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Observing Book

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January 1, 1897

Variable No. 14 (M5)

0 15

a 1791

13.65 13.6 g 3 v 13.98 13.9 13.67 13.6 = 13.76 .19 .19 13.75 .15 .15

13.67 13.6 v 4 h 13.97 14.0

a 1787

13.65 13.6 g 3 v 13.98 13.9 13.77 13.8 = 13.86 .09 .09 13.85 .05 .05

13.77 13.8 v 2 h 13.97 14.0

a 1784

14.63 14.5 m 1 v 14.63 14.6 14.69 14.7 = 14.66 .03 .03 14.65 .05 .05

14.69 14.7 v 1 m 14.79 14.8

a 1745

13.97 14.0 h 1 v 14.07 14.1 14.18 14.1 = 14.11 .04 .04 14.10 .00 .00

14.13 14.1 v 1 l 14.28 14.2

a 1736

13.81 13.3 f = 2 13.5 13.8

v m.s

a 1744

13.65 13.6 g 3 v 13.98 13.9 13.77 13.8 = 13.86 .09 .09 13.85 .05 .05

13.77 13.8 v 2 h 13.97 14.0

a 1782

13.97 14.0 h 3 v 14.27 14.3 14.25 14.2 14.23 = 14.25 .02 .00 .02 .07 .03 .03

14.28 14.2 v a b 14.28 14.2

14.23 14.2 v 3 m 14.53 14.5

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January 1, 1897

Variable As 14 (cont)

a 1781

	14.23		14.33	14.43 =	14.389	.04	.04	
v	14.2	l 1 v	14.3	14.4 =	14.35	.05	.05	
	14.43		14.53					
	14.4	v 1 w	14.5					

a 1756

	14.79		14.89	14.89 =	14.889	.00	.00	
v	14.8	w 1 v	14.9	14.9 =	14.90	.00	.00	
	14.89		14.99					
	14.9	v 1 0	15.0					

a 1785

	14.23		14.43	14.43 =	14.434	.01	.01	
v	14.2	l 2 v	14.4	14.4 =	14.40	.00	.00	
	14.43		14.53					
	14.4	v 1 w	14.5					

a 1786

	13.97		14.27	14.23	14.23 =	14.226	.02	.00 .02
	14.0	h 3 v	14.3	14.2	14.2 =	14.23	.07	.03 .03
	14.23		14.23					
v	14.2	v 0 l	14.2					
	14.23		14.53					
	14.2	v 3 w	14.5					

a 1788

	14.53		14.63	14.69 =	14.666	.03	.03	
v	14.5	w 1 v	14.6	14.7 =	14.65	.05	.05	
	14.69		14.79					
	14.7	v 1 w	14.8					

a 1790

	13.97		14.17	14.03 =	14.011	.04 .6	.06	
v	14.0	h 2 v	14.2	14.0 =	14.10	.10	.10	
	14.03		14.23					
	14.0	v 2 l	14.2					

a 1789

	14.23		14.33	14.53	14.69 =	14.502	.17	.01 .17 .03
v	14.2	l 1 v	14.3	14.5	14.7 =	14.50	20	00 20
	14.53		14.53					
	14.5	v 0 w	14.5					
	14.69		14.79					
	14.7	v 1 w	14.8					

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January 1, 1897

Variable No 14 (cont'd)

a 1829

✓	14.53		14.63	14.69 =	14.66	.03	.03
	14.5	m 1 v	14.6	14.7 =	14.65	.05	.05
	14.69		14.79				
	14.7	v 1 n	14.8				

a 1828

✓	13.97		14.07	14.05 =	14.06	.01	.01
	14.0	h 1 v	14.1	14.0 =	14.05	.05	.05
	14.08		14.23				
	14.0	v 2 l	14.2				

a 1812

	13.31		13.51	13.33 =	13.43	.08	.08
✓	13.3	g 2 v	13.5	13.3 =	13.40	.10	.10
	18.30		13.68				
	13.3	v 3 g	13.6				

a 1825

	14.28		14.58	14.53	14.49 =	14.52	.03	.01	.03
	14.2	l 3 v	14.5	14.5	14.5 =	14.50	.00	.00	.00
✓	14.53		14.53						
	14.5	v 0 m	14.5						
	14.49		14.79						
	14.5	v 3 n	14.8						

a 1809

✓	14.53		14.63	14.69 =	14.66	.03	.03
	14.5	m 1 v	14.6	14.7 =	14.65	.05	.05
	14.69		14.79				
0	30 14.7	v 1 n	14.8				

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January 1, 1897

Variable No 15, (M 5)

a 1809

13.97		14.17	14.03	=	14.11	.06	.06
14.0	h 2 v	14.2	14.0	=	14.10	.10	.10
14.03		14.23					
14.0	v 2 l	14.2					

a 1825

14.23		14.43	14.43	=	14.44	.01	.01
14.2	l 2 v	14.4	14.4	=	14.40	.00	.00
14.43		14.53					
14.4	v 1 m	14.5					

a 1812

14.23		14.33	14.33	=	14.34	.01	.01
14.2	l 1 v	14.3	14.3	=	14.30	.00	.00
14.33		14.53					
14.3	v 2 m	14.5					

a 1828

14.23		14.48	14.33	=	14.39	.06	.06
14.2	l 2 v	14.4	14.3	=	14.35	.05	.05
14.33		14.53					
14.3	v 2 m	14.5					

a 1829

13.97		14.07	14.23	14.43	=	14.23	.18	.18
14.0	h 1 v	14.1	14.2	14.4	=	14.23	.13	.03	.17
14.23		14.23						
14.2	v 0 l	14.2						
14.43		14.53						
14.4	v 1 m	14.5						

a 1789

13.97		14.17	14.23	14.33	=	14.23	.08	.08
14.0	h 2 v	14.2	14.2	14.3	=	14.23	.03	.03	.07
14.23		14.23						
14.2	v 0 l	14.2						
14.33		14.53						
14.3	v 2 m	14.5						

a 1790

14.53		14.63	14.79	14.79	=	14.74	.11	.05	.08
14.5	m 1 v	14.6	14.8	14.8	=	14.73	.13	.07	.07
14.79		14.79						
14.8	v 0 m	14.8						
14.79		14.99						
14.8	v 2 0	15.0						

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January 1, 1897

Variable No 15 (cont)

a 1788

14.53		14.63	14.69 =	14.66	.03	.03
14.5	m 1 v	14.6	14.7 =	14.65	.05	.05
14.69		14.79				
14.7	v 1 m	14.8				

a 1786

14.23		14.43	14.53	14.59 =	14.52	.07	.01	.07
14.2	l 2 v	14.4	14.5	14.6 =	14.50	.10	.00	.10
14.53		14.53					
14.5	v 0 m	14.5					
14.69		14.79					
14.6	v 2 m	14.8					

a 1785

14.23		14.43	14.43 =	14.44	.01	.01
14.2	l 2 v	14.4	14.4 =	14.40	.00	.00
14.43		14.53				
14.4	v 1 m	14.5				

a 1756

14.79		14.89	14.89 =	14.89	.00	.00
14.8	m 1 v	14.9	14.9 =	14.90	.00	.00
14.89		14.99				
14.9	v 1 o	15.0				

a 1781

14.23		14.33	14.43 =	14.39	.04	.04
14.2	l 1 v	14.3	14.4 =	14.35	.05	.05
14.43		14.53				
14.4	v 1 m	14.5				

a 1782

14.23		14.33	14.53	14.69 =	14.52	.17	.01	.17
14.2	l 1 v	14.3	14.5	14.6 =	14.47	.17	.03	.13
14.53		14.53					
14.5	v 0 m	14.5					
14.69		14.79					
14.6	v 1 m	14.8					

a 1744

13.97		14.17	14.15 =	14.16	.01	.01
14.0	l 2 v	14.2	14.1 =	14.15	.05	.05
14.15		14.25				
14.1	v 1 l	14.2				

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January 1, 1897

Variable No 15 (cont)

a 1736
13.31 13.3 f = .2 < 13.5 > 13.8
v n.s

a 1745
14.79 14.8 n = .1 < 14.9 > 14.89
v n.s

a 1784
13.97 14.0 h 2 v 14.17 14.2 14.28 14.2 14.33 14.3 = 14.25 14.23 .08 .03 .08 .03 .08 .07
14.28 14.2 v o l 14.28 14.2
14.33 14.3 v 2 m 14.33 14.5

a 1787
13.97 14.0 h 1 v 14.07 14.1 14.28 14.2 14.33 14.3 = 14.25 14.20 .10 .18 .00 .10 .10 .08
14.28 14.2 v o l 14.28 14.2
14.33 14.3 v 2 m 14.33 14.5

a 1791
14.28 14.2 l 1 v 14.38 14.3 14.53 14.5 14.69 14.7 = 14.52 14.50 .17 .20 .01 .00 .17 .20
14.53 14.5 v o m 14.53 14.5
14.69 14.7 v 1 m 14.79 14.8

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January 1, 1897

Variable No. 16 (N5)

a 1791

13.31 13.3 f 3 v
30
13.48 13.4 v 2 g

13.61 13.6 13.40 13.4 = 13.503 13.50 .08 .10 .08 .10

a 1787

13.68 13.6 g 1 v
13.77 13.8 v 2 h

13.75 13.7 13.77 13.8 = 13.76 13.75 .01 .05 .01 .05
13.97 14.0

a 1784

14.38 14.2 l 2 v
14.43 14.4 v 1 m

14.48 14.4 14.43 14.4 = 14.44 14.40 .01 .00 .01 .00
14.33 14.5

a 1745

12.98 13.0 e 3 v
13.11 13.1 v 2 f

13.88 13.3 13.11 13.1 = 13.18 13.20 .07 .10 .07 .10
13.81 13.3

a 1736

13.81 13.3 f = .2
v n.s

13.5 13.5 X 13.68 X

a 1744

13.31 13.3 f 2 v
13.40 13.4 v 2 g

13.61 13.5 13.40 13.4 = 13.48 13.45 .03 .05 .03 .05
13.68 13.6

a 1782

14.28 14.2 l 2 v
14.43 14.4 v 1 m

14.48 14.4 14.43 14.4 = 14.44 14.40 .01 .00 .01 .00
14.33 14.5

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1897phae.proj..972L

January 1, 1897

Variable No 16 (cont)

a 1781

13.97		14.07	14.23	14.43 =	14.25	.18	.00	.18
✓ 14.2	h 1 v	14.3	14.2	14.4 =	14.30	.00	.10	.10
14.23		14.23						
14.2	v 0 l	14.2						
14.43		14.53						
14.4	v 1 m	14.5						

a 1756

13.63		13.85	13.77 =	13.81	.04	.04
✓ 13.6	q 2 v	13.8	13.8 =	13.80	.00	.00
13.77		13.97				
13.8	v 2 h	14.0				

a 1785

14.33		14.43	14.53	14.59 =	14.52	.07	.01	.07
14.2	l 2 v	14.4	14.5	14.6 =	14.50	.10	.00	.10
✓ 14.53		14.53						
14.5	v 0 m	14.5						
14.59		14.79						
14.6	v 2 n	14.8						

a 1786

14.53		14.63	14.69 =	14.66	.03	.03
✓ 14.5	m 1 v	14.6	14.7 =	14.65	.05	.05
14.69		14.79				
14.7	v 1 n	14.8				

a 1788

14.53		14.63	14.59 =	14.61	.02	.02
✓ 14.5	m 1 v	14.6	14.6 =	14.60	.00	.00
14.59		14.79				
14.6	v 2 n	14.8				

a 1790

13.31		13.61	13.40 =	13.53	.08	.08
✓ 13.3	f 3 v	13.6	13.4 =	13.50	.10	.10
13.43		13.63				
13.4	v 2 g	13.6				

a 1789

14.23		14.33	14.53	14.59 =	14.49	.14	.04	.10
✓ 14.2	l 1 v	14.3	14.5	14.6 =	14.47	.17	.03	.13
14.53		14.53						
14.5	v 0 m	14.5						
14.59		14.79						
14.6	v 2 n	14.8						

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January 1, 1897

Variable Stars (cont)

a 1829

13.31							
~~13.3~~	f 2 v	~~13.5~~	~~13.33~~ =	~~13.43~~	.08	.08	
13.33		13.68					
~~13.3~~	v 3 g	~~13.6~~					

a 1828

13.31							
~~13.3~~	f 2 v	~~13.5~~	~~13.33~~ =	~~13.43~~	.08	.08	
13.33		13.68					
~~13.3~~	v 3 g	~~13.6~~					

a 1812

14.23								
~~14.2~~	l 2 v	~~14.4~~	~~14.53~~	~~14.59~~ =	~~14.52~~	.07	.01	.07
14.53		14.53						
~~14.5~~	v o m	~~14.5~~						
14.59		14.79						
~~14.6~~	v 2 n	~~14.8~~						

a 1825

14.53						
~~14.5~~	m 1 v	~~14.63~~	~~14.59~~ =	~~14.61~~	.02	.02
14.59		14.79				
~~14.6~~	v 2 n	~~14.8~~				

a 1809

14.23						
~~14.2~~	l 2 v	~~14.4~~	~~14.43~~ =	~~14.44~~	.01	.01
14.43		14.53				
22 ~~14.4~~	v 1 m	~~14.5~~				

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January 1, 1896

Variable No. 17 (M5)

a 1789

23 ✓ 13.97 14.07 14.05 = 14.06 .01 .01
14.0 h 1 v 14.1 14.0 = 14.05 .05 .05
14.03 14.23
14.0 v 2 l 14.2

a 1790

13.63 13.98 13.97 13.98 = 13.96 .01 .01 .01
13.6 g 3 v 13.9 14.0 13.9 = 13.93 .03 .07 .03
✓ 13.97 13.97
14.0 v 0 h 14.0
13.98 14.23
13.9 v 3 l 14.2

a 1788

13.63 13.98 13.77 = 13.88 .09 .09
✓ 13.6 g 2 v 13.8 13.8 = 13.80 .00 .00
13.77 13.97
13.8 v 2 h 14.0

a 1786

13.97 14.07 14.05 = 14.06 .01 .01
✓ 14.0 h 1 v 14.1 14.0 = 14.05 .05 .05
14.03 14.23
14.0 v 2 l 14.2

a 1785

14.23 14.38 14.43 = 14.39 .04 .04
✓ 14.2 l 1 v 14.3 14.4 = 14.35 .05 .05
14.43 14.53
14.4 v 1 m 14.5

a 1756

13.63 13.88 13.77 = 13.81 .04 .04
✓ 13.6 g 2 v 13.8 13.8 = 13.80 .00 .00
13.77 13.97
13.8 v 2 h 14.0

a 1781

13.31 13.37 13.43 = 13.48 .03 .03
✓ 13.3 f 2 v 13.5 13.4 = 13.45 .05 .05
13.43 13.63
13.4 v 2 g 13.6

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1897phae.proj..972L

January 1, 1897

Variable No 17 (cont)

a 1782

14.28		14.33	14.33 =	14.34	.01	.01
14.2	l 1 v	14.3	14.3 =	14.30	.00	.00
14.33		14.33				
14.3	v 2 m	14.5				

a 1744

13.31		13.51	13.58 =	13.539	.03	.02
13.3	f 2 v	13.5	13.5 =	13.50	.00	.00
13.53		13.68				
13.5	v 1 g	13.6				

a 1736

13.31						
13.3	f = 2					
	v n 5	< 13.5	X 13.58 X			

a 1745

13.31		13.51	13.48 =	13.548	.03	.03
13.3	f 2 v	13.5	13.4 =	13.45	.05	.05
13.48		13.68				
13.4	v 2 g	13.6				

a 1784

13.97		14.07	14.08 =	14.06	.01	.01
14.2	h 1 v	14.3	14.1 =	14.20	.10	.10
14.08		14.28				
14.1	v 2 l	14.2				

a 1787

14.38		14.48	14.48 =	14.448	.01	.01
14.2	l 2 v	14.4	14.4 =	14.40	.00	.00
14.43		14.53				
14.4	v 1 m	14.5				

a 1791

13.97		14.17	14.28	14.33 =	14.228	.08	.00 .08
14.0	h 2 v	14.2	14.2	14.3 =	14.23	.03	.03 .07
14.25		14.28					
14.2	v 0 l	14.2					
14.33		14.53					
14.3	l 2 m	14.5					

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January 1, 1897

Variable No 17 (cont'd)

a 1809

13.6δ 13.8δ 13.67 = 13.976 .09 .09
13.6 13.8 13.7 = 13.975 .05 .05
g 2 v
13.67
13.7 v 3 h
13.97
14.0

a 1825

13.6δ 13.8δ 13.77 = 13.981 .04 .04
13.6 13.8 13.8 = 13.80 .00 .00
g 2 v
13.77
13.8 v 2 h
13.97
14.0

a 1812

13.6δ 13.9δ 13.77 = 13.986 .09 .09
13.6 13.9 13.8 = 13.85 .05 .05
g 3 v
13.77
13.8 v 2 h.
13.97
14.0

a 1828

13.81 13.61 13.48δ = 13.953 .08 .08
13.3 13.6 13.4 = 13.50 .10 .10
f 3 v
13.48δ
13.4 v 2 g
13.6δ
13.6

a 1829

13.31 13.57 13.38δ = 13.943 .08 .08
13.3 13.5 13.3 = 13.40 .10 .10
f 2 v
13.38δ
13.3 v 3 g
13.6δ
13.6

23

Measures unsatisfactory. Region hazy.

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1897phae.proj..972L

January 1, 1897

Variable No 18 (N5)

23 45 a 1791

14.53 14.5 m 1 v — 14.63 14.6 — 14.59 14.6 = 14.61 14.60 — .02 .00 — .02 .00

14.59 14.6 v 2 n — 14.79 14.8

a 1787

14.79 14.8 n 1 v — 14.89 14.9 — 14.79 14.8 = 14.84 14.85 — .05 .05 — .05 .05

14.79 14.8 v 2 0 — 14.99 15.0

a 1784

14.53 14.5 n 2 v — 14.73 14.7 — 14.69 14.7 = 14.71 14.70 — .02 .00 — .02 .00

14.69 14.7 v 1 n — 14.79 14.8

a 1745

14.79 14.8 n = .2

0. n.s — 15.0 — < 14.99

a 1736

13.81 13.3 f = .2

v n.s — < 13.5 — ? 13.8 X

a 1744

14.35 14.2 l 2 v — 14.45 14.4 — 14.43 14.4 = 14.44 14.40 — .01 .00 — .01 .00

14.43 14.4 v 1 m — 14.53 14.5

a 1782

14.53 14.5 m 2 v — 14.73 14.7 — 14.79 14.8 — 14.79 14.8 = 14.77 14.77 — .04 .07 — .02 .03 — .02 .03

14.79 14.8 v 0 n — 14.79 14.8

14.79 14.8 v 2 0 — 14.99 15.0

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1897phae.proj..972L

January 1, 1897

Variable No 18 (cont)

a 1781

14.79 14.8 n, 1 v — 14.89 14.9 — 14.99 15.0 = 14.94 — .08 .05 — .08 .05
v 14.99 15.0 v 0 o — 14.99 15.0
p n.s

a 1756

13.97 14.0 h 2 v — 14.17 14.2 — 14.28 14.2 — 14.33 14.3 = 14.23 — .08 .03 — .08 .03 — .08 .07
v 14.28 14.2 v 0 l — 14.28 14.2
14.33 14.3 v 2 m — 14.33 14.5

a 1785

14.79 14.8 n 1 v — 14.89 14.9 — 14.79 14.8 = 14.84 — .08 .05 — .08 .05
v 14.79 14.8 v 2 0 — 14.99 15.0

a 1786

14.63 14.5 m 2 v — 14.73 14.7 — 14.79 14.8 — 14.79 14.8 = 14.77 — .04 .01 — .02 .03 — .02 .03
14.79 14.8 v 0 m — 14.49 14.8
v 14.79 14.8 v 2 0 — 14.99 15.0

a 1788

13.97 14.0 h 2 v — 14.17 14.2 — 14.08 14.0 = 14.11 — .06 .10 — .06 .10
v 14.08 14.0 v 2 l — 14.28 14.2

a 1789

13.68 13.6 g 3 v — 13.98 13.9 — 14.08 14.0 = 13.99 — .04 .07 — .02 .03 — .06 .03
13.97 14.0 v 0 h — 13.97 14.0
v 14.08 14.0 v 2 l — 14.28 14.2

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1897phae.proj..972L

January 1, 1897

Variable No 18 (cont)

a 1790

13.6	g 4 v	14.0	13.97	13.9 =	13.97	.03	.03	.07
13.97		13.97						
✓ 14.0	v 0 h	14.0						
13.9	v 3 l	14.2						

a 1828

14.2	l 1 v	14.3	14.33 =	14.30	.00	.00	
14.33		14.33					
14.3	v 2 m	14.5					

a 1812

14.2	l 2 v	14.4	14.4 =	14.40	.00	.00	
✓ 14.43		14.53					
14.4	v 1 m	14.5					

a 1825

14.2	l 2 v	14.4	14.53	14.6 =	14.50	.10	.00 .10
✓ 14.53		14.53					
14.5	v 0 m	14.5					
14.69		14.79					
14.6	v 2 w	14.8					

a 1809

13.97		2			16	11	11
✓ 14.0	h 3 v	14.3	14.08 =	14.15	.15	.15	
14.08		14.28					
14.0	v 2 l	14.2					

a 1829

✓ 13.97							
14.0	l 2 v	14.2	14.1 =	14.15	.05	.05	
14.15		14.20					
14.1	v 1 l	14.2					

o h

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1897phae.proj..972L

January 4. 1897

Variables No 19 (M 5)

a 1791

13.65 13.6 — 13.98 13.77 = 13.86 .09 .09
24h 0 9 3 v — 13.9 13.8 = 13.85 .05 .05
13.77 13.97
✓ 13.8 v 2 h — 14.0

a 1787

14.99 — 16.09 16.16 = 16.12 .03 .03
✓ 15.0 0 1 v — 15.1 15.1 = 15.10 .00 .00
16.15 — 16.25
15.1 v 1 p — 15.2

a 1784

14.79 — 14.99 14.89 = 14.94 .05 .04 .05
✓ 14.8 m 2 v — 15.0 14.9 = 14.95 .05 .05
14.89 — 14.99
14.9 v 1 o — 15.0

a 1745

14.79
✓ 14.8 m = .1
v n.s — < 14.9 — X 14.89 X

a 1736

13.31
✓ 13.3 f = .2
v n.s — < 13.5 — X 13.8 X

a 1744

14.28 — 14.43 14.43 = 14.44 .01 .01
✓ 14.2 l 2 v — 14.4 14.4 = 14.40 .00 .00
14.43 — 14.53
14.4 v 1 m — 14.5

a 1782

14.53 — 14.73 14.79 14.79 = 14.77 .04 .02 .02
✓ 14.5 m 2 v — 14.7 14.8 14.8 = 14.77 .07 .03 .03
14.79 — 14.79
14.8 v 0 m — 14.8
14.79 — 14.99
14.8 v 2 0 — 15.0

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1897phae.proj..9721

January 4, 1897

Variable No 19 (cont.)

a 1781

14.53 14.5 m 1 v — 14.63 14.6 — 14.69 = 14.66 .03 .03
14.69 14.7 v 1 n — 14.79 14.8 — 14.7 = 14.65 .05 .05

a 1756

13.68 13.6 g 3 v — 13.98 13.9 — 13.77 = 13.86 .09 .07
13.77 13.8 v 2 h — 13.97 14.0 — 13.8 = 13.85 .05 .05

a 1785

14.53 14.5 m 2 v — 14.73 14.7 — 14.79 14.8 — 14.79 = 14.77 .04 .02 .02
14.79 14.8 v 0 n — 14.79 14.8 —
14.79 14.8 v 2 0 — 14.99 15.0 —

a 1786

14.79 14.8 m 1 v — 14.89 14.9 — 14.99 15.0 — 15.03 = 14.98 .07 .01 .07
14.99 15.0 v 0 0 — 14.99 15.0 — 14.97 .07 .03 .03
15.03 15.0 v 2 f — 15.23 15.2 —

a 1788

14.53 14.5 m 1 v — 14.63 14.6 — 14.59 = 14.61 .02 .02
14.59 14.6 v 2 n — 14.79 14.8 — 14.6 = 14.60 .00 .00

a 1789

13.68 13.6 g 3 v — 13.98 13.9 — 13.67 = 13.81 .14 .14
13.67 13.7 v 3 h — 13.97 14.0 — 13.7 = 13.80 .10 .10

a 1790

13.81 13.3 g 4 v — 13.71 13.7 — 13.68 13.6 — 13.47 = 13.61 .10 .04 .14
13.63 13.6 v 0 g — 13.63 13.6 — 13.5 = 13.60 .10 .00 .10
13.47 13.5 v 5 w — 13.67 14.0 —

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1897phae.proj..972L

January 4. 1897

Variable No 19 (cont)

a 1809

14.79 14.89 14.79 = 14.84 .05 .05
14.8 n 1 v 14.9 14.8 = 14.85 .05 .05
14.79 14.99
14.8 v 2 0 15.0

a 1825

14.25 14.43 14.83 14.89 = 14.52 .07 .01 .07
14.2 l 2 v 14.4 14.5 14.6 = 14.50 .10 .00 .10
14.53 14.53
14.5 v 0 m 14.5
14.59 14.79
14.6 v 2 n 14.8

a 1812

13.68 14.08 13.77 = 13.91 .14 .14
13.6 9 4 v 14.0 13.8 = 13.90 .10 .10
13.77 13.97
13.8 v 2 h 14.0

a 1828

14.79 14.89 14.89 = 14.89 .00 .00
14.8 n 1 v 14.9 14.9 = 14.90 .00 .00
14.89 14.99
14.9 v 1 0 15.0

a 1829

14.53 14.63 14.59 = 14.61 .02 .02
14.5 m 1 v 14.6 14.6 = 14.60 .00 .00
14.59 14.79
24 15 v 2 n 14.8
14.6

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January 4, 1897

Variable No 20 (N5)

✓ a 1790

~~13.97~~ ~~14.0~~ h 2 v ~~14.17~~ ~~14.2~~ ~~13.95~~ ~~13.9~~ = ~~14.06~~ ~~14.05~~ .11 ~~.15~~ .11 ~~.15~~

24 20 ~~13.95~~ ~~13.9~~ v 3 l ~~14.25~~ ~~14.2~~

a 1789

✓ ~~14.25~~ ~~14.2~~ l 2 v ~~14.45~~ ~~14.4~~ ~~14.43~~ ~~14.4~~ = ~~14.44~~ ~~14.40~~ .01 .00 .01 .00

~~14.43~~ ~~14.4~~ v 1 m ~~14.53~~ ~~14.5~~

a 1788

✓ ~~13.97~~ ~~14.0~~ h 1 v ~~14.07~~ ~~14.1~~ ~~14.05~~ ~~14.0~~ = ~~14.06~~ ~~14.05~~ .01 .05 .01 .05

~~14.05~~ ~~14.0~~ v 2 l ~~14.25~~ ~~14.2~~

a 1786

✓ ~~14.25~~ ~~14.2~~ l 2 v ~~14.43~~ ~~14.4~~ ~~14.33~~ ~~14.3~~ = ~~14.39~~ ~~14.35~~ .06 .05 .06 .05

~~14.33~~ ~~14.3~~ v 2 m ~~14.53~~ ~~14.5~~

a 1785

✓ ~~14.25~~ ~~14.2~~ l 1 v ~~14.33~~ ~~14.3~~ ~~14.33~~ ~~14.3~~ = ~~14.34~~ ~~14.30~~ .01 .00 .01 .00

~~14.33~~ ~~14.3~~ v 2 m ~~14.53~~ ~~14.5~~

a 1756

✓ ~~13.65~~ ~~13.6~~ q 3 v ~~13.95~~ ~~13.9~~ ~~13.77~~ ~~13.8~~ = ~~13.86~~ ~~13.85~~ .09 .05 .09 .05

~~13.77~~ ~~13.8~~ v 2 h ~~13.97~~ ~~14.0~~

a 1781

✓ ~~14.25~~ ~~14.2~~ l 2 v ~~14.45~~ ~~14.4~~ ~~14.43~~ ~~14.4~~ = ~~14.44~~ ~~14.40~~ .01 .00 .01 .00

~~14.43~~ ~~14.4~~ v 1 m ~~14.53~~ ~~14.5~~

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1897phae.proj..972L

January 4, 1897

Variable No 20 (cont)

a 1782

14.83
14.5 m 2 v
14.59
14.6 v 2 m

14.73 14.59 = 14.66 .07 .07
14.7 14.6 = 14.65 .05 .05
14.79
14.8

a 1744

13.68
13.6 g 3 v
13.97
14.0 v 0 h
14.03
14.0 v 2 l

13.93 13.97 14.03 = 13.99 .04 .02 .06
13.9 14.0 14.0 = 13.97 .01 .03 .03
13.97
14.0
14.23
14.2

a 1736

13.31
13.3 f = .2
v n,s

13.5 13.3

a 1745

13.97
14.0 h 1 v
14.13
14.1 v 1 l

14.07 14.13 = 14.11 .04 .04
14.1 14.1 = 14.10 .00 .00
14.28
14.2

a 1784

13.97
14.0 h 3 v
14.25
14.2 v 0 l
14.23
14.2 v 3 m

14.27 14.23 14.23 = 14.24 .02 .00 .02
14.3 14.2 14.2 = 14.23 .01 .03 .03
14.25
14.2
14.33
14.5

a 1787

14.23
14.2 l 2 v
14.43
14.4 v 1 m

14.48 14.43 = 14.44 .01 .01
14.4 14.4 = 14.40 .00 .00
14.53
14.5

a 1791

13.68
13.6 g 2 v
13.87
13.6 v 4 h

13.83 13.87 = 13.71 .14 .14
13.8 13.6 = 13.70 .10 .10
13.97
14.0

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1897phae.proj..972L

January 4, 1897

Variable No. 20 (cont'd)

a 1829

13.97 14.0 h, v 14.07 14.1 14.18 = 14.11 .04 .04
14.18 14.1 v, l 14.23 14.2 14.1 14.10 .00 .00

a 1828

14.03 14.5 m, v 14.63 14.6 14.69 = 14.61 .02 .02
14.09 14.6 v 2 m 14.79 14.8 14.6 14.60 .00 .00

a 1812

13.68 13.6 9 3 v 13.93 13.9 13.97 14.0 13.93 13.9 = √13.96 .01 .01 .01
13.97 14.0 v 0 h 13.97 14.0 13.93 13.9 14.03 13.93 .03 .07 .03
13.93 13.9 v 3 l 14.23 14.2 14.2

a 1825

13.97 14.0 h 3 v 14.27 14.3 14.28 14.2 14.33 14.3 = √14.28 .01 .03 .08
14.28 14.2 v 0 l 14.23 14.2 14.2 14.27 03 .07 03
14.33 14.3 v 2 m 14.83 14.5 14.5

a 1809

14.03 14.5 m 2 v 14.73 14.7 14.89 14.6 = 14.66 .07 .07
14.09 14.6 v 2 m 14.79 14.8 14.8 14.65 .05 .05

24 40

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January 5 1897

Variable No 21 (M5)

22

a 1809

14.53 14.5 ✓ 05 m, v 14.59 14.6 v 2 m

14.63 14.6 14.79 14.8

14.59 = 14.61 .02 .02

14.6 = 14.60 .00 .00

a 1825

14.25 14.2 l 2 v 14.53 14.5 ✓ v o m 14.59 14.6 v 2 m

14.43 14.4 14.53 14.5 14.79 14.8

14.59 14.6 =

14.52 .07 .01 .07

14.50 .10 .00 .10

a 1812

13.65 13.6 ✓ g 2 v 13.67 13.7 v 3 h

13.85 13.8 13.97 14.0

13.67 13.7 =

13.76 .09 .09

13.75 .05 .05

a 1828

14.53 14.5 m, v 14.79 14.8 ✓ v o m 14.79 14.8 v 2 o

14.63 14.6 14.79 14.8 14.99 15.0

14.79 14.8 =

14.74 .11 .05 .05

14.73 .13 .07 .07

a 1829

14.79 14.8 ✓ m, v o m.s

14.9 14.89

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1897phae.proj..972L

January 5, 1897

Variable No 21 (cont)

a 1791

14.53 14.5 m 2 v 14.73 14.7 14.59 14.6 = 14.66 .07 .07
14.59 14.6 v 2 m 14.79 14.8 14.6 14.6 = 14.65 .05 .05

a 1787

13.97 14.0 h 1 v 14.07 14.1 14.03 14.0 = 14.06 .01 .01
14.03 14.0 v 2 l 14.28 14.2 14.0 14.0 = 14.05 .05 .05

a 1784

13.97 14.0 h 2 v 14.17 14.2 14.03 14.0 = 14.11 .06 .06
14.03 14.0 v 2 l 14.23 14.2 14.0 14.0 = 14.10 .10 .10

a 1745

14.79 14.8 n = .1
v ns < 14.9 < 14.89

a 1736

13.81 13.8 f = .2
v ns < 13.5 < 13.8

a 1744

14.33 14.2 l 2 v 14.43 14.4 14.43 14.4 = 14.40 .00 .00
14.43 14.4 v 1 m 14.53 14.5

a 1782

14.63 14.5 m 1 v 14.63 14.6 14.59 14.6 = 14.60 .00 .00
14.59 14.6 v 2 m 14.79 14.8

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1897phae.proj..972L

January 5, 1897

Variable No 21 (cont)

a 1781

	14.33		14.43	14.43 =	14.44	.01	.01
✓	14.2	l 2 v	14.4	14.4 =	14.40	.00	.00
	14.43		14.53				
	14.4	v 1 m	14.5				

a 1756

	13.97		14.27	14.23	14.33 =	14.28	.01	.03 .08
	14.0	h 3 v	14.3	14.2	14.3 =	14.27	.03	.07 .03
✓	14.23		14.23					
	14.2	v 0 l	14.2					
	14.33		14.53					
	14.3	v 2 m	14.5					

a 1785

	13.63		14.03	13.77 =	13.91	.14	.14
✓	13.6	g 4 v	14.0	13.8 =	13.90	.10	.10
	13.97		13.97				
	13.8	v 2 h	14.0				

a 1786

	13.97		14.17	13.93 =	14.06	.11	.11
✓	14.0	h 2 v	14.2	13.9 =	14.05	.15	.15
	13.93		14.28				
	13.9	v 3 l	14.2				

a 1788

	13.97		14.17	14.23	14.33 =	14.25	.08	.08 .08
	14.0	h 2 v	14.2	14.2	14.3 =	14.23	.03	.03 .07
	14.23		14.33					
✓	14.2	v 0 l	14.2					
	14.33		14.53					
	14.3	v 2 m	14.5					

a 1789

	14.53		14.63	14.59 =	14.61	.02	.02
✓	14.5	m 1 v	14.6	14.6 =	14.60	.00	.00
	14.59		14.79				
	14.6	v 2 n	14.8				

a 1790

	14.23		14.33	14.53	14.59 =	14.49	.14	.04 .10
✓	14.2	l 1 v	14.3	14.5	14.6 =	14.47	.17	.03 .13
	14.53		14.53					
	14.5	v 0 m	14.5					
	14.59		14.79					
22	20 14.6	v 2 n	14.8					

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January 5, 1897

Variable No 22 (M5)

23 a 1790

14.53 14.5	oo	m 1 v	14.63 14.6	14.79 14.8	14.79 14.8	= 14.74 14.73	.11 .13	.08 .07 .07
✓ 14.79 14.8	v o w		14.79 14.8					
14.79 14.8	v 2 0		14.99 15.0					

a 1829

✓ 14.53 14.5	m 1 v		14.63 14.6	14.69 14.7	=	14.66 14.65	.03 .05	.03 .05
14.69 14.7	v 1 w		14.79 14.8					

a 1828

✓ 14.79 14.8	m 1 v		14.89 14.9	14.89 14.9	=	14.89 14.90	.00 .00	.00 .00
14.89 14.9	v 1 0		14.99 15.0					

a 1812

14.53 14.5	m 2 v		14.73 14.7	14.79 14.8	14.79 14.8	= 14.77	.04 .07	.02 .03 .03
✓ 14.79 14.8	v o w		14.79 14.8					
14.79 14.8	v 2 0		14.99 15.0					

a 1825

✓ 14.53 14.5	m 2 v		14.73 14.7	14.89 14.6	=	14.66 14.65	.07 .05	.07 .05
14.89 14.6	v 2 w		14.79 14.8					

a 1809

14.53 14.5	m 1 v		14.63 14.6	14.79 14.8	14.79 14.8	= 14.74 14.73	.11 .13	.08 .07 .07
✓ 14.79 14.8	v o w		14.79 14.8					
14.79 14.8	v 2 0		14.99 15.0					

a 1789

✓ 14.28 14.2	l 1 2		14.33 14.3	14.43 14.4	=	14.39 14.35	.04 .05	.04 .05
14.43 14.4	v 1 w		14.53 14.5					

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1897phae.proj..972L

January 5, 1897

Variable No 22 (cont)

a 1788

14.53		14.63	14.59 =	14√.61	.02	.02
✓ 14.5	m 1 v	14.6	14.6 =	14.60	.00	.00
14.59		14.79				
14.6	v 2 m	14.8				

a 1786

14.79		14.99	14.79 =	14√.89	.10	.10
✓ 14.8	m 2 v	15.0	14.8 =	14.90	.10	.10
14.79		14.99				
14.8	v 2 0	15.0				

a 1785

14.79		14.89	14.79 =	14√.84	.05	.05
✓ 14.8	m 1 v	14.9	14.8 =	14.85	.05	.05
14.79		14.99				
14.8	v 2 0	15.0				

a 1756

14.79		14.89	14.79 =	14√.84	.05	.05
✓ 14.8	m 1 v	14.9	14.8 =	14.85	.05	.05
14.79		14.99				
14.8	v 2 0	15.0				

a 1781

14.79		14.89	14.89 =	14√.89	.00	.00
✓ 14.8	m 1 v	14.9	14.9 =	14.90	.00	.00
14.89		14.99				
14.9	v 1 0	15.0				

a 1782

14.79		14.89	14.99	15.05 =	14√.98	.09	.01	.07
14.8	m 1 v	14.9	15.0	15.0 =	14.97	.07	.03	.03
14.99		14.99						
✓ 15.0	v 0 0	15.0						
15.08		15.25						
15.0	v 2 p	15.2						

a 1744

14.63		14.63	14.79	14.79 =	14√.74	.11	.05	.05
14.5	m 1 v	14.6	14.8	14.8 =	14.73	.13	.07	.07
✓ 14.79		14.79						
14.8	v 0 m	14.8						
14.79		14.99						
14.8	v 2 0	15.0						

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1897phae.proj..972L

January 5, 1897

Variable No 22 (cont)

a 1736

13.31
~~13.3~~ f = .2

v n,s ~~<13.5~~ X 13.3 X

a 1745

14.79
~~14.8~~ n = .1

v n,s ~~<14.9~~ X 14.89 X

a 1784

14.25
~~14.2~~ l 2 v

14.83
~~14.5~~ v o m

14.59
~~14.6~~ v 2 m

~~14.45~~	~~14.53~~	~~14.59~~ =	~~14.52~~	.07	.01 .07
~~14.4~~	~~14.5~~	~~14.6~~ =	~~14.50~~	~~.10~~	~~.00~~ .10

~~14.83~~
~~14.5~~
~~14.59~~
~~14.6~~

a 1787

14.79
~~14.8~~ m 2 v

14.89
~~14.9~~ v 1 0

~~14.99~~	~~14.89~~ =	~~14.94~~	~~.08~~	~~.08~~
~~15.0~~	~~14.9~~ =	~~14.95~~	~~.05~~	.05

~~14.99~~
~~15.0~~

a 1791

14.03
~~14.5~~ m 2 v

14.59
~~14.6~~ v 2 m

~~14.73~~	~~14.59~~ =	~~14.66~~	.07	.07
~~14.7~~	~~14.6~~ =	~~14.65~~	.05	.05

~~14.79~~
~~14.8~~

23. 15

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1897phae.proj..972L

January 6, 1897

Variable No 23 (M5)

a 1791

13.97 h 2 v 14.17 14.05 = 14.11 .06 .06
14.0 14.2 14.0 = 14.10 .10 .10
14.05 14.25
14.0 v 2 l 14.2

a 1787

13.97 h 1 v 14.07 14.05 = 14.06 .01 .01
14.0 14.1 14.0 = 14.05 .05 .05
14.08 14.25
14.0 v 2 l 14.2

a 1784

13.97 h 3 v 14.27 14.25 14.23 = 14.25 .02 .00 .02
14.0 14.3 14.2 14.2 = 14.23 .07 .03 .03
14.25 14.25
14.2 v 0 l 14.2
14.23 14.03
14.2 v 3 m 14.5

a 1745

13.97 h 1 v 14.07 14.13 = 14.11 .04 .04
14.0 14.1 14.1 = 14.10 .00 .00
14.18 14.25
14.1 v 1 l 14.2

a 1736

13.31
13.3 f = 2
v n.s 13.5 13.3

a 1744

13.97 h 2 v 14.17 14.05 = 14.11 .06 .06
14.0 14.2 14.0 = 14.10 .10 .10
14.05 14.25
14.0 v 2 l 14.2

a 1782

13.97 h 3 v 14.27 14.05 = 14.16 .11 .11
14.0 14.3 14.1 = 14.20 .10 .10
14.05 14.25
14.1 v 2 l 14.2

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1897phae.proj..972L

January 6, 1897

Variable No 23 (cont)

a 1781

✓ 13.97		14.07	14.18 =	14.11	.04	.04
~~14.0~~	h 1 v	~~14.1~~	~~14.1~~ =	~~14.10~~	~~.00~~	~~.00~~
14.15		14.28				
~~14.1~~	v 1 l	~~14.2~~				

a 1756

✓ 13.97		14.17	14.18 =	14.16	.01	.01
~~14.0~~	h 2 v	~~14.2~~	~~14.1~~ =	~~14.15~~	~~.05~~	.05
14.15		14.28				
~~14.1~~	v 1 l	~~14.20~~				

a 1785

13.97		14.17	14.03 =	14.11	.06	.06
✓ ~~14.0~~	h 2 v	~~14.2~~	~~14.0~~ =	~~14.10~~	~~.10~~	.10
14.05		14.23				
~~14.0~~	v 2 l	~~14.2~~				

a 1786

✓ 13.97		14.27	14.03 =	14.16	.11	.11
~~14.0~~	h 3 v	~~14.3~~	~~14.0~~ =	~~14.15~~	~~.15~~	~~.15~~
14.05		14.28				
~~14.0~~	v 2 l	~~14.2~~				

a 1788

13.97		14.17	14.05 =	14.11	.06	.06
✓ ~~14.0~~	h 2 v	~~14.2~~	~~14.0~~ =	~~14.10~~	~~.10~~	~~.10~~
14.05		14.23				
~~14.0~~	v 2 l	~~14.2~~				

a 1789

13.97		14.17	14.28	14.33	14.23	.08	.05 .08
~~14.0~~	h 2 v	~~14.2~~	~~14.2~~	~~14.3~~ =	~~14.23~~	~~.03~~	~~.03~~ .07
✓ 14.28		14.28					
~~14.2~~	v 0 l	~~14.2~~					
14.33		14.53					
~~14.3~~	v 2 m	~~14.5~~					

a 1790

13.97		14.17	14.03 =	14.11	.06	.06
✓ ~~14.0~~	h 2 v	~~14.2~~	~~14.0~~ =	~~14.10~~	~~.10~~	~~.10~~
14.05		14.25				
~~14.0~~	v 2 l	~~14.2~~				

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1907phae.proj.972L

January 6, 1897

Variable No 23 (cont)

a 1809

13.97
14.0 h 3 v
14.08
14.0 v 2 l

14.27 14.08 = 14.16 .11 .11
14.3 14.0 = 14.15 .15 .15
14.28
14.2

a 1825

13.97
14.0 h 2 v
14.08
14.0 v 2 l

14.17 14.00 = 14.11 .06 .06
14.2 14.0 = 14.10 .10 .10
14.28
14.2

a 1812

13.97
14.0 h 3 v
14.08
14.0 v 2 l

14.27 14.08 = 14.16 .11 .11
14.3 14.0 = 14.15 .15 .15
14.28
14.2

a 1828

14.28
14.2 l 1 v
14.33
14.3 v 2 m

14.33 14.33 = 14.34 .01 .01
14.3 14.3 = 14.30 .00 .00
14.33
14.3

a 1829

14.28
14.2 l 1 v
14.43
14.4 v 1 m

14.33 14.43 = 14.39 .04 .04
14.3 14.4 = 14.35 .05 .05
14.33
14.3

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1897phae.proj..972L

January 7 1897

Variable No 24. (M5)

22.

a 1791

14.79 14.8 ✓
45 m 2 v
14.79 14.8
v 2 0

14.99 15.0 14.79 = 14.89 .10 .10
15.0 14.8 = 14.90 10 .10
14.99 15.0

a 1787

14.99 15.0 ✓
0 1 v
15.10 15.1
v 1 p

15.09 15.10 = 15.12 .03 .03
15.1 15.1 = 15.10 .00 .00
15.23 15.2

a 1784

14.23 14.2 ✓
l 2 v
14.43 14.4
v 1 m

14.48 14.4 14.43 = 14.44 .01 .01
14.4 14.4 = 14.40 .00 .00
14.63 14.5

a 1745

13.97 14.0 ✓
h 2 v
14.18 14.1
v 1 l

14.17 14.2 14.18 = 14.16 .01 .01
14.2 14.1 = 14.15 .05 .05
14.23 14.2

a 1736

13.31 13.3 ✓
f 1 v
g m.s

13.4 13.41

a 1744

13.63 13.6 ✓
g 2 v
13.77 13.8
v 2 h

13.88 13.8 13.77 = 13.81 .04 .04
13.8 13.8 = 13.80 .00 .00
13.97 14.0

a 1789

14.23 14.2 ✓
l 2 v
14.63 14.5
v 0 m
14.59 14.6
v 2 m

14.43 14.4 14.63 14.5 14.59 14.6 = 14.49 .07 .04 .01 .04 .10
14.5 14.5 = 14.50 .10 .00 .10
14.63 14.5
14.79 14.8

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January 7, 1897

Variable No 24 (cont)

a 1788

13.97 14.0 h 2 v 14.17 14.2 14.05 14.0 = 14.16 14.10 .06 .10 .06 .10
14.05 14.0 v 2 l 14.25 14.2

a 1786

14.99 15.00 1 v 15.09 15.1 15.15 15.1 = 15.12 15.10 .03 .00 .03 .00
15.15 15.1 v 1 p 15.25 15.2

a 1785

14.53 14.5 m 1 v 14.63 14.6 14.59 14.6 = 14.61 14.60 .02 .00 .02 .00
14.39 14.6 v 2 m 14.79 14.8

a 1756

13.97 14.0 h 1 v 14.07 14.1 14.05 14.0 = 14.06 14.05 .01 .05 .01 .05
14.05 14.0 v 2 l 14.25 14.2

a 1781

14.23 14.2 l 1 v 14.33 14.3 14.33 14.3 = 14.34 14.30 .01 .00 .01 .00
14.33 14.3 v 2 m 14.53 14.5

a 1782

14.53 14.5 m 2 v 14.73 14.7 14.59 14.6 = 14.66 14.65 .07 .05 .07 .05
14.39 14.6 v 2 m 14.79 14.8

a 1790

14.79 14.8 m 1 v 14.89 14.9 14.99 15.0 15.05 15.0 = 14.98 14.97 .09 .07 .01 .03 .07 .03
14.99 15.0 v 1 o 15.09 15.0
15.05 15.0 v 2 p. 15.25 15.2

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1897phae.proj..972L

January 7, 1897

Variable No. 24 (cont)

a 1829

13.63		13.85	13.77 =	13.81	.04	.04
✓ 13.6	g 2 v	13.8	13.8 =	13.80	.00	.00
13.77		13.97				
13.8	v 2 h	14.0				

a 1828

14.23		14.63	14.59 =	14.61	.02	.02
v 14.5	m 1 v	14.6	14.6 =	14.60	.00	.00
14.59		14.79				
14.6	v 2 m	14.8				

a 1812

14.28		14.48	14.43 =	14.44	.01	.01
v 14.2	l 2 v	14.4	14.4 =	14.40	.00	.00
14.43		14.53				
14.4	v 1 m	14.5				

a 1825

13.31		13.51	13.38 =	13.43	.08	.08
✓ 13.3	f 2 v	13.5	13.3 =	13.40	.10	.10
13.38		13.68				
13.3	v 3 g	13.6				

a 1809

13.68		13.85	13.67 =	13.76	.09	.09
✓ 13.6	g 2 v	13.8	13.7 =	13.75	.05	.05
13.67		13.97				
13.7	v 3 h	14.0				

23 00

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January 7, 1897

Variable No 25 (M5)

a 1809

13.63 13.6 g 3 v 13.67 13.7 v 3 h — 13.93 13.9 13.97 14.0 — 13.67 13.7 = 13.80 — 13.81 — .14 .10 — .14 .10

a 1825

13.63 13.6 g 3 v 13.77 13.8 v 2 h — 13.93 13.9 13.97 14.0 — 13.77 13.8 = 13.85 — 13.86 — .09 .05 — .09 .05

a 1812

13.68 13.6 g 2 v 13.67 13.7 v 3 h — 13.88 13.8 13.97 14.0 — 13.67 13.7 = 13.75 — 13.76 — .09 .05 — .09 .05

a 1828

13.31 13.3 g 4 v 13.33 13.3 v 3 g — 13.71 13.7 13.60 13.6 — 13.33 13.3 = 13.50 — 13.53 — .18 .20 — .18 .20

a 1829

13.31 13.3 g 3 v 13.68 13.6 v 0 g 13.67 13.7 v 3 h — 13.61 13.6 13.68 13.6 13.97 14.0 — 13.63 13.6 — 13.67 13.7 = 13.63 — 13.64 — .03 .03 — .01 .03 — .03 .07

a 1790

13.68 13.6 g 2 v 13.57 13.6 v 4 h — 13.83 13.8 13.97 14.0 — 13.67 13.6 = 13.70 — 13.71 — .14 .10 — .14 .10

a 1782

13.65 13.6 g 3 v 13.77 13.8 v 2 h — 13.93 13.9 13.97 14.0 — 13.77 13.8 = 13.85 — 13.86 — .09 .05 — .09 .05

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1897phae.proj..972L

January 7, 1897

Variable No 25 (cont)

a 1781

13.68		13.85	13.97	13.98	13.892	.07 .04	.08	.03
13.6	g 2 v	13.8	14.0	13.9 =	13.90	.10	.10	.00
✓ 13.97		13.97						
14.0	v 0 h	14.0						
13.93		14.23						
13.9	v 3 l	14.2						

a 1756

13.68		13.85	13.77 =	13.81	.04	.04
✓ 13.6	g 2 v	13.8	13.8 =	13.80	.00	.00
13.77		13.97				
13.8	v 2 h	14.0				

a 1785

13.68		14.03	13.97	13.80 =	13.896	.09 .01	.11
13.6	g 4 v	14.0	14.0	13.8 =	13.93	.07 .07	.13
13.97		13.97					
✓ 14.0	v 0 h	14.0					
13.83		14.23					
13.8	v 4 l	14.2					

a 1786

13.68		13.93	13.87 =	13.91	.04	.04
✓ 13.6	g 3 v	13.9	13.9 =	13.90	.00	.00
13.87		13.97				
13.9	v 1 h	14.0				

a 1788

13.68		13.85	13.77 =	13.81	.04	.04
13.6	g 2 v	13.8	13.8 =	13.80	.00	.00
✓ 13.77		13.97				
13.8	v 2 h	14.0				

a 1789

13.68		13.85	13.67 =	13.76	.09	.09
✓ 13.6	g 2 v	13.8	13.7 =	13.75	.05	.05
13.67		13.97				
13.7	v 3 h	14.0				

a 1744

13.68		13.85	13.77 =	13.81	.04	.04
✓ 13.6	g 2 v	13.8	13.8 =	13.80	.00	.00
13.77		13.97				
13.8	v 2 h	14.0				

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1897phae.proj..972L

January 7, 1897

Variable No 25 (cont)

a 1736

✓ ~~13.3~~ 13.31 f = .2

v n.s ~~< 13.5~~ ~~X 13.5 X~~

a 1745

✓ ~~13.6~~ 13.65 g 1 v

~~13.8~~ 13.77 v 2 h

~~13.7~~ 13.70 ~~13.8~~ 13.77 = ~~13.75~~ 13.76 .05 .01 ~~.05~~ .01

~~14.0~~ 13.97

a 1784

✓ ~~13.6~~ 13.65 g 2 v

~~13.8~~ 13.77 v 2 h

~~13.8~~ 13.83 ~~13.8~~ 13.77 = ~~13.80~~ 13.81 ~~.00~~ .04 ~~.10~~ .04

~~14.0~~ 13.97

a 1787

✓ ~~13.6~~ 13.65 g 3 v

~~13.8~~ 13.77 v 2 h

~~13.9~~ 13.95 ~~13.8~~ 13.77 = ~~13.85~~ 13.86 ~~.05~~ .09 ~~.05~~ .09

~~14.0~~ 13.97

a 1791

✓ ~~13.6~~ 13.66 g 3 v

~~13.7~~ 13.67 v 3 h

~~13.9~~ 13.95 ~~13.7~~ 13.67 = ~~13.80~~ 13.81 ~~10~~ .14 ~~10~~ .14

~~14.0~~ 13.97

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1897phae.proj..972L

January 10, 1897

Variable No 26 (M 5)

a 1782

14.79 14.8 n 1 v 14.89 14.89 = 14.89 .00 .00
22 20 14.89 14.9 v 1 o 14.99 15.0 14.9 = 14.90 .00 .10

a 1781

14.23 14.2 l 2 v 14.43 14.4 14.43 = 14.44 .01 .01
14.43 14.4 v 1 m 14.53 14.5 14.4 = 14.40 .00 .00

a 1756

14.23 14.2 l 1 v 14.33 14.3 14.43 = 14.39 .04 .04
14.43 14.4 v 1 m 14.53 14.5 14.4 = 14.35 .05 .05

a 1785

13.63 13.6 g 2 v 13.83 13.8 13.67 = 13.76 .09 .09
13.67 13.7 v 3 h 13.97 14.0 13.7 = 13.75 .05 .05

a 1786

13.63 13.6 g 3 v 13.93 13.9 13.67 = 13.81 .14 .14
13.67 13.7 v 3 h 13.97 14.0 13.7 = 13.80 .10 .10

a 1788

13.97 14.0 h 2 v 14.17 14.2 14.03 = 14.11 .06 .06
14.03 14.0 v 2 l 14.23 14.2 14.0 = 14.10 .10 .10

a 1789

13.97 14.0 h 1 v 14.07 14.1 14.03 = 14.06 .01 .01
14.03 14.0 v 2 l 14.23 14.2 14.0 = 14.05 .05 .05

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1897phae.proj.972L

January 10, 1897

Variable No 26 (cont)

a 1744

13.31 13.33 f 2 v 13.48 13.4 v 2 g

13.51 13.5 13.68 13.6

13.43 = 13.48 13.45 .23 .03 .05 .05

a 1736

13.31 13.33 f = .2 v n.s < 13.5 × 13.5 ×

a 1745

13.31 13.33 f 1 v 13.48 13.4 v 2 g

13.41 13.4 13.60 13.6

13.48 = 13.43 13.40 .02 .02 .00 .00

a 1784

13.31 13.33 f 2 v 13.33 13.3 v 3 g

13.57 13.5 13.68 13.6

13.33 = 13.43 13.40 .08 .08 .10 .10

a 1787

13.68 13.6 g 2 v 13.77 13.8 v 2 h

13.83 13.8 13.97 14.0

13.77 = 13.81 13.80 .04 .04 .01 .00

a 1791

14.23 14.2 l 2 v 14.33 14.5 v 0 m 14.39 14.6 v 2 m

14.43 14.4 14.33 14.5 14.79 14.8

14.33 14.39 = 14.32 14.50 .07 .01 .07 .10 .00 .10

a 1790

14.33 14.5 m 2 v 14.79 14.8 v 0 m 14.79 14.8 v 2 o

14.73 14.7 14.79 14.8 14.99 15.0

14.79 14.8 = 14.77 .04 .02 .02 .07 .03 .03

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1897phae.proj..972L

January 10, 1897

Variable No 26 (cont)

a 1829

13.65 13.6 13.87 13.9 g 2 v 13.85 13.8 13.97 14.0 v i h 13.87 13.9 13.85 .01 .05 .01 .05

a 1828

13.97 14.0 14.08 14.0 h i v 14.07 14.1 14.28 14.2 v 2 l 14.06 14.05 .01 .05 .01 .05

a 1812

13.97 14.0 14.03 14.0 h 2 v 14.17 14.2 14.23 14.2 v 2 l 14.03 14.0 14.11 14.10 .06 .10 .06 .10

a 1825

13.97 14.0 14.03 14.0 h i v 14.07 14.1 14.23 14.2 v 2 l 14.03 14.0 14.06 14.05 .01 .05 .01 .05

a 1809

14.23 14.2 14.33 14.3 14.53 14.5 14.59 14.6 l i v 14.33 14.3 14.53 14.5 v 0 m 14.59 14.6 14.79 14.8 v 2 m 14.49 14.47 .14 .17 .04 .03 .10 .13

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1897phae.proj..972L

January 15 1897

Variable No 27 (M5)

22 ✓ 40 a 1782 g 3 v
13.68 13.6 13.98 13.9 13.97 13.6 13.96 13.75 .19 .15 .19 .15
13.97 14.0
13.97 13.6 v 4 h

✓ a 1781 h 1 v
13.97 14.0 14.07 14.1 14.00 14.0 14.06 14.05 .01 .05 .01 .05
14.03 14.0 14.23 14.2
14.0 v 2 l

✓ a 1756 h 2 v
13.97 14.0 14.17 14.2 14.00 14.0 14.11 14.10 .06 .04 .06 .04
14.03 14.0 14.23 14.2
14.0 v 2 l

✓ a 1785 g 4 v
13.63 13.6 14.03 14.0 13.67 13.7 13.86 13.85 .19 .15 .19 .15
13.67 13.7 13.97 14.0
13.7 v 3 h

✓ a 1786 h 2 v
13.97 14.0 14.17 14.2 13.93 13.9 14.06 14.05 .11 .15 .11 .15
13.93 13.9 14.23 14.2
13.9 v 3 l

✓ a 1788 l 1 v
14.23 14.2 14.53 14.3 14.43 14.4 14.39 14.35 .04 .05 .04 .05
14.43 14.4 14.83 14.5
14.4 v 1 m

✓ a 1789 m 1 v
14.53 14.5 14.63 14.6 14.59 14.6 14.61 14.60 .02 .00 .02 .00
14.59 14.6 14.79 14.8
14.6 v 2 m

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January 15, 1897.

Variable No 27 (cont)

a 1744

13.68 13.6 g 3 v 13.97 13.9 13.97 = 13.86 .09 .09
13.77 13.8 v 2 h 14.0 13.8 = 13.85 .05 .05

a 1736

13.81 13.3 f = .2
v n,s < 13.5 < 13.8

a 1745

13.97 14.0 h 1 v 14.07 14.1 14.03 = 14.06 .01 .01
14.03 14.0 v 2 l 14.23 14.2 14.0 = 14.05 .05 .05

a 1784

13.97 14.0 h 3 v 14.27 14.3 13.95 = 14.11 .16 .16
13.95 13.9 v 3 l 14.28 14.2 13.9 = 14.10 .20 .20

a 1787

13.68 13.6 g 3 v 13.95 13.9 13.77 = 13.86 .09 .09
13.77 13.8 v 2 h 13.97 14.0 13.8 = 13.85 .05 .05

a 1791

14.79 14.8 m 1 v 14.89 14.9 14.79 = 14.84 .05 .05
14.79 14.8 v 2 0 14.99 15.0 14.8 = 14.85 .05 .05

a 1790

14.79 14.8 m 2 v 14.99 15.0 14.79 = 14.89 .10 .10
14.79 14.8 v 2 0 14.99 15.0 14.8 = 14.90 .10 .10

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January 15, 1897

Variable No 27 (cont)

a 1809

13.63 13.6 g 4 v 13.97 14.0
13.97 14.0 v 0 h 13.97 14.0
13.73 13.7 14.5 v 5 l 14.20 14.23 15.0

14.05 14.0 13.97 14.0 13.73 13.7 14.5 = 13.92 13.90 14.27 = .13 .10 .17 .20 .03 .17 .33

a 1825

13.97 14.0 h 2 v 14.17 14.2 13.93 13.9 = 14.06 14.05 .11 .15 .11 .15
13.93 13.9 v 3 l 14.23 14.2

a 1812

14.23 14.2 l 1 v 14.33 14.3 14.33 14.3 = 14.34 14.30 .01 .00 .01 .00
14.33 14.3 v 2 m 14.33 14.5

a 1828

13.63 13.6 g 3 v 13.93 13.9 13.37 13.6 = 13.76 13.75 .19 .15 .19 .15
13.37 13.6 v 4 h 13.97 14.0

a 1829

13.63 13.6 g 2 v 13.83 13.8 13.67 13.7 = 13.76 13.75 .09 .05 .09 .05
13.67 13.7 v 3 h 13.97 14.0

23

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1897phae.proj..972L

January 15, 1897

Variable No 28 (M5)

a 1790

14.79 14.8 n 2 v — 14.99 15.0 — 14.99 15.0 — 15.03 15.0 = 15.01 15.00 — .02 .00 — .02 .00 — .04 .00

23 45 ✓

14.99 15.0 v 0 o — 14.99 15.0

15.03 15.0 v 2 p — 15.25 15.2

a 1791

14.79 14.8 n 2 v — 14.99 15.0 — 14.99 15.0 — 14.93 14.9 = 14.98 14.97 — .01 .03 — .01 .03 — .03 .07

✓ 14.99 15.0 v 0 o — 14.99 15.0

14.93 14.9 v 3 p — 15.25 15.2

a 1787

✓ 14.79 14.8 n 2 v — 14.99 15.0 — 14.89 14.9 = 14.94 14.95 — .03 .05 — .03 .05

14.89 14.9 v 1 o — 14.99 15.0

a 1784

14.23 ✓ 14.2 l 1 v — 14.33 14.3 — 14.33 14.3 = 14.34 14.30 — .01 .00 — .01 .00

14.33 14.3 v 2 m — 14.33 14.5

a 1745

14.23 ✓ 14.2 l 1 v — 14.33 14.3 — 14.43 14.4 = 14.39 14.35 — .04 .05 — .04 .05

14.43 14.4 v 1 m — 14.33 14.5

a 1736

13.31 ✓ 13.3 f = 2

v n.s — 13.5 — 13.8

a 1744

13.97 14.0 ✓ l 2 v — 14.17 14.2 — 14.23 14.2 — 14.23 14.3 = 14.28 14.23 — .01 .03 — .00 .03 — .08 .07

14.23 14.2 v 0 l — 14.23 14.2

14.33 14.3 v 2 m — 14.33 14.5

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Variable Nos 28 (cont)

a 1789

14.83 14.5 m 2 v 14.6 — 14.73 14.7 — 14.79 14.8 — 14.89 14.6 = 14.66 .07 .07 — 14.89 14.6 v 2 m

a 1788

13.97 14.0 h 2 v 13.95 13.9 — 14.17 14.2 — 14.23 14.2 — 13.95 13.9 = 14.06 .11 .11 — 13.95 13.9 v 3 l

a 1786

14.79 14.8 m 2 v 14.99 15.0 — 14.99 15.0 — 15.03 15.0 = 15.01 .02 .02 .04 — 14.99 15.0 v o o — 15.03 15.0 v 2 p — 15.23 15.2

a 1785

14.79 14.8 m 1 v 14.89 14.9 — 14.79 14.8 = 14.84 .05 .05 — 14.79 14.8 v 2 o — 14.99 15.0

a 1756

13.97 14.0 h 1 v 14.03 14.0 — 14.07 14.1 — 14.23 14.2 — 14.03 14.0 = 14.06 .01 .01 — 14.03 14.0 v 2 l

a 1781

14.23 14.2 l 2 v 14.23 14.2 — 14.43 14.4 — 14.53 14.5 — 14.23 14.2 = 14.34 .11 .11 — 14.23 14.2 v 3 m

1

a 1782

14.79 14.8 m 1 v 14.99 15.0 — 14.89 14.9 — 14.99 15.0 — 15.03 15.0 = 14.98 .09 .01 .07 — 14.99 15.0 v o o — 15.03 15.0 v 2 p. — 15.23 15.2

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January 15, 1897.

Variable No 28 (cont)

a 1829

✓	14.23 14.2	l 1 v	14.33 14.3	14.43 = 14.4	14.39 = 14.35	.04 .05	.04 .05
	14.43 14.4	v 1 m	14.33 14.3				

a 1828

	13.63 13.6	9 4 v	14.03 14.0	13.97 14.0	13.83 = 13.8	13.96 = 13.93	.09 .07	.01 .07	.11 .13
✓	13.97 14.0	v 0 h	13.97 14.0						
	13.83 13.8	v 4 l	14.23 14.2						

a 1812

✓	14.79 14.8	m 1 v	14.89 14.9	14.79 = 14.8	14.84 = 14.85	.03 .05	.03 .05
	14.79 14.8	v 2 0	14.99 15.0				

a 1825

	13.97 14.0	h 3 v	14.27 14.3	14.23 14.2	14.23 = 14.2	14.25 = 14.23	.02 .03	.00 .03	.02 .03
✓	14.23 14.2	v 0 l	14.23 14.2						
	14.23 14.2	v 3 m	14.33 14.3						

a 1809

✓	14.53 14.5	m 2 v	14.73 14.7	14.59 = 14.6	14.66 = 14.65	.07 .05	.07 .05
	14.59 14.6	v 2 m	14.79 14.8				

24 W 00

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January 16, 1897

Variable No 29 (M5)

a 1782

13.68		14.08	13.67 =	13.86	.09	.09
✓ 13.6	g 4 v	14.0	13.7 =	13.85	.15	.15
13.67		13.97				
13.7	v 3 h	14.0				

a 1781

13.68		13.73	13.77 =	13.76	.01	.01
✓ 13.6	g 1 v	13.7	13.8 =	13.75	.05	.05
13.77		13.97				
13.8	v 2 h	14.0				

a 1756

13.97		14.07	14.03 =	14.06	.01	.01
✓ 14.0	h 1 v	14.1	14.0 =	14.05	.05	.05
14.03		14.23				
14.0	v 2 l	14.2				

a 1785

13.97		14.27	14.23	14.23 =	14.25	.02 .00 .02
14.0	h 3 v	14.3	14.2	14.2 =	14.23	.07 .03 .03
✓ 14.23		14.23				
14.2	v 0 l	14.2				
14.23		14.53				
14.2	v 3 m	14.5				

a 1786

13.97		14.27	14.23	14.33 =	14.28	.01 .03 .05
14.0	h 3 v	14.3	14.2	14.3 =	14.27	.03 .07 .03
✓ 14.23		14.23				
14.2	v 0 l	14.2				
14.33		14.53				
14.3	v 2 m	14.5				

a 1788

14.03		14.63	14.59 =	14.61	.02	.02
✓ 14.5	m 1 v	14.6	14.6 =	14.60	.00	.00
14.57		14.79				
14.6	v 2 m	14.8				

a 1789

✓ 13.97		14.17	14.03 =	14.11	.06	.06
14.0	h 2 v	14.2	14.0 =	14.10	.10	.10
14.03		14.23				
14.0	v 2 l	14.2				

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January 16, 1897

Variable No 29 (cont)

a 1744

13.97 14.0 h 1 v 14.07 14.1 14.05 = 14.06 .01 .01
14.05 14.0 v 2 l 14.25 14.2 14.0 = 14.05 .05 .05

a 1736

13.31 13.3 f = 2
v ns 13.5 13.8

a 1745

13.65 13.6 g 1 v 13.75 13.7 13.87 13.9 = 13.81 .06 .06
13.87 13.9 v 1 h 13.97 14.0 = 13.80 .10 .10

a 1784

13.97 14.0 h 2 v 14.17 14.2 14.05 14.0 = 14.11 .06 .06
14.05 14.0 v 2 l 14.25 14.2 = 14.10 .10 .10

a 1787

14.25 14.2 l 2 v 14.45 14.4 14.43 14.4 = 14.44 .01 .01
14.43 14.4 v 1 m 14.53 14.5 = 14.40 .00 .00

a 1791

13.65 13.6 g 4 v 14.05 14.0 13.67 13.7 = 13.86 .19 .19
13.67 13.7 v 3 h 13.97 14.0 = 13.85 .15 .15

a 1790

13.65 13.6 g 2 v 13.85 13.8 13.67 13.7 = 13.76 .09 .09
13.67 13.7 v 3 h 13.97 14.0 = 13.75 .05 .05

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January 16, 1897

Variable No 29 (cont)

a 1809

13.63		14.03	13.97	13.90 =	13.99	.06	.02	.04
~~13.6~~	g 4 v	~~14.0~~	14.0	~~13.9~~ =	~~13.97~~	.03	.03	~~.07~~
✓ 13.97		13.97						
~~14.0~~	v 0 h	~~14.0~~						
13.93		14.28						
~~13.9~~	v 3 l	14.2						

a 1825

14.53		14.63	14.59 =	14.61	.02	.02	
~~14.5~~	m 1 v	~~14.6~~	~~14.6~~ =	~~14.60~~	.00	.00	
✓ 14.59		14.79					
~~14.6~~	v 2 n	~~14.8~~					

a 1812

14.23		14.43	14.53	14.59 =	14.52	.07	.01	.07
~~14.2~~	l 2 v	~~14.4~~	14.5	~~14.6~~ =	~~14.50~~	.10	.00	.10
14.53		14.63						
✓ ~~14.5~~	v 0 m	~~14.5~~						
14.59		14.79						
~~14.6~~	v 2 n	~~14.8~~						

a 1828

14.23		14.43	14.43 =	14.44	.01	.01
✓ ~~14.2~~	l 2 v	~~14.4~~	~~14.4~~ =	~~14.40~~	.00	.00
14.43		14.53				
~~14.4~~	v 1 m	14.5				

a 1829

.53		.63				
14.79		14.88	14.69 =	14.66	.03	.03
✓ ~~14.8~~	m 1 v	~~14.9~~	~~14.7~~ =	~~14.80~~	.10	~~.10~~
14.69		14.79				
~~14.7~~	v 1 n	~~14.8~~				

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January 17 1897.

Variable No 30 (M5)

a 1790

40.3.97
22 s 3 ~~14.0~~ h 2 v ~~14.2~~ 14.23 ~~14.0~~ = ~~14.10~~ ~~10~~ .10
14.05
~~14.0~~ v 2 l ~~14.2~~

14.17 14.05 = 14.11 .06 .06

a 1784

13.97
~~14.0~~ h 2 v ~~14.2~~ 14.23 ~~14.0~~ = ~~14.10~~ ~~10~~ .10
14.05
~~14.0~~ v 2 l ~~14.2~~

14.17 14.08 = 14.11 .06 .06

a 1787

14.20
~~14.2~~ l 2 v ~~14.4~~ 14.53 ~~14.5~~ 14.69 = ~~14.56~~ .13 .03 .17
14.53
~~14.5~~ v 0 m ~~14.5~~
14.69
~~14.7~~ v 1 m ~~14.8~~

14.43 14.53 14.69 = 14.56 .11 .03 .13

a 1745

14.79
~~14.8~~ m = .1
v n.s ~~< 14.9~~ X ~~14.89~~ X

a 1736

13.31
~~13.3~~ f = .2
v n.s ~~< 13.5~~ X ~~13.53~~ X

a 1744

13.99
~~14.0~~ h 2 v ~~14.2~~ 14.23 ~~14.1~~ = ~~14.15~~ .05 .05
14.13
~~14.1~~ v 1 l ~~14.2~~

14.17 14.13 = 14.16 .01 .01

a 1789

13.97
~~14.0~~ h 2 v ~~14.2~~ 14.23 ~~14.2~~ 14.3 = 14.23 .03 .03 .07
14.23
~~14.2~~ v 0 l 14.2.
14.33
~~14.3~~ v 2 m ~~14.5~~

14.17 14.23 14.33 = 14.25 .08 .08 .08

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January 17, 1897

Variable No 30 (cont)

a 1788

13.97 14.0 h 2 v 14.17 14.2 14.23 14.15 = 14.16 .01 .01
14.10 14.1 v 1 l 14.2 14.1 = 14.15 .05 .05

a 1786

13.97 14.0 h 2 v 14.17 14.2 14.23 14.25 14.33 = 14.23 .08 .00 .08
14.25 14.2 v 0 l 14.25 14.2 14.3 = 14.23 .03 .03 .07
14.33 14.3 v 2 m 14.33 14.5

a 1785

13.97 14.0 h 2 v 14.17 14.2 14.05 = 14.11 .06 .06
14.05 14.0 v 2 l 14.25 14.2 14.0 = 14.10 .10 .10

a 1756

14.23 14.2 l 1 v 14.35 14.3 14.43 = 14.39 .04 .04
14.43 14.4 v 1 m 14.53 14.5 14.4 = 14.35 .05 .05

a 1781

14.79 14.8 m 1 v 14.89 14.9 14.89 = 14.89 .00 .00
14.89 14.9 v 1 o 14.99 15.0 14.9 = 14.90 .00 .00

a 1782

14.53 14.5 m 2 v 14.73 14.7 14.79 14.8 14.79 = 14.77 .04 .02 .02
14.79 14.8 v 0 m 14.79 14.8 14.8 = 14.77 .07 .03 .03
14.79 14.8 v 2 o 14.99 15.0

a 1791

13.63 13.6 g 4 v 14.05 14.0 13.67 13.7 = 13.86 .19 .19
13.67 13.7 v 3 h 13.97 14.0 13.7 = 13.85 .15 .15

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January 17, 1897

Variable No 30 (cont'd)

a 1829

13.63 13.6	9 3 v	13.95 13.9	13.77 = 13.8	13.86 13.85	.09 .05	.09 .05
13.77 13.8	v 2 h	13.97 14.0				

a 1828

14.83 14.5	m 2 v	14.73 14.7	14.79 14.8	14.79 14.8 =	14.77 14.77	.04 .07	.02 .03 .02 .03
14.79 14.8	v 0 m	14.79 14.8					
14.79 14.8	v 2 0	14.99 15.0					

a 1812

14.83 14.5	m 1 v	14.63 14.6	14.79 14.8	14.79 14.8 =	14.74 14.73	.11 .13	.08 .07 .03 .07
14.79 14.8	v 0 m	14.79 14.8					
14.79 14.8	v 2 0	14.99 15.0					

a 1825

14.23 14.2	l 1 v	14.33 14.3	14.33 14.3 =	14.34 14.30	.01 .00	.01 .00
14.33 14.3	v 2 m	14.33 14.5				

a 1809

14.53 14.5	m 1 v	14.63 14.6	14.59 = 14.6	14.61 14.60	.02 .00	.02 .00
14.59 14.6	v 2 m	14.59 14.8				

23h 00

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Variable No 31 (K5)

a 1809

14.23			14.43	14.33	14.39	=	14.32	.07	.01	.07
14.2	l 2 v		14.4	14.5	14.6	=	14.50	.10	.00	.10
14.33			14.33							
14.5	v 0 m		14.5							
14.59			14.79							
14.6	v 2 m		14.8							

a 1825

14.33			14.73	14.79	14.79	=	14.77	.04	.02	.02
14.5	m 2 v		14.7	14.8	14.8	=	14.77	.07	.03	.03
14.79			14.79							
14.8	v 0 m		14.8							
14.79			14.99							
14.8	v 2 0		15.0							

a 1812

13.97			14.17	14.23	14.23	=	14.21	.03	.03	.01
14.0	h 2 v		14.2	14.2	14.2	=	14.20	.00	.00	.00
14.23			14.23							
14.2	v 0 l		14.2							
14.23			14.33							
14.2	v 3 m		14.5							

a 1828

14.23			14.43	14.43	=	14.44	.01	.01	
14.2	l 2 v		14.4	14.4	=	14.40	.00	.00	
14.43			14.33						
14.4	v 1 m		14.5						

a 1829

14.33			14.73	14.79		14.76	.03	.03	
14.5	m 2 v		14.7	14.8	=	14.75	.05	.05	
14.79			14.79						
14.8	v 0 m		14.8						
	0 m s								

a 1791

13.63			14.03	13.97	13.93	=	13.99	.06	.02	.04
13.6	g 4 v		14.0	14.0	13.9	=	13.97	.03	.03	.07
13.97			13.97							
14.0	v 0 h		14.0							
13.93			14.23							
13.9	v 3 l		14.2							

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Variable No 31 (cont)

a 1782

14.33			14.73	14.79	14.79 =	14.77	.04	.02	.02
✓ 14.5	m 2 v		14.7	14.8	14.8 =	14.77	.07	.03	.03
14.79			14.79						
14.8	v 0 m		14.8						
14.79			14.99						
14.8	v 2 0		15.0						

a 1781

14.23		14.33	14.33 =	14.34	.01	.01	
✓ 14.2	l 1 v	14.3	14.3 =	14.30	.00	.00	
14.33		14.33					
14.3	v 2 m	14.5					

a 1756

14.79		14.89	14.89 =	14.89	.00	.00
✓ 14.8	m 1 v	14.9	14.9 =	14.90	.00	.00
14.89		14.99				
14.9	v 1 0	15.0				

a 1785

14.23		14.53	14.53	14.89 =	14.56	.01	.03	.03
✓ 14.2	l 3 v	14.5	14.5	14.6 =	14.53	.03	.03	.07
14.53		14.53						
14.5	v 0 m	14.5						
14.59		14.79						
14.6	v 2 m	14.8						

a 1786

14.23		14.43	14.43 =	14.44	.01	.01
✓ 14.2	l 2 v	14.4	14.4 =	14.40	.00	.00
14.43		14.53				
14.4	v 1 m	14.5				

a 1788

14.53		14.63	14.59 =	14.61	.02	.02
✓ 14.5	m 1 v	14.6	14.6 =	14.60	.00	.00
14.59		14.79				
14.6	v 2 m	14.8				

a 1789

14.23		14.43	14.53	14.59 =	14.52	.07	.01	.07
✓ 14.2	l 2 v	14.4	14.5	14.6 =	14.50	.10	.00	.10
14.53		14.53						
14.5	v 0 m	14.5						
14.59		14.79						
14.6	v 2 m	14.8						

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January 17, 1897

Variable No 31 (cont)

a 1744

14.79 14.8 n 1 v 14.89 14.9 14.89 14.9 = 14.89 14.90 .00 .00
14.89 14.9 v 1 0 14.99 15.0

a 1736

13.31 13.3 f = .2 v n.s < 13.5 X 13.3 X

a 1745

14.79 14.8 n = .1 v n.s < 14.9 X 14.8 X

a 1787

13.63 13.6 g 3 v 13.77 13.8 13.95 13.9 13.77 13.8 = 13.86 13.85 .09 .05 .09 .05
13.8 v 2 h 13.97 14.0

a 1784

14.28 14.2 2 1 v 14.33 14.3 14.33 14.5 14.39 14.6 = 14.49 14.47 .14 .17 .04 .03 .10 .13
14.33 14.5 v 1 m 14.33 14.5
14.59 14.6 v 2 n 14.79 14.8

a 1790

13.63 13.6 g 4 v 14.03 14.0 13.97 14.0 13.93 13.9 = 13.99 13.97 .06 .03 .02 .03 .04 .07
13.97 14.0 v 0 h 13.97 14.0
13.93 13.9 v 3 l 14.28 14.2

23 25

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Variable No 32 (N5)

a 1790

13.97			14.37 14.23 14.23 = 14.28 .09 .03 .05	
~~14.0~~	h 4 v	~~14.4~~	~~14.2~~ ~~14.2~~ = ~~14.27~~ ~~13~~ .07 .07	
14.23		14.23		
~~14.2~~	v 0 l	14.2		
14.23		14.8-3		
~~14.2~~	v 3 m	~~14.5~~		

a 1784

13.63			13.93 13.77 = 13.86 .09 .09	
~~13.6~~	q 3 v	~~13.9~~	~~13.8~~ = ~~13.85~~ ~~.05~~ .05	
13.77		13.97		
~~13.8~~	v 2 h	14.0		

a 1787

14.53			14.63 14.79 14.79 = 14.74 .11 .03 .03	
~~14.5~~	m 1 v	~~14.6~~	~~14.8~~ ~~14.8~~ = ~~14.73~~ .13 .07 .07	
14.79		14.79		
~~14.8~~	v 0 n	~~14.8~~		
14.79		14.99		
~~14.8~~	v 2 0	~~15.0~~		

a 1745

13.63			13.86 13.97 14.03 = 13.96 .11 .01 .09	
~~13.6~~	q 2 v	~~13.8~~	~~14.0~~ ~~14.0~~ = ~~13.93~~ .13 .07 .07	
13.97		13.97		
~~14.0~~	v 0 h	~~14.0~~		
14.03		14.23		
~~14.2~~	v 2 l	~~14.2~~		

a 1736

13.31				
~~13.3~~	f = .2			
	v n.s	~~13.5~~	~~13.8~~	

a 1744

13.81			13.87 13.43 = 13.48 .03 .03	
~~13.3~~	f 2 v	~~13.5~~	~~13.4~~ = ~~13.45~~ .05 .05	
13.43		13.68		
~~13.4~~	v 2 g	~~13.6~~		

a 1789

14.23			14.43 14.43 = 14.44 .01 .01	
~~14.2~~	l 2 v	~~14.4~~	~~14.4~~ = ~~14.40~~ .00 .00	
14.43		14.8-3		
~~14.4~~	v 1 m	~~14.5~~		

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Variable No 32 (cont)

a 1788

14.63 m 1 v
14.5
14.69
14.7 v 1 m

14.63 14.69 = 14.66 .03 .03
14.6 14.7 = 14.65 .05 .05
14.79
14.8

a 1786

14.28 l 2 v
14.2
14.83
14.5 v 0 m
14.69
14.6 v 2 m

14.48 14.83 14.89 = 14.82 .07 .01 .07
14.4 14.5 14.6 = 14.50 .10 .00 .10
14.83
14.5
14.79
14.8

a 1785

13.97 h 2 v
14.0
14.03
14.0 v 2 l

14.17 14.00 = 14.11 .06 .06
14.2 14.0 = 14.10 .10 .10
14.28
14.2

a 1756

13.91 f 3 v
13.3
13.68
13.6 v 0 g
13.87
13.6 v 4 h

13.61 13.65 13.57 = 13.61 .05 .04 .04
13.6 13.6 13.6 = 13.60 .00 .00 .00
13.68
13.6
13.97
14.0

a 1781

13.81 f 3 v
13.3
13.43
13.4 v 2 g

13.61 13.43 = 13.53 .08 .08
13.6 13.4 = 13.50 .10 .10
13.68
13.6

a 1782

13.68 g 4 v
13.6
13.77
13.8 v 2 h

14.08 13.77 = 13.91 .14 .14
14.0 13.8 = 13.90 .10 .10
13.97
14.0

a 1791

13.91 f 2 v
13.3
13.23
13.6 v 4 g

13.81 13.23 = 13.38 .13 .13
13.5 13.6 = 13.50 .05 .05
13.68
14.0

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January 18, 1897.

Variable No 32 (cont)

a 1829

14.79 ~~14.8~~ n = 1

v n.s ~~<14.9~~ ~~<14.8~~

a 1828

14.53 ~~14.5~~ m 2 v 14.73 ~~14.7~~ 14.79 ~~14.8~~ 14.79 ~~14.8~~ = 14.77 .04 .02 .02 = ~~14.77~~ ~~.07~~ ~~.03~~ ~~.03~~

14.79 ~~14.8~~ v 0 m 14.79 ~~14.8~~

14.79 ~~14.8~~ v 2 0 14.99 ~~15.0~~

a 1812

14.53 ~~14.5~~ m 2 v 14.73 ~~14.7~~ 14.69 = 14.71 .02 .02 = ~~14.70~~ ~~.00~~ ~~.00~~

14.69 ~~14.7~~ v 1 m 14.79 ~~14.8~~

a 1825

13.97 ~~14.0~~ h 1 v 14.07 ~~14.1~~ 14.03 = 14.06 .01 .01 = ~~14.05~~ ~~.05~~ .05

14.05 ~~14.0~~ v 2 l 14.25 ~~14.2~~

a 1809

14.53 ~~14.5~~ m 2 v 14.73 ~~14.7~~ 14.59 ~~14.6~~ = 14.66 .07 .07 = ~~14.65~~ ~~.05~~ .05

14.59 ~~14.6~~ v 2 m 14.79 ~~14.8~~

24 35

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1897phae.proj..972L

January 18, 1897

Variable No 33 (M5)

a 1791

14.03
14.5 m 3 v
14.59
14.6 v 2 m

14.83 14.89 = 14.71 .12 .12
14.8 14.6 = 14.70 .10 .10
14.79
14.8

a 1782

14.53
14.5 m 2 v
14.79
14.8 v 0 m
14.79
14.8 v 2 0

14.73 14.79 14.79 = 14.77 .04 .02 .02
14.7 14.8 14.8 = 14.77 .07 .03 .03
14.79
14.8
14.99
15.0

a 1781

13.97
14.0 h 2 v
14.03
14.0 v 2 l

14.17 14.03 = 14.11 .06 .06
14.2 14.0 = 14.10 .10 .10
14.23
14.2

a 1756

14.79
14.8 m 1 v
14.89
14.9 v 1 0

14.89 14.89 = 14.89 .00 .00
14.9 14.9 = 14.90 .00 .00
14.99
15.0

a 1785

14.23
14.2 l 2 v
14.33
14.3 v 2 m

14.43 14.33 = 14.39 .06 .06
14.4 14.3 = 14.35 .05 .05
14.39
14.5

a 1786

14.79
14.8 m 1 v
14.79
14.8 v 2 0

14.89 14.79 = 14.84 .05 .05
14.9 14.8 = 14.85 .05 .05
14.99
15.0

a 1788

13.97
14.0 h 2 v
14.03
14.0 v 2 l

14.17 14.03 = 14.11 .16 .06
14.2 14.0 = 14.10 .10 .10
14.23
14.2

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1897phae.proj..972L

January 18, 1897

Variable No 33 (cont)

a 1789

13.97 14.0 h 2 v 14.03 14.0 v 2 l

14.17 14.2 14.23 14.2

14.03 = 14.11 .06 .06

14.0 = 14.10 .10 .10

a 1744

13.68 13.6 g 2 v 13.7 13.8 v 2 h

13.80 13.8 13.97 14.0

13.77 = 13.81 .04 .04

13.8 = 13.80 .00 .00

a 1736

13.31 13.3 f = .2

v n.s 13.5 13.3

a 1745

14.79 14.8 n = .1

v n.s 14.9 14.8

a 1787

14.63 14.5 m, v 14.79 14.8 v 2 w 14.79 14.8 v 2 o

14.63 14.6 14.79 14.8 14.99 15.0

14.79 = 14.74 .11 .03 .03

14.8 = 14.73 .13 .07 .07

a 1784

14.28 14.2 l 2 v 14.43 14.4 v 1 m

14.43 14.4 14.43 14.5

14.4 = 14.40 .00 .00

a 1790

13.97 14.0 h 3 v 14.03 14.0 v 2 l

14.27 14.3 14.23 14.2

14.03 = 14.16 .11 .11

14.0 = 14.15 .15 .15

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1897phae.proj..972L

January 18, 1897

Variable No 33 (cont)

a 1809

13.68 13.6 g 3 v 13.67 13.7 v 3 h

13.98 13.7 13.97 14.0

13.67 = 13.7

13.81 13.80

.14 .06 .10

.14 .10

a 1825

13.63 13.6 g 3 v 13.77 13.8 v 2 h

13.93 13.9 13.7

13.77 = 13.8

13.86 13.85

.09 .05

.09 .05

a 1812

14.28 14.2 l 2 v 14.53 14.5 v 0 m

14.49 14.5 v 3 m

14.43 14.4

14.53 14.5

14.79 14.8

14.43 = 14.5

14.49 14.47

.04 .07

.04 .03

.00 .03

a 1828

14.03 14.5 m 2 v 14.69 14.7 v 1 m

14.73 14.7

14.79 14.8

14.69 = 14.7

14.71 14.70

.02 .00

.02 .00

a 1829

14.03 14.5 m 1 v 14.69 14.7 v 1 m

14.63 14.6

14.79 14.8

14.69 = 14.7

14.66 14.65

.03 .05

.03 .05

13 00

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1897phae.proj..972L

January 18, 1897

Variable No 34 (M5)

a 1791

✓	14.20		14.40	14.43 =	14.44	.01 .01
2 4 5	14.2	l 2 v	14.4	14.4 =	14.40	.00 .00
	14.43		14.03			
	14.4	v 1 m	14.5			

a 1784

	13.97		14.27	14.28	14.38 =	14.28 .01 .03 .03
	14.0	h 3 v	14.3	14.2	14.3 =	14.27 .03 .07 .03
✓	14.28		14.23			
	14.2	v 0 l	14.21			
	14.33		14.03			
	14.3	v 2 m	14.5			

a 1787

	14.03		14.63	14.79	14.79 =	14.74 .11 .03 .03
✓	14.5	m 1 v	14.6	14.8	14.8 =	14.73 .13 .07 .07
	14.79		14.79			
	14.8	v 0 n	14.8			
	14.79		14.99			
	14.8	v 2 o	15.0			

a 1745

	13.81		13.61	13.48	13.53	.08 .08
✓	13.3	f 3 v	13.6	13.4 =	13.50	.10 .10
	13.48		13.68			
	13.4	v 2 g	13.6			

a 1736

	12.95		13.23	13.11 =	13.18	.07 .07
✓	13.0	e 3 v	13.3	13.1 =	13.20	.10 .10
	13.11		13.83			
	13.1	v 2 f	13.3			

a 1744

	13.97		14.17	14.18 =	14.16	.01 .01
	14.0	h 2 v	14.2	14.1 =	14.15	.05 .05
✓	14.18		14.28			
	14.1	v 1 l	14.2			

a 1789

	14.28		14.30	14.33 =	14.34	.01 .01
✓	14.2	l 1 v	14.3	14.3 =	14.30	.00 .00
	14.33		14.03			
	14.3	v 2 m	14.5			

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1897phae.proj..972L

January 18, 1897

Variable No 34 (cont)

a 1788

14.23 14.2 l 1 v 14.43 14.4 v 1 m

14.33 14.3 14.43 = 14.39 .04 .04
14.3 14.4 = 14.35 .05 .05
14.33 14.5

a 1786

13.97 14.0 h 3 v 14.23 14.2 v 0 l 14.33 14.3 v 2 m

14.27 14.23 14.33 = 14.28 .01 .03 .03
14.3 14.2 14.3 = 14.27 .03 .07 .03
14.28 14.2 14.33 14.5

a 1785

13.97 14.0 h 3 v. 14.23 14.2 v 0 l 14.23 14.2 v 3 m

14.27 14.23 14.23 = 14.24 .02 .00 .02
14.3 14.2 14.2 = 14.23 .07 .03 .03
14.23 14.2 14.33 14.5

a 1756

14.23 14.2 l 1 v 14.53 14.5 v 0 m 14.59 14.6 v 2 m

14.33 14.33 14.39 = 14.49 .14 .04 .10
14.3 14.5 14.6 = 14.47 .17 .03 .13
14.53 14.5 14.79 14.8

a 1781

14.79 14.8 n = 1

v n,s 14.9 14.84

a 1782

13.97 14.0 h 2 v 14.03 14.0 v 2 l

14.17 14.03 = 14.11 .06 .06
14.2 14.0 = 14.10 .10 .10
14.23 14.2

a 1790

14.23 14.2 l 1 v 14.53 14.5 v 0 m 14.59 14.6 v 2 m

14.33 14.33 14.39 = 14.49 .14 .04 .10
14.3 14.5 14.6 = 14.47 .17 .03 .13
14.53 14.5 14.79 14.8

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1897phae.proj..972L

January 18, 1897

Variable No 34 (cont)

a 1829

14.79
~~14.8~~ n = .1

v n,s ~~14.9~~ ~~14.8~~

a 1828

13.65
~~13.6~~ g 4 v 14.03 13.97 13.95 = 13.99 .06 .02 .04
13.97
~~14.0~~ v 0 h ~~14.0~~ ~~14.0~~ ~~13.9~~ = ~~13.97~~ ~~.03~~ ~~.03~~ ~~.07~~
13.95
~~13.9~~ v 3 l 14.25 ~~14.2~~

a 1812

13.65
~~13.6~~ g 3 v 13.95 13.67 = 13.81 .14 .14
13.67
~~13.7~~ v 3 h ~~13.9~~ ~~13.7~~ = ~~13.80~~ ~~.10~~ ~~.10~~
13.97
~~14.0~~

a 1825

13.31
~~13.3~~ f 4 v 13.71 13.65 13.57 = 13.64 .07 .01 .07
13.65
~~13.6~~ v 0 g ~~13.7~~ ~~13.6~~ ~~13.6~~ = ~~13.63~~ ~~.07~~ ~~.03~~ ~~.03~~
13.57
~~13.6~~ v y h 13.65 13.97
~~13.6~~ ~~14.0~~

a 1809

13.65
~~13.6~~ g 3 v 13.95 13.77 = 13.86 .09 .09
13.77
~~13.8~~ v 2 h ~~13.9~~ ~~13.8~~ = ~~13.85~~ ~~.05~~ ~~.05~~
13.97
~~14.0~~

3. 00

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1897phae_proj_972L

January 19, 1897

Variable No 35 (M5)

24

a 1790

14.33 14.5 gs m 1 v 14.79 14.8 v 0 m 14.79 14.8 v 2 0

14.63 14.79 14.79 = 14.74 .11 .08 .08
14.6 14.8 14.8 = 14.73 .13 .07 .07
14.79 14.99. 15.0

a 1782

14.28 14.2 l 2 v 14.43 14.4 v 1 m

14.43 14.43 = 14.44 .01 .01
14.4 14.4 = 14.40 .00 .00
14.33 14.5

a 1781

13.97 14.0 h 1 v 14.23 14.2 v 0 l 14.33 14.3 v 2 m

14.07 14.23 14.33 = 14.28 .15 .03 .11
14.1 14.2 14.3 = 14.20 .10 .00 .10
14.23 14.23 14.33 14.5

a 1756

13.97 14.0 h 2 v 14.13 14.1 v 1 l

14.17 14.13 = 14.16 .01 .01
14.2 14.1 = 14.15 .05 .05
14.23 14.2

a 1785

14.23 14.2 l 2 v 14.53 14.5 v 0 m 14.59 14.6 v 2 m

14.43 14.53 14.59 = 14.52 .07 .01 .07
14.4 14.5 14.6 = 14.50 .10 .00 .10
14.53 14.5 14.79 14.8

a 1786

14.28 14.2 l 1 v 14.43 14.4 v 1 m

14.33 14.43 = 14.39 .04 .04
14.3 14.4 = 14.35 .05 .05
14.53 14.5

a 1788

13.97 14.2 h 2 v 14.13 14.1 v 1 l

14.17 14.13 = 14.16 .01 .01
14.4 14.1 = 14.25 .15 .15
14.23 14.2

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1897phae.proj..972L

January 19, 1897

Variable No 35 (cont)

a 1789

14.28 14.2 l 1 v 14.3 14.35 14.33 14.39 = 14.49 .14 .04 .10
14.33 14.5 14.6 = 14.47 .17 .03 .13
14.33 14.5 v 0 m 14.33 14.5
14.39 14.6 v 2 m 14.79 14.8

a 1744

14.28 14.2 l 1 v 14.38 14.3 14.43 = 14.39 .04 .04
14.43 14.4 = 14.35 .05 .05
14.4 v 1 m 14.33 14.5

a 1736

13.31 13.3 f = .2
v n.s ~~13.5~~ X 13.3 X

a 1745

14.79 14.8 n = .1
v. n.s ~~14.9~~ X 14.8 X

a 1787

13.65 13.6 g 3 v 13.98 13.9 13.77 13.8 = 13.86 .09 .09
13.85 .05 .05
13.97 13.8 v 2 h 13.97 14.0

a 1784

14.23 14.2 l 1 v 14.38 14.3 14.53 14.5 14.59 = 14.49 .14 .04 .10
14.33 14.5 14.6 = 14.47 .17 .03 .13
14.33 14.5 v 0 m 14.33 14.5
14.59 14.6 v 2 m 14.79 14.8

a 1791

14.28 14.2 l 1 v 14.38 14.3 14.43 = 14.39 .04 .04
14.43 14.4 = 14.35 .05 .05
14.4 v 1 m 14.33 14.5

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1897phaeproj..072L

January 19, 1897

Variable No 35 (cont)

a 1825

13.63		13.93	13.97	13.93 =	13.96	.01	.01	.01
13.6	g 3 v	13.9	14.0	13.9 =	13.93	.03	.07	.03
✓ 13.97		13.97						
14.0	v o h	14.0						
13.93		14.28						
13.9	v 3 l	14.2						

a 1812

13.97		14.27	14.25	14.33 =	14.28	.01	.03	.05
14.0	h 3 v	14.3	14.2	14.3 =	14.27	.03	.07	.03
✓ 14.25		14.23						
14.2	v o l	14.2						
14.33		14.53						
14.3	v 2 m	14.5						

a 1828

14.23		14.33	14.33 =	14.34	.01	.01	
✓ 14.2	l 1 v	14.3	14.3 =	14.30	.00	.00	
14.33		14.53					
14.3	v 2 m	14.5					

a 1829

13.63		13.83	13.87 =	13.86	.01	.01	
13.6	g 2 v	13.8	13.9 =	13.85	.05	.05	
✓ 13.87		13.97					
13.9	v 1 h	14.0					

a 1809

13.63		14.03	13.97	13.93 =	13.99	.06	.02	.04
✓ 13.6	g 4 v	14.0	14.0	13.9 =	13.97	.03	.03	.07
13.97		13.97						
14.0	v o w	14.0						
13.93		14.23						
13.9	v 3 l	14.2						

13h

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1897phae.proj..972L

January 19, 1897

Variable No 36 (M5)

a 1791

13.97		14.27	14.23	14.33	14.28	.01	.03	.03
14.0	h 3 v	14.3	14.2	14.3	14.27	.03	.07	.03
14.23		14.23						
14.2	v o l	14.2						
14.33		14.33						
14.3	v 2 m	14.5						

a 1784

14.23		14.33	14.33	14.39	14.49	.14	.04	.10
14.2	l i v	14.3	14.5	14.6	14.47	.17	.03	.13
14.33		14.33						
14.5	v o m	14.5						
14.59		14.79						
14.6	v 2 n	14.8						

a 1787

13.81		13.71	13.83	13.83	.18	.18	
13.3	f 4 v	13.7	13.3	13.50	.20	.20	
13.83		13.68					
13.3	v 3 g	13.6					

a 1745

12.93		13.28	12.91	13.08	.17	.17	
13.0	e 3 v	13.3	12.9	13.10	.20	.20	
12.91		13.31					
12.9	v 4 f	13.3					

a 1736

13.31		
13.3	f - 2	
	v n 5	< 13.5 — X 13.8 X

a 1744

13.63		13.83	13.87	13.86	.01	.01	
13.6	g 2 v	13.8	13.9	13.85	.05	.05	
13.87		13.97					
13.9	v 1 h	14.0					

a 1789

13.97		14.17	14.25	14.33	14.25	.08	.00	.08
14.0	h 2 v	14.2	14.2	14.3	14.23	.03	.03	.07
14.23		14.23						
14.2	v o l	14.2						
14.83		14.83						
14.3	v 2 m	14.5						

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1897phae.proj.0721

January 19, 1897

Variable No 36 (Cont)

a 1788

13.63 13.6 g 1 v 13.77 13.8 v 2 h

13.73 13.7 13.77 13.8 = 13.76 13.75 .01 .05 .01 .05

13.97 14.0

a 1786

13.97 14.0 h 2 v 14.03 14.0 v 2 l

14.17 14.2 14.03 14.0 = 14.11 14.10 .06 .10 .06 .10

14.23 14.2

a 1785

13.97 14.0 h 3 v ✓ 14.20 14.2 v 0 l 14.23 14.2 v 3 m

14.27 14.3 14.28 14.2 14.23 14.2 = 14.25 14.23 .02 .07 .05 .03 .02 .03

14.20 14.2 14.23 14.5

a 1756

13.68 13.6 g 2 v 13.77 13.8 v 2 h

13.83 13.8 13.77 13.8 = 13.81 13.80 .04 .00 .04 .00

13.97 14.0

a 1781

13.63 13.6 g 1 v 13.77 13.8 v 2 h

13.73 13.7 13.77 13.8 = 13.76 13.75 .01 .05 .01 .05

13.97 14.0

a 1782

14.03 14.5 m 1 v 14.09 14.6 v 2 n

14.63 14.6 14.09 14.6 = 14.61 14.60 .02 .00 .02 .00

14.79 14.8

a 1790

13.97 14.0 h 3 v 14.18 14.1 v 1 l

14.27 14.3 14.18 14.1 = 14.21 14.20 .06 .10 .06 .10

14.23 14.2

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1897phae.proj..972L

January 19, 1897

Variable No 36 (cont)

a 1809

14.25		14.43	14.33	14.49	=	14.49	.04	.04 .00
14.2	l 2 v	14.4	14.5	14.5	=	14.47	.07	.03 .03
14.53		14.53						
14.5	v o m	14.5						
14.49		14.49						
14.5	v 3 n	14.8						

a 1829

a 1828

13.65		13.95	13.77	=	13.86	.09	.09	
13.6	g 3 v	13.9	13.8	=	13.85	.05	.05	
13.77		13.97						
13.8	v 2 h	14.0						

a 1812

13.65		13.95	13.97	13.95	=	13.96	.01	.01 .01
13.6	g 3 v	13.9	14.0	13.9	=	13.93	.03	.07 .03
13.97		13.97						
14.0	v o h	14.0						
13.95		14.25						
13.9	v 3 l	14.2						

a 1825

13.97		14.07	14.05	=	14.06	.01	.01	
14.0	h i v	14.1	14.0	=	14.05	.05	.05	
14.03		14.25						
14.0	v 2 l	14.2						

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1897phae.proj . 0721

January 19, 1897

Variable No 37 (M5)

22 a 1790
13.31 13.3 13.33 f 2 v
13.3 13.3 v 3 g

13.8 13.5 13.63 13.6
13.3 13.3 13.40 .10 .10
13.48 .08 .08

a 1782
14.99 15.0 o 1 v
15.03 15.0 f 3 v
15.0 v 2 p
v 3 f

13.09 15.1 13.23 15.2
13.08 15.0
13.07 15.05 .02 .02

a 1781
14.99 15.0 o = 1
v n,s

15.1
13.09

a 1756
13.63 13.6 g 2 v
13.77 13.8 v 2 h

13.83 13.8 13.97 14.0
13.77 13.8
13.81 13.80 .04 .00 .04 .00

a 1785
13.23 15.2 p = 2
v n,s

15.4
13.4

a 1786
14.79 14.8 n 1 v
14.89 14.9 v 1 o

14.89 14.9 14.99 15.0
14.89 14.9
14.89 14.90 .00 .00 .00 .00

a 1788
14.79 14.8 n = 2
v n,s

15.0
14.9

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1897phae.proj..972L

January 19, 1897

Variable No 37 (cont)

a 1789
p = .1
v n,s

a 1744
d 3 v
v o e
v 4 f

a 1791
g 2 v
v 3 h

a 1736
f = .2
v ns

a 1745
m = .1
v ns

a 1787
f 2 v
v 3 g

a 1784
p = 1
v ns

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1897phae.proj..9721

January 19, 1897

Variable No 37 (cont)

a 1825
15.23
✓ ~~15.2~~ p = .1 v
v n.s ~~< 15.3~~ ~~< 15.3~~

a 1812
15.23
✓ ~~15.2~~ p = .2 v
v n.s ~~< 15.4~~ ~~< 15.4~~

a 1828
14.99
~~15.0~~ 0 = .1 v
v n.s ~~< 15.1~~ ~~< 15.0~~

a 1829
14.99
✓ ~~15.0~~ 0 = .1 v
v n.s ~~< 15.1~~ ~~< 15.09~~

a 1809
15.23
✓ ~~15.2~~ p = .1 v
22 00 v n.s ~~< 15.3~~ ~~< 15.3~~

The measures of No 37 are very unsatisfactory. If the variable appears on any of the plates on which it is recorded N.S. I could not distinguish it from the star to the right of it.

/ /

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1897phae.proj..972L

January 19, 1897

Variable No 38 (M5)

	14.53	a 1809						
	~~14.5~~							
23		45 m 1 v	14.63	14.59 =	14.61	.02	.02	
	14.59		~~14.6~~	~~14.6~~ =	~~14.60~~	~~.00~~	~~.00~~	
✓	~~14.6~~	v 2 m	14.79					
			~~14.8~~					
		a 1829						
	13.81							
✓	~~13.3~~	f 3 v	~~13.6~~	~~13.6~~	~~13.6~~ =	~~13.60~~	~~.00~~	~~.00~~ ~~.00~~
	13.63		13.63					
	~~13.6~~	v 0 g	~~13.6~~					
	13.57		13.97					
	~~13.6~~	v 4 h	~~14.0~~					
		a 1828						
	13.97							
✓	~~14.0~~	h 2 v	~~14.2~~	~~14.0~~ =	~~14.10~~	~~.10~~	~~.10~~	
	14.03		14.23					
	~~14.0~~	v 2 l	~~14.2~~					
		a 1812						
✓	13.97							
	~~14.0~~	h 2 v	~~14.2~~	~~14.0~~ =	~~14.10~~	~~.10~~	~~.10~~	
	14.03		14.23					
	~~14.0~~	v 2 l	~~14.2~~					
		a 1825						
	14.23							
✓	~~14.2~~	l 1 v	~~14.3~~	14.3 =	~~14.30~~	~~.00~~	~~.00~~	
	14.83		14.53					
	~~14.3~~	v 2 m	~~14.5~~					
		a 1784						
	14.79							
✓	~~14.8~~	m 1 v	14.89	14.79 =	~~14.84~~	.08	.03	
	14.79		~~14.9~~	~~14.8~~ =	~~14.85~~	~~.05~~	~~.05~~	
	~~14.8~~	v 2 0	14.99					
			~~15.0~~					
		a 1787						
	14.53							
	~~14.5~~	m 1 v	14.63	14.79	14.79 =	14.74	.11	.03 .03
	14.79		~~14.6~~	~~14.8~~	~~14.8~~ =	~~14.73~~	~~.13~~	~~.07~~ ~~.07~~
✓	~~14.8~~	v 0 m	14.79					
	14.79		~~14.8~~					
	~~14.8~~	v 2 0	14.99					
			~~15.0~~					

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Variable No 38 (cont)

a 1745

14.79
✓ 14.8 m = ,1 ∨

v n,s <14.9 >14.88

a 1736

13.31
✓ 13.3 f = ,2 ∨

v n,s <13.5 >13.88

a 1791

13.97 14.17 14.23 14.33 = 14.∨23 .08 .08 .08
14.0 h 2 v 14.2 14.2 14.3 = 14.23 .03 .03 .07
14.23 14.23
✓ 14.2 v o l 14.2
14.33 14.33
14.3 v 2 m 14.5

a 1744

13.97 14.17 14.23 14.43 = 14.∨28 .11 .03 .15
14.0 h 2 v 14.2 14.2 14.4 = 14.27 .07 .07 .13
14.23 14.23
✓ 14.2 v o l 14.2
14.43 14.33
14.4 v 1 m 14.5

a 1789

13.60 13.87 13.67 = 13.∨76 .09 .09
13.6 g 2 v 13.8 13.7 = 13.75 .05 .05
13.67 13.97
✓ 13.7 v 3 h 14.0

a 1788

13.97 14.07 14.13 = 14.∨11 .04 .04
✓ 14.0 h 1 v 14.1 14.1 = 14.10 .00 .00
14.13 14.20
14.1 v 1 l 14.2

a 1786

14.33 14.73 14.79 14.79 = 14.∨77 .04 .02 .02
14.5 m 2 v 14.7 14.8 14.8 = 14.77 .07 .03 .03
✓ 14.79 14.79
14.8 v o n 14.8
14.79 14.99
14.8 v 2 o 15.0

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Variable No 38 (cont)

a 1785

14.03		14.63	14.79	14.79 =	14.74	.11	.03	.03
14.5	m i v	14.6	14.8	14.8 =	14.73	.13	.07	.07
14.79		14.79						
14.8	v o m	14.8						
14.79		14.99						
14.8	v 2 0	15.0						

a 1756

13.97		14.07	14.03 =	14.06	.01	.01	
14.0	h i v	14.1	14.0 =	14.05	.05	.05	
14.03		14.23					
14.0	v 2 l	14.2					

a 1790

13.63		13.93	13.97	13.83 =	13.92	.03	.03 .07
13.6	g 3 v	13.9	14.0	13.6 =	13.83	.07	.17 .23
13.97		13.97					
14.0	v o h	14.0					
13.83		14.23					
13.6	v 4 l	14.0					

1781

14.23		14.33	14.43 =	14.39	.04	.04	
14.2	l i v	14.3	14.4 =	14.35	.05	.05	
14.43		14.53					
14.4	v i m	14.5					

a 1782

14.03		14.63	14.79	14.79 =	14.74	.11	.03 .03
14.5	m i v	14.6	14.8	14.8 =	14.73	.13	.07 .07
14.79		14.79					
14.8	v o m	14.8					
14.79		14.99					
14.8	v 2 0	15.0					

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Variable No 39 (M5)

a 1782

24	14.23	14.43	14.63	14.69 =	14.52	.07	.01	
	~~14.2~~ l 2 v	~~14.4~~	~~14.5~~	~~14.6~~ =	~~14.50~~	.14	.04	.07
	14.83	14.83				.10	.00	.10
	~~14.5~~ v 0 m	~~14.5~~						
	14.89	14.79						
	~~14.6~~ v 2 m	~~14.8~~						

a 1781

	14.23	14.93	14.43 =	14.39	.04	.04	
	~~14.2~~ l 1 v	~~14.3~~	~~14.4~~ =	~~14.35~~	~~.05~~	~~.05~~	
	14.43	14.83					
	~~14.4~~ v 1 m	~~14.5~~					

a 1790

	14.83	14.43	14.43 =	14.44	.01	.01	
	~~14.2~~ l 2 v	~~14.4~~	~~14.4~~ =	~~14.40~~	~~.00~~	.00	
	14.43	14.83					
	~~14.4~~ v 1 m	~~14.5~~					

a 1756

	14.83	14.63	14.79	14.89 =	14.77	.14	.02 .12
	~~14.5~~ m 1 v	~~14.6~~	~~14.8~~	~~14.9~~ =	~~14.77~~	~~.17~~	~~.03~~ ~~.13~~
	14.79	14.79					
	~~14.8~~ v 0 m	~~14.8~~					
	14.89	14.99					
	~~14.9~~ v 1 0	~~15.0~~					

a 1785

	13.63	13.83	13.67 =	13.76	.09	.09	
	~~13.6~~ g 2 v	~~13.8~~	~~13.7~~ =	~~13.75~~	~~.05~~	~~.05~~	
	13.67	13.97					
	~~13.7~~ v 3 h	~~14.0~~					

a 1786

	13.31	13.71	13.63	13.67 =	13.68	.03	.03 .01
	~~13.3~~ g 4 v	~~13.7~~	~~13.6~~	~~13.7~~ =	13.67	~~.03~~	~~.07~~ .03
	13.63	13.63					
	~~13.6~~ v 0 g	~~13.6~~					
	13.67	13.97					
	~~13.7~~ v 3 h	~~14.0~~					

a 1788

	13.31	13.61	13.63	13.67 =	13.64	.03	.01 .03
	~~13.3~~ g 3 v	~~13.6~~	13.6	~~13.7~~ =	~~13.63~~	.03	.03 .07
	~~13.6~~ v 0 g	~~13.6~~					
	~~13.7~~ v 3 h	~~14.0~~					

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Variable No 39 (cont)

a 1789

14.33 14.5	m 1 v	14.63 14.6	14.79 14.8	14.79 14.6 =	14.74 14.73	.11 .13	.05 .07	.05 .07
✓ 14.79 14.8	v o m	14.79 14.8						
14.79 14.8	v 2 o	14.99 15.0						

a 1744

14.33 14.5	m 1 v	14.63 14.6	14.69 14.7 =	14.66 14.65	.03 .05	.03 .05	✓
14.69 14.7	v 1 m	14.79 14.8					

a 1791

14.33 14.5	m 2 v	14.73 14.7	14.79 14.8	14.79 14.8 =	14.77 14.77	.04 .07	.02 .03	.02 .03
✓ 14.79 14.8	v o m	14.79 14.8						
14.79 14.8	v 2 o	14.99 15.0						

a 1736

13.31 13.3	f = 2	✓			
	v n.s	13.5	13.3		

a 1745

✓ Plate scratched in region of v.

a 1787

13.31 13.3	f 4 v	13.71 13.7	13.65 13.6	13.67 13.6 =	13.64 13.63	.07 .07	.01 .03	.07 .03
13.63 13.6	v o g	13.63 13.6						
13.67 13.6	v 4 h	13.9 14.0						

a 1784

✓ 14.23 14.2	l 2 v	14.43 14.4	14.43 14.4 =	14.44 14.40	.01 .00	.01 .00	
14.43 14.4	v 1 m	14.03 14.5					

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Variable No 39 (cont)

a 1825

13.97		14.17	14.03 = 14.01	.06	.06	
✓ 14.0	h 2 v	14.2	14.0 = 14.10	.10	.10	
14.03		14.23				
14.0	v 2 l	14.2				

a 1812

14.23		14.43	14.43 = 14.44	.01	.01	
✓ 14.2	l 2 v	14.4	14.4 = 14.40	.00	.00	
14.43		14.53				
14.4	v 1 m	14.5				

a 1828

14.83		14.83	14.33 14.39 = 14.36	.07	.01	.07
14.2	l 2 v	14.4	14.5 14.6 = 14.50	.10	.00	.10
✓ 14.33		14.33				
14.5	v 0 m	14.5				
14.39		14.79				
14.6	v 2 m	14.8				

a 1829

14.83		14.63	14.69 = 14.66	.03	.03	
✓ 14.5	m 1 v	14.6	14.7 = 14.65	.05	.05	
14.69		14.79				
14.7	v 1 m	14.8				

a 1809

14.23		14.33	14.33 14.39 = 14.49	.14	.04	.10
14.2	l 1 v	14.3	14.5 14.6 = 14.47	.17	.03	.13
14.33		14.53				
✓ 14.5	v 0 m	14.5				
14.59		14.79				
14.6	v 2 m	14.8				

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Variable No 40 (M5)

a 1784

13.97 14.0 h 3 v 14.27 14.25 14.33 = 14.28 .01 .03 .05
14.25 14.2 v o l 14.25 14.2
14.33 14.3 v 2 m 14.33 14.5

a 1787

13.9 14.0 h 2 v 14.17 14.25 14.33 = 14.23 .08 .00 .08
14.25 14.2 v o l 14.25 14.2
14.33 14.3 v 2 m 14.33 14.5

a 1745

13.97 14.0 h 2 v 14.17 14.10 = 14.16 .01 .01
14.13 14.1 v 1 l 14.23 14.2

a 1736

13.31 13.3 f = .1
v n5 <13.4 X13.4X

a 1791

14.83 14.5 m 2 v 14.73 14.79 14.79 = 14.77 .04 .02 .02
14.79 14.8 v o w 14.79 14.8
14.79 14.8 v 2 o 14.99 15.0

a 1744

13.65 13.6 g 3 v 13.95 13.97 14.03 = 13.99 .04 .02 .06
13.9 14.0 v o w 13.97 14.0
14.05 14.0 v 2 l 14.23 14.2

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Variable Sto 40 (cont)

a 1789

14.53 14.5 14.59 14.6
m, v
v 2 n

14.63 14.6 14.79 14.8

14.59 = 14.61 .02 .02
14.6 = 14.60 .00 .00

a 1788

13.68 13.6 13.97 13.9
g 3 v
v o h
v 3 l

13.98 13.97 14.0 14.23 14.2
13.98 13.9 = 13.96 .01 .01 .01
13.9 = 13.93 .03 .07 .03

a 1786

13.97 14.0 14.03 14.0
h 2 v
v 2 l

14.17 14.2 14.23 14.2
14.03 = 14.11 .06 .06
14.0 = 14.10 .10 .10

a 1785

13.97 14.0 14.18 14.1
h 2 v
v 1 l

14.17 14.2 14.23 14.2
14.18 = 14.16 .01 .01
14.1 = 14.15 .05 .05

a 1756

14.23 14.2 14.53 14.5 14.69 14.7
l 2 v
v o m
v 1 m

14.40 14.4 14.53 14.5 14.79 14.8
14.53 14.5 14.69 14.7
14.53 = 14.56 .11 .03 .13
14.5 = 14.53 .13 .03 .17

a 1790

14.79 14.8 14.79 14.8
m 1 v
v 2 o

14.89 14.9 14.99 15.0
14.79 = 14.84 .05 .05
14.8 = 14.85 .05 .05

a 1781

13.97 14.0 14.23 14.2 14.49 14.4
h, v
v o l
v 1 m

14.07 14.1 14.21 14.2 14.43 14.4
14.23 14.2 14.23 14.2 14.53 14.5
14.23 = 14.23 .18 .00 .18
14.4 = 14.23 .13 .03 .17

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Variable No. 40 (cont)

a 1782

13.97		14.07	14.05	14.06	.01	.01
14.0	h 1 v	14.1	14.0	14.05	.05	.05
14.05		14.25				
14.0	v 2 l	14.2				

a 1809

14.03		14.73	14.69	14.71	.02	.02
14.5	m 2 v	14.7	14.7	14.70	.00	.00
14.69		14.79				
14.7	v 1 m	14.8				

a 1829

13.60		14.05	13.97	13.95	13.99	.06 .02 .04
13.6	g 4 v	14.0	14.0	13.9	13.97	.03 .03 .07
13.97		13.97				
14.0	v 0 h	14.0				
13.95		14.25				
13.9	v 3 l	14.2				

a 1828

14.03		14.73	14.69	14.71	.02	.02
14.5	m 2 v	14.7	14.7	14.70	.00	.00
14.69		14.79				
14.7	v 1 m	14.8				

a 1812

13.97		14.17	14.05	14.11	.06	.06
14.0	h 2 v	14.2	14.0	14.10	.10	.10
14.05		14.25				
14.0	v 2 l	14.2				

a 1825

13.97		14.07	14.05	14.06	.01	.01
14.0	h 1 v	14.1	14.0	14.05	.05	.05
14.05		14.25				
14.0	v 2 l	14.2				

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Variable No. 41 (K5)

a 1782

14.99
15.0 0 1 v
15.0 v 2 p

15.09 15.05 = 15.07 .02 .02
15.1 15.0 = 15.05 .05 .05
15.05
15.25

a 1781

14.99
15.0 0 1 v

p n,s 15.1 15.09

a 1790

14.79
14.8 n 2 v
14.99
15.0 v 0 v
15.05
15.0 v 2 p

14.99 14.99 15.05 = 15.01 .02 .02 .04
15.0 15.0 15.0 = 15.00 .00 .00 .00
14.99
15.0
15.05
15.2

a 1756

14.79
14.8 n 2 v
14.89
14.9 v 1 0

14.99 14.89 = 14.94 .05 .05
15.0 14.9 = 14.95 .05 .05
14.99
15.0

a 1785

14.79
14.8 n 1 v
14.79
14.8 v 2 0

14.89 14.99 = 14.84 .05 .05
14.9 14.8 = 14.85 .05 .05
14.99
15.0

a 1786

14.79
14.8 n 2 v
14.99
15.0 v 0 v
15.05
15.0 v 2 p

14.99 14.99 15.05 = 15.01 .02 .02 .04
15.0 15.0 15.0 = 15.00 .00 .00 .00
14.99
15.0
15.05
15.2

a 1788

14.79
14.8 n 1 v
14.89
14.9 v 1 0

14.89 14.89 = 14.89 .00 .00
14.9 14.9 = 14.90 .00 .00
14.99
15.0

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January 21 1897

Variable No 41 (cont)

a 1789

14.03 14.5 m 2 v — 14.73 14.79 14.79 = 14.77 .04 .02 .02 — 14.7 14.8 14.8 = 14.77 .07 .03 .03

14.79 14.8 v 0 w — 14.79 14.8

14.79 14.8 v 2 0 — 14.99 15.0

a 1744

13.63 13.6 g 3 v — 13.93 13.97 14.00 = 13.99 .04 .02 .06 — 13.9 14.0 14.0 = 13.97 .07 .03 .03

13.97 14.0 v 0 h — 13.97 14.0

14.03 14.0 v 2 l — 14.23 14.2

a 1791

14.79 14.8 m 1 v — 14.89 14.79 = 14.84 .05 .05 — 14.9 14.8 = 14.85 .05 .05

14.79 14.8 v 2 0 — 14.99 15.0

a 1736

13.31 13.3 f = .2

v n.s — 13.5 — 13.87

a 1745

14.79 14.8 n = .1

v n.s — 14.9 — 14.89

a 1787

14.79 14.8 m 1 v — 14.89 14.89 = 14.89 .00 .00 — 14.9 14.9 = 14.90 .00 .00

14.89 14.9 v 1 0 — 14.99 15.0

a 1784

14.79 14.8 m 1 v — 14.89 14.99 15.03 = 14.98 .09 .01 .07 — 14.9 15.0 15.0 = 14.97 .07 .03 .03

14.99 15.0 v 0 a — 14.199 15.0

15.03 15.0 v 2 p — 15.23 15.2

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Variable No 41 (cont)

a 1825

14.33		14.73	14.79	14.79 =	14.77	.04	.02 .02
✓ 14.5	m 2 v	14.7	14.8	14.8 =	14.77	.07	.03 .03
14.79		14.79					
14.8	v 0 m	14.8					
14.79		14.99					
14.8	v 2 0	15.0					

a 1812

14.79		14.89	14.79 =		14.84	.03	.03
✓ 14.8	m 1 v	14.9	14.8 =		14.85	.05	.05
14.79		14.99					
14.8	v 2 0	15.0					

a 1828

14.79		14.89	14.89 =		14.89	.00	.00
✓ 14.8	m 1 v	14.9	14.9 =		14.90	.00	.00
14.89		14.99					
14.9	v 1 0	15.0					

a 1829

13.63		13.83	13.87 =		13.86	.01	.01
✓ 13.6	g 2 v	13.8	13.9 =		13.85	.05	.05
13.87		13.97					
13.9	v 1 h	14.0					

a 1809

14.23		14.33	14.33	14.39 =	14.49	.14	.04 .10
✓ 14.2	h 1 v	14.3	14.5	14.6 =	14.47	.17	.03 .13
14.33		14.33					
14.5	v 0 m	14.6					
14.39		14.79					
14.6	v 2 m	14.8					

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January 22, 1897

Variable No 42 (N5)

a 1809

10.97 / ~~11,0~~ — a 5 b — 11.47 / ~~11,5~~ — 11.81 / ~~11,8~~ — 12.03 / ~~12,0~~ = ~~11.77~~ — ✓ 8 — ~~38~~ 7 — ~~.07~~ 3 — ~~.28~~ 7
11.81 / ~~11,8~~ — b 0 c — 11.81 / ~~11,8~~ — ~~.27~~ 31 — ~~.03~~ 03 — ~~.23~~ 27
12.03 / ~~12,0~~ — c 4 d — 12.43 / ~~12,4~~

a 1829

9.83 — A 3 b — 10.13 — 10.17 = 10.15 — .02 — .02
10.17 — b 2 a — 10.37

a 1828

10.37 / ~~10.4~~ — a 2 b — 10.37 / ~~10,6~~ — 10.77 / ~~10,8~~ = 10.67 — .10 / ~~.10~~ — .10 / ~~.10~~
10.77 / ~~10,8~~ — b 2 b — 10.97 / ~~11,0~~

a 1812

10.97 / ~~11,0~~ — b 3 b — 11.27 / ~~11,3~~ — 11.81 / ~~11,8~~ — 12.03 / ~~12,0~~ = 11.71 / ~~11,70~~ — .44 — .10 — .34
11.81 / ~~11,8~~ — b 0 c — 11.81 / ~~11,8~~
12.03 / ~~12,0~~ — c 4 d — 12.43 / ~~12,4~~

a 1825

10.37 / ~~10.4~~ — a 3 b — 10.67 / ~~10,7~~ — 10.97 / ~~11,0~~ — 11.41 / ~~11,4~~ = 11.02 / ~~11,03~~ — .33 — .03 — .39
10.97 / ~~11,0~~ — b 0 c — 10.97 / ~~11,0~~
11.41 / ~~11,4~~ — b 4 c — 11.81 / ~~11,8~~

a 1784

10.37 / ~~10,4~~ — a 2 b — 10.37 / ~~10,6~~ — 10.67 / ~~10,7~~ = 10.62 / ~~10,65~~ — .03 / .05 — .03 / .05
10.67 / ~~10,7~~ — b 3 b — 10.97 / ~~11,0~~

a 1787

10.37 / ~~10,4~~ — a 3 b — 10.67 / ~~10,7~~ — 10.77 / ~~10,8~~ = 10.72 / ~~10,75~~ — .03 / .05 — .03 / .05
10.77 / ~~10,8~~ — b 2 b — 10.97 / ~~11,0~~

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Variable No 42 (cont)

a 1745

10.97		11.47	11.61 =	11.54	.07	.07	
11.0	b 5 v	11.5	11.6 =	11.55	.05	.05	
11.61		11.81					
11.6	v 2 c	11.8					

a 1736

10.97		11.37	11.37 =	11.44	.07	.07	
11.0	b 4 v	11.4	11.5 =	11.45	.05	.05	
11.57		11.81					
11.5	v 3 c	11.8					

a 1791

10.37		10.87	10.97	11.41 =	11.08	.21	.11	.33
10.4	a 5 v	10.9	11.0	11.4 =	11.10	.30	.10	.30
10.97		10.97						
11.0	v o b	11.0						
11.41		11.81						
11.4	v 4 c	11.8						

a 1744

10.97		11.37	11.61 =	11.49	.12	.12
11.0	b 4 v	11.4	11.6 =	11.50	.10	.10
11.61		11.81				
11.6	v 2 c	11.8				

a 1789

10.37		10.67	10.77 =	10.72	.05	.03
10.4	a 3 v	10.7	10.8 =	10.75	.05	.05
10.7		10.97				
10.8	v 2 b	11.0				

a 1788

10.37		10.67	10.97	11.31 =	10.98	.31	.01	.33
10.4	a 3 v	10.7	11.0	11.3 =	11.00	.30	.00	.30
10.97		10.97						
11.0	v o b	11.0						
11.31		11.81						
11.3	v 5 c	11.8						

a 1786

10.37		.6				
10.4	a 3 v	10.87	10.77 =	10.72	.05	.03
10.7		10.7	10.8 =	10.75	.05	.05
10.8	v 2 b	10.97				
		11.0				

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Variable No 42 (cont)

a 1785

10.37 10.37 10.77 = 10.67 .10 .10
✓ 10.4 a 2 v 10.6 10.8 = 10.70 .10 .10
10.77 10.97
10.8 v 2 b 11.0

a 1756

10.37 10.67 10.77 = 10.72 .05 .05
✓ 10.4 a 3 v 10.7 10.8 = 10.75 .05 .05
10.77 10.97
10.8 v 2 b 11.0

a 1790

✓ 10.97 11.07 11.51 = 11.29 .22 .22
11.0 b 1 v 11.1 11.5 = 11.30 .20 .20
11.37 11.81
11.5 v 3 c 11.8

✓ a 1781
v 2 A

a 1782

10.37 10.67 10.67 = 10.62 .05 .05
✓ 10.4 a 2 v 10.6 10.7 = 10.65 .05 .05
10.67 10.97
10.7 v 3 b 11.0

a 15

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Variable No 43 (K5)

a 1782

	14.79		14.89	14.99	15.00 =	14.98	.09	.01 .07
O	14.8 20	m 1 v	14.9	15.0	15.0 =	14.97	.07	.03 .03
	14.99		14.99					
V	15.0	v 0 o	15.0					
	15.03		15.23					
	15.0	v 2 p	15.2					

a 1781

V	14.23		14.48	14.43 =	14.44	.01	.01
	14.2	l 2 v	14.4	14.4 =	14.40	.00	.00
	14.43		14.53				
	14.4	v 1 m	14.5				

a 1790

	13.97		14.27	14.23	14.33 =	14.28	.01	.03 .05
	14.0	h 3 v	14.3	14.2	14.3 =	14.27	.03	.07 .03
	14.23		14.23					
V	14.2	v 0 l	14.2					
	14.33		14.53					
	14.3	v 2 m	14.5					

a 1756

	13.97		14.17	14.23	14.33 =	14.25	.08	.00 .08
	14.0	h 2 v	14.2	14.2	14.3 =	14.23	.03	.03 .07
V	14.23		14.23					
	14.2	v 0 l	14.2					
	14.33		14.53					
	14.3	v 2 m	14.5					

a 1785

	13.97		14.27	14.23	14.23 =	14.23	.02	.00 .02
	14.0	h 3 v	14.3	14.2	14.2 =	14.23	.07	.03 .03
	14.33		14.23					
V	14.2	v 0 l	14.2					
	14.23		14.53					
	14.2	v 3 m	14.5					

a 1786

	14.23		14.33	14.33 =	14.34	.01	.01
V	14.2	l 1 v	14.3	14.3 =	14.30	.00	.00
	14.33		14.53				
	14.3	v 2 m	14.5				

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Variable No 43 (cont)

a 1788

14.23		14.38	14.33	14.69	14.52	.17	.01	.17
14.2	l 1 v	14.3	14.5	14.7	14.50	.20	.00	.20
14.83		14.83						
14.5	v 0 m	14.5						
14.69		14.79						
14.7	v 1 m	14.8						

a 1789

14.23		14.38	14.43	14.39	.04	.04	
14.2	l 1 v	14.3	14.4	14.35	.05	.05	
14.43		14.83					
14.4	v 1 m	14.5					

a 1744

13.97		14.17	14.25	14.33	14.25	.08	.00	.08
14.0	h 2 v	14.2	14.2	14.3	14.23	.03	.03	.07
14.23		14.23						
14.2	v 0 l	14.2						
14.33		14.83						
14.3	v 2 m	14.5						

a 1791

14.23		14.38	14.53	14.59	14.49	.14	.04	.10
14.2	l 1 v	14.3	14.5	14.6	14.47	.17	.03	.13
14.83		14.83						
14.5	v 0 m	14.5						
14.89		14.79						
14.6	v 2 m	14.8						

a 1736

13.81			
13.3	f = .2		
	v n.s	< 13.5	< 13.3

a 1745

14.79			
14.8	n = .1		
	v n.s	< 14.9	< 14.89

a 1787

14.23		14.38	14.33	14.34	.01	.01	
14.2	l 1 v	14.3	14.3	14.30	.00	.00	
14.33		14.83					
14.3	v 2 m	14.5					

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Variable No 43 (cont)

a 1784

13.97		14.17	14.25	14.33 =	14.√23	.08	.08
14.0	h 2 v	14.2	14.2	14.3 =	14.23	.03	.03 .07
√ 14.23		14.23					
14.2	v o l	14.2					
14.33		14.33					
14.3	v 2 m	14.5					

a 1828

14.33		14.63	14.79	14.79 =	14.√74	.11	.03 .01
14.5	m 1 v	14.6	14.8	14.8 =	14.73	.03	.07 .07
14.79		14.79					
√ 14.8	v o n	14.8					
14.79		14.99					
14.8	v 2 0	15.0					

a 1829

13.68		13.98	13.97	14.03 =	13.√99	.04	.02 .06
13.6	g 3 v	13.9	14.0	14.0 =	13.97	.07	.03 .03
13.97		13.97					
√ 14.0	v o h	14.0					
14.03		14.23					
14.0	v 2 l	14.2					

a 1809

14.23		14.33	14.43 =	14.√39	.04	.04	
√ 14.2	l 1 v	14.3	14.4 =	14.35	.05	.05	
14.43		14.83					
14.4	v 1 m	14.5					

v 30

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Variable No 44 (M5)

a 1809
0 2 v
v 1 p

a 1829
0 = 2
v n.s

W.S Measured

a 1828
n 2 v
v 1 0

a 1812
p 1 v
g n.s

a 1825
0 2 v
v 0 p
g n.s

a 1787
0 1 v
v 0 p
g n.s

a 1787
n 2 0
v 0 p
g n.s

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Variable No 44 (cont)

a 1745
m = .1
v n.s

a 1736
f = .2
v n.s

a 1791

N.S measured.

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January 22, 1897

Variable No 44 (115 cont)

a 1791

14.23 14.2 l 2 v 14.43 14.44 14.53 14.59 = 14.49 .04 .01 .07
14.53 14.5 v 0 m 14.53 14.5 14.6 = 14.50 .10 .00 .10
14.59 14.6 v 2 n 14.79 14.8

a 1736

18.31 13.3 f = .2
v n.s ~~13.5~~ X 13.8 X

a 1745

14.79 14.8 n = .1
v n.s ~~14.9~~ X 14.8 X

a 1787

14.28 14.2 l 2 v 14.43 14.44 14.43 = 14.44 .01 .01
14.43 14.4 v 1 m 14.53 14.5 14.4 = 14.40 .00 .00

a 1784

13.97 14.0 h 2 v 14.17 14.2 13.93 = 13.9 = 14.06 .11 .11
13.93 13.9 v 3 l 14.23 14.2 14.05 .15 .15

a 1744

13.97 14.0 h 1 v 14.07 14.1 14.03 = 14.0 = 14.06 .01 .01
14.03 14.0 v 2 l 14.23 14.2 14.05 .05 .05

a 1789

13.97 14.0 h 2 v 14.17 14.2 14.23 14.33 = 14.23 .08 .03 .08
14.23 14.2 v 0 l 14.23 14.2 14.2 14.3 = 14.23 .03 .03 .07
14.33 14.3 v 2 m 14.53 14.5

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Variable No 44 (cont)

a 1788

13.97 14.17 14.13 = 14.16 .01 .01
v 14.0 h 2 v 14.2 14.1 = 14.15 .05 .05
14.13 14.23
14.1 v 1 l 14.2

a 1786

13.97 14.17 14.23 14.33 = 14.25 .08 .00 .08
14.0 h 2 v 14.2 14.2 14.3 = 14.23 .03 .03 .07
v 14.23 14.28
14.2 v 0 l 14.2
14.33 14.33
14.3 v 2 m 14.5

a 1785

13.97 14.27 14.03 = 14.16 .11 .11
v 14.0 h 3 v 14.3 14.0 = 14.15 .15 .15
14.03 14.23
14.0 v 2 l 14.2

a 1756

14.23 14.33 14.33 14.69 = 14.52 .17 .01 .17
14.2 l 1 v 14.3 14.5 14.7 = 14.50 .20 .00 .20
14.33 14.03
v 14.5 v 0 m 14.5
14.69 14.79
14.7 v 1 n 14.8

a 1790

13.97 14.07 14.03 = 14.06 .01 .01
14.0 h 1 v 14.1 14.0 = 14.05 .05 .05
v 14.03 14.33
14.0 v 2 l 14.2

a 1781

14.23 14.33 14.43 = 14.39 .04 .04
14.2 l 1 v 14.3 14.4 = 14.35 .05 .05
v 14.43 14.03
14.4 v 1 m 14.5

a 1782

13.97 14.27 14.03 = 14.16 .11 .11
v 14.0 h 3 v 14.3 14.0 = 14.15 .15 .15
14.03 14.23
14.0 v 2 l 14.2

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Variable No 44 (cont)

a 1825

13.68			13.98	13.97	13.98	13.96	.01	.01 .01
13.6	g 3 v		13.9	14.0	13.9	13.93	.03	.07 .03
13.97			13.97					
14.0	v 0 h		14.0					
13.95			14.28					
13.9	v 3 l		14.2					

a 1812

13.97			14.17	14.23	14.33	14.23	.08	.00 .08
14.0	h 2 v		14.2	14.2	14.3	14.23	.03	.03 .07
14.25			14.25					
14.2	v 0 l		14.2					
14.33			14.33					
14.3	v 2 m		14.5					

a 1828

14.25		14.33	14.33	14.34	.01	.01	
14.2	l 1 v	14.3	14.3	14.30	.00	.00	
14.33		14.33					
14.3	v 2 m	14.5					

a 1829

13.68		13.85	13.87	13.86	.01	.01	
13.6	g 2 v	13.8	13.9	13.85	.05	.05	
13.87		13.97					
13.9	v 1 h	14.0					

a 1809

13.97		14.17	14.03	14.11	.06	.06	
14.0	h 2 v	14.2	14.0	14.10	.10	.10	
14.03		14.23					
14.0	v 2 l	14.2					

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Variable No 45 (N5)

a 1790

		14.79		14.89	14.99	15.03 =	14.98	.09	.01 .07
22	30	~~14.8~~	n 1 v	~~14.9~~	~~15.0~~	~~15.0~~ =	~~14.97~~	~~.07~~	~~.03~~ .03
		14.99		14.99					
✓		~~15.0~~	v 0 0	~~15.0~~					
		15.03		15.23					
		~~15.0~~	v 2 p	~~15.2~~					

a 1782

	14.33		14.73	14.69 =	14.71	.02	.02
✓	~~14.5~~	m 2 v	~~14.7~~	~~14.7~~ =	~~14.70~~	~~.00~~	~~.00~~
	14.69		14.79				
	~~14.7~~	v 1 m	~~14.8~~				

a 1781

	14.23		14.43	14.43 =	14.44	.01	.01
✓	~~14.2~~	l 2 v	~~14.4~~	~~14.4~~ =	~~14.40~~	~~.00~~	~~.00~~
	14.43		14.53				
	~~14.4~~	v 1 m	~~14.5~~				

a 1756

	14.79		14.99	14.89 =	14.94	.03	.03
✓	~~14.8~~	m 2 v	~~15.0~~	~~14.9~~ =	~~14.95~~	~~.05~~	~~.05~~
	14.89		14.99				
	~~14.9~~	v 1 0	~~15.0~~				

a 1785

	13.97		14.27	14.23	14.33 =	14.28	.01	.03 .05
	~~14.0~~	h 3 v	~~14.3~~	~~14.2~~	~~14.3~~ =	~~14.27~~	~~.03~~	~~.07~~ .03
	14.23		14.23					
✓	~~14.2~~	v 0 l	~~14.2~~					
	14.33		14.53					
	~~14.3~~	v 2 m	~~14.5~~					

a 1786

	13.97	h	14.27	14.23	14.23 =	14.24	.02	.05 .02
	~~14.0~~	q 3 v	~~14.3~~	~~14.2~~	~~14.2~~ =	~~14.23~~	~~.07~~	~~.03~~ .03
	14.23		14.23					
✓	~~14.2~~	v 0 l	~~14.2~~					
	14.23		14.53					
	~~14.2~~	v 3 m	~~14.5~~					

a 1788

	13.97		14.07	14.03 =	14.06	.01	.01
✓	~~14.0~~	h 1 v	~~14.1~~	~~14.0~~ =	~~14.05~~	~~.03~~	~~.05~~
	14.03		14.23				
	~~14.0~~	v 2 l	~~14.2~~				

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Variable No 45 (cont)

a 1789

14.25		14.40	14.43 =	14.44	.01 .01
14.2	l 2 f	14.4	14.4 =	14.40	.00 .00
14.43		14.53			
14.4	v 1 m	14.5			

a 1744

13.97		14.17	14.18 =	14.16	.01 .01
14.0	h 2 v	14.2	14.1 =	14.15	.05 .05
14.18		14.23			
14.1	v 1 l	14.2			

a 1784

13.97		14.27	14.03 =	14.16	.11 .11
14.0	h 3 v	14.3	14.0 =	14.15	.15 .15
14.03		14.23			
14.0	v 2 l	14.20			

a 1787

13.97		14.17	14.23 14.23 =	14.22	.03 .03 .01
14.0	h 2 v	14.2	14.2 14.2 =	14.20	.00 .00 .00
14.23		14.23			
14.2	v o l	14.2			
14.23		14.53			
14.2	v 3 m	14.5			

a 1745

14.79		
14.8	m = .1	
	v n s	<14.9 X 14.89 X

a 1736

13.81		
13.3	f = .2	
	v n s	<13.5 X 13.0 X

a 1791

14.25		14.38	14.03 14.09 =	14.49	.64 .04 .10
14.2	l 1 v	14.3	14.5 14.6 =	14.47	.17 .03 .13
14.53		14.53			
14.5	v o m	14.5			
14.89		14.79			
14.6	v 2 w	14.8			

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Variable No 45 (cont)

a 1829

13.63 13.6 13.7 13.8 g 1 v v 2 h

13.73 13.7 13.8 13.97 14.0

13.77 = 13.7 13.8 = 13.75 .05 .05

13.76 .01 .01

a 1828

13.63 13.6 13.7 13.8 g 2 v v 2 h

13.83 13.8 13.8 13.97 14.0

13.77 = 13.81 .04 .04

13.80 .00 .00

a 1812

14.23 14.2 14.33 14.3 l 1 v v 2 m

14.33 14.3 14.3 14.5

14.33 = 14.34 .01 .01

14.30 .00 .00

a 1825

13.63 13.6 13.67 13.7 g 2 v v 3 h

13.83 13.8 13.97 14.0

13.67 = 13.76 .09 .09

13.75 .05 .05

a 1809

13.97 14.0 14.33 14.3 la 2 v v 2 m

14.17 14.2 14.23 14.2 l 0

14.23 14.2 14.3 14.5

14.33 = 14.23 .08 .08

14.23 .03 .03

.00

.07

22 45

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Variable No 46 (M5)

a 1809

14.53 14.59 14.63 14.59 = 14.61 .02 .02
14.6 m 1 v 14.6 14.6 = 14.60 .00 .00
14.59 14.79
14.6 v 2 m 14.8

a 1825

14.53 14.73 14.79 14.79 = 14.77 .04 .02 .02
14.5 m 2 v 14.7 14.8 14.8 = 14.77 .07 .03 .03
14.79 14.79
14.8 v 0 m 14.8
14.79 14.99
14.8 v 2 0 15.0

a 1812

14.25 14.48 14.43 = 14.44 .01 .01
14.2 l 2 v 14.4 14.4 = 14.40 .00 .00
14.43 14.53
14.4 v 1 m 14.5

a 1828

14.25 14.48 14.53 14.59 = 14.52 .07 .01 .07
14.2 l 2 v 14.4 14.5 14.6 = 14.50 .10 .00 .10
14.53 14.59
14.5 v 0 m 14.5
14.59 14.79
14.6 v 2 m 14.8

a 1829

14.99
15.0 0 = 1
v n,s <15.1 <15.0>

a 1791

14.53 14.63 14.59 = 14.61 .02 .02
14.5 m 1 v 14.6 14.6 = 14.60 .00 .00
14.59 14.79
14.6 v 2 m 14.8

a 1736

13.31
13.3 f = 2
v n,s <13.5 <13.3>

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Variable No 46 (cont)

a 1745

14.79
14.8 n = .1 ✓
v n.s ~~14.9~~ 14.8

a 1787

14.23
14.2 l 2 v
14.53
14.5 v 0 m
14.59
14.6 v 2 n

14.43 14.53 14.59 = 14.52 .07 .01 .07
14.4 14.5 14.6 = 14.50 .10 .06 .10
14.53
14.5
14.79
14.8

a 1784

14.23
14.2 l 1 v
14.53
14.5 v 0 m
14.59
14.6 v 2 n

14.33 14.53 14.59 = 14.49 .14 .04 .10
14.3 14.5 14.6 = 14.47 .17 .03 .13
14.53
14.5
14.79
14.8

a 1744

14.63
14.5 m 1 v
14.79
14.8 v 0 m
14.89
14.9 v 1 0

14.63 14.79 14.89 = 14.77 .14 .02 .12
14.6 14.8 14.9 = 14.77 .17 .03 .13
14.79
14.8
14.99
15.0

a 1789

14.79
14.8 m 1 v
14.89
14.9 v 1 0

14.89 14.89 = 14.89 .00 .00
14.9 14.9 = 14.90 .00 .00
14.99
15.0

a 1788

14.53
14.5 m 1 v
14.69
14.7 v 1 n

14.63 14.69 = 14.66 .03 .03
14.6 14.7 = 14.65 .05 .05
14.79
14.8

a 1786

14.79
14.8 m 1 v
14.79
14.8 v 2 0

14.89 14.79 = 14.84 .03 .03
14.9 14.8 = 14.85 .05 .05
14.99
15.0

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Variable No 46 (cont)

a 1785

14.23			14.48	14.33	14.89 =	14.62	.07	.01	.07
~~14.2~~	l 2 v		~~14.4~~	~~14.5~~	~~14.6~~ =	~~14.50~~	.10	.00	.10
✓ 14.33			14.33						
~~14.5~~	v 0 m		~~14.5~~						
14.89			14.79						
~~14.6~~	v 2 m		~~14.8~~						

a 1756

14.79		14.89	14.89 =	14.89	.00	.00
✓ ~~14.8~~	m, v	~~14.9~~	~~14.9~~ =	~~14.90~~	~~.00~~	~~.00~~
14.89		14.99				
~~14.9~~	v, 0	~~15.0~~				

a 1781

14.23		14.48	14.33	14.89 =	14.62	.17	.09 .27
~~14.2~~	l 2 v	~~14.4~~	~~14.5~~	~~14.9~~ =	~~14.60~~	~~.20~~	.10 ~~.30~~
14.33		14.33					
✓ ~~14.5~~	v 0 m	~~14.5~~					
14.89		14.99					
~~14.9~~	v 1 0	~~15.0~~					

a 1782

14.23		14.43	14.33 =	14.39	.06	.06
✓ ~~14.2~~	l 2 v	~~14.4~~	~~14.3~~ =	~~14.35~~	~~.05~~	~~.05~~
14.33		14.33				
~~14.3~~	v 2 m	~~14.5~~				

a 1790

✓ 14.33		14.73	14.79	14.79 =	14.77	.04	.02 .02
~~14.5~~	m 2 v	~~14.7~~	~~14.8~~	~~14.8~~ =	~~14.77~~	~~.07~~	~~.03~~ ~~.03~~
14.79		14.79					
~~14.8~~	v 0 m	~~14.8~~					
14.79		14.99					
~~14.8~~	v 2 0	~~15.0~~					

23 25

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1897phae.proj..972L

January 23 1897

Variable No 47 (N5)

a 1790

14.99 13.09 13.03 = 13.07 .02 .02
0 30 15.0 0 1 v 15.1 15.0 = 15.05 .05 .05
13.03
v 15.0 v 2 p 13.23
15.2

a 1782

14.83 14.63 14.59 = 14.61 .02 .02
14.5 m 1 v 14.6 14.6 = 14.60 .00 .00
14.59
v 14.6 v 2 m 14.79
14.8

a 1781

14.23 14.33 14.33 = 14.34 .01 .01
14.2 l 1 v 14.3 14.3 = 14.30 .00 .00
v 14.33
14.3 v 2 m 14.53
14.5

a 1756

14.79 14.89 14.89 = 14.89 .00 .00
v 14.8 m 1 v 14.9 14.9 = 14.90 .00 .00
14.89
14.9 v 1 0 14.99
15.0

a 1785

13.97 14.17 13.93 = 14.06 .11 .11
14.0 h 2 v 14.2 13.9 = 14.05 .15 .15
v 13.93
13.9 v 3 l 14.23
14.2

a 1786

13.97 14.17 14.03 = 14.11 .06 .06
14.0 h 2 v 14.2 14.0 = 14.10 .10 .10
14.03
14.0 v 2 l 14.23
14.2

a 1788

14.83 14.63 14.79 14.79 = 14.74 .11 .05 .05
14.5 m 1 v 14.6 14.8 14.8 = 14.77 .17 .03 .03
14.79
v 14.8 v 0 m 14.79
14.8
14.79 14.99
14.8 v 2 0 15.0

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1897phae.proj..972L

January 23, 1897

Variable No. 47 (cont)

a 1789

14.79 14.8 14.9 14.79 = 14.84 .05 .05
14.79 14.8 14.9 14.8 = 14.85 .05 .05
14.8 v 2 0 14.99 15.0

a 1744

14.79 14.8 14.9 14.89 14.99 15.03 = 14.98 .09 .01 .07
14.8 14.9 15.0 15.0 = 14.97 .07 .03 .03
14.99 15.0 v o o 14.99 15.0
15.03 15.0 o 2 p 15.23 15.2

a 1784

13.63 13.6 g 3 v 13.93 13.97 13.93 = 13.96 .01 .01 .01
13.6 13.9 14.0 13.9 = 13.93 .03 .07 .03
13.97 14.0 v o h 13.97 14.0
13.93 13.9 v 3 l 14.23 14.2

a 1787

13.97 14.0 h 1 v 14.07 14.23 14.33 = 14.22 .18 .09 .11
14.0 14.1 14.2 14.3 = 14.20 .10 .00 .10
14.23 14.2 v o l 14.23 14.2
14.33 14.3 v 2 m 14.33 14.5

a 1745

14.79 14.8 n = 1
v n, s 14.9 14.89

a 1736

13.91 13.3 f = 2
v n, s 13.5 13.3

a 1791

14.79 14.8 14.89 14.79 = 14.84 .05 .05
14.8 14.9 14.9 14.8 = 14.85 .05 .05
14.89 14.99 15.01
n 1 v
v 2 0

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1897phae.proj..972L

January 23, 1897

Variable No 47 (cont)

a 1829

14.99 ~~15.0~~ o = .1

v n,s ~~15,1~~ ~~13.09~~

a 1828

13.63 ~~13.6~~ ~~13.7~~ ~~13.8~~ q 3 v

~~13.93~~ ~~13.9~~ 13.97 14,0 ~~13.77~~ ~~13.8~~ = 13.86 .09 ~~.09~~ ~~.05~~

v 2 h

a 1812

14.33 ~~14.5~~ m 1 v

14.79 ~~14.8~~ ~~14.79~~ ~~14.8~~ = 14.74 .11 .03 ~~.03~~ ~~.17~~ ~~.03~~

v o m

14.79 ~~14.8~~ ~~14.79~~ ~~14.8~~ 14.99 15,0

v 2 0

a 1825

14.79 ~~14.8~~ ~~14.79~~ ~~14.8~~ m 1 v

14.89 14,9 14.99 15,0 ~~14.79~~ ~~14.8~~ = 14.84 ~~.03~~ ~~.05~~ ~~.05~~

v 2 0

a 1809

14.23 ~~14,2~~ 14.53 ~~14.5~~ ~~14.59~~ ~~14.6~~ l 1 v

14.33 ~~14,3~~ ~~14.5~~ ~~14.53~~ ~~14.5~~ ~~14.59~~ ~~14.6~~ 14,6 = 14.49 14.47 .14 .17 .04 .03 .10 .13

v o m

14.79 ~~14.8~~ ~~14.79~~ ~~14.8~~

v 2 m

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January 25, 1897

Variable No 48 (M 5)

a 1791

13.97
14.0 h 2 v 14.17 14.03 = 14.11 .06 .06
14.03 14.2 14.0 = 14.10 .10 .10
14.0 v 2 l 14.2

a 1736

13.81
13.3 f = .2
v n.s ~~13.5~~ 13.3

a 1745

13.97
14.0 h 1 v 14.07 14.03 = 14.06 .01 .01
14.03 14.1 14.0 = 14.05 .05 .05
14.0 v 2 l 14.2

a 1787

13.63
13.6 g 3 v 13.93 13.97 13.93 = 13.96 .01 .01 .01
13.97 13.9 14.0 13.9 = 13.93 .03 .07 .03
14.0 v 0 h 13.97
13.93 14.0
13.9 v 3 l 14.23
14.2

a 1784

13.97
14.0 h 1 v 14.07 14.03 = 14.06 .01 .01
14.03 14.1 14.0 = 14.05 .05 .05
14.0 v 2 l 14.23
14.2

a 1744

13.60
13.6 g 2 v 13.83 13.77 = 13.81 .04 .04
13.97 13.8 13.8 = 13.80 .00 .00
13.8 v 2 h 13.97
14.0

a 1789

13.63
13.6 g 4 v 14.03 13.97 13.93 = 13.99 .06 .02 .04
13.97 14.0 14.0 13.9 = 13.97 .03 .03 .07
14.0 v 0 h 13.97
13.93 14.0
13.9 v 3 l 14.23
14.2

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1897phae.proj..972L

January 25, 1897

Variable No 48 (cont'd)

a 1788

13.63		13.93	13.97	13.93 =	13.96	.01	.01 .01
13.6	g 3 v	13.9	14.0	13.9 =	13.93	.03	.07 .03
13.97		13.97					
14.0	v 0 h	14.0					
13.93		14.23					
13.9	v 3 l	14.2					

a 1786

13.97		14.07	14.03 =	14.06	.01	.01
14.0	h 1 v	14.1	14.0 =	14.05	.05	.05
14.03		14.23				
14.0	v 2 l	14.2				

a 1785

13.97		14.17	14.03 =	14.11	.06	.06
14.0	h 2 v	14.2	14.0 =	14.10	.10	.10
14.03		14.23				
14.0	v 2 l	14.2				

a 1756

13.63		13.93	13.97	13.93 =	13.96	.01	.01 .01
13.6	g 3 v	13.9	14.0	13.9 =	13.93	.03	.07 .03
13.97		13.97					
14.0	v 0 h	14.0					
13.93		14.23					
13.9	v 3 l	14.2					

a 1781

13.97		14.07	14.10 =	14.11	.04	.04
14.0	h 1 v	14.1	14.1 =	14.10	.00	.00
14.13		14.23				
14.1	v 1 l	14.2				

a 1782

13.97		14.07	14.03 =	14.06	.01	.01
14.0	h 1 v	14.1	14.0 =	14.05	.05	.05
14.03		14.23				
14.0	v 2 l	14.2				

a 1790

13.97		14.17	14.13 =	14.16	.01	.01
14.0	h 2 v	14.2	14.1 =	14.15	.05	.05
14.13		14.23				
14.1	v 1 l	14.2				

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January 25, 1897

Variable No 48 (cont)

a 1825

13.63 13.6 g 3 v 13.7 13.8 v 2 h

13.93 13.9 13.9 14.0 13.97 14.0 14.23 14.2

13.97 13.8 13.85 13.86 .09 .09
13.9 13.8 13.85 .05 .05

a 1812

13.63 13.6 g 3 v 13.97 14.0 v 0 h 13.83 13.8 v 4 l

13.93 13.9 13.97 14.0 13.97 14.0 14.23 14.2

13.87 13.8 13.85 13.92 .03 .06 .07
13.9 14.0 13.8 13.90 .00 .10 .10

a 1828

13.63 13.6 g 3 v 13.97 14.0 v 0 h 13.98 13.9 v 3 l

13.93 13.9 13.97 14.0 13.9 14.0 14.23 14.2

13.97 13.9 13.96 .01 .01 .01
13.9 14.0 13.9 13.93 .03 .07 .03

a 1829

13.63 13.6 g 1 v 13.77 13.8 v 2 h

13.78 13.7 13.77 13.76 .01 .01
13.7 13.8 13.75 .05 .05

13.97 14.0

a 1809

13.97 14.0 h 2 v 14.03 14.0 v 2 l

14.17 14.2 14.03 14.0 14.23 14.2

14.11 14.10 .06 .10 .06 .10

0.15

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January 25, 1897

Variable No 49 (M5)

a 1809

14.53 14.5 m 2 v 14.73 14.79 14.79 = 14.77 .04 .02 .02
14.79 14.8 v 0 n 14.7 14.8 14.8 = 14.77 .07 .03 .03
14.79 14.8 v 2 0 14.79 14.8 14.99 15.0

a 1829

14.53 14.5 m 1 v 14.63 14.69 = 14.66 .03 .03
14.69 14.7 v 1 n 14.6 14.7 = 14.65 .05 .05
14.79 14.8

a 1828

14.53 14.5 m 1 v 14.63 14.79 14.79 = 14.74 .11 .03 .03
14.79 14.8 v 0 n 14.6 14.8 14.8 = 14.73 .13 .07 .07
14.79 14.8 v 2 0 14.79 14.8 14.99 15.0

a 1812

14.79 14.8 n 1 v 14.89 14.79 = 14.84 .03 .03
14.79 14.8 v 2 0 14.9 14.8 = 14.85 .05 .05
14.99 15.0

a 1825

14.53 14.5 m 2 v 14.73 14.69 = 14.71 .02 .02
14.69 14.7 v 1 n 14.7 14.7 = 14.70 .00 .00
14.79 14.8

a 1790

14.53 14.5 m 1 v 14.63 14.79 14.79 = 14.74 .11 .03 .03
14.79 14.8 v 0 n 14.6 14.8 14.8 = 14.73 .13 .07 .07
14.79 14.8 v 2 0 14.79 14.8 14.99 15.0

a 1782

14.53 14.5 m 1 v 14.63 14.59 = 14.61 .02 .02
14.59 14.6 v 2 n 14.6 14.6 = 14.60 .00 .00
14.79 14.8

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1897phae.proj..972L

January 25, 1897

Variable No 49 (cont)

a 1781

14.23 14.2 l 2 v — 14.43 14.44 — 14.33 14.5 — 14.69 14.7 = 14.56 — .11 .13 — .03 .03 — .13 .17
14.33 14.5 v 0 m — 14.33 14.5
14.69 14.7 v 1 n — 14.79 14.8

a 1756

14.79 14.8 n 1 v — 14.89 14.9 — 14.79 14.8 = 14.84 14.85 — .03 .05 — .03 .05
14.79 14.8 v 2 0 — 14.99 15.0

a 1785

14.83 14.5 m 1 v — 14.63 14.6 — 14.79 14.8 — 14.79 14.8 = 14.74 14.77 — .11 .13 .17 — .03 .03 .07 — .03 .07
14.79 14.8 v 0 n — 14.79 14.8
14.79 14.8 v 2 0 — 14.99 15.0

a 1786

14.79 14.8 n 1 v — 14.89 14.9 — 14.79 14.8 = 14.84 14.85 — .03 .05 — .03 .05
14.79 14.8 v 2 0 — 14.99 15.0

a 1788

14.53 14.5 m 2 v — 14.73 14.7 — 14.69 14.7 = 14.71 14.70 — .02 .00 — .02 .00
14.69 14.7 v 1 n — 14.79 14.8

a 1789

14.53 14.5 m 1 v — 14.63 14.6 — 14.79 14.8 — 14.79 14.8 = 14.74 14.73 — .11 .13 — .03 .07 — .03 .07
14.79 14.8 2 0 n — 14.79 14.8
14.79 14.8 2 2 0 — 14.99 15.0

a 1744

14.79 14.8 n 1 v — 14.89 14.9 — 14.89 14.9 = 14.89 14.90 — .00 .00 — .00 .00
14.89 14.9 v 1 0 — 14.99 15.0

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1897phae.proj..972L

January 25, 1897

Variable No 49 (cont)

a 1784

14.53 14.5 m 1 v 14.6 14.6 14.79 14.8 14.79 14.8 = 14.74 14.73 .11 .13 .03 .07 .03 .07
14.79 14.8 v 0 n 14.79 14.8
14.79 14.8 v 20 14.99 15.0

a 1787

14.79 14.8 m 1 v 14.89 14.9 14.89 14.9 = 14.89 14.90 .00 .00 .00 .00
14.89 14.9 v 10 14.99 15.0

a 1745

14.79 14.8 n = .1
v n.s <14.9 >14.8<

a 1736

13.31 13.3 f = .2
v n.s <13.5 >13.3<

a 1791

14.53 14.5 m 2 v 14.73 14.7 14.79 14.8 14.79 14.8 = 14.77 .07 .04 .03 .02 .03
14.79 14.8 v 0 n 14.79 14.8
14.79 14.8 v 20 14.99 15.0

0 35

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January 25, 1897

*Variable No 50 (M 5)

a 1791

13.98 13.0 e 4 v 13.31 13.3 v 0 f 13.16 13.1 v 5 g

13.33 13.4 | 13.31 13.3 | 13.16 13.1 = 13.27 | 7 13 | 8 .03 | 4 .03 | 12 17

13.31 13.3 | 13.61 13.6

a 1736

13.31 13.3 f = 2 v n,s ~~13.5~~ 13.8

a 1745

12.93 13.0 e 2 v 13.01 13.0 v 3 f

13.18 13.2 | 13.01 13.0 = 13.08 13.10 | .07 .10 | .07 .10

13.01 13.0 | 13.81 13.3

a 1787

13.81 13.3 f 3 v 13.84 13.3 v 3 g

13.61 13.6 | 13.33 13.3 = 13.48 13.45 | .13 .15 | .13 .15

13.61 13.6

a 1784

13.31 13.3 f 3 v 13.48 13.4 v 2 g

13.61 13.6 | 13.48 13.4 = 13.59 13.50 | .08 .10 | .08 .10

13.61 13.6

a 1744

12.48 12.4 d 2 v 12.63 12.7 v 3 e

12.63 12.6 | 12.65 12.7 = 12.65 12.65 | 00 .05 | 00 .05

12.93 13.0

a 1789

12.93 13.0 e 3 v 13.11 13.1 v 2 f

13.28 13.3 | 13.11 13.1 = 13.18 13.20 | .07 .10 | .07 .10

13.81 13.3

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January 25, 1897

Variable No 50 (cont)

a 1788
13.93 13.0 e 3 v
13.31 13.3 v 0 f
13.23 13.2 v 4 g

13.33 13.3 13.31 13.3 13.63 13.6
13.33 13.3 13.23 13.2 = 13.27 .07 .03 .03 .07
.02 .04 .02

a 1786
13.31 13.3 f 3 v
13.23 13.2 v 4 g

13.61 13.6 13.63 13.6
13.23 13.2 = 13.43 13.40 .18 .20 .18 .20

a 1785
13.31 13.3 f 3 v
13.23 13.2 v 4 g

13.61 13.6 13.63 13.6
13.23 13.2 = 13.43 13.40 .18 .20 .18 .20

a 1756
13.31 13.3 f 2 v
13.43 13.4 v 2 g

13.31 13.5 13.63 13.6
13.43 13.4 = 13.48 13.45 .03 .05 .03 .05

a 1781
13.31 13.3 f 1 v
13.43 13.4 v 2 g

13.41 13.4 13.63 13.6
13.43 13.4 = 13.43 13.40 .02 .00 .02 .00

a 1782
13.31 13.3 f 3 v
13.23 13.2 v 4 g

13.61 13.6 13.63 13.6
13.23 13.2 = 13.43 13.40 .18 .20 .18 .20

a 1790
13.31 13.3 f 2 v
13.33 13.3 v 3 g

13.81 13.5 13.63 13.6
13.33 13.3 = 13.43 13.40 .08 .10 .08 .10

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1897phae.proj..9721

January 25, 1897.

Variable No 50 (cont)

a 1825

11.81 — 11.8 — 12.03 — 12.0 — c 3 v — v 4 d

12.11 — 12.1 — 12.43 — 12.4

12.03 = 12.0 = 12.04

.08 — .05

.03 — .05

a 1812

11.81 — 11.8 — 12.13 — 12.1 — c 3 v — v 3 d

12.11 — 12.1 — 12.43 — 12.4

12.13 = 12.1 = 12.12

.02 — .00

.02 — .00

a 1828

11.81 — 11.8 — 12.03 — 12.0 — c 3 v — v 4 d

12.11 — 12.1 — 12.43 — 12.4

12.03 = 12.0 = 12.04

.03 — .05

.03 — .05

a 1829

11.81 — 11.8 — 12.03 — 12.0 — c 4 v — v 4 d

12.21 — 12.2 — 12.43 — 12.4

12.03 = 12.0 = 12.13

.08 — .10

.08 — .10

a 1809

11.81 — 11.8 — 12.13 — 12.1 — c 4 v — v 3 d

12.21 — 12.2 — 12.43 — 12.4

12.13 = 12.1 = 12.18

.03 — .05

.03 — .05

13 4

* No 50 is a double star and very hard to measure —

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January 25, 1897

*Variable No 51, (K5)

a 1809

14 45 e 5 v

v 0 f

v 4 g

a 1829

f 1 v

v 2 g

a 1828

f 2 v

v 3 g

a 1812

f 3 v

v 2 g

a 1825

f 2 v

v 3 g

a 1790

f 3 v

v 2 g

a 1782

f 4 v

v 0 g

v 5 h

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1897phae.proj..972L

January 25, 1897

Variable No 51 (cont)

a 1781

12.90 13.0 13.31 13.3 13.83 13.3 e 4 v / v 0 f / v 3 g

13.33 13.31 13.3 13.31 13.3 13.63 13.6

a 1756

13.31 13.3 13.48 13.4 f 1 v / v 2 g

13.41 13.4 13.63 13.6 13.4 13.4 = 13.43 13.40 .02 .00 .02 .00

a 1785

13.01 13.3 13.63 13.6 f 3 v / v 0 g / 13.97 v 4 h

13.61 13.6 13.63 13.6 13.87 13.6 = 13.61 13.60 .05 .00 .04 .00 .04 .00

a 1786

13.31 13.3 13.48 13.4 f 1 v / v 2 g

18.41 13.4 18.63 13.6 13.4 13.4 = 13.43 13.40 .02 .00 .02 .00

a 1786

13.31 13.3 13.63 13.6 13.67 13.7 f 2 v / v 0 g / v 3 h

18.81 13.5 18.63 13.6 18.97 14.0 13.60 13.6 13.7 = 13.61 13.60 .10 .10 .04 .00 .06 .10

a 1789

12.90 13.0 13.11 13.1 e 3 v / v 2 f

13.23 13.3 13.31 13.3 13.11 13.1 = 13.18 13.20 .07 .10 .07 .10

a 1744

13.31 13.3 13.48 13.4 f 1 v / v 2 g

13.41 13.4 13.63 13.6 13.43 13.40 .02 .00 .02 .00

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January 25, 1897

Variable No 51 (cont)

a 1784

13.31 13.3 13.63 13.6 v 0 g
13.3 13.5 13.63 13.6
13.63 13.6 13.67 13.97
13.6 13.6 13.7 14.0
13.67
13.7

13.61 13.65 13.67 = 13.61 .10 .04 .06
13.60 .10 .00 .10

f 2 v

v 3 h

a 1787

13.31 13.3 13.40 13.4 v 2 g
13.3 13.6 13.63 13.6
13.40 13.4 13.4 =
13.4

13.61 13.43 = 13.53 .08 .08
13.50 .10 .10

f 3 v

a 1745

12.93 13.0 13.31 13.3 v 0 f
13.0 13.3 13.31 13.3
13.31 13.3 13.63 13.6
13.3 13.3 13.6

13.23 13.31 13.33 = 13.30 .03 .01 .03
13.3 13.3 13.3 = 13.30 .00 .00 .00

e 3 v

v 3 g

a 1736

13.31 13.3

f = .2

v n.s

~~13.5~~ ~~13.3~~

a 1791

13.31 13.3 13.83 13.3 v 3 g
13.3 13.5 13.63 13.6
13.83 13.6
13.3

13.33 13.33 = 13.43 .08 .08
13.40 .10 .10

f 2 v

15

No 51 is a double star. Very hard to meas

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January 25, 1897

Variable As 52 (M5)

a 1791

22 g 3 v
v 2 h

13.63 13.6 13.77 13.8 | 13.93 13.9 13.97 14.0 | 13.77 13.8 | 13.86 13.85 | .09 .05 | .09 .05

a 1736

f = .2
v n.s

13.31 13.3 | 13.5 | 13.8

a 1745

n = .1
v n.s

14.79 14.8 | 14.9 | 14.8

a 1787

g 2 v
v 0 h
v 2 l

13.63 13.6 13.97 14.0 14.03 14.0 | 13.85 13.8 13.97 14.0 14.25 14.2 | 13.97 14.0 | 13.96 13.93 | .11 .13 | .01 .07 | .09 .07

a 1784

f 4 v
v 0 g
v 5 h

13.31 13.3 13.63 13.6 13.47 13.5 | 13.71 13.7 13.63 13.6 13.97 14.0 | 13.63 13.6 13.47 13.5 | 13.86 13.60 | .10 .10 | .06 .00 | .04 .10

a 1744

l 1 v
v 1 m

14.29 14.2 14.43 14.4 | 14.33 14.3 14.53 14.5 | 14.43 14.4 | 14.39 14.35 | .04 .05 | .04 .05

a 1789

g 2 v
v 3 h

13.63 13.6 13.67 13.7 | 13.85 13.8 13.97 14.0 | 13.67 13.7 | 13.76 13.75 | .09 .05 | .09 .05

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Variable No 52 (cont)

a 1788

13.31	f 3 v	13.61	13.63	13.67 =	13.64	.03	.01	.03
13.63	v 0 g	13.6	13.6	13.7 =	13.63	.03	.03	.07
13.6	v 3 h	13.63						
13.67		13.6						
13.7		13.97						
		14.0						

a 1786

13.63	g 4 v	14.03	13.97	13.93 =	13.99	.06	.02	.04
13.6	v 0 h	14.0	14.0	13.9 =	13.97	.03	.03	.07
13.97	v 3 l	13.97						
14.0		14.0						
13.93		14.23						
13.9		14.2						

a 1785

13.63	g 2 v	13.83	13.77 =	13.81	.04	.04
13.6	v 2 h	13.8	13.8 =	13.80	.00	.00
13.77		13.97				
13.8		14.0				

a 1756

13.97	h 2 v	14.17	14.13 =	14.16	.01	.01
14.0	v 1 l	14.2	14.1 =	14.15	.05	.05
14.13		14.23				
14.1		14.2				

a 1781

13.63	g 3 v	13.93	13.97	14.03 =	13.99	.04	.02	.06
13.6	v 0 h	13.9	14.0	14.0 =	13.97	.07	.03	.03
13.97	v 2 l	13.97						
14.0		14.0						
14.03		14.23						
14.0		14.2						

a 1782

13.63	g 4 v	14.03	13.97	13.93 =	13.99	.06	.02	.04
13.6	v 0 h	14.0	14.0	13.9 =	13.97	.03	.03	.07
13.97	v 3 l	13.97						
14.0		14.0						
13.93		14.23						
13.9		14.2						

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Variable No 52 (cont)

a 1790

13.31	f 4 v	13.71	13.63	13.67 =	13.64	.07	.01	.07
~~13.3~~		~~14.0~~	~~13.6~~	~~13.6~~ =	~~13.63~~	.07	.03	.03
13.63		13.63						
~~13.6~~	v o g	~~13.6~~						
13.37		13.97						
~~13.6~~	v 4 h	~~14.0~~						

a 1825

14.23	l 1 v	14.33	14.33 =	14.34	.01	.01
~~14.2~~		~~14.3~~	~~14.3~~ =	~~14.30~~	~~.00~~	~~.00~~
14.33		14.33				
~~14.3~~	v 2 m	14.5				

a 1812

13.97	h 1 v	14.07	14.03 =	14.06	.01	.01
~~14.0~~		~~14.1~~	~~14.0~~ =	~~14.05~~	~~.05~~	~~.05~~
14.03		14.23				
~~14.0~~	v 2 l	14.2				

a 1828

13.97	h 1 v	14.07	14.03	14.06	.01	.01
~~14.0~~		~~14.1~~	~~14.0~~ =	~~14.05~~	~~.05~~	~~.05~~
14.03		14.23				
~~14.0~~	v 2 l	~~14.2~~				

a 1829

14.23	l 1 v	14.33	14.03	14.69 =	14.52	.17	.01	.17
~~14.2~~		~~14.3~~	14.5	14.7 =	14.50	.20	~~.00~~	.20
14.03		14.03						
~~14.5~~	v o m	~~14.5~~						
14.69		14.99						
~~14.7~~	v 1 m	~~14.8~~						

a 1809

13.63	g 4 v	14.03	13.97	13.93 =	13.99	.06	.02	.04
~~13.6~~		~~14.0~~	~~14.0~~	~~13.9~~ =	~~13.97~~	.03	.03	.07
13.97		13.97						
~~14.0~~	v o h	~~14.0~~						
13.93		14.29						
13.9	v 3 l	~~14.2~~						

23.

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Variable No 53 (M5)

a 1790

13.63		13.93	13.97	13.95 =	13.96	.01	.01 .01
13.6	g 3 v	13.9	14.0	13.9 =	13.93	.03	.07 .03
13.97		13.97					
14.0	v 0 h	14.0					
13.93		14.23					
13.9	v 3 l	14.2					

a 1782

13.63		13.93	13.77 =	13.86	.09	.09
13.6	g 3 v	13.9	13.8 =	13.85	.05	.05
13.77		13.97				
13.8	v 2 h	14.0				

a 1781

13.31		13.37	13.63	13.67 =	13.64	.10	.04 .06
13.3	f 2 v	13.5	13.6	13.7 =	13.60	.10	.00 .10
13.63		13.63					
13.6	v 0 g	13.6					
13.67		13.97					
13.7	v 3 h	14.0					

a 1756

13.31		13.37	13.48 =	13.42	.03	.03
13.3	f 2 v	13.5	13.4 =	13.45	.05	.05
13.43		13.63				
13.4	v 2 g	13.6				

a 1785

14.23		14.33	14.33 =	14.34	.01	.01
14.2	l 1 v	14.3	14.3 =	14.30	.00	.00
14.33		14.53				
14.3	v 2 m	14.5				

a 1786

13.97		14.07	14.03 =	14.06	.01	.01
14.0	h 1 v	14.1	14.0 =	14.05	.05	.05
14.03		14.23				
14.0	v 2 l	14.2				

a 1788

13.31		13.37	13.43 =	13.48	.03	.03
13.3	f 2 v	13.5	13.4 =	13.45	.05	.05
13.43		13.63				
13.4	v 2 g	13.6				

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Variable No 53 (cont)

a 1789

13.31 13.33 13.43 13.4 — f 3 v — v 2 g

13.61 13.6 13.63 13.6 — 13.43 13.4 = 13.53 13.50 — .08 .10 — .08 .10

a 1744

13.31 13.33 13.43 13.4 — f 2 v — v 2 g

13.67 13.5 13.63 13.6 — 13.43 13.4 = 13.48 13.45 — .03 .05 — .03 .05

a 1784

13.63 13.6 13.97 14.0 — g 2 v — v o h — v 2 l

13.83 13.8 13.97 14.0 14.23 14.2 — 13.97 14.0 = 13.96 13.93 — .11 .12 — .01 .07 — .09 .07

a 1787

13.63 13.6 13.77 13.8 — g, v — v 2 h

13.73 13.7 13.97 14.0 — 13.77 13.8 = 13.76 13.75 — .01 .05 — .01 .05

a 1745

13.31 13.33 13.43 13.4 — f 2 v — v 2 g

13.67 13.5 13.63 13.6 — 13.43 13.4 = 13.48 13.45 — .03 .05 — .03 .05

a 1736

13.81 13.8 — f = 2 — v n.s

13.5 — 13.8

a 1791

13.97 14.0 14.03 14.0 — h, v — v 2 l

14.07 14.1 14.23 14.2 — 14.03 14.0 = 14.06 14.05 — .01 .05 — .01 .05

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Variable No 53 (cont)

a 1809

13.97 14.0 14.03 14.0

l 2 v

v 2 l

14.17 14.2 14.23 14.2

14.03 14.0 = 14.11 .06 .06

14.0 14.10 .10 .10

a 1829

12.93 13.0 13.01 13.0

e 3 v

v 3 f

13.23 13.3 13.31 13.3

13.01 13.0 = 13.13 .12 .12

13.0 13.15 .15 .15

a 1828

12.93 13.0 13.01 13.0

e 4 v

v 3 f

13.33 13.4 13.31 13.3

13.01 13.0 = 13.18 .17 .17

13.0 13.20 .20 .20

a 1812

12.93 13.0 13.31 13.3 13.13 13.1

e 4 v

v 0 f

2 5 g

13.33 13.4 13.31 13.3 13.63 13.6

13.31 13.3 = 13.27 .08 .04 .12

13.3 13.1 = 13.27 .13 .03 .17

a 1825

12.43 13.0 13.11 13.1

e 3 v

v 2 f

13.23 13.3 13.31 13.3

13.3 13.1 = 13.20 .07 .17

13.1 13.20 .10 .10

23 30

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Variable No 54 (M5)

	14.53	a1791							
	~~14.5~~		14.73	14.79	14.79 =	14.77	.04	.02	.02
O	00	m 2 v	~~14.7~~	~~14.8~~	~~14.8~~ =	~~14.77~~	.07	~~.03~~	.03
	14.79		14.79						
✓	~~14.8~~	v 0 n	~~14.8~~						
	14.79		14.99						
	~~14.8~~	v 2 0	15.0						
		a1736							
	12.93		13.23	13.11 =	13.18	.07	.07		
✓	~~13.0~~	e 3 v	~~13.2~~	~~13.1~~ =	~~13.20~~	~~10~~	~~10~~		
	13.11		13.31						
	~~13.1~~	v 2 f	~~13.3~~						
		a1745							
	13.31		13.41	13.43 =	13.43	.02	.02		
✓	~~13.3~~	f 1 v	~~13.4~~	~~13.4~~ =	~~13.40~~	~~.00~~	~~.00~~		
	13.43		13.63						
	~~13.4~~	v 2 g	~~13.6~~						
		a1787							
	13.97		14.07	14.23	14.33 =	14.22	.10	.03	.11
	~~14.0~~	h 1 v	~~14.1~~	~~14.2~~	~~14.3~~ =	~~14.20~~	~~.10~~	~~.00~~	~~.10~~
✓	14.23		14.23						
	~~14.2~~	v 0 l	~~14.2~~						
	14.33		14.53						
	~~14.3~~	v 2 m	~~14.5~~						
		a1784							
✓	13.97		14.17	14.13 =	14.16	.01	.01		
	~~14.0~~	h 2 v	~~14.2~~	~~14.1~~ =	~~14.15~~	~~.05~~	~~.05~~		
	14.13		14.23						
	~~14.1~~	v 1 l	~~14.2~~						
		a1744							
	13.63		13.73	13.77 =	13.76	.01	.01		
✓	~~13.6~~	g 1 v	~~13.7~~	~~13.8~~ =	~~13.75~~	~~.05~~	~~.05~~		
	13.77		13.97						
	~~13.8~~	v 2 h	~~14.0~~						
		a1789							
	13.97		14.07	14.08 =	14.06	.01	.01		
✓	~~14.0~~	h 1 v	~~14.1~~	~~14.0~~ =	~~14.05~~	~~.05~~	~~.05~~		
	14.03		14.23						
	~~14.0~~	v 2 l	~~14.2~~						

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Variable No. 54 (cont)

a 1788

13.97	h 1 v	14.07	14.15 =	14.11	.04	.04
14.0		14.1	14.1 =	14.10	.00	.00
14.18	v 1 l	14.23				
14.1		14.2				

a 1786

13.63	g 2 v	13.83	13.67 =	13.76	.09	.09
13.6		13.8	13.7 =	13.75	.05	.05
13.67	v 3 h	13.97				
13.7		14.0				

a 1785

13.63	g 3 v	13.93	13.77 =	13.86	.09	.09
13.6		13.9	13.8 =	13.85	.05	.05
13.77	v 2 h	13.97				
13.8		14.0				

a 1756

13.63	g 2 v	13.83	13.77 =	13.81	.04	.04
13.6		13.8	13.8 =	13.80	.00	.00
13.77	v 2 h	13.97				
13.8		14.0				

a 1781

13.97	h 1 v	14.07	14.03 =	14.06	.01	.01
14.0		14.1	14.0 =	14.05	.05	.05
14.03	v 2 l	14.23				
14.0		14.2				

a 1782

13.97	h 2 v	14.17	14.03 =	14.11	.06	.06
14.0		14.2	14.0 =	14.10	.10	.10
14.03	v 2 l	14.23				
14.0		14.2				

a 1790

13.97	h 3 v	14.27	14.23	14.33 =	14.28	.01 .03 .03
14.0		14.3	14.2	14.3 =	14.27	.03 .07 .03
14.23	v 0 l	14.23				
14.2		14.2				
14.33	v 2 m	14.33				
14.3		14.5				

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January 26, 1897

Variable No 54 (cont)

a 1812

13.63			13.93	13.77	=	13.86	.09	.09
13.6	g	3 v	13.9	13.8	=	13.85	.05	.05
13.77			13.97					
13.8	v	2 h	14.0					

a 1829

13.31			13.37	13.77	13.77	= 13.64	.13	.01 .13
13.3	f	2 v	13.5	13.6	13.8	= 13.63	.13	.03 .17
13.63			13.63					
13.6	h	0 g	13.6					
13.77			13.97					
13.8	v	2 h	14.0					

a 1828

13.63			13.83	13.97	13.93	= 13.92	.07	.03 .03
13.6	g	2 v	13.8	14.0	13.9	= 13.90	.10	.10 .00
13.97			13.97					
14.0	v	0 h	14.0					
13.93			14.23					
13.9	v	3 l	14.2					

a 1809

13.97			14.07	13.93	= 14.01	.06	.06	
14.0	h	1 v	14.1	13.9	= 14.00	.10	.10	
13.93			14.23					
13.9	v	3 l	14.2					

a 1825

13.63			13.93	13.97	13.83	= 13.92	.03	.03 .07
13.6	g	3 v	13.9	14.0	13.8	= 13.90	.00	.10 .10
13.97			13.97					
14.0	v	0 h	14.0					
13.83			14.23					
13.8	v	4 l	14.2					

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Variable No 55 (M5)

a 1791

13.97 14.07 14.03 = 14.06 .01 .01
14 14.0 h 1 v 14.1 14.0 = 14.05 .05 .05
14.03 14.23
14.0 v 2 l 14.2

a 1736

13.31
13.3 f = .2
v n.s 13.5 X 13.3 X

a 1745

14.79
14.8 n = .1
v n.s 14.9 X 14.8 X

a 1787

13.97 14.07 14.03 = 14.06 .01 .01
14.0 h 1 v 14.1 14.0 = 14.05 .05 .05
14.03 14.23
14.0 v 2 l 14.2

a 1784

14.23 14.33 14.33 = 14.34 .01 .01
14.2 l 1 v 14.3 14.3 = 14.30 .00 .00
14.33 14.33
14.3 v 2 m 14.5

a 1744

13.97 14.17 14.23 14.33 = 14.23 .08 .08 .08
14.0 h 2 v 14.2 14.2 14.3 = 14.23 .03 .03 .07
14.23 14.23
14.2 v 0 l 14.2
14.33 14.33
14.3 v 2 m 14.5

a 1789

14.53 14.63 14.59 = 14.61 .02 .02
14.5 m 1 v 14.6 14.6 = 14.60 .00 .00
14.59 14.79
14.6 v 2 m 14.8

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Variable No 55 (cont)

a 1825

14.53		14.63	14.79	14.79	= 14.74	.11	.03	.03
14.5	m 1 v	14.6	14.8	14.8	= 14.73	.13	.07	.07
14.79		14.79						
~ 14.8	v 0 m	14.8						
14.79		14.99						
14.8	v 2 0	15.0						

a 1809

14.23		14.43	14.33	14.39	= 14.352	.07	.01	.07
14.2	l 2 v	14.4	14.5	14.6	= 14.50	.10	.00	.10
14.33		14.33						
✓ 14.5	v 0 m	14.5						
14.39		14.79						
14.6	v 2 m	14.8						

a 1828

13.63		14.03	13.97	13.93	= 13.99	.06	.02	.04
13.6	g 4 v	14.0	14.0	13.9	= 13.97	.03	.03	.07
13.97		13.97						
✓ 14.0	v 0 h	14.0						
13.93		14.23						
13.9	v 3 l	14.2						

a 1829

14.53		14.63	14.79	14.89	= 14.77	.14	.02	.12
14.5	m, v	14.6	14.8	14.9	= 14.77	.17	.03	.13
14.79		14.79						
✓ 14.8	v 0 m	14.8						
14.89		14.99						
14.9	v 1 0	15.0						

a 1812

13.97		14.17	14.03	= 14.11	.06	.06		
✓ 14.0	h 2 v	14.2	14.0	= 14.10	.10	.10		
14.03		14.23						
14.0	v 2 l	14.2						

15 m

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Variable No 56 (N5)

a 1791

14.33 14.5 m 2 v 14.73 14.69 = 14.71 .02 .02
30 14.69 14.7 14.7 = 14.70 .00 .00
14.7 v 1 m 14.79 14.8

a 1745

13.97 14.0 h 1 v 14.07 14.13 = 14.11 .04 .04
14.13 14.1 14.1 = 14.10 .00 .00
14.1 v 1 l 14.23 14.2

a 1736

12.31 13.3 f = 2
v n.s 13.5 13.3

a 1787

14.23 14.2 l 2 v 14.43 14.53 14.59 = 14.52 .07 .01 .07
14.53 14.5 14.5 14.6 = 14.50 .10 .00 .10
14.5 v 0 m 14.53 14.5
14.59 14.6 v 2 n 14.79 14.8

a 1784

13.97 14.0 h 2 v 14.17 14.03 = 14.11 .06 .06
14.03 14.0 14.2 14.0 = 14.10 .10 .10
14.0 v 2 l 14.23 14.2

a 1744

14.23 14.2 l 1 v 14.33 14.83 14.89 = 14.49 .14 .04 .10
14.53 14.5 14.3 14.5 14.6 = 14.47 .17 .03 .13
14.5 v 0 m 14.53 14.5
14.59 14.6 v 2 n 14.79 14.8

a 1789

14.23 14.2 l 2 v 14.43 14.83 14.59 = 14.52 .07 .01 .07
14.53 14.5 14.4 14.5 14.6 = 14.54 .10 .00 .10
14.5 v 0 m 14.53 14.5
14.59 14.6 v 2 n 14.79 14.8

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Variable No 56 (cont)

a 1788

14.33 14.5 m 1 v 14.79 14.8 v 0 w 14.79 14.8 v 2 0

14.63 14.6 14.79 14.8 14.79 14.8 = 14.74 14.73 .11 .13 .03 .07 .03 .07

a 1786

13.97 14.0 h 1 v 14.03 14.0 v 2 l

14.07 14.1 14.03 14.0 = 14.06 14.05 .01 .05 .01 .05

14.23 14.2

a 1785

13.97 14.0 h 2 v 14.03 14.0 v 2 l

14.17 14.2 14.03 14.0 = 14.11 14.10 .06 .10 .06 .10

14.23 14.2

a 1756

13.63 13.6 g 2 v 13.77 13.8 v 2 h

13.83 13.8 13.77 13.8 = 13.81 13.80 .04 .00 .04 .00

13.97 14.0

a 1781

13.97 14.0 h 2 v 14.23 14.2 v 0 l 14.33 14.3 v 2 m

14.17 14.2 14.23 14.2 14.33 14.3 = 14.23 14.20 .08 .03 .03 .07 .08 .07

14.23 14.2 14.33 14.3

a 1782

13.97 14.0 h 2 v 14.23 14.2 v 0 l 14.33 14.3 v 2 m

14.17 14.2 14.23 14.2 14.33 14.3 = 14.23 14.23 .08 .03 .03 .07 .08 .07

14.23 14.2 14.33 14.3

a 1790

14.33 14.5 m 1 v 14.79 14.8 v 0 w 14.79 14.8 v 2 0

14.63 14.6 14.79 14.8 14.79 14.8 = 14.74 14.73 .11 .13 .03 .07 .03 .07

14.79 14.8 14.99 15.0

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Variable No 56 (cont)

a 1812

13.63		13.93	13.97	13.93 =	13.96	.01	.01 .01
~~13.6~~	g 3 v	~~13.9~~	~~14.0~~	~~13.9~~ =	~~13.93~~	~~.03~~	~~.07~~ ~~.03~~
✓ 13.97		13.97					
~~14.0~~	v 0 h	~~14.0~~					
13.93		14.23					
~~13.9~~	v 3 l	~~14.2~~					

a 1829

✓ 14.53		14.63	14.69 =	14.66	.03	.23
~~14.5~~	m 1 v	~~14.6~~	~~14.7~~ =	~~14.65~~	~~.05~~	~~.05~~
14.69		14.79				
~~14.7~~	v 1 n	~~14.8~~				

a 1828

✓ 14.53		14.63	14.59 =	14.61	.02	.02
~~14.5~~	m 1 v	~~14.6~~	~~14.6~~ =	~~14.60~~	~~.00~~	~~.00~~
14.69		14.79				
~~14.6~~	v 2 n	~~14.8~~				

a 1809

14.23		14.33	14.53	14.59 =	14.49	.14 .04 .10
~~14.2~~	l 1 v	~~14.3~~	~~14.5~~	~~14.6~~ =	~~14.47~~	~~.17~~ .03 .13
14.33		14.33				
✓ ~~14.5~~	v 0 m	~~14.5~~				
14.59		14.79				
~~14.6~~	v 2 n	~~14.8~~				

a 1825

13.97		14.17	14.03 =	14.11	.06	.06
✓ ~~14.0~~	h 2 v	~~14.2~~	~~14.0~~ =	~~14.10~~	~~.10~~	~~.10~~
14.03		14.23				
~~14.0~~	v 2 l	~~14.2~~				

0 45

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January 29, 1897

Variable No 57 (M5)

a 1790

13.97 14.0 h 3 v 14.03 14.0 v 2 l

14.27 14.3 14.23 14.2

14.03 − 14.27 = 14.16 .11 .11

14.0 − 14.3 = 14.15 .15 .15

a 1782

13.63 13.6 g 4 v 13.97 14.0 v 0 h 13.83 13.8 v 4 l

14.03 14.0 13.97 13.8 = 13.96 .09 .01 .11

14.0 13.97 14.0 14.23 14.2

13.83 − 13.97 = 13.96 .09 .01 .11

13.8 − 14.0 = 13.93 .07 .07 .13

a 1781

13.63 13.6 g 2 v 13.97 14.0 v 0 h 14.03 14.0 v 2 l

13.83 13.8 13.97 14.0 14.03 = 14.96 .11 .01 .09

13.8 − 14.0 = 13.93 .13 .07 .07

13.97 14.0 14.23 14.2

a 1756

13.63 13.6 g 3 v 13.77 13.8 v 2 h

13.93 13.9 13.77 = 13.86 .09 .09

13.9 − 13.8 = 13.85 .05 .05

13.97 14.0

a 1785

13.97 14.0 h 2 v 14.03 14.0 v 2 l

14.17 14.2 14.23 14.2

14.03 − 14.17 = 14.11 .06 .06

14.0 − 14.2 = 14.10 .10 .10

a 1786

13.97 14.0 h 3 v 14.03 14.0 v 2 l

14.27 14.3 14.23 14.2

14.03 − 14.27 = 14.16 .11 .11

14.0 − 14.3 = 14.15 .15 .15

a 1788

13.63 13.6 g 2 v 13.97 14.0 v 0 h 13.93 13.9 v 3 l

13.83 13.8 13.97 14.0 13.93 = 13.92 .07 .02 .03

13.8 − 14.0 = 13.90 .10 .10 .00

13.97 14.0 14.23 14.2

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January 29, 1897

Variable No 57 (cont)

a 1789

13.63 13.6 13.77 13.8 — g 3 v — 13.93 13.9 13.97 14.0 — v 2 h

13.77 − 13.8 = 13.85 — .09 .05 — .09 .05

a 1744

13.63 13.6 13.8 — g 1 v — 13.73 13.7 13.97 14.0 — v 2 h

13.77 − 13.8 = 13.75 — .01 .05 — .01 .05

a 1784

13.63 13.6 13.6 13.7 — g 2 v — 13.83 13.8 13.97 14.0 — v 3 h

13.67 − 13.7 = 13.75 — .09 .05 — .09 .05

a 1787

13.97 14.0 14.33 14.2 14.3 — h 2 v — 14.17 14.2 14.23 14.2 14.33 14.3 — v 0 l — 14.23 14.2 14.33 14.5 — v 2 m

14.23 − 14.3 = 14.23 — .08 .03 — .08 .07

a 1736

13.31 13.3 — f = .2 — 13.5 — 13.5

v n.s

a 1745

13.31 13.3 13.63 13.6 13.6 13.7 13.8 — f 2 v — 13.37 13.5 13.63 13.6 13.97 14.0 — v 1 g — v 2 h

13.63 − 13.77 = 13.64 — .13 .13 — .01 .03 — .13 .17

a 1791

13.97 14.0 14.23 14.2 14.33 14.3 — h 2 v — 14.17 14.2 14.23 14.2 14.33 14.3 — v 0 l — 14.33 14.3 14.5 — v 2 m

14.23 − 14.33 = 14.23 — .08 .03 — .08 .07

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January 29, 1897

Variable As 57 (cont)

a 1825

13.63 — 13.6 — 13.97 — 14.0 — 14.03 — 14.0

g 2 v

v 0 h

v 2 l

13.85 — 13.8 — 13.97 — 14.0 — 14.03 — 14.2

13.97 — 14.0 — 14.03 — 14.2

13.96 — 13.93 — 14.0 = .11 — .13 — .03

.01 — .07 — .03

.09 — .07 — .03

a 1809

13.63 — 13.6 — 13.77 — 13.8

g 3 v

v 2 h

13.93 — 13.9 — 13.97 — 14.0

13.77 — 13.8 = 13.86 — 13.85 = .09 — .05

.09 — .05

a 1828

13.31 — 13.3 — 13.63 — 13.6

f 3 v

v 0 g

v 4 h

13.61 — 13.6 — 13.63 — 13.6 — 13.57 — 13.6

13.63 — 13.6 — 13.97 — 14.0

13.61 — 13.60 = .00 — .00

.04 — .00 — .00

.04 — .02 — .00

a 1829

13.63 — 13.6 — 13.77 — 13.8

g 2 v

v 2 h

13.83 — 13.8 — 13.77 — 13.8 = 13.81 — 13.80 = .04 — .00

.04 — .02 — .00

13.97 — 14.0

a 1812

13.97 — 14.0 — 14.03 — 14.0

h 2 v

v 2 l

14.17 — 14.2 — 14.03 — 14.0 = 14.01 — 14.10 = .06 — .10

.06 — .10

14.23 — 14.2

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February 1, 1897

Variable No. 58 (M5)

		a 1812						
	14.79 14.81		14.89	14.79 =	14.84	.03	.03	
23 ✓	30	m 1 v	14.9	14.8 =	14.85	.05	.05	
	14.79 14.8	v 2 o	14.99 15.0					
		a 1829						
✓	13.31 13.3	f 3 v	13.61 13.6	13.63 13.6	13.57 = 13.6	13.61 .00	.04 .00	.04 .00
	13.63 13.6	v 0 g	13.63 13.6					
	13.57 13.6	v f h	13.97 14.0					
		a 1828						
✓	14.79 14.8	n 2 v	14.99 15.0	14.89 14.9 =	14.94 14.95	.03 .05	.03 .05	
	14.89 14.9	v 1 0	14.99 15.0					
		a 1809						
✓	13.97 14.0	h 3 v	14.27 14.3	14.23 14.2	14.23 = 14.23	.02 .07	.00 .03	.02 .03
	14.23 14.2	v 0 l	14.23 14.2					
	14.23 14.2	v 3 m	14.33 14.5					
		a 1825						
✓	14.53 14.5	m 1 v	14.63 14.6	14.59 14.6 =	14.61 14.60	.02 .00	.02 .00	
	14.59 14.6	v 2 m	14.79 14.8					
		a 1791						
✓	13.63 13.6	g 4 v	14.03 14.0	13.97 14.0	13.93 13.9 =	13.99 13.97	.06 .03	.02 .03	.04 .07
	13.97 14.0	v 0 h	13.97 14.0					
	13.93 13.9	v 3 l	14.23 14.2					
		a 1745						
✓	14.79 14.8	m = 1	✓					
		v n.s	< 14.9		> 14.8			

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1897phae.proj..972L

February 1, 1897

Variable No 58 (cont)

a 1736

13.31
13.3 f = .2
v n.s

13.5

a 1787

13.97
14.0 h 3 v
14.23
14.2 v o l
14.33
14.3 v 2 m

14.27 14.23 14.33 = 14.28 .01 .03 .03
14.3 14.2 14.3 = 14.27 .03 .07 .03
14.23
14.2
14.33
14.5

a 1784

14.79
14.8 m 1 v
14.89
14.9 v 1 o

14.89 14.89 = 14.89 .00 .00
14.9 14.9 = 14.90 .00 .00
14.99
15.0

a 1744

14.53
14.5 m 2 v
14.79
14.8 v o m
14.79
14.8 v 2 o

14.73 14.79 14.79 = 14.77 .04 .02 .02
14.7 14.8 14.8 = 14.77 .07 .03 .03
14.79
14.8
14.99
15.0

a 1789

14.23
14.2 l 2 v
14.53
14.5 v o m
14.59
14.6 v 2 m

14.43 14.53 14.59 = 14.52 .07 .01 .07
14.4 14.5 14.6 = 14.50 .10 .00 .10
14.53
14.5
14.79
14.8

a 1788

14.23
14.2 l 2 v
14.53
14.5 v o m
14.59
14.6 v 2 m

14.43 14.53 14.59 = 14.52 .07 .01 .07
14.4 14.5 14.6 = 14.50 .10 .00 .10
14.53
14.5
14.79
14.8

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February 1, 1897

Variable No 58 (cont)

a 1786

14.79		14.89	14.79 =	14.84	.00	.03
14.8	m i v	14.9	14.8 =	14.85	.05	.05
14.79		14.99				
14.8	v 2 0	15.0				

a 1785

14.63		14.63	14.79	14.79 =	14.74	.11	.03 .03
14.5	m i v	14.6	14.8	14.8 =	14.73	.13	.07 .07
14.79		14.79					
14.8	v o w	14.8					
14.79		14.99					
14.8	v 2 0	15.0					

a 1756

13.63		13.93	13.97	14.03 =	13.99	.04	.02 .06
13.6	g 3 v	13.9	14.0	14.0 =	13.97	.07	.03 .03
13.97		13.97					
14.0	b o h.	14.0					
14.03		14.23					
14.0	v 2 l	14.2					

a 1781

14.79		14.89	14.99	13.13 =	13.01	.12	.02 .14
14.8	m i v	14.9	15.0	15.1 =	15.00	.10	.00 .10
14.99		14.99					
15.0	v o o	15.0					
15.13		15.23					
15.1	v i p	15.2					

a 1782

14.79		14.89	14.89 =	14.89	.00	.00
14.8	m i v	14.9	14.9 =	14.90	.00	.00
14.89		14.99				
14.9	v i o	15.0				

a 1790

14.03		14.63	14.79	14.79 =	14.74	.11	.03 .03
14.5	m i v	14.6	14.8	14.8 =	14.73	.13	.07 .07
14.79		14.79					
14.8	v o w	14.8					
14.79		14.99					
14.8	v 2 0	15.0					

23

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February 1, 1897

Variable No 59 (M5)

a 1790

14.53 14.73 14.79 14.79 = 14.77 .04 .02 .02
14.5 m 2 v 14.7 14.8 14.8 = 14.77 .07 .03 .03
14.79 14.79
14.8 v o m 14.8
14.79 14.99
14.8 v 2 o 15.0

a 1782

14.53 14.63 14.59 = 14.61 .02 .02
14.5 m 1 v 14.6 14.6 = 14.60 .00 .00
14.59 14.79
14.6 v 2 m 14.8

a 1781

14.23 14.33 14.43 = 14.39 .04 .04
14.2 l 1 v 14.3 14.4 = 14.35 .05 .05
14.43 14.83
14.4 v 1 m 14.5

a 1756

14.23 14.43 14.33 14.39 = 14.32 .07 .01 .07
14.2 l 2 v 14.4 14.5 14.6 = 14.50 .10 .00 .10
14.53 14.33
14.5 v o m 14.5
14.59 14.79
14.6 v 2 m 14.8

a 1785

13.97 14.27 14.03 = 14.16 .11 .11
14.0 h 3 v 14.3 14.0 = 14.15 .15 .15
14.03 14.23
14.0 v 2 l 14.2

a 1786

14.23 14.33 14.33 14.39 = 14.49 .14 .04 .10
14.2 l 1 v 14.3 14.5 14.6 = 14.47 .17 .03 .13
14.53 14.33
14.5 v o m 14.5
14.59 14.79
14.6 v 2 m 14.8

a 1788

14.03 14.63 14.69 = 14.66 .09 .03
14.5 m 1 v 14.6 14.7 = 14.65 .05 .05
14.69 14.79
14.7 v 1 m 14.8

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February 1, 1897

Variable No 59 (cont)

a 1789

14.53 14.5 14.59 14.6 — m, v, v 2 m — 14.63 14.6 14.79 14.8 — 14.59 14.6 14.61 14.60 — .02 .00 .02 .00

a 1744

14.53 14.5 14.69 14.7 — m, v, v, m — 14.63 14.6 14.79 14.8 — 14.69 14.7 14.66 14.65 — .03 .05 .03 .05

a 1784

13.97 14.0 14.03 14.0 — h 3 v, v 2 l — 14.27 14.3 14.23 14.2 — 14.03 14.0 14.16 14.15 — .11 .15 .11 .15

a 1787

14.28 14.2 14.53 14.5 14.59 14.6 — l 2 v, v 0 m, v 2 m — 14.43 14.4 14.53 14.5 14.79 14.8 — 14.53 14.5 14.59 14.6 14.52 14.50 — .07 .10 .01 .00 .07 .10

a 1736

13.31 13.2 — f - .2, v m.s — 13.5 — 13.5 — 13.8+

a 1745

14.79 14.8 — m - .1, v m.s — 14.8 — 14.9 — 14.89

a 1791

14.53 14.5 14.79 14.6 14.79 14.8 — m 2 v, v 0 m, v 2 0 — 14.73 14.7 14.79 14.79 14.99 15.0 — 14.79 14.8 14.79 14.77 — .04 .07 .02 .03 .02 .03

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Variable No 59 (cont)

a 1825

14.53 14.5 14.59 14.6 m 1 v v 2 m

14.63 14.6 14.79 14.8 = 14.59 = 14.61 14.60 .02 .00 .02 .00

a 1809

14.53 14.5 14.59 14.6 m 2 v v 2 m

14.73 14.7 14.79 14.8 = 14.59 14.6 = 14.66 14.65 .07 .05 .07 .05

a 1828

13.65 13.6 13.6 13.7 q 2 v v 3 h

13.85 13.8 13.97 14.0 = 13.67 13.7 = 13.76 13.75 .09 .05 .09 .05

a 1829

14.53 14.5 14.69 14.7 m 1 v v 1 m

14.63 14.6 14.79 14.8 = 14.69 14.7 = 14.66 14.65 .03 .05 .03 .05

a 1812

14.79 14.8 14.79 14.8 m 1 v v 2 0

14.89 14.9 14.99 15.0 = 14.79 14.8 = 14.84 14.85 .03 .05 .03 .05

13h

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February 1, 1897

Variable No. 60 (M5)

		a 1791						
	14.33 14.5		14.73 14.7	14.89 14.6 =	14.766 14.65	.07 .05	.07 .05
13	30	m 2 v						
✓	14.39 14.6	v 2 m	14.79 14.8					
		a 1745						
	13.63 13.6		13.73 13.7	13.87 13.9 =	13.781 13.80	.06 .10	.06 .10
✓	13.87 13.9	q 1 v						
		v 1 h	13.97 14.0					
		a 1736						
	13.81 13.8				13.5			
✓		f = .2						
		v n.s	~~13.5~~	~~13.8~~				
		a 1787						
✓	14.23 14.2		14.43 14.4	14.43 14.4 =	14.344 14.40	.01 .00	.01 .02
	14.43 14.4	l 2 v						
		v 1 m	14.33 14.5					
		a 1784						
	13.97 14.0		14.07 14.1	14.03 14.0 =	14.006 14.05	.01 .05	.01 .05
✓	14.03 14.0	h 1 v						
		v 2 l	14.23 14.2					
		a 1744						
	13.63 13.6		13.73 13.7	13.77 13.8 =	13.776 13.75	.01 .05	.01 .05
✓	13.77 13.8	q 1 v						
		v 2 h	13.97 14.0					
		a 1789						
	13.97 14.0		14.17 14.2	14.13 14.1 =	14.116 14.15	.01 .05	.01 .05
✓	14.13 14.1	h 2 v						
		v 1 l	14.23 14.2					

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1897phae.proj..972L

February 1, 1897

Variable No. 60 (cont.)

a 1788

13.97 14.0 14.03 14.0
h 1 v
v 2 l

14.07 14.1 14.23 14.2
14.03 14.0 = 14.06 .01 .01
14.0 14.05 .05 .05

a 1786

13.97 14.0 14.25 14.2 14.33 14.3
h 3 v
v 0 l
v 2 m

14.27 14.3 14.25 14.2 14.33 14.3 = 14.28 .01 .03 .03
14.21 14.33 14.5 = 14.27 .03 .07 .02

a 1785

13.97 14.0 14.03 14.0
h 2 v
v 2 l

14.17 14.2 14.23 14.2
14.03 14.0 = 14.11 .06 .06
14.0 14.10 .10 .10

a 1756

13.63 13.6 13.77 13.8
g 3 v
v 2 h

13.93 13.9 13.77 13.8 = 13.86 .09 .09
13.97 14.0 13.85 .05 .05

a 1781

14.23 14.2 14.43 14.4
l 1 v
v 1 m

14.83 14.3 14.43 14.4 = 14.39 .04 .04
14.33 14.5 14.35 .05 .05

a 1782

13.65 13.6 13.97 13.9 13.93 13.9
g 3 v
v 0 h
v 3 l

13.93 13.9 13.97 14.0 13.9 = 13.96 .01
13.97 14.0 14.23 14.2 13.93 .03 .01 .01

a 1790

13.97 14.0 14.03 14.0
h 1 v
v 2 l

14.07 14.1 14.23 14.2
14.03 14.0 = 14.06 .01 .01
14.0 14.05 .05 .05

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1897phae.proj..972L

February 1, 1897

Variable No 60 (cont.)

a 1812

13.97			14.07	14.05	= 14.06	.01	.01
✓ 14.0	h 1 v		14.1	14.0	= 14.05	.05	.05
14.03			14.23				
14.0	v 2 l		14.2				

a 1829

13.97			14.07	14.23	14.43 =	14.23	.13 .03 .17
14.0	h 1 v		14.1	14.2	14.4 =	14.23	.13 .03 .17
14.23			14.23				
✓ 14.2	v 0 l		14.2				
14.43			14.33				
14.4	v 1 m		14.3				

a 1828

13.63			13.83	13.77	= 13.81	.04	.04
✓ 13.6	g 2 v		13.8	13.8	= 13.80	.00	.00
13.77			13.97				
13.8	v 2 h		14.0				

a 1809

13.63			13.83	13.67	= 13.76	.09	.09
13.6	g 2 v		13.8	13.7	= 13.75	.05	.05
✓ 13.67			13.97				
13.7	v 3 h		14.0				

a 1825

13.63			13.93	13.97	14.03	= 13.99	.04	.02 .06
13.6	g 3 v		13.9	14.0	14.0	= 13.97	.07	.03 .03
✓ 13.97			13.97					
14.0	v 0 h		14.0					
14.03			14.23					
14.0	v 2 l		14.2					

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1897phae,proj..972L

February 2, 1897

Variable No 61 (M5)

a 1790

14.83		14.63	14.79	14.79 =	14.74	.11	.03	.03
14.5	m 1 v	14.6	14.8	14.8 =	14.73	.13	.07	.07
14.79		14.79						
14.8	v 0 m	14.8						
14.79		14.99						
14.8	v 2 0	15.0						

a 1782

14.79		14.89	14.99	15.03 =	14.98	.09	.01	.07
14.8	m 1 v	14.9	15.0	15.0 =	14.97	.07	.03	.03
14.99		14.99						
15.0	v 0 0	15.0						
15.03		15.23						
15.0	v 2 p	15.2						

a 1781

14.23		14.43	14.43 =	14.44	.01	.01	
14.2	l 2 v	14.4	14.4 =	14.40	.00	.00	
14.43		14.83					
14.4	v 1 m	14.5					

a 1756

14.79		14.89	14.89 =	14.89	.00	.00	
14.8	m 1 v	14.9	14.9 =	14.90	.00	.00	
14.89		14.99					
14.9	v 1 0	15.0					

a 1785

14.03		14.63	14.79	14.79 =	14.74	.11	.03	.03
14.5	m 1 v	14.6	14.8	14.8 =	14.73	.13	.07	.07
14.79		14.79						
14.8	v 0 m	14.8						
14.79		14.99						
14.8	v 2 0	15.0						

a 1786

14.79		14.89	14.79 =	14.84	.03	.03	
14.8	m 1 v	14.9	14.8 =	14.85	.05	.05	
14.79		14.99					
14.8	v 2 0	15.0					

a 1788

14.03		14.73	14.69 =	14.71	.02	.02	
14.5	m 2 v	14.7	14.7 =	14.70	.00	.00	
14.69		14.79					
14.7	v 1 m	14.8					

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Variable As 61 (cont)

a 1789

14.79 m 1 v 14.89 14.79 = 14.84 .05 .05
14.8 14.9 14.8 = 14.85 .05 .05
✓ 14.79 14.99
14.8 v 2 0 15.0

a 1744

13.97 h 1 v 14.07 14.03 = 14.06 .01 .01
14.0 14.1 14.0 = 14.05 .05 .05
✓ 14.03 14.23
14.0 v 2 l 14.2

a 1784

14.53 m 1 v 14.63 14.59 = 14.61 .02 .02
14.5 14.6 14.6 = 14.60 .00 .00
✓ 14.59 14.79
14.6 v 2 m 14.8

a 1787

14.79 m 1 v 14.89 14.89 = 14.89 .00 .00
14.8 14.9 14.9 = 14.90 .00 .00
✓ 14.89 14.99
14.9 v 1 0 15.0

a 1736

13.31
✓ 13.3 f = 2 13.5
v n.s < 13.5 < 13.51

a 1745

14.79
✓ 14.8 n = .1 14.8
v n.s < 14.9 < 14.89

a 1791

14.53 m 2 v 14.73 14.79 14.79 = 14.77 .04 .02 .02
14.5 14.7 14.8 14.8 = 14.77 .07 .03 .03
✓ 14.79 14.79
14.8 v 0 m 14.8
14.79 14.99
14.8 v 2 0 15.0

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1897phae.proj..972L

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Variable No 61 (cont'd)

a 1809

13.63	g 4 v	14.03	13.97	13.73 =	13.92	.13	.05	.17
13.6		14.0	14.0	13.7 =	13.90	.10	.10	.20
13.97	v 0 h	13.97						
✓ 14.0		14.0						
13.73	v 5 l	14.23						
13.7		14.2						

a 1828

14.33	m 2 v	14.73	14.69 =	14.71	.02	.02	
14.5		14.7	14.7 =	14.70	.00	.00	
✓ 14.69	v 1 m	14.79					
14.7		14.8					

a 1829

14.33	m 1 v	14.63	14.69 =	14.66	.03	.03	
14.5		14.6	14.7 =	14.65	.05	.05	
✓ 14.69	v 1 m	14.79					
14.7		14.8					

a 1812

14.23	l 1 v	14.33	14.33 =	14.34	.01	.01	
✓ 14.2		14.3	14.3 =	14.30	.00	.00	
14.33	v 2 m	14.33					
14.3		14.3					

a 1825

13.63	g 4 v	14.03	13.97	13.83 =	13.96	.09	.01	.11
13.6		14.0	14.0	13.8 =	13.93	.07	.07	.13
13.97	v 0 h	13.97						
✓ 14.0		14.0						
13.83	v 4 l	14.23						
13.8		14.2						

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1897phae.proj..972L

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Variable No 62 (M5)

a1791

13.97 / ~~14.0~~ h 2 v / 14.03 / ~~14.0~~ v 2 l

14.17 / ~~14.2~~ / 14.23 / ~~14.2~~

14.03 = ~~14.0~~ = ~~14.10~~ .06 .10

a1745

14.79 / ~~14.8~~ n = 1

v n 5 ~~< 14.9~~ < 14.89

a1736

13.31 / ~~13.3~~ f = 2

v n 5 ~~< 13.5~~ < 13.31

a1787

13.97 / ~~14.0~~ h 1 v / 14.03 / ~~14.0~~ v 2 l

14.07 / ~~14.1~~ / 14.23 / ~~14.2~~

14.03 = ~~14.0~~ = ~~14.05~~ .01 .05

a1784

14.23 / ~~14.2~~ l 2 v / 14.53 / ~~14.5~~ r o m / 14.59 / ~~14.6~~ v 2 n

14.43 / ~~14.4~~ / 14.53 / ~~14.5~~ / 14.79 / ~~14.8~~

14.39 = ~~14.6~~ = ~~14.50~~ .07 .10

a1744

13.63 / ~~13.6~~ g 3 v / 13.97 / ~~14.0~~ v o h / 14.03 / ~~14.0~~ v 2 l

13.93 / ~~13.9~~ / 13.97 / ~~14.0~~ / 14.23 / ~~14.2~~

14.03 = ~~14.0~~ = ~~13.97~~ .06 .02 .04

a1789

13.63 / ~~13.6~~ g 4 v / 13.97 / ~~14.0~~ v o h / 13.93 / ~~13.9~~ v 3 l

14.03 / ~~14.0~~ / 13.97 / ~~14.0~~ / 14.23 / ~~14.2~~

13.93 = ~~13.9~~ = ~~13.97~~ .06 .02 .04

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February 1897

Variable No 62 (cont)

a 1788

13.97 14.0 h 2 v 14.15 14.1 v 1 l

14.17 14.2 14.25 14.2

14.15 14.1 = 14.16 .01 .01

✓ 14.0 14.15 .05 .05

a 1786

13.97 14.0 h 3 v 14.03 14.0 v 2 l

14.27 14.3 14.25 14.2

14.03 14.0 = 14.16 .11 .11

✓ 14.0 14.15 .15 .15

a 1785

13.97 14.0 h 2 v ✓ 14.03 14.0 v 2 l

14.17 14.2 14.25 14.2

14.03 14.0 = 14.11 .06 .06

14.0 .10

a 1756

13.97 14.0 h 2 v 14.15 14.1 v 1 l

14.17 14.2 14.25 14.2

14.13 14.1 = 14.16 .01 .01

✓ 14.0 14.15 .05 .05

a 1781

14.25 14.2 l 2 v 14.43 14.4 v 1 m

14.43 14.44 14.43 14.4 = 14.44 .01 .01

✓ 14.4 14.40 .00 .00

14.33 14.3

14.5

a 1782

14.83 14.5 m 2 v 14.79 14.8 v 0 n 14.79 14.8 v 2 0

14.73 14.7 14.79 14.8 14.79 14.8 = 14.77 .04 .02 .02

✓ 14.8 14.77 .07 .03 .03

14.99 15.0

a 1790

13.63 13.6 g 5 v 13.97 14.0 v 0 h 13.83 13.8 v 4 l

14.13 14.1 13.97 14.0 13.85 13.8 = 13.97 .16 .02 .14

✓ 13.97 14.0 13.97 14.0 14.25 14.2 13.8 13 03 17

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Variable No 62 (cont)

a 1825

13.97			14.27	14.03	14.16	.11	.11
~~14.0~~	h 3 v		~~14.3~~	~~14.0~~	~~14.15~~	~~.15~~	~~.13~~
14.03			14.23				
~~14.0~~	v 2 l		~~14.2~~				

a 1812

14.23			14.33	14.33	14.34	.01	.01
~~14.2~~	l 1 v		~~14.3~~	~~14.3~~	~~14.30~~	~~.00~~	~~.00~~
14.33			14.33				
~~14.3~~	v 2 m		~~14.5~~				

a 1829

13.97			14.07	14.03	14.06	.01	.01
~~14.0~~	h 1 v		~~14.1~~	~~14.0~~	~~14.05~~	~~.05~~	~~.05~~
14.03			14.23				
~~14.0~~	v 2 l		~~14.2~~				

a 1828

14.79			14.89	14.79	14.84	.08	.03
~~14.8~~	m 1 v		~~14.9~~	~~14.8~~	~~14.85~~	~~.05~~	~~.05~~
14.79			14.99				
~~14.8~~	v 2 0		~~15.0~~				

a 1809

14.33			14.63	14.59	14.61	.02	.02
~~14.5~~	m 1 v		~~14.6~~	~~14.6~~	~~14.60~~	~~.00~~	~~.00~~
14.89			14.79				
~~14.6~~	v 2 m		~~14.8~~				

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1897phae.proj..972L

February 1897

Variable No 63 (M5)

a 1809

13.63		13.93	13.37 =	13.176	.19	.19
✓ 13.6	g 3 v	13.9	13.8 =	13.85	.05	.05
13.37		13.97				
13.8	v 4 h	14.2				

a 1828

14.33		14.73	14.79	14.79 =	14.777	.04	.02 .02
14.5	m 2 v	14.7	14.8	14.8 =	14.77	.07	.03 .03
14.79		14.79					
✓ 14.8	v 0 m	14.8					
14.79		14.99					
14.8	v 2 0	15.0					

a 1829

14.23		14.83	14.43 =	14.639	.04	.04
14.2	l 1 v	14.3	14.4 =	14.35	.05	.05
✓ 14.43		14.83				
14.4	v 1 m	14.5				

a 1812

14.23		14.43	14.43 =	14.444	.01	.01
✓ 14.2	l 2 v	14.4	14.4 =	14.40	.00	.00
14.43		14.83				
14.4	v 1 m	14.5				

a 1825

13.31		13.61	13.43 =	13.533	.08	.08
✓ 13.3	f 3 v	13.6	13.4 =	13.50	.10	.10
13.43		13.63				
13.4	v 2 g	13.6				

a 1790

13.63		13.93	13.77 =	13.836	.09	.09
13.6	g 3 v	13.9	13.8 =	13.85	.05	.05
✓ 13.77		13.97				
13.8	v 2 h	14.0				

a 1782

13.63		13.93	13.67 =	13.781	.14	.14
13.6	g 3 v	13.9	13.7 =	13.80	.10	.10
✓ 13.67		13.97				
13.7	v 3 h	14.0				

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Variable As 63 (cont)

a 1781

✓	13.63	g 2 v	13.83	13.77 =	13.81	.04	.04
	13.6		13.8	13.8 =	13.80	.00	.00
	13.77	v 2 w	13.97				
	13.8		14.0				

a 1756

✓	14.79	m 1 v	14.89	14.89 =	14.89	.00	.00
	14.8		14.9	14.9 =	14.90	.00	.00
	14.89	v 1 0	14.99				
	14.9		15.0				

a 1785

✓	13.63	g 3 v	13.93	13.87 =	13.86	.09 .14	.09 .14
	13.6		13.9	13.8 =	13.85	.05	.05
	13.87	v 2 w	13.97				
	13.8		14.0				

a 1786

✓	13.63	g 3 v	13.93	13.87 =	13.81	.14	.14
	13.6		13.9	13.7 =	13.80	.10	.10
	13.87	v 3 w	13.97				
	13.7		14.0				

a 1786

✓	14.79	m 1 v	14.89	14.89 =	14.89	.00	.00
	14.8		14.9	14.9 =	14.90	.00	.00
	14.89	v 1 0	14.99				
	14.9		15.0				

a 1789

	14.53	m 1 v	14.63	14.79	14.89 =	14.77	.14	.02 .12
	14.5		14.6	14.8	14.9 =	14.77	.17	.03 .13
✓	14.79	v 0 w	14.79					
	14.8		14.8					
	14.89	v 1 0	14.99					
	14.9		15.0					

a 1744

✓	14.74	m 1 v	14.89	14.79 =	14.84	.05	.05
	14.8		14.9	14.8 =	14.85	.05	.05
	14.79	v 2 0	14.99				
	14.8		15.0				

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Variable No 63 (cont)

a 1784

14.33 14.73 14.79 14.89 = 14.80 .07 .01 .09
14.5 m 2 v 14.7 14.8 14.9 = 14.80 .10 .02 .10
14.79 14.79
✓ 14.8 v 0 m 14.8
14.89 14.99
14.9 v 1 0 15.0

a 1787

13.63 14.03 13.97 13.93 = 13.99 .06 .02 .04
13.6 g 4 v 14.0 14.0 13.9 = 13.97 .03 .03 .07
✓ 13.97 13.97
14.0 v 0 h 14.0
13.93 14.23
13.9 v 3 l 14.2

a 1736

13.31
✓ 13.3 f = 2
v n.s <13.3 <13.31

a 1745

14.79
✓ 14.8 n = 1
v n.s <14.9 <14.89

a 1791

13.63 13.93 13.37 = 13.76 .19 .19
13.6 g 3 v 13.9 13.6 = 13.75 .15 .15
✓ 13.5 13.97
13.6 v 4 h 14.0

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1897phae.proj..972L

February 4 1897

Measures of New Variable Star (Thome)
CDm −27° 15202 2h 54m.9 −27° 35 8.7 (Comp stars on Pl. B 5314)

B5314

a 5.4
b 6.2
c 6.8
d 7.2
e 7.5
f 8.2
g 8.5
h 8.8
k 9.0
l 9.5
m 9.8
v n.s

12.11 m = .2
v n.s < 12.31

B3854
Too near the edge of plate.

B12512
12.11 m = .1
v n.s < 12.21

B16910
12.11 m = .1
v n.s < 12.21

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1897phae.proj..972L

February 4, 1897

Measures of CDM -27° 15202 (cont)

B 15028

11.60	k 2 v	11.80	11.78 =	11.79	.01	.01
11.78	v 1 l	11.88				

B 6018

a	7.2						
b	7.6						
c	8.5						
d	8.8						
e	9.0						
f	9.3						
g	9.5						
h	9.8						
k	9.9						
l	10.2						
m	n.s						
v	7.6	9.03	897 =	89.7	.06	.06

8.63	a 3 v	8.93	9.23	9.41 =	9.19	.26	.04 .22
9.23	v 0 b	9.23					
9.41	v 4 c	9.61					

B 6188

8.63	a 2 v	8.83	8.93 =	8.88	.05	.05
8.93	v 3 b	9.23				

B 3945

12.11	m = .1		
	v n.s	<	12.21

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1897phae.proj..9721

February 4, 1897

Measures of CDM -27° 15202 (cont)

B6042

8.63 a 3 v 8.93 9.03 = 8.98 .05 .05
9.03 v 2 b 9.23.

B3764

11.60 k = .2
v ns < 11.80

B4360

10.48 e 1 v 10.58 10.70 = 10.64 .06 .06
10.70 v 2 f 10.90

B14832

10.90 Near edge of Pl. f = .1
v ns < 11.00

B14511

11.88. Near edge of Pl. l 2 v 12.08
m ns

B14215

Too near the edge of Pl.

B6189

8.63 a 3 v 8.93 9.03 = 8.98 .05 .05
9.03 v 2 b 9.23

B4245

11.42 h = .2
v ns < 11.62

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1897phae.proj..972L

February 4. 1897

Measures of C DM -27° 15202 (cont)

B 4198

Too near the edge of Pl.

B 11815

a 7.5
b 8.0
c 8.4
d 8.7
e 9.0
f 9.3
g 9.5
h 9.8
k 10.0
l k l
m l 2 m
v 8.9 10.36 10.38 = 10.37 .01 .01

10.16 d 3 e 10.46 10.28 = 10.37 .09 .09
10.28 ~~v 2 e~~ 10.48

B 8526

11.88 l = .2
v n.s < 12.08

B 12588

11.88 l = .1
v n.s < 11.98

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1897phae.proj..972L

February 4, 1897

Measures of CDM -27° 15202 (cont)

B 6019

8.63	a 3 v	8.93	9.23	9.41	= 9.19	26	.04	.22
9.23	v o b	9.23						
9.41	v 4 c	9.81						

B 3924

11.60	k = .1	
	v n.s	< 11.70

B 15026

Near edge of Pl.	h n.s						
11.60	n o k	11.60	11.68	= 11.64	.04	.04	
11.68	v 2 l	11.88					

B 13269

9.23	b 3 v	9.53	9.81	9.96	= 9.77	.24	04	19
9.81	v o c	9.81						
9.96	v 2 d	10.16						

B 13317

9.23								
Near edge of Pl.	b 2 v	9.43	9.71	= 9.57	.14	.14		
9.71	v 1 c	9.81						

B 6043

8.63	a 3 v	8.93	9.23	9.31	= 9.49 (16)	.23	.07	.15
9.23	v o b	9.23						
9.31	v 5 c	9.81						

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February 4, 1897

Measures of C Dm -27° 15202 (cont)

B 10065

10.90	f 1 v	11.00	11.12	11.22	=	11.11	.11	.01	.11
11.12	v 0 g	11.12						
11.22	v 2 h	11.42						

B 10066

	h n.s							
Near edge of Pl. 11.60	v 0 k	11.60	11.78	=	11.69	.09	.09	
11.78	v 1 l	11.88						

B 13946

11.60	k 1 v	11.70	11.88	12.01	=	11.86	.16	.02	.15
11.88	v 0 l	11.88						
12.01	v 1 m	12.11						

B 13904

11.42	h 3 v	11.72	11.60	11.68	=	11.67	.05	.07	.01
11.60	v 0 k	11.60						
11.68	v 2 l	11.88						

B 9952

11.60	k 1 v	11.70	11.88	12.01	=	11.86	.16	.02	.15
11.88	v 0 l	11.88						
12.01	v 1 m	12.11						

B 8535

11.42			
Near edge of Pl.	h = .1		
	v n.s	< 11.52	

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1897phae.proj..9721

February 4. 1897

Measures of CDM – 27° 15202 (cont)

B 13907

11.60	k	1	v	11.70	11.88	11.91 =	11.83	.13 .05 .08
11.88	v	0	l	11.88				
11.91	v	2	m	12.11				

B 3505

9.23	6	–	7	
	v		n.s	<9.43

B 6558

9.23	6	1	v	9.33	9.61 =	9.47	.14	.14
9.61	v	2	c	9.81				

B 13941

Does not cover regions

B 13907

a	6 7.5
b	7.2
c	7.6
d	8.0
e	8.5
f	8.9
g	9.1
h	9.4
k	9.6
l	9.8
m	10.0
v.	9.6

11.62	11.40 =	11.51	.11	.11

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1897phaeproj..972L

February 4, 1897

Measures of CDM -27 15202 (cont)

B 12289 Sp.

8.63 a 2 v 8.83 9.03 = 8.93 .10 .10
9.03 v 26 9.23

B 6222 Sp.
✓ Plate too poor

B 4032 Sp.
✓ Too near edge of Pl.

B 10090 Sp
✓ Too near edge of Pl.

B 5217
✓ Plate too poor

B 6557 Sp
10.48 e = 2
v n.s < 10.68

B 9804
8.63 a 2 v 8.83 9.03 = 8.93 .10 .10
9.03 v 26 9.23

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1897phae.proj..9721

February 13, 1897

Measures of α Persei

I 16875

9.62 C 2 v 9.82 9.82 = 9.72 . .10 .10

9.82 v 3 d 9.92

I 17035

9.62 C 2 v 9.82 9.62 = 9.72 .10 .10

9.62 v 3 d 9.92

× I 17050

9.62 C 3 v 9.92 9.52 = 9.72 .20 .20

9.52 v 4 d 9.92

I 16226

9.62 C 3 v 9.92 9.62 = 9.77 .15 .15

9.62 v 3 d 9.92

I 16391

9.62 C 3 v 9.92 9.72 = 9.82 .10 .10

9.72 v 2 d 9.92

× I 16522 5

9.62 C 3 v 9.92 9.52 = 9.72 .20 .20

9.52 v 4 d 9.92

I 16552

9.30 b 3 v 9.60 9.62 9.42 = 9.55 .05 .07 .13

9.64 v 0 C 9.62

9.42 v 5 d 9.92

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1897phaej.proj..9721

February 13, 1897

Measures of α Persei.

I 16628
Too near edge of Pl.

I 16692
9.30 b 4 v 9.70 9.62 9.42 = 9.58 .12 .04 .16
v 0 c 9.62
9.42 v 5 d 9.92

I 16662
9.62 c 3 v 9.92 9.52 = 9.72 .20 .20
9.52 v 4 d 9.92

I 16767
9.30 b 3 v 9.60 9.62 9.52 = 9.58 .02 .04 .06
v 0 c 9.62
9.52 v 4 d 9.92

I 16735
9.30 b 3 v 9.60 9.42 = 9.51 .09 .09
9.42 v 2 c 9.62

I ~~1350~~ 12831
Very poor plate. 9.92 d 1 v 10.02
10.57 e n.s

I 12 ~~632~~ 765
9.92 d 2 v 10.12 10.17 = 10.14 .02 .03
10.17 v 4 e 10.57.

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February 13, 1897

(1 Persei (cont.)

I 12765 632

9.30 b 3 v 9.60 9.42 = 9.51 .09 .09

9.42 v 2 C 9.62

I 12829

Too near edge of Pl.

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1897phae.proj..972L

February 18, 1897

Measures of CDM -24 12600 new var. disc by Mr Thome - Comp stars on B14034 $16^h 4.4 -24\ 34\ 9.7$

✓ B14034

a 5.8
b 6.2
c 6.7
d 7.3
e 7.7
f 8.5
g 8.8
h 9.2
k 9.5
l 10.0
v. n.s

12.08 l = .2
k = .x
v n.s < 12.28

✓ B16258

10.44 f 2 v 10,64 10,69 = 10.66 .02 .03
10.69 v 1 g 10.79

✓ B11896

a 5.7
b 6.2
c 6.7
d 7.3
e 7.6
f 8.3
g 8.7
h 9.2
k 9.4
l 9.0 11,93 11,88 = 11.90 03 .02
v 9.8

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1897phae.proj..972L

February 18, 1897

CDM −24° 12600 (cont'd)

✓ B 11896

11,53 k 2 v 11,73 11,98 = 11,86 .13 .12
v 1 l

✓ B 6659

10.79 g = .1
v n.s < 10.89

✓ B 11051 Sp.
Pl. too poor!

✓ B 10139 Sp.

8.72 c = .1
v n.s < 8.82

✓ B 9267

10.44 f = .2
Poor plate. v n.s < 10.64

✓ B 9769 Sp.

10.44 f = .1
v n.s < 10.54

✓ B 13391 Sp.

9.69 e = .2
v n.s < 9.89

✓ B 16355

10,44 f, v 10,54 10,59 = 10.56 .02 .03
10,59 v 2 g 10.79

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1897phae.proj..972L

February 18, 1897

CDM -24° 12600 (cont)

✓ B 13976

12.08 l = 1

v n.s <12.18

✓ B 15862

a 5.8

b 6.3

c 6.8

d 7.4

e 8.0

f 8.7

g 9.1

h 9.5

k 10.0

l n.s

v. 8.6 5 10.19 10.24 = 10.22 .03 .02

✓ 9.69 e 4 v 10.09 10.14 = 10.12 .03 .02

10.14 v 3 fp 10.44

✓ B 11362, Sp.

9.27 d = .2

v n.s <9.47

✓ B 16068

10.09

9.69 e 4 v ~~9.89~~ 10.44 10.49 = 10.27 ~~.18~~ ~~10.34~~ ~~.25~~ ~~.17~~ ~~.12~~

10.44 v 0 dg 10.44 .25 .10 .15

10.49 v 3 fg 10.79

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1897phae.proj..0721

February 18, 1897.

CDm −24° 12600 (cont)

✓ B 13152 Sp.

9.69 e = .1

v n.s <9.79

✓ B 17035 Sp.

10.44 f = .2

v n.s <10.64

✓ B 5183

8.72 c = .1

v n.s <8.82

✓ B 11593

10.44 f 3 v 10.74 10.79 10.81 = 10.78 .04 .01 .03

10.79 v 0 g 10.79

10.81 v 4 h 11.21

✓ B 11593

a 5.8

b 6.2

c 6.9

d 7.3

e 7.7

f 8.5

g 8.8

h 9.2

k 9.5

l n.s

v. 8.8 10.74 10.79 10.81 = 10.78 .04 .01 .03

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1897phae.proj..972L

February 18, 1897

CDM −24° 12600 (cont)

✓ B 10224

11.21 h 2 v 11.31 11.53 11.68 = 11.54 13 .01 .14
11.53 v 0 k 16.53
11.68 v 4 l 12.08

✓ B 6667 Sp.

8.72 c = .2
v n.s < 8.92

✓ B 13052 Sp.

9.69 e = .2
v n.s < 9.89

✓ B 16020

9.69 e 3 v 9.99 10,22 = 10,10 11 .12
10,22 v 2 f 10,44

✓ B 14378 Sp.

10.44 f = .2
v n.s < 10,64

✓ B 13758

10.44 f = .2
v n.s < 10,64

✓ B 3727

11,53 k 2 v 11,73 11,98 11,86 .13 .12
11.98 v 1 l 12.08

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1897phae.proj..972L

February 18, 1897

CDM -24 12600 (cont)

✓ B 13340
12.08 l = .2
v n.s <12.28

✓ B 6658
11.21 h = .1
v n.s <11.31

✓ B 3525
11.21 h = .1
v n.s <11.31

✓ B 6087
11.21 h = .1
v n.s <11.31

✓ B 9561
12.08 l = 3
v n.s <12.38

✓ B 3526
11.21 h = .1
v n.s <11.31

✓ B 3832
12.08 l = .1
v n.s <12.18

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1897phae.proj..972L

February 18, 1897

CDm −24° 12606 (cont)

v B 5333
11.21 h = .1
v n.s < 11.31

v B 5374
11.53 k 2 v 11.73 11.98 = 11.86 .13 .12
11.98 v 1 l 12.08

v B 6051
11.21 h = .1
v n.s < 11.31

v B 11246.
9.69 ~~f~~ 3 v 9.99 10.44 10.39 = 10.27 .28 .17 .12
10.44 v 0 f 10.44
10.39 v 4 g 10.79

v B 6052
11.21 h = .1
v n.s < 11.31

v B 15648
10.44 f = .2
v n.s < 10.64

v B 7579
Plate does not cover region.

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February 18, 1897

CDm −24° 12600 (cont)

✓ B10211
11.53 k, v 11.63
l n.s

✓ B13306
11.21 l = .1
v n.s < 11.31

✓ B15698
10.44 f = .1
v n.s < 10.54

✓ B15731
10.44 f = .1
v n.s < 10.54

✓ B15918
9.69 e = .2
v n.s < 9.89

✓ B10025
9.69 l = .1
v n.s < 9.79

✓ B9942
11.53 k = .1
v n.s < 11.63

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1897phae.proj..972L

February 18, 1897

CDm −24° 12600 (cont)

✓ B16775
11.21 h = .1
v n.s < 11.31

✓ B16145
10.44 f = .1
v n.s < 10.54

✓ B16976
11.53 k | v
~~f~~ k n.s 11.63

✕ ✓ B6086
11.21 h = .1
v n.s < 11.31

✓ B15983
9.69 e 2 v 9.89 10.24 = 10.06 .17 .18
10.24 v 2 f 10.44

✓ B16493
11.53 k = .1
v n.s < 11.63

✓ B16346
9.69 e 3 v 9.99 10.24 = 10.12 .13 .12
10.24 v 2 f 10.44

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1897phae.proj..972L

February 18, 1897

CDm −24° 12600 (cont)

B 17140

11.21 h = .1

v n.s < 11.31

B 17118

10.79 g = .1

v n.s < 10.89

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1897phae.proj..972L

March 29 1897

Measures of A.G.C 10534 V. Puppis $7^h 55.3 - 48\ 58\ (1900)$
also of prismatic companions of V Puppis and comp stars
Comparison Stars a b c & d marked on B11126
" " e. f. g. h & k " " B12713

B 11126
a 3 v
v 0 b
v 5 c

a p.c 2 v p.c
v p.0 b p.c
✓ v p.5 c p.c

B 12715
a 3 v
v 1 b

a p.c 2 v p.c
v p.0 b p.c
✓ v p.6 c p.c

B 15304
a 2 v
v 2 b

B 12782
a 2 v
v 2 b

a p.c 2 v p.c
✓ v p.c 1 b p.c

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1897phae.proj..972L

March 29, 1897

Measures of V Puppis (cont)

B 12849
a 3 v
v 0 b
v 5 c

a p.c 3 v p.c
v p.c 0 b p.c
v p.c 5 c p.c

B 17937
a 2 v
v 0 b
v 5 c

a p.c 2 v p.c
v p.c 0 b p.c
v p.c 4 c p.c

B 14959
b 2 v
v 4 c

b p.c 2 v p.c
v p.c 3 c p.c

B 10394
b 2 v
v 3 c

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1897phae.proj..972L

March 29, 1897

Measures of V Puppis (cont)

bp.c 2 vpc
vp.c 3 cp.c

B10626
b 1 v
v 5 c

bp.c 2 vp.c
vpc 4 cp.c

B10774
a 2 v
v 1 b

ap.c 2 vp.c
vpc 0 bp.c
vp.c 5 cp.c

B12169
a 2 v
v 0 b
v 5 c

ap.c 3 v
vp.c 0 b
vp.c 5 cp.c

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1897phae.proj..972L

March 29, 1897

Measures of ν Puppis (cont)

B 12327
a 3 v
v 2 b

a p.c 2 v p.c
v p.c 0 b p.c
✓ b p.c 3 c p.c

B 12502
a 2 v
v 2 b

a p.c 2 v p.c
✓ v p.c 2 b p.c

B 12929
a 3 v
v 0 b
v 5 c

a p.c 3 v p.c
v p.c 0 b p.c
✓ v p.c 4 c p.c

Poor plate. B 11984
a 2 v
v 0 b
v 5 c
a p.c 1 v p.c
v p.c 0 b p.c
✓ v p.c 4 c p.c

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1897phae.proj..972L

March 29, 1897

Measures of ν Puppis (cont)

B 15110
v 1 a
No star on plate brighter than a which can be used —

B 15206
a 3 v
v 0 b
v 5 c

a p.c 2 v p.c
v p c 1 b p.c

B 15341
a 3 v
v 0 b
v 3 c

a p.c 3 v p c
v p c 0 b p c
v p.c 3 c p.c

B 14733
a 2 v
v 0 b
v 5 c

a p.c 3 v p c
v p c 0 b p c
v p c 4 c p.c

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1897phae.proj..972L

March 29, 1897

Measures of ι Puppis (cont)

B 10339
a 3 v
v 0 b
v 3 c

a p.c 2 v p.c
v p.c 0 b p.c
v p.c 3 c p.c

B 17477
b 1 v
v 0 c
v 5 d

b p.c 1 v p.c
v p.c 2 c p.c

B 17612
a 3 v
v 0 b
v 3 c

b p.c 1 v p.c
v p.c 2 c p.c

B 17747
b 2 v
v 0 c
v 4 d

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1897phae.proj..972L

March 29, 1897

Measures of ν Puppis (cont)

bpc 2 vp.c
vp.c 0 cp.c
✓ vpc 3 dp.c

B 15361
a 3 v
v 0 b
v 3 c

ap.c 2 vp.c
vp.c 0 bpc
✓ vpc 2 cp.c

B 15416
a 2 v
v 1 b

ap.c 2 vpc
✓ vpc 1 bp.c

B 15495
b 2 v
v 0 c
v 5 d

bpc 1 vp.c
vpc 0 cp.c
✓ vpc 4 dp.c

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1897phae.proj..972L

March 29, 1897

Measures of V Puppis (cont)

B 15971
a 2 v
v 0 b
v 5 c

a p.c 2 v p.c
v p c 0 b p.c
v p c 4 c p.c

B 10829
a 3 v
v 0 b
v 4 c

a p c 3 v p.c
v p.c 0 b p.c
v p.c 5 c p.c

B 17383
b 2 v
v 0 c
v 5 d

b p.c 2 v p c
v p c 0 c p.c
v p c 4 d p.c

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1897phae.proj..972L

March 29, 1897

Measures of V Puppis (cont)

B 16340
v 2 a
No star on plate brighter than a can be used

B4631
b 1 v
v 3 c

B12713
v 1 a

B 15259
a 3 v
v 2 b

a p.c 2 v p.c
v p.c 1 b p.c

B 15075
a 2 v
v 0 b
c n.s

a p.v 2 v p.c
v p c 1 b p.c

B 15464
a 3 v
v 0 b
c n.s

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1897phae.proj..972L

March 29, 1897

Measures of υ Puppis (cont)

a p c 2 v p.c
v p.c o b p.c
c p.v n.s

B 15477.7
v 1 a.

B 10906
b 2 v
c n.s

b p.c 2 v p.c
c p.v n.s

B 12738
b 1 v
c n.s

a p c 2 v p.c
v p c o b p.c
c p c n.s

B 10340
a 3 v
v o b
c n.s

a p.c 2 v p.c
v p.c o b p.c
c p.v n.s

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1897phae.proj..972L

March 29, 1897

Measures of U Puppis (cont)

B9141
b 1 v
c n.s

b p.c / v p.c
c p.c n.s

B9142
a 2 v
v 0 b
c n.s

a p.c 1 v p.c
v p.c 1 b p.c
c p.c n.s

B4442
v 2 a

B9140
b 1 v
c n.s

B4835
Too near edge of plate.

B13010
b 2 v
c n.s
a p.c 3 v c.p
v p.c 0 b p.c

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1897phae.proj..972L

March 30, 1897

Measures of Comp Stars for Hartwigs variable

I 15351

a 7.7
b 8.0
c 8.2 11.31 11.33 = 11.32 .01 .01
v 8.2

I 14617

a 8.7
b 8.9
c 9.2
v 9.0 11.21 11.13 = 11.17 .04 .04

I 15346

a 8.7
b 9.0
c 9.2 11.53
v 9.4

I 10844

a 8.7
b 8.9
c 9.1 11.06 11.11 11.13 = 11.10 .04 .01 .03
v 8.9

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1897phae.proj..972L

March 31, 1897

Prismatic

Comparisons of ~~faint~~ companion of U Puppis with selected sequence of faint stars.

B 12713
g 1 p.c
p.c 2 h

B 15110
g 2 p.c
p.c 2 h

B 11126
f 2 p.c
p.c 3 g

B 16340
Comp stars not comparable with p.c

B 4631
No. p.c

B 10339
f 2 p.c
pc 0 g
p.c 3 h

B 17477
g 2 p.c
p.c 1 h

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1897phae.proj..972L

March 31, 1897

Comparisons of faint companion of γ Puppis (cont)

B 17612
h 2 p.c
p.c 1 K

B 17747
h 2 p.c.
p.c 1 K

B 15361

e	5.7	6.2
f	6.0	6.5
g	6.5	7.3
h	6.7	8.0
k	7.0	8.8
p.c	7.2	7.8

h 2 p.c
p.c 1 K

B 15361
Images differ in shape- not easily comparable
g 3 p.c
p.c 2 h

B 15416
g 2 p.c
p.c 1 h

B 15495
g 4 p.c
p.c 0 h
p.c 4 K

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1897phae..proj..972L

Comp. of faint companions (cont)

B 14733
g 3 p.c.
pc 2 h

e	~~4.7~~ ~~4.6~~	5.8
f	~~5.0~~ ~~5.2~~	6.1
g	5.6	6.8
h	6.0	7.5
k	6.4	8.2
p.c	5.7	7.0

B 15341
g 3 p.c
pc 2 g

B 15208
e 3 p.c
p.c 0 f
pc 4 g

B 11984
f 2 p.c
p.c 1 g

B 12929
f 3 p.c
p.c 0 g
pc 4 h

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1897phae.proj..972L

March 31, 1897

Comparison of faint companion (cont)

B 12502
e 2 p.c
p.c 2 f

B 12327
g 2 p.c
p.c 2 h

B 12169
Comp. stars not comparable with p.c

B 10774
e 2 p.c
p.c 2 f

B 10626
f 4 p.c
pc o g
p.c f h

e	5.8	6.8
f	6.2	7.2
g	6.8	8.0
h	7.2	8.2
k	7.6	8.5
pc	6.8	7.7

B 10394
g 2 p.c
pc 3 h

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1897phae.proj..972L

March 31, 1897

Comparisons of faint companion (cont'd)

B 14959
f 3 p.c
p.c 2 g

B 17937
f 3 p.c
p.c 2 g

B 12849
p.c 1 e.

B 12782
e 3 p.c.
p.c 0 f
p.c 3 g

B 15304
f 1 p.c
p.c 3 g

B 12715
e 3 p.c
p.c 0 f
p.c 4 g

e	6.0	7.0
f	6.3	7.4
g	6.8	7.8
h	7.0	8.2
k	7.3	8.5
p.c	6.2	7.3

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1897phae.proj..972L

March 31, 1897

Comp of faint companion (cont)

B 17383
h 2 p.c
p.c 2 k

B 10829
f 1 p.c
p.c 3 g

B 15971
g 2 p.c
p.c 2 h

B 10906
Images not comparable

B 15477
g 2 p.c
p.c 3 h

B 15467
Images not comp.

B 15075
f 2 p.c
p.c 2 g

B ~~15259~~ 13010
g 2 p.c
p.c 3 h

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1897phae.proj..972L

March 31, 1897

Comps. of faint companion (cont)

B 4835
Too near edge of plate.

B 9140
Images not comp.

B 4442
No ft. companion

B 10340
f 3 p.c
p.c 2 g

B 9142
Images not comparable

B 9141
Images " "

B 12738
Images " "

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1897phae.proj..972L

May 18, 1897

Measures of Variables in M5
(Nos 4 – 30 inclusive)

Var. No. 4

14.58 ~~14.5~~ 14.59 ~~14.6~~ 14.63 ~~14.6~~ 14.59 ~~14.6~~ = ~~14.60~~ 14.61 .02 .02
m 1 v
v 2 n

Var. No. 5

13.65 ~~13.6~~ 13.77 ~~13.8~~ 13.95 ~~13.9~~ 13.77 ~~13.8~~ = ~~13.85~~ 13.86 .09 .09
g 3 v
v 2 h

Var. No. 6

13.97 ~~14.0~~ 14.05 ~~14.0~~ 14.07 ~~14.1~~ 14.05 ~~14.0~~ = ~~14.05~~ 14.06 .01 .01
h 1 v
v 2 l

No. 7

15.25 ~~15.2~~ < 15.35 ~~< 15.3~~
p – .1
v n.s

No. 8

14.25 ~~14.2~~ 14.45 ~~14.4~~ 14.53 ~~14.5~~ 14.59 ~~14.6~~ = ~~14.50~~ 14.52 .07 .01 .07
l 2 v
14.53 ~~14.5~~ 14.53 ~~14.5~~
v 0 m
14.59 ~~14.6~~ 14.79 ~~14.8~~
v 2 n

No. 9

13.97 ~~14.0~~ 14.17 ~~14.2~~ 14.25 ~~14.2~~ 14.33 ~~14.3~~ = ~~14.22~~ 14.25 .08 .00 .08
h 2 v
14.25 ~~14.2~~ 14.25 ~~14.2~~
v 0 l
14.33 ~~14.3~~ 14.53 ~~14.5~~
v 2 m

No. 10

14.25 ~~14.2~~ 14.45 ~~14.4~~ 14.53 ~~14.5~~ 14.59 ~~14.6~~ = ~~14.52~~ 14.52 .07 .01 .07
l 2 v
14.53 ~~14.5~~ 14.4 ~~14.5~~ 14.53 ~~14.5~~ 14.7 = ~~14.53~~
v 0 m
14.59 ~~14.7~~ 14.8 ~~14.8~~ 14.79
v 1 n

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1897phae.proj..972L

May 18, 1897

(Cont'd)

X 7789 v. No 11

13.65 g 2 v 13.85 13.67 = √13.76
13.6 13.8 13.7 = 13.75 .09 .09
13.67 13.97
13.7 v 3 h 14.0

No 12

14.53 14.63 14.79 14.79 = 14.74
14.5 m 1 v 14.6 14.8 14.8 = 14.73 11 .05 .05
14.79 14.79
14.8 v 1 n 14.8
14.79 14.99
14.8 v 2 o 15.0

No 13

13.31 13.51 13.25 = 13.38
13.3 f 2 v 13.5 13.2 = 13.35 13 .13
13.25 13.65
13.2 v 4 g 13.6

No 14

13.65 14.05 13.97 13.95 = √13.99
13.6 g 4 v 14.0 14.0 13.9 = 13.97 .06 .02 .06 .04
13.97 13.97
14.0 v 0 h 14.0
13.95 14.25
13.9 v 3 l 14.2

No 15

13.97 14.07 14.05 14.06
14.0 h 1 v 14.1 14.0 = 14.05 .01 .01
14.05 14.25
14.0 v 2 l 14.2

No. 16

14.53 14.63 1459 = 14.61
14.5 m 1 v 14.6 14.6 = 14.60 .02 .02
14.59 14.79
14.6 v 2 n 14.8

No. 17

14.25 14.45 14.53 14.59 = 14.52
14.2 l 2 v 14.4 14.5 14.6 = 14.50 .07 .01 .07
14.53 14.53
14.5 v 0 m 14.5
14.6 v 2 n 14.8
14.59 14.79

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1897phae.proj..972L

May 18 1897

(Cont)

X 7789 O No 18

13,97 14,07 14,05 = 14,06
14,0 14,1 14,0 = 14,05 .01 .01
14,05 14,25
14,0 14,2

b 1 v
v 2 l

No. 19

14,99 15,09 15,15 = 15,12
15,0 15,1 15,1 = 15,10 .03 .03
15,15 15,25
15,1 15,2

O 1 v
v 1 p

No. 20

14,25 14,45 14,53 14,59 = 14,52
14,2 14,4 14,5 14,7 = 14,53 .07 .01 .07
14,53 14,53
14,5 14,5
14,59 14,79
14,7 14,8

l 2 v
v 0 m
v 1 n

No. 21

14,25 14,45 14,43 14,44
14,2 14,4 14,4 = 14,40 .01 .01
14,43 14,53
14,4 14,5

l 2 v
v 1 m

No. 22

14,79 14,89 14,99 15,15 = 15,01
14,8 14,9 15,0 15,1 = 15,00 .02 .02 .14
14,99 14,99
15,0 15,0
15,15 15,25
15,1 15,2

n 1 v
v 0 o
v 1 p

No. 23

13,97 14,07 14,25 14,33 = 14,22
14,0 14,1 14,2 14,3 = 14,20 .15 .03 .11
14,25 14,25
14,2 14,2
14,33 14,53
14,3 14,5

b 1 v
v 0 l
v 2 m

No. 24

14,25 14,35 14,33 = 14,34
14,2 14,3 14,3 = 14,30 .01 .01
14,3 14,5
14,33 14,53

l 1 v
v 2 m

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1897phae.proj..972L

May 18, 1897

(Cont)

γ7789 V. No. 25

13.31 f 2v 13.51 13.35 = 13.43
13.35 v 3g 13.65
13.65 13.35 = 13.40 .08 .08
13.3 13.6

No. 26

14.79 n 1v 14.89 14.89 = 14.89
14.8 14.9 14.9 = 14.90
14.89 v 10 14.99
14.9 15.0 .00 .00

No. 27

13.31 f 4v 13.71 13.65 13.47 = 13.61
13.3 13.7 13.6 13.5 = 13.60
13.65 v 0g 13.65
13.6 13.6 .10 .04 .14
13.47 v 5h 13.97
13.5 14.0

No. 28

14.53 n 1v 14.63 14.69 14.66
14.5 14.6 14.7 = 14.65
14.69 v 1n 14.79
14.7 14.8 .03 .03

No. 28

14.79 n 1v 14.89 14.99 15.05 = 14.98
14.8 14.9 15.0 15.0 = 14.97
15.0 v 0o 14.99
15.05 15.0
15.0 v 2p 15.25
15.2 .09 .01 .07

No. 30

14.25 l 2v 14.45 14.53 14.49 = 14.49
14.2 14.4 14.5 14.5 = 14.47
14.53 v 0m 14.53
14.5
14.49 v 3n 14.79
14.8 .04 .04 .00

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1897phae.proj..972L

May 18, 1897

λ7857 v. No 4

13.68 13.6 g 2 v 13.77 v 2 h

13.85 13.8 13.97 14.0

13.77 = 13.81 13.8 = 13.80 .04 .04

No 5

13.97 14.0 h 2 v 14.15 v 1 l

14.17 14.2 14.25 14.2

14.15 14.1 = 14.16 14.15 .01 .01

No. 6

13.31 13.3 f 3 v 13.65 v 0 g 13.67 v 3 h

13.6 13.6 13.65 13.6 13.97 14.0

13.65 13.6 13.7 = 13.63 .03 .01 .03

No. 7

14.25 14.2 l = .1 v n.s

< 14.35 < 14.3

No. 8

13.65 13.6 g 1 v 13.77 13.8 v 2 h

13.75 13.7 13.97 14.0

13.77 = 13.76 13.8 = 13.75 .01 .01

No. 9

14.25 14.2 l = .1 v n.s

< 14.35 < 14.3

No. 10

14.25 14.2 l = .1 v n.s

< 14.35 < 14.3

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1897phae..proj..972L

May 18, 1897

(Cont'd)

×7857 V

No. 11

13.97 h 1 v
14.0
14.25 v 0 l
m n.s

14.07 14.25 14.16
14.1 14.2 = 14.15 .09 .09
14.25
14.2

No. 12

13.97 h 1 v
14.0
14.15 v 1 l
14.1

14.07 14.15 = 14.11
14.1 14.1 = 14.10 .04 .04
14.25
14.2

No. 13

13.65 g 2 v
13.6
13.87 v 1 h

13.85 13.87 = 13.86
13.8 13.9 = 13.85 .01 .01
13.97
14.0

No. 14

14.25 l = .1
14.2
v n.s

< 14.35
< 14.3

No. 15

13.97 h 2 v
14.0
14.25 v 0 l
m n.s

14.17 14.25 = 14.21
14.2 14.2 = 14.20 .04 .04
14.25
14.2

No. 16

14.25 l = .1
14.2
v n.s

< 14.35
< 14.3

No. 17

14.25 l = .1
14.2
v n.s

< 14.35
< 14.3

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1897phae.proj..972L

May 18, 1897

(Cont'd)

K 7857 V. No 18

14.25 ~~14.2~~ l = .1 < ~~14.35~~

v n.s < ~~14.3~~

No. 19

13.97 ~~14.2~~ 14.07 14.25 = 14.16

~~14.0~~ h 1 v ~~14.1~~ ~~14.2~~ = ~~14.15~~ .09 .09

14.25 v 0 l 14.25 ~~14.2~~

m n.s

No. 20

14.25 ~~14.2~~ l = .1 < ~~14.35~~

v n.s < ~~14.3~~

No. 21

13.97 14.07 14.15 = 14.11

~~14.0~~ h 1 v ~~14.1~~ ~~14.1~~ = ~~14.10~~ .04 .04

14.15 v 1 l 14.25 ~~14.2~~

No 22

14.25 ~~14.2~~ l = .1 < ~~14.35~~

v n.s < ~~14.3~~

No 23

14.25 ~~14.2~~ l = .1 < ~~14.35~~

v n.s < ~~14.3~~

No. 24

13.97 ~~14.25~~ 14.17 14.15 = 14.16

~~14.0~~ h 2 v 14.2 ~~14.2~~ = ~~14.20~~ .01 .01

14.15 v 0 l 14.25 ~~14.2~~

m n.s

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May 18, 1897

X7857 V. No 25

13.65 13.85 13.87 = √13.86 .01 .01
13.6 g 2 v 13.8 13.9 = 13.85
13.87 v i h 13.97
14.0

No 26

13.97 14.07 14.25 14.16
14.0 h i v 14.1 14.2 = 14.15 .09 .09
14.25 v o l 14.25
m n.s 14.2

No 27

13.97 14.07 14.15 = √14.11
14.0 h i v 14.1 14.1 = 14.10 .04 .04
14.15 v i l 14.25
14.2

No 28

13.65 13.85 13.87 13.86
13.6 g 2 v 13.8 13.9 = 13.85 .01 .01
13.87 v i h 13.97
14.0

No 29

14.25 < 14.35
14.2 l = 1 < 14.3
v n.s

No 30

13.97 14.07 14.25 14.16
14.0 h i v 14.1 14.2 = 14.15 .09 .09
14.25 v o l 14.25
m n.s 14.2

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Measures of Variables in M 5

May 18. 1897

X6637 v no 37

15.25 15.2 p = .2 v n.s

<15.45 ✓ 15.4

X6991 v no 37

14.53 14.5 m 2 v 14.79 14.8 v 0 n 14.69 14.7 v 3 0

14.73 14.7 14.79 14.8 14.99 15.0

14.79 14.8 14.7 = 14.73 14.69 = 14.74

.01 .03 .05 .03 .05 .03

X6877 v no 37

13.65 13.6 9 3 v 13.77 13.8 v 2 h

13.95 13.9 13.97 14.0

13.77 = 13.86 13.8 = 13.85

.09 .05 .09 .05

X6829 v no 37

14.53 14.5 m 1 v 14.59 14.6 v 2 n

14.63 14.6 14.79 14.8

14.59 14.6 = 14.61 14.60

.02 .00 .02 .00

X6785 v no 37

14.53 14.5 m 1 v 14.79 14.8 v 0 n 14.79 14.8 v 2 0

14.63 14.6 14.8 14.99 15.0

14.79 14.8 14.8 = 14.74 14.73

.11 .13 .05 .07 .05 .07

X7018 v no 37

13.65 13.6 9 2 v 13.67 13.7 v 3 h

13.85 13.8 13.97 14.0

13.67 13.7 = 13.76 13.75

.09 .05 .09 .05

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1897phae.proj..972L

Measures of variable in Cygnus.

4 Dw.

June 1, 1897

I 16834

9.59 g 1 v 9.69 9.81 = 9.75 .06 .06
9.63 v 2 h 9.83
9.81 10.01

I 16399

10.01
9.83 h 3 v .31 .39 .34 .35
10.25 39 v 0 k 10.13 10.21 10.16 = 10.17 .04 .04 .01
10.16 v 2 l 10.21 39
34 10.36 54

I 16763

10.01
9.83 h 2 v .21 .19 .20
10.01 v 2 k 10.03 10.01 = 10.02 .01 .01
19 10.21 39

I 18109

39
10.31 K 1 v .49 .34 .42
10.16 v 2 l 10.31 10.16 = 10.24 .07 .08
34 10.36 54

I 18112

10.01
9.83 h 3 v .31 .39 .34 .35
10.25 39 v 0 k 10.13 10.21 10.16 = 10.17 .04 .04 .01
10.16 v 2 l 10.21 39
34 10.36 54

I 18052

9.59 g = .1
v n.s .69
< 9.51

I 18069

54
10.36 l 1 v .64 .99 1.82
10.99 v 3 nv 10.46 10.81 = 10.64 .18 .17
11.29

I 18074

Plate too poor.

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1897phae.proj..972L

Measures of var in Cygnus (cont)

June 1, 1897

I 18054
Plate too poor.

I 17968
39
10.21 k i v 10.31 .49 10.76 .34 = 10.24 .42 .07 .08
10.16 v 2 l 10.36 54
34

I 18037
Plate too poor

I 17999
10.01
9.83 l 2 v 10.03 .21 10.01 .19 = 10.02 .20 .01 .01
10.01 v 2 k 10.21 39
19

I 17996
10.01
9.83 l 2 v 10.03 .21 10.11 .29 = 10.07 .25 .04 .04
10.11 v 1 k 10.21 39
29

I 18065
Plate too poor

I 17935
39
10.21 k 2 v 10.47 .59 10.26 .24 = 10.24 .42 17 .18
10.06 v 3 l 10.36 34
24

I 17909
10.01
9.59 9.41 g 3 v 9.71 .89 9.83 10.01 9.81 .99 = 9.78 .96 .07 .05 .03
10.01 9.83 v 0 l 9.83 10.01
9.81 v 4 k 10.21 39
.99

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1897phae..proj..972L

Measures of var. in Cygnus (cont)

June 1, 1897

I 17858

10.01 9.83 h 2 v .21 10.03 .19 10.01 = .20 10.02 .01 .01

10.01 19 v 2 k 10.21 39

I 17671

7.64 6.86 b 5 v 54 7.36 49 7.31 = 52 7.34 .02 .03

7.31 49 v 3 c 7.61 79

I 16574

7.04 6.86 b 3 v .34 7.16 .79 7.61 .31 8.13 = 7.81 .47 .02 .50

7.61 79 v 0 c 7.61 79

8.13 31 v 4 d 8.53 71

I 16683

10.21 39 k 1 v .49 10.31 .34 10.16 = 42 10.24 .07 .08

10.16 34 v 2 l 10.36 54

I 16624

9.44 59 g 1 v .69 9.51 .81 9.63 = 75 9.57 .06 .06

9.63 81 v 2 h 9.83 10.01

I 17091

7.04 6.86 b 2 v 24 7.06 .49 7.31 = 36 7.18 12 .13

7.31 49 v 3 c 7.61 79

I 16932

10.0 9.83 h 3 v 31 10.13 .39 10.21 11.14 9.96 = 28 10.10 03 11 .14

10.21 39 v 0 k 10.21 39

9.96 v 4 l 10.36 54

10.14

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1897phae.proj..972L

Measures of var. in Cygnus: (cont)

June 1, 1897

I 17763

10,21 k 2 v 10,44 10,36 10,64 = 10.46 .05 .10 .15
10,36 v 0 l 10,36 54
10,64 v 5 m 11.44 29

I 17784

10,21 k 3 v 10,51 10,36 10,64 = 10.49 .02 .13 .12
10,36 v 0 l 10,36 54
10,64 v 5 m 11.44 29

I 16802

9.44 g 1 v 9,51 9.63 = 9.57 .06 .06
9.63 v 2 h 9.83 10.01

I 16746

10.01 9.83 h 2 v 10,03 10,01 = 10.02 .04 .04
10,01 v 1 k 10,21 39

I 16727

10.01 9.83 h 3 v 10,13 10,21 10,06 = 10,13 .00 .08 .07
10,21 v 0 k 10.21 10.39
10.06 v 3 l 10,36 54

I 16723

10,21 k 1 v 10,31 10,06 = 10,18 = .13 .12
10,06 v 3 l 10,36 54

I 16688

10.01 9.83 h 2 v 10,03 9.94 = 9.97 .06 .06
9.94 v 3 k 10,21 39
10.01

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1897phae.proj..972L

Measures of var. in Cygnus (cont)

June 1, 1897

I 16655

10.01 9.83 h 2 v 10.03 .21 10.14 .29 = 10.07 .25 .04 .04
10.14 29 v 1 k 10.27 39

I 16603

9.16
9.78 e 2 v 9.78 9.03 .21 = 9.00 .18 .02 .03
9.03 21 v 1 f 9.13 31

I 16600

7.99
7.67 c 2 v 7.88 .99 8.13 .31 = 8.00 .15 .16 .16
8.13 31 v 4 d 8.53 71

I 16580

7.04 6.86 b 4 v 7.36 .44 7.61 .79 8.03 .21 = 7.81 .37 .02 .40
7.61 79 v 0 c 7.61 79
8.03 21 v 5 d 8.53 71

I 16545

7.79
7.61 c 3 v 7.91 .09 8.33 .51 = 8.12 .30 .21 .21
8.33 51 v 2 d 8.53 71

I 16476

10.01 9.83 h 3 v 10.13 .31 10.21 .39 10.06 .24 = 10.13 .31 00 08 .07
10.21 39 v 0 k 10.21 39
10.06 24 v 3 l 10.36 54

I 16211

9.59
9.47 g 1 v 9.54 .69 9.63 .81 = 9.57 .75 .06 .06
9.63 81 v 2 h 9.83 10.01

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1897phae.proj..972L

Measures of var. in Cygnus (cont)

June 1, 1897

C 9672

8.78	e 3 v	9.88	8.78	= 9.03	.08	.08		
8.98	v 2 f	9.13						
9 11		31						

C 9673

8.78	e 2 v	8.98	8.93	= 8.96	02	.03		
8.9 3	v 2 f	9.13						
9.1 1		31						

I 17843

10.21	k 1 v	10.31	10.06	= 10.18	.13	.13		
10.06	v 3 l	10.36						
24		54						

I 17815

10.01		31	39	24	31			
9.83	h 3 v	10.13	10.21	10.06	= 10.13	.00	.08	.07
10.21	v 0 k	10.21	39					
10.06	v 3 l	10.36	54					
24								

I 17803

10.21		59	44	52	7	8		
10.21	k 2 v	10.31	10.26	= 10.28	.03	.02		
10.26	v 1 l	10.36	54					
44								

I 17740

10.01		41	39	24	35			
9.83	h 4 v	10.23	10.21	10.06	= 10.17	.06	.04	.11
10.21	v 0 k	10.21	39					
10.06	v 3 l	10.36	54					
24								

I 17739 Sp.

10.01		21	39	44	35			
9.83	h 2 v	10.03	10.21	10.26	= 10.17	.14	.04	.09
10.21	v 0 k	10.21	39					
44								
10.26	v 1 l	10.36	54					

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Measures of var in Cygnus cont

June 1, 1897

I 17695

9.73 31	f 3 v	9.73 61	9.24 39	= 9.32 v 50	.11	.11		
9.24 39	v 2 g	9.44 59						

I 17678

8.96 8.78	e 3 v	9.08 26	9.13 31	9.04 19	= 9.07 v 25	.01	.06	.06
9.13 31	v 0 f	9.13 31						
9.04 19	v 4 g	9.44 59						

I 17577

10.01 9.83	h 2 v	10.03 21	10.14 29	= 10.07 v 25	.04	.04		
10.14 29	v 1 k	10.21 39						

I 17512

10.01 9.83	h 2 v	10.03 21	10.14 29	= 10.07 v 25	.04	.04		
10.14 29	v 1 k	10.21 39						

I 17433

10.21 39	k 1 v	10.34 49	10.26 44	= 10.28 v 46	.03	.02		
10.26 44	v 1 l	10.36 54						
~~v 2 m~~								

I 17314

10.21 39	k 1 v	10.34 49	10.16 34	= 10.24 v 42	.07	.08		
10.16 34	v 2 l	10.36 54						

I 17306

10.01 9.83	h 1 v	9.93 10.11	10.21 39	10.26 44	= 10.13 v 31	.20	.08	.13
10.21 39	v 0 k	10.21 39						
10.26 44	v 1 l	10.36 54						

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Measures of var. in Aggmid cont)
June 1, 1897

I 17294

39
10,21 k 1 v 10,31 10,26 = 10,28 03 02
10,26 v 1 l 10,36
44 54

I 17221

96
8,78 e 3 v 9,08 9,13 9,11 = 9,12 04 02 00
9,13 v 0 f 9,13
31 31
9,11 v 3 g 9,11
29 59

I 17213

96
8,78 e 2 v 8,98 9,03 = 9,00 02 03
9,03 v 1 f 9,13
21 31

I 17188 Sp.

79
7,64 c 1 v 7,77 8,23 = 8,65 24 24
8,23 v 3 d 8,53
41 71

I 17175

79
7,64 c 2 v 7,81
8,51 v 2 d 8,53
71

I 17175

7,04 6,86 b 4 v 7,26 7,31 = 7,28 02 03
7,31 v 3 c 7,64
49 79

I 17174

7,04
6,86 b 3 v 7,16 7,41 = 7,28 12 13
7,41 v 2 c 7,64
59 79

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Var in Cygnus (cont)

June 1, 1897

I 16967

10.01	9.83	h 3 v	10,13 (31)	10,21 (39)	10,16 (34)	= 10,17 (35)	.04	.04	.01
	10,21 (39)	v o k	10,21					
	10.16 (34)	v 2 l	10.36 (54)					

I 16903

10.01	9.83	h 3 v	10,13 (31)	10,21 (39)	10.14	= 10,18 (28)	03	11	.14
	10,21 (39)	v o k	10,21	39				
	9.96 (10.14)	v 4 l	10.36 (54)					

I 16865

10.01	9.83	h 2 v	10,03 (21)	10,11 (29)	= 10,07 (25)	.04	.04	
	10,11 (29)	v 1 k	10,21 (39)					

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Measures of prismatic companions of
a, b, c + d

June 24, 1898

B 15361
ap.c 7.8
bp.8.1
cp.8.3
dp.8.5
V.P.C 8.0

B 12715
ap.c 7.2
bp.c 7.5
cp.7.8
dp.8.3
V.P.C 7.5

B 14733
ap.6.8
bp.7.2
cp.7.8
dp.8.5
V.P.C 7.0

B 10626.
ap.c 7.3
bp.c 7.5
cp.c 7.9
dp.c 8.3
V.P.C 7.5

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13.8
14.0
278
13.90

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A.G.C. 601 = C.D.M. -34° 224 | h. 0 | m. 35.0 | − 34° | ′ 31 | A.G. 7½ | C.D.M. 6.7

J.D.	Magn.	Reid.
2784	6.50	12
2784	6.60	02
2790	6.48	14
2793	6.53	09
2800	6.60	02
2800	6.50	12
2810	6.73	11
2811	6.77	15
3136	6.77	15
3152	6.66	04
3161	6.44	18
3185	6.60	02
3186	6.64	02
3192	6.80	18
3490	6.61	01
3495	6.72	10
3504	6.44	18
3519	6.72	10
Mean	6.62	A.D. 85−90 18 ± .10

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1997phae.proj..972L

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