Schreiben des Herrn Professors *Loomis*, Directors der Sternwarte in Hudson, an den Herausgeber.

Sir,

I forward you some cometary observations made at this place, for the *Astronomische Nachrichten*. A variety of other

observations made by myself you will find in the *Transactions of the American Philosophical Society*.

Elias Loomis.

Astronomical Observations made at Hudson's Observatory, United States, Latitude $41^{\circ}14'42''6$ North, and Longitude $5^h25^m39^s5$ West. By *Elias Loomis*.

Hudson Observatory is furnished: 1) with an Equatorial telescope of 66 inches focus and about four inches aperture made by *Simms* in 1837. The circles are 12 inches in diameter reading by verniers, the one to single seconds of time, the other to ten seconds of arc. 2) A transit circle having a telescope of 30 inches focus and nearly three inches aperture made also by *Simms*. The circle is 18 inches diameter graduated to five minutes, with three reading microscopes each measuring single seconds. 3) A clock with a mercurial pendulum by *Molineux*. A particular description of the building, with the instruments and mode of using them is contained in the Trans-

actions of the American Philosophical Society, New Series Vol. 7 p. 43. 47. The Latitude of the Observatory has been determined from 63 culminations of *Polaris*, and 4 of β *Ursae minoris* $41^{\circ}14'42''6$, and the Longitude from 72 corresponding Moon culminations at Greenwich, and others at Cambridge, Oxford and Edinburgh (150 in all) $5^h25^m39^s5$. The Observations from which these results are derived are contained in the *Transactions of the American Philosophical Society*. The following is an abstract of the observations of some recent comets, nearly all of which were made with a circular micrometer attached to the Equatorial.

1. *Encke's Comet*.

The places in columns fifth and sixth are corrected for refraction, parallax and aberration; and the last two columns exhibit the corrections of *Encke's ephemeris* according to the observations.

Date. 1842.	Differences observed.	Sidereal time.	No of obs.	Comet's places.		Corrections of Ephe- meris.	
				A. R.	Decl.	A. R.	Decl.
March 28	comet — a = 1^m28^s37	$8^h14^m18^s77$	8	$27^{\circ}33'28''.5$			
	comet — b 44,71	8 17 7,26	7	12,2		+ 21",7	
	a' — comet 8' 58",0	8 14 18,77	8		+ $16^{\circ}53'49''.6$		
	comet — b' 7 25,3	8 17 7,26	7		38,9		— 22",3
March 30	c — comet 1^m39^s00	8 20 5,57	3	29 22 5,7		+ 21,0	
	c' — comet 8' 17",3	8 20 5,57	3		17 8 18,2		— 12,1
March 31	comet — c 1^m58^s23	8 26 30,20	11	30 16 37,8		+ 26,0	
	c' — comet 3' 22",9	8 33 17,74	8		17 13 12,9		— 19,1
April 1	d — comet 4^m22^s58	8 25 17,51	6	31 9 50,2		— 2,9	
	d' — comet 26' 46",6	8 25 17,51	6		17 16 23,2		— 20,1
April 4	comet — e 38",27	8 36 48,57	8	33 44 31,8		+ 11,8	
	comet — e' 19' 28",4	8 36 48,57	8		17 12 10,4		— 22,6
April 5	f — comet 4^m5^s5	8 38 21,26	7	34 31 26,7		— 2,1	
	comet — f' 4' 46",3	8 45 23,43	5		17 5 4,3		— 13,5
April 7	comet — f 1^m30^s8	8 44 14,39	5	35 55 12,8		+ 0,1	
	f' — comet 21' 3",4	8 44 14,39	5		16 39 5,8		— 40,5
April 9	g — comet 3^m32^s37	8 56 17,57	2	36 58 15,4		— 33,4	
	g' — comet 7' 5",7	8 56 17,57	2		15 55 32,1		— 50,4
April 11	h — comet 5^m38^s83	9 3 1,00	3	37 33 42,1		— 70,7	

The following are the apparent Right Ascensions and Declinations of the stars of comparison for the dates of observation.

	Mag.	AR.		Decl.		Mag.	AR.		Decl.
a	7	$1^h48^m44^s29$	a'	+ $17^{\circ}2'43''.4$	e	8	$2^h14^m17^s17$	e'	+ $16^{\circ}52'31''.5$
b	8	1 49 25,72	b'	16 46 2,3	f	6	2 22 9,55	f'	17 0 13,5
c	8	1 59 6,73	c'	17 16 31,1	g	8	2 31 24,88	g'	16 2 42,6
d	7.8	2 9 1,63	d'	17 43 13,0	h	6.7	2 35 51,44	h'	14 38 26,3

2. The great Comet of 1843.

The following observations are arranged like the preceding.

Date 1843.	Differences observed.	Sidereal time.	No. of obs.	Comet's places.	
				A. R.	Decl.
March 11	a — comet = 30 ^m 29 ^s	6 ^h 53 ^m 57 ^s	4	1 ^h 43 ^m 51 ^s	
	a' — comet 5' 50"		4		—11° 35' 10"
March 21	comet — b 3 ^m 9 ^s 19	7 58 12,27	7	3 11 27,27	
	comet — b' 31' 29 ^m 6		7		8 52 31,9
March 25	comet — c 4 ^m 49 ^s 06	8 4 21,53	5	3 35 23,67	
	comet — d 4 30,25		6	23,27	
	comet — e 52,38		5	23,95	
	f — comet 9,61		4	22,92	
	comet — e' 11' 59 ^m 9		5		7 47 58,7
	e' — comet 3 13,3		4		65,1
	comet — f' 12 19,8		3		25,6
April 1	g — comet 4 ^m 59 ^s 54	8 42 33,18	6	4 8 1,21	
	h — comet 5 51,92		6	1,06	
	i — comet 6 0,25		6	1,00	
	comet — g' 26' 26 ^m 4		6		6 10 38,4
	comet — i' 28 39,9		6		45,7
April 5	k — comet 17 ^s 36	9 21 52,57	5	4 23 2,41	
	l — comet 28,66		5	2,14	
	m — comet 1 38,88		4	0,62	
	k' — comet 5' 35 ^m 8		2		5 23 50,0
	l' — comet 11 49,8		3		45,3
	m' — comet 1 10,8		2		40,9
April 6	comet — k 3 ^m 5 ^s 64	9 8 15,31	5	4 26 25,77	
	comet — l 2 54,73		5	26,01	
	comet — m 1 45,55		6	25,31	
	l' — comet 1' 8 ^m 6		4		5 12 60,6
	comet — m' 9 41,1		4		46,9

The following are the apparent places of the stars of comparison for the dates of observation.

	Mag.	A. R.		Decl.		Mag.	A. R.		Decl.
a	6	2 ^h 14 ^m 21 ^s 19	a'	—11° 29' 37 ^m 4	g	6	4 ^h 12 ^m 56 ^s 96	g'	—6° 37' 26 ^m 6
b	4	3 8 13,42	b'	9 24 25,8	h	8	4 13 49,85	h'	6 26 57,1
c	8	3 30 31,67	c'	8 0 12,5	i	6.7	4 13 57,34	i'	6 39 48,4
d	7	3 30 50,26	d'	7 54 28,9	k	8	4 23 17,93	k'	5 18 21,9
e	8.9	3 34 29,06	e'	7 45 2,4	l	8	4 23 29,25	l'	5 12 1,1
f	9	3 35 30,24	f'	7 59 59,4	m	8	4 24 37,45	m'	5 22 39,1

3. The *Mauvais* Comet.

These observations were made in the usual way except in three instances when the comet was observed with the Transit Circle.

Date 1843.	Observations.	Sidereal time.	No. of obs.	Comet's places.	
				A. R.	Decl.
July 30	Transit { 23 ^h 38 ^m 57 ^s 21	23 ^h 41 ^m 11 ^s 96	1	23 ^h 38 ^m 57 ^s 17	
	circle { +5° 18' 55 ^m 0		1		+ 5° 18' 44 ^m 1
	u — comet = 2 ^m 9 ^s 25	0 15 16,96	2	58,86	
	u' — comet 12' 59 ^m 0		2		5 17 48,9
July 31	comet — q 6 ^m 58 ^s 33	18 31 44,98	7	54,10	
	comet — q' 1' 1 ^m 0	18 46 8,32	4		4 47 45,7
Aug. 1	v — comet 4 ^m 56 ^s 92	18 44 18,61	8	45,34	
	w — comet 5 9,92		8	45,12	
	comet — w' 17' 24 ^m 9		8		4 9 59,3
	comet — v' 20 12,6		8		52,9

Date 1843.	Observations.	Sidereal time.	No. of obs.	Comet's places.	
				A. R.	Decl.
Aug. 2	v — comet = 5 ^m 7 ^s 83	18 ^h 38 ^m 20 ^s 68	8	23 ^h 38 ^m 35 ^s 14	
	w — comet 5 20,58		8	35,29	
	v' — comet 18' 37" 6	18 42 8,15	7		+ 3° 30' 57" 9
	w' — comet 21 33,2		7		56,2
Aug. 3	r — comet 3 ^s 99	19 1 45,71	20	21,67	
	comet — r' 13' 38" 3	19 21 46,09	10		2 50 52,1
Aug. 5	Transit { 23 ^h 37 ^m 51 ^s 69	23 37 51,47	1	37 51,58	
	circle { 1° 24' 20" 8		1		1 24 9,7
Aug. 6	Transit { 23 ^h 37 ^m 33 ^s 93	23 37 33,76	1	33,81	
	circle { 0° 44' 16" 8		1		+ 0 44 5,6
Aug. 15	s — comet 5 ^m 55 ^s 1	19 6 51,92	5	33 42,97	
	t — comet 7 1,5	19 11 35,90	4	43,74	
	s' — comet 21" 1	19 16 28,73	3		— 5 20 3,9
	t' — comet 1' 53,6		3		6,4
Aug. 16	comet — p 1 ^m 19 ^s 51	19 38 8,38	4	8,66	
	comet — p' 22' 4" 2		4		6 2 32,9
Aug. 21	comet — n 2 ^m 0 ^s 3	0 27 7,39	5	29 58,45	
	comet — n' 1' 27" 6		5		9 36 12,6
Aug. 23	o — comet 56 ^s 88	20 49 11,40	10	28 42,75	
	o' — comet 47" 2		10		10 51 3,0
Aug. 24	comet — m 38 ^s 05	20 20 35,38	5	2,22	
	m' — comet 4' 49" 8		5		11 29 53,8
Aug. 25	comet — k 2 ^m 51 ^s 94	22 36 23,68	4	27 13,41	
	k' — comet 22' 52" 8	22 30 53,72	5		12 14 30,1
Aug. 26	comet — i 2 ^m 52 ^s 67	21 6 37,52	6	26 33,72	
	i' — comet 26' 42" 6		6		12 51 1,3
Aug. 27	comet — l 40 ^s 21	21 37 8,54	12	25 49,26	
	l' — comet 2' 18" 4		12		13 30 31,2
Sept 16	comet — f 2 ^m 36 ^s 52	21 3 13,80	10	10 48,53	
	f' — comet 14' 42" 5		10		24 19 6,6
Sept. 17	h — comet 4 ^m 25 ^s 8	20 51 59,99	5	8,54	
	h' — comet 24' 53" 4		5		24 42 59,2
Sept. 19	comet — c 1 ^m 48 ^s 53	21 40 21,60	5	8 48,22	
	g — comet 1 16,34	21 28 17,91	8	49,36	
	comet — c' 10' 44" 1	21 40 21,60	5		25 31 16,3
	comet — g' 19 52,2	21 28 17,91	8		14,8
Sept. 20	g — comet 1 ^m 52 ^s 74	20 45 21,95	10	13,10	
	g' — comet 2' 7" 7		10		25 53 18,3
Sept. 21	g — comet 2 ^m 30 ^s 2	21 18 39,33	5	7 35,90	
	g' — comet 24' 37" 4		5		26 15 51,5
Sept. 22	comet — a 6 ^m 30 ^s 2	21 38 37,00	5	0,96	
	comet — a' 2' 28" 1		5		26 37 46,9
Sept. 23	comet — a 5 ^m 52 ^s 83	21 46 10,48	6	6 23,75	
	a' — comet 17' 31" 8		6		26 57 49,8
Sept. 27	d — comet 3 ^m 4 ^s 67	22 0 46,82	6	4 16,29	
	e — comet 3 53,07		6	16,29	
	d' — comet 12' 18" 9	22 4 7,70	5		28 13 53,4
	e' — comet 17 55,2		5		43,6
Sept. 29	comet — b 2 ^m 3 ^s 05	22 47 25,26	10	3 22,21	
	comet — b' 7' 31" 3	22 48 12,48	9		28 48 21,8
Oct. 1	comet — b 1 ^m 8 ^s 4	1 8 24,58	7	2 27,25	
	b' — comet 25' 1" 8		7		29 21 3,1

The following are the apparent places of the stars of comparison for the dates of observation.

	Mag.	A. R.	Decl.		Mag.	A. R.	Decl.
a	7.8	23 ^h 0 ^m 31 ^s 20	a' — 26° 40' 9" 8	d	9	23 ^h 7 ^m 21 ^s 25	d' — 28° 1' 28" 0
b	6	1 19,44	b' 28 55 50,2	e	7	8 9,61	e' 27 55 40,9
c	8	7 0,20	c' 25 41 55,7	f	7	8 12,35	f' 24 4 14,6

	Mag.	A. R.		Dec.		Mag.	A. R.		Decl.
g	9	23 ^h 10 ^m 6 ^s 30	g'	-25°51' 3"8	p	8	23 ^h 31 ^m 49 ^s 93	p'	-6°24' 27"6
h	8	14 34,51	h'	24 17 54,3	q	4.5	31 56,19	q'	+4 46 55,1
i	7	24 8,43	i'	12 24 6,4	r	6	38 26,28	r'	+2 37 23,7
k	6.7	24 21,82	k'	11 51 25,6	s	8	39 38,60	s'	-5 19 31,2
l	8	25 9,52	l'	13 28 2,4	t	9	40 45,76	t'	-5 18 1,0
m	8	27 24,69	m'	11 24 52,7	u	8	41 8,10	u'	+5 30 59,1
n	7.8	27 58,32	n'	9 37 29,4	v	7	43 42,96	v'	+3 49 48,7
o	8	29 40,15	o'	10 50 4,8	w	7	43 55,79	w'	+3 52 43,1

4. The *Faye* Comet.

The following observations are arranged in the usual manner.

Date		Differences observed.	Sidereal time.	No. of	Comet's places	
1844.				obs.	A. R.	Decl.
Jan. 23	a — comet	= 18 ^s 38	3 ^h 48 ^m 29 ^s 32	7	5 ^h 12 ^m 32 ^s 00	+4°35' 6"8
	comet — a'	16' 9"2		7	5 25 39,60	
Febr. 10	comet — b	8 ^m 51 ^s 00	5 52 32,72	3		6 34 23,0
	c — comet	47,47		3		
	comet — b'	22' 6"4		3		
	comet — c'	7 46,2		3		
Febr. 11	comet — c	8 ^s	5 56	1	5 26 33,48	

The following are the stars of comparison employed.

	Mag.	A. R.		Decl.
a	8.9	5 ^h 12 ^m 50 ^s 34	a'	+4°18' 52"54
b	2	5 16 48,12	b'	6 12 8,99
c	9	5 26 25	c'	6 26 48.

Schreiben des Herrn *Edward Cooper* an den Herausgeber.

Schloß Weyerburg Innsbruck Sept. 10. 1844.

Since I last wrote, we have calculated three new sets of Elements for Mr. *Mauvais* Comet of this year which I annex. We have not any great dependance on our observation of the 14th of August. Our observations since my last letter were as follows.

	A.R.	δ.
Aug. 2,39752	14 ^h 28 ^m 57 ^s 3	+28°44' 5"8
3,41496	26 0,3	+27 55 45,1
14,37679	1 17,4	+19 37 35,0
17,34778	13 54 51,2	+17 29 11,2
21,34522	48 20,6	+14 43 47,7.

Edward Cooper.

Elements of Mr. *Mauvais* Comet.

Calculated by *Edward Cooper* from his three observations of July 23, August 3 and August 14 Corrected for Aberr.

Perihelion Passage. October 17,41095 M. T. Weyerburg.

do. Distance..... 0,8775239

Long. Perihelion.....181°38' 36"2

Long. Asc. Node..... 31 1 42,2

Inclination..... 48 21 6,0

Calculated by *Andrew Graham* from my three observations of July 22, August 3 and August 17.

Perihelion Passage October 17,39102 M. T. Weyerburg.

do. Distance..... 0,8617386

Long. Perihelion.....180°45' 10"4

Long. Asc. Node..... 31 29 59,9

Inclination..... 48 33 14,4

Calculated by *Andrew Graham* from my two observations of July 23 and August 2 and his observation of August 21.

Perihelion Passage October 17,36639 M. T. Weyerburg.

do. Distance..... 0,8615040

Long. Perihelion.....180°45' 33"1

Long. Asc. Node..... 31 30 12,4

Inclination..... 48 32 53,8

Motion Retrograde.