June 8, June 8, June 8, June 13, July 16, 1891; Oct. 6, Oct. 6, 1892; July 24, July 24, Aug. 21, Aug. 21, 1893; May 21 and Aug. 31, 1894 are <10.5, <10.5, <11.1, <11.5, <11.7, <12.4, <12.5, <12.3, <11.6, <10.5, <11.7; 11.9; <11.8, <10.5, <11.8, <10.1, <10.8, <12.2; 8.8, 8.8; 11.8, 11.7, 10.2, 10.6; <11.6 and 8.4 respectively. The magnitude 10.2 on Aug. 21, 1893 may be somewhat in error since the image of the variable is near the edge of the plate thus rendering the comparison difficult.

— Aquarii. RA. $22^h 13^m.2$ Dec. $-21° 26'$. The magnitudes of this star as derived from photographs taken on Aug. 28, Sept. 3, Sept. 25, Sept. 27, Sept. 30, Sept. 30, Oct. 24, 1889; July 7, July 10, 1890; June 14, June 16, 1891; July 3, 1892; Sept. 20, Sept. 20, Oct. 25, Oct. 25, 1893; Aug. 10 and Aug. 11, 1894 are 10.0, 10.0, <10.6, 10.6, 10.8, 10.8, 11.6; 10.0, 9.9; 10.9, <10.6; <10.4; 9.4, 9.4, 9.3, 9.3; 8.5 and 8.4 respectively.

— Phoenicis. Cd. GC. 32334. The magnitudes of this star as derived from photographs taken on July 17, Aug. 20, Sept. 11, Oct. 8, Oct. 8, 1889; June 30, Aug. 20, Aug. 20, Aug. 21, Sept. 17, 1891; May 16, May 16, Aug. 16, Sept. 5, 1892; July 24, July 27, Aug. 21, Sept. 20, Sept. 27, Oct. 23, Nov. 17, 1893 and July 24, 1894 are 8.2, 8.4, 8.4, 7.2, 7.5; 8.7, 7.8, 7.7, 8.2, 8.3; 8.2, 8.2, 8.4, 8.4; 8.4, 8.2, 8.2, 8.1, 8.3, 8.2, 8.6 and 8.0 respectively.

The magnitudes given above for the new variable star in Aquarius were derived from the mean of two or more measures made idependently on two different dates and using a different set of comparison stars when the variable was faint. The average difference of these measures is ± 0.09.

Harvard College Observatory, Cambridge, Mass., 1895 April 9. *M. Fleming.*

Observations de planètes

faites à l'Observatoire d'Alger à l'Equatorial coudé de $0^m.318$

par MM. *Rambaud* et *Sy*.

1895	T. m. Alger	$\Delta\alpha$	$\Delta\delta$	Cp.	Obs.	α app.	$\log p.\Delta$	δ app.	$\log p.\Delta$	Red. ad l. app.	*
						(58) Concordia.					
Janv. 24	$9^h 57^m 51^s$	$-0^m 43^s.48$	$+13' 24''.8$	10.10	S	$8^h 21^m 2^s.93$	9.411_n	$+14° 32' 54''.1$	0.555	$+1^s.87 + 1''.1$	1
26	9 38 44	+0 46.43	− 0 26.5	12.10	S	8 19 13.15	9.439_n	+14 42 21.8	0.558	+1.89 + 1.1	2
Févr. 1	8 31 44	−1 47.67	− 7 58.5	15.10	R	8 13 46.72	9.530_n	+15 11 9.6	0.574	+1.96 + 1.1	3
1	8 53 2	−1 48.36	− 7 55.1	11.8	S	8 13 46.03	9.484_n	+15 11 13.0	0.556	+1.96 + 1.1	3
						(158) Hilda.					
Mars 30	9 44 12	−0 56.81	+ 1 17.1	15.10	R	11 26 8.26	9.154_n	− 5 1 41.5	0.767	+2.02 −12.9	4
						(80) Sappho.					
Mars 30	10 50 13	+0 34.78	+ 5 58.6	11.10	R	13 52 38.97	9.475_n	−15 17 21.6	0.818	+2.06 −16.3	5
Avril 12	9 16 26	−2 14.28	−11 38.8	12.12	S	13 41 27.79	9.540_n	−13 42 39.3	0.799	+2.20 −16.1	6
12	9 31 1	−2 14.93	−11 44.1	12.12	R	13 41 27.14	9.511_n	−13 42 44.6	0.805	+2.20 −16.1	6
30	8 7 28	+0 37.98	−13 8.8	8.8	R	13 25 2.01	9.503_n	−11 10 40.5	0.794	+2.29 −17.6	7
30	8 17 31	+0 37.64	−13 4.2	8.8	S	13 25 1.67	9.480_n	−11 10 35.9	0.796	+2.29 −17.6	7
Mai 1	9 8 13	−0 14.46	− 4 24.0	13.10	R	13 24 9.64	9.307_n	−11 1 55.8	0.808	+2.36 −17.7	7
1	9 19 56	−0 14.85	− 4 19.0	12.10	S	13 24 9.25	9.255_n	−11 1 50.8	0.810	+2.36 −17.7	7
						(47) Aglaja.					
Avril 16	10 23 24	+0 17.08	+ 4 17.4	16.16	R	14 56 47.13	9.545_n	−21 31 57.8	0.833	+2.27 −16.1	8
22	9 47 52	+1 38.14	+ 9 19.3	12.12	S	14 52 3.88	9.558_n	−21 24 32.1	0.828	+2.38 −16.8	9
22	10 3 0	+1 37.38	+ 9 19.9	12.12	R	14 52 3.12	9.527_n	−21 24 31.5	0.836	+2.38 −16.8	9
25	9 17 28	+1 45.69	− 2 17.7	10.10	S	14 49 31.58	9.586_n	−21 19 31.3	0.819	+2.41 −17.1	10
25	9 34 43	+1 45.11	− 2 15.9	12.12	R	14 49 31.00	9.556_n	−21 19 29.5	0.828	+2.41 −17.1	10
26	11 7 34	+0 49.38	− 0 14.0	12.12	R	14 48 35.29	9.251_n	−21 17 27 7	0.865	+2.43 −17.2	10
26	11 22 43	+0 48.93	− 0 14.2	12.12	S	14 48 34.84	9.166_n	−21 17 27.9	0.868	+2.43 −17.2	10
27	8 54 35	+0 34.00	+ 0 53.9	10.10	R	14 47 47.55	9.606_n	−21 15 38.9	0.811	+2.44 −17.2	11
27	9 5 46	+0 33.72	+ 0 54.7	6.6	S	14 47 47.27	9.589_n	−21 15 38.1	0.818	+2.44 −17.2	11