THE BRITISH ASTRONOMICAL ASSOCIATION

LUNAR SECTION CIRCULAR

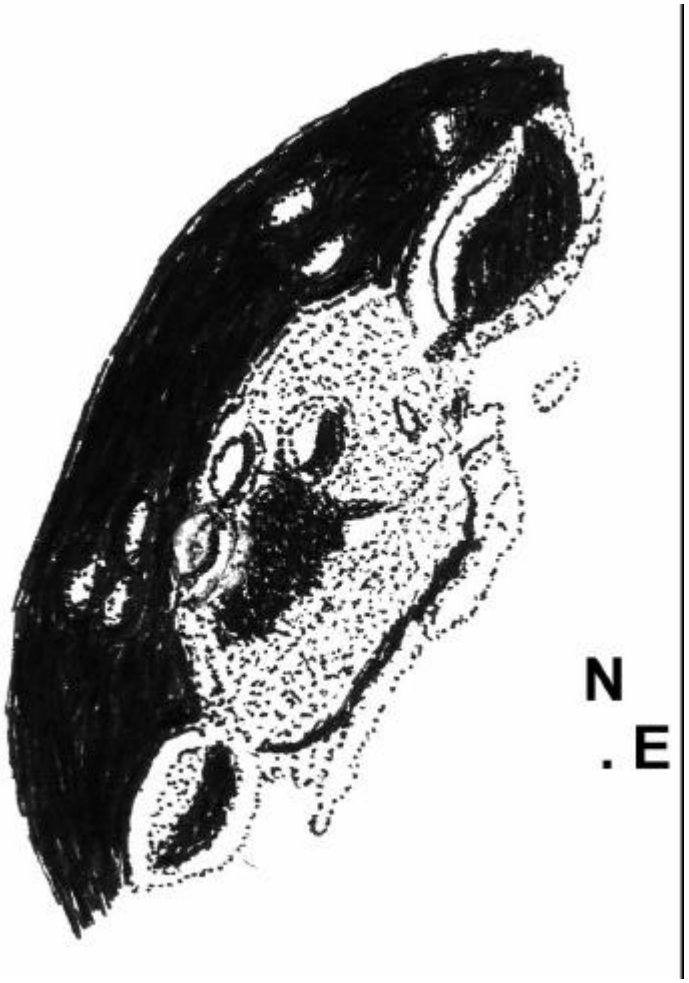
Director Alan Wells
Assistant Director/Editor John Pedler

Volume 44 No. 81 Data on pages 9-10 are for Dec. 2007 Lunations 1050/1051 Nov. 2007

TOPOGRAPHIC NOTES — *Peter Grego*

Observations

Longstanding BAA Lunar Section member Marie Cook (Norwich, UK) has sent in several recently made lunar observational drawings reproduced in pen and ink stippling. Marie's observations include Posidonius (2007 September 2, 01:15-30 UT) and Hevelius (2007 September 24, 22:40-23:10 UT), both made using a 90 mm MCT (Questar) using magnifications of 80 and 130. These two large craters, with which most members are doubtless thoroughly familiar, are both ancient flooded features whose floors display rille systems, smaller craters and hills. Marie's observation of Hevelius, featured here, shows the crater emerging into the morning light, along with its neighbours Cavalerius to its north and Lohrmann to its south. The drawing has been flipped east-west from the original to show it with north at the top, east on the right.A large portion of Hevelius' western floor is in shadow owing to the low angle of illumination and the floor's convexity. Marie noted what appeared to be a ridge extending from Hevelius' central hill (Hevelius Alpha) in both directions, but which may have been illusory owing to the curvature of the floor. Inside Cavelerius there was a prominent line of terracing to the inner western wall.

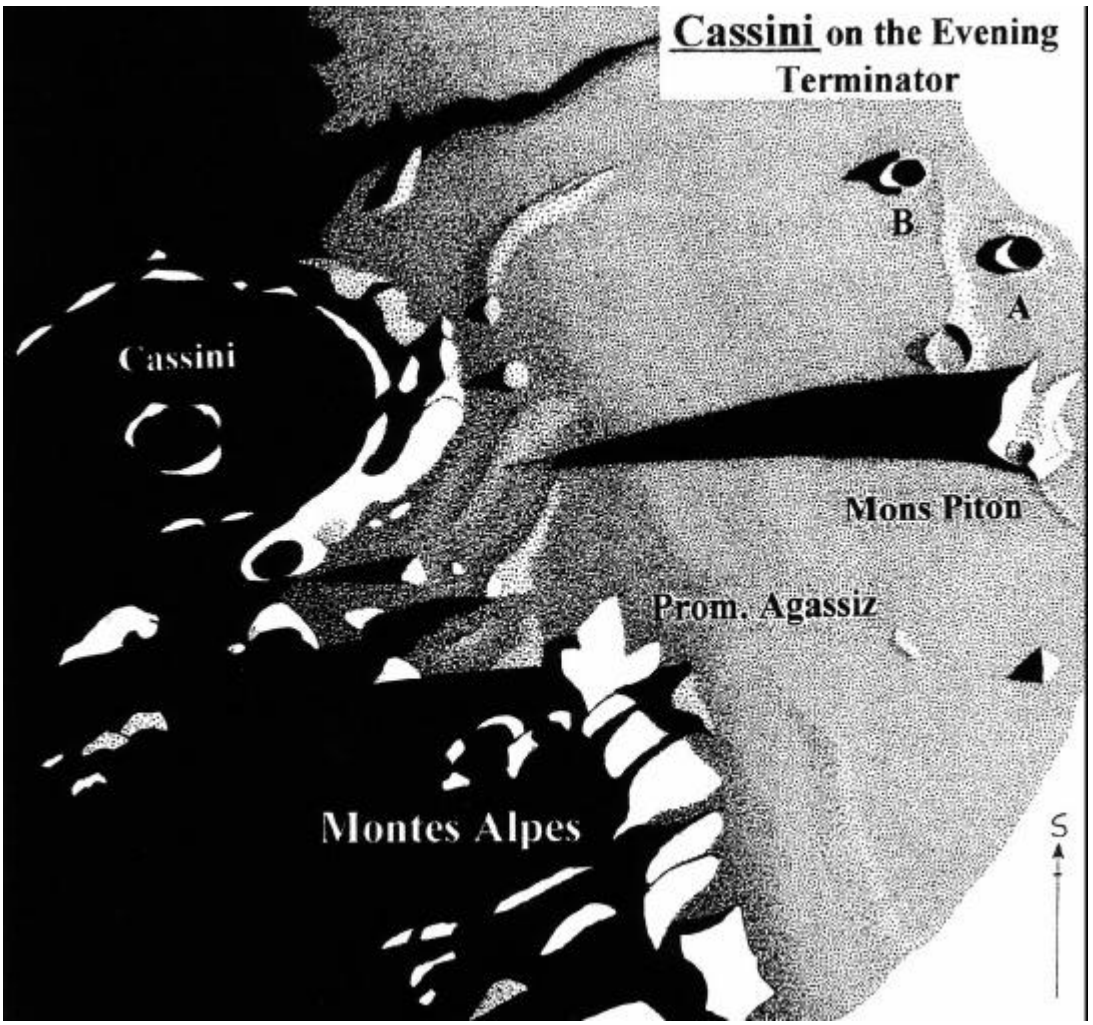


It is worthwhile for veteran observers to return to the 'old favorites' now and again, rather than concentrate exclusively on their own particular areas of specialty. Nobody ever really gets to know the Moon during a lifetime of observation – old favourites can produce their own surprises and unexpected delights, as the conditions of illumination and libration are rarely repeated.

Another longstanding member of the BAA Lunar Section, Phil Morgan (Tenbury Wells, UK) sent in an observational drawing of another well-known feature, Cassini, made on 2007 September 4 from 03:30-04:15 UT using a 300 mm Newtonian x400. Phil writes "It may be one of the most often of recorded lunar spectacles, but one that we never tire of looking at." Phil's drawing, featured here (south at top, east to the left), shows Cassini about to be completely engulfed by the evening terminator, while subtle relief features can be discerned in Mare

Imbrium, the Montes Alpes, Prom Agassiz and Mons Piton under a dropping Sun. Despite Cassini's floor being completely in shadow, the rim of Cassini A remains visible as a bright triple arc. The near scythe-like shadow from Mons Piton stretches eastward, its tip almost touching the outer flanks of Cassini. To the southeast of Mons Piton, just beyond the edge of the shadow, Phil depicts a distinct crater-like feature, but Rukl (Chart 12) shows a low wrinkle ridge with a very slight medial ditch. Worth checking out.

Our third veteran BAA Lunar Section member, Alan Heath (Nottingham, UK) remains observationally active on all fronts. Alan sent in a note about the feature which I rather unashamedly dubbed 'Grego's Rectangle' in Mare Imbrium (see *BAA Lunar Section Circular*, September 2007), a roughly rectangular large scale feature in Mare Imbrium made up of albedo markings, easily visible through binoculars, and which Alan confirms having been able to see without difficulty. My apologies to Alan, in that at present I can't find his observational drawing of the feature or his covering notes!



Images

Among the many superb lunar imagers who have submitted material include Mike Brown (Huntington, UK), Maurice Collins (Palmerston North, New Zealand) and Larry Todd (Dunedin, New Zealand).

Topographical Subsection Green Paper

In the last Circular I mentioned that a list of options for organized activity within the Topographical Subsection, with a set of prospective observing projects and goals, would feature here -- a 'green paper' for the Topographical Subsection. I have yet to receive any ideas and comments about this proposal.

My own archives concerning the BAA Lunar Section are somewhat lacking in scope and extent, and I am sadly lacking in any detailed knowledge about the various lunar observational projects that have been instigated in past years. Does anyone have any information about the observational projects set up by my predecessors during the past few decades? Being able to see any relevant literature would be a great help in drawing up future observing projects – no need to re-invent the wheel if great minds have been applied to problems in the past, while we can try applying new technology and techniques to these areas of former investigation.

The following two observational projects are already up and running, but currently there are no investigators:

Banded Lunar Craters Project – some of it based upon the mid-20th century work by Abineri and Lenham. The project has already been set up within the SPA Lunar Section, and the literature I've produced has been updated for the BAA. Project packs are available from me on request or downloadable from the BAA Lunar Section website at http://www.baalunarsection.org.uk/projectbandedcraters.htm.

International Bright Lunar Rays Project (in conjunction with The Association of Lunar & Planetary Observers, The American Lunar Society, The Society for Popular Astronomy, The Geological Lunar Research Group (Italy) and The Italian Union of Amateur Astronomers. Project is coordinated by William M. Dembowski, FRAS (email dembowski@zone-vx.com), website http://www.zone-vx.com/rays.htm

Detailed observations made with telescopes of medium to large aperture can be used to study the lunar rays in great detail, with features to note including: Apparent source of rays or associated features; symmetry of ray system; overall pattern of rays; start and end point of rays and ray systems; description of rays eg. single spikes or streaks, bright patches or 'stains' on the lunar surface; interaction of rays with local features; details of local features that could mimic rays eg, crater chains, wrinkle ridges, rilles; when rays or ray systems first become visible at lunar sunrise or lost at sunset near the terminator; intensity estimates (using the Elger scale as a basis); colouration (a very subjective area owing to the observer and instrument used, seeing etc).

Again, project packs are available from me on request or downloadable from the BAA Lunar Section website at http://www.baalunarsection.org.uk/projectrays.htm.

I suggest the following areas to consider as bases for projects for the Topographical Subsection:

Observational investigation of historical observations (for example, Trouvelot's 'Murs Enigmatiques'). Alan Heath has sent in a substantial list of lunar features to follow up, based on notes in Goodacre's *The Moon*.

Areas of special topographic interest – concentrated study on specific areas. What criteria should be applied to selecting specific areas?
Co-ordinated observations of specific features at identical times (including CCD studies). This would be a good means of assessing the accuracy of an individual observer's depiction of lunar topography.

Mapping projects. In the past, attempts by groups of observers to map large portions of the Moon's surface have met with only partial success, with mixed degrees of accuracy.

Colour studies (visual and CCD imagery).

Comments on the above are very welcome. Of course, many longstanding observers have their own very special areas of interest, with interest in particular features or types of feature. Following up on a selection of some of the best work conducted by individual members is one way forward, for example Phil Morgan's Messier studies might be incorporated into a project in itself. Careful visual observation and CCD imagery remains capable of revealing hitherto unknown detail on the Moon.

CLOUDWATCH — Andrew Bytnar

Tabulated data for September 2007

Observer and location	Excellent *days*	Cloudy *days*	Overcast *days*	Hazy *days*	No watch *days*
A.Bytnar (Mansfield)	11 (37%)	5 (17%)	14 (47%)	0 (0%)	-----
M.Cook (Cromer)	7 (23%)	12½ (42%)	10 (33%)	0½ (2%)	-----
K.Hall (Warrington)	7 (23%)	9 (30%)	12 (40%)	0 (0%)	2 (7%)
A.Heath (Nottingham)	7 (23%)	10 (33%)	13 (43%)	0 (0%)	-----
J.Wrigley (Reading)	6½ (22%)	10 (33%)	11½ (38%)	2 (7%)	-----

The Sunset Ray in Pitatus on 2007 August 7

Dietmar Büttner (Chemnitz, Germany)

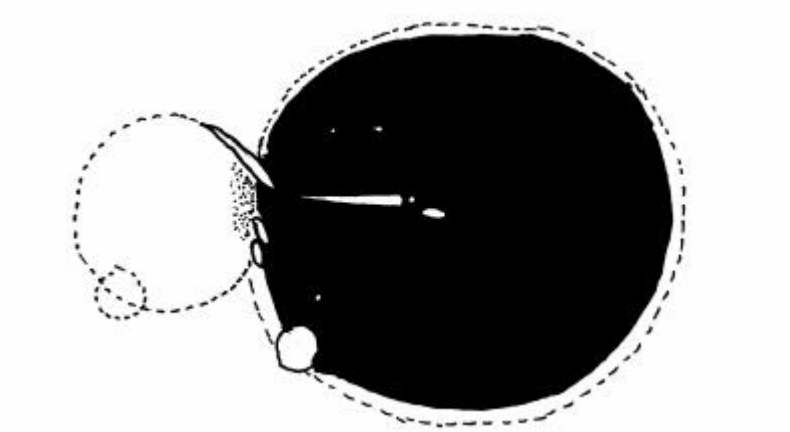
While the sunrise light ray in the crater Hesiodus is observed now and then by amateur astronomers it seems to be widely unknown that there is a counterpart in the crater (or better walled plain) Pitatus during the waning lunar phase.
In the morning of 2007 August 7 I was able to see that light ray in Pitatus. This happend by pure accident. After timing ten occultation reappearances at the dark limb during the favourable passage of the Moon in front of the Plejades I inspected the crater Pitatus which was just at the terminator.
At the beginning of the observation at 2:20 UT about 7/8 of the craters interior were in shadow. There was only an oval region northwest of the central peak still dimly lit. Its longer axis had an east-west orientation. This region exceeded in the east-west direction from the central peak to the western limb of Pitatus, while its shorter axis spread about half the way to the northern limb of Pitatus. The southern border of that region run from the gap between Hesiodus and Pitatus to the central peak of Pitatus. The intensity of the dim illumination was about 2 at the Elger scale. A 'shadow arrow' with the tip in the east divided the dimly lit oval in two sectors.
Between 2:20 and 2:30 UT this last faint illumination faded out completely. At 2:30 UT suddenly a bright light ray became visible. It spread out the entire line from the gap between the two craters to the northwestern sunlit point of the central peak. It had the shape of a very slim arrow which was directed to the west.
This view of the light ray in Pitatus was very impressive. Compared to my memories for the light ray in Hesiodus I would state that the ray in Pitatus was much more spectacular.
At 2:46 UT the ray had shortened a bit and was no longer so impressive as 15 minues earlier.

According to that observation I calculated predictions for the next visibilities of the light ray in Pitatus for observers on Centrale Europe:

2007 Oct 05	2:20 UT
2007 Dec 03	5:30 UT
2008 June 27	1:10 UT

Please note that Dietmar says these predictions are for Central Europe and will not apply to this country. Ed.

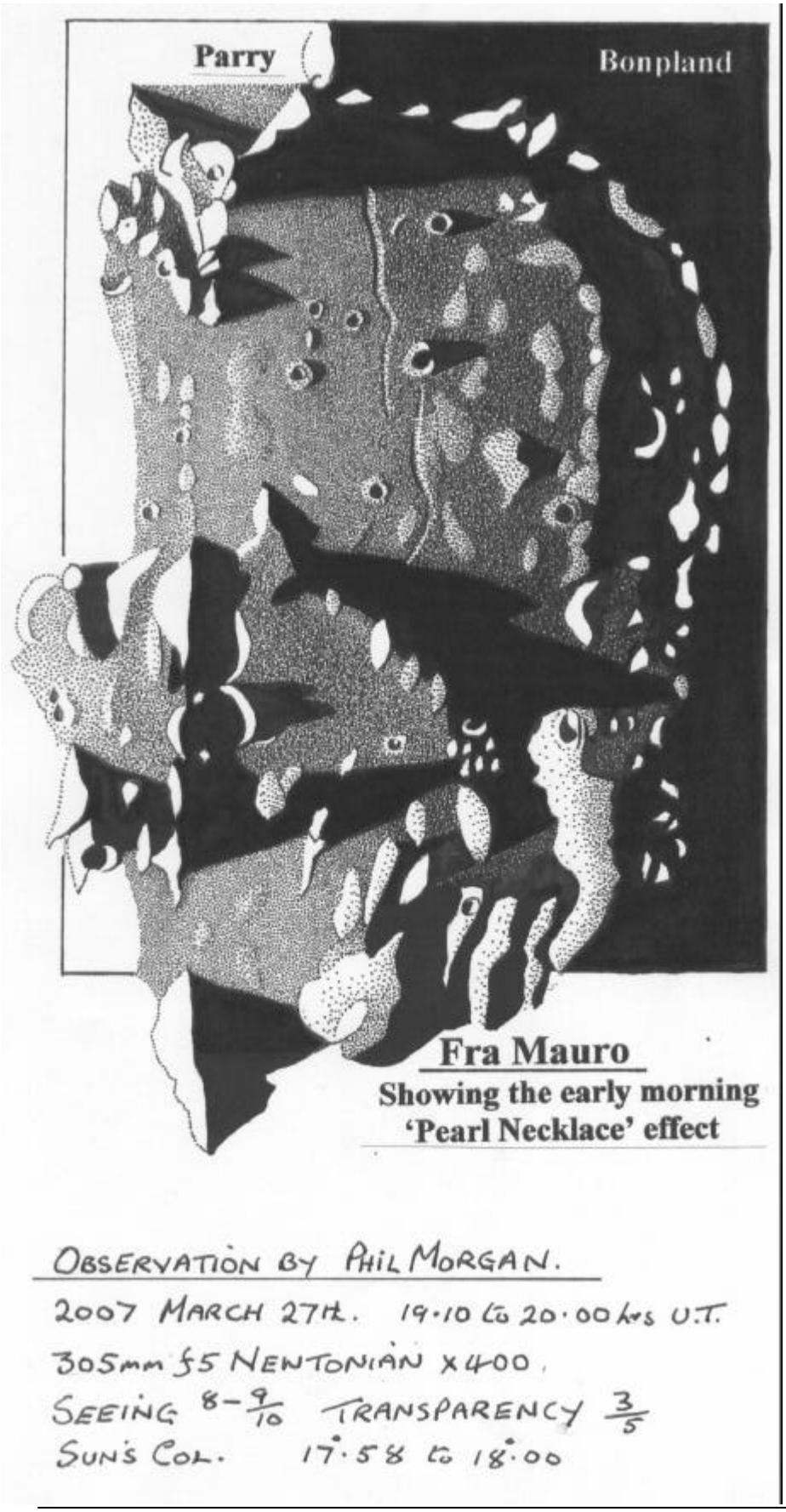
As in the cae of Hesiodus one can expect a dependance on the selenographic latitude of the Sun. Hence, these times are only rough approximations.



Caption for the sketch:
The light ray in Pitatus on 2007 August 7 at 2:46 UT. The schematic sketch shows the position, the extension and the shape of the ray. The interior of Pitatus is nearly completely in shadow. There are only two sunlit peaks of the central peak visible as well as two sunlit peaks north of the ray and one in the south.
The outside contour of Pitatus and the crater Hesiodus are sketched only stylized.
Observer Dietmar Büttner, Instrument Refractor 100/900, Vergr. 180 x
Colongitude 193.3°, selenographic latitude of the Sun +0.58°

FRAMAURO

Phil Morgan



Fra Mauro is a very old crater. That may be stating the obvious, but it is still one of the most interesting of objects to study, draw and photograph. The sketch opposite, made on the 27th March this year, shows well an effect I nickname the 'pearl necklace'. This spectacle is produced for only a very short time at Sunrise when the early morning rays of sunlight catch the individual peaks of the much denuded and battered west {IAU} wall of the old crater.

The floor of Fra Mauro is covered in low hills and ridges and there is a considerable breach in the east wall where presumably lavas flowed in or out in the past, with only a few craterlets, hills {and possibly domes} to mark its remains. On this occasion only the Rima Parry 1 could be made out crossing the floor from south to north, with some of the old floor ridges and hills mimicking its alignment.

To the north is the interesting heart shaped plateau that is bisected by a wide valley that terminates at the prominent peak Eta. This mountain has a summit crater, but it's not visible until the Sun gets higher in the lunar sky. The eastern part of the plateau is lettered Zeta, and has a much rougher surface than the smoother western section.

Although this observation took only 50 minutes, in that time the 'pearl necklace' had already started to break down, with the individual peaks of the west wall starting to merge together, showing just how transitory the effect is. I would be interested to know if any members have taken any photographs of Fra Mauro at around this colongitude showing this effect?

Occultation subsection news — Andrew Elliott

Four potential grazing occultations are predicted for November (see table and map in last month's LSC).

On November 1st (night of October 31/November 01), track 24 crosses parts of SE Wales (former counties of Glamorgan and Gwent), Hereford & Worcs, Gloucs, Warwicks, Oxon, Northants, Beds, Cambs, and Suffolk. NB the track actually passes close to the borders of these counties. The graze starts at around 01:53 UT in the west and involves a magnitude 6 star grazing the southern bright limb – difficult.

On November 29th (night of 28/29), track 25 crosses northern Scotland from approximately Ullapool to the Dornoch Firth, commencing from 01:10 in the west.

Also on November 29th (28/29), track 26 crosses central Scotland, covering parts of Argyll and Bute, Stirling and Fife, commencing from 01:40 in the west.

Finally, another Scottish graze, on November 30 (29/30), track 27 crosses central Shetland, commencing from 03:32 in the west.

Successful Regulus Graze

Fortuitously, the track of the October 7th Regulus graze passed right over my mother's home in Lytham St.Anne's. I set up my 10" S-C there and, despite 50% drifting clouds, was rewarded with a spectacular graze. I video recorded the event with a colour camera and obtained 7 D/R pairs, including two short 'flashes'. The star was noticeably blue against the moon's limb. Owing to Regulus's significant diameter (~1.4 mas), all events appeared gradual, as expected. Precise timing has indicated a significant error in the Watts profile of the limb in the area of the graze. Preliminary examination of the tape (this written on October 10th) seems to indicate that a whole 'mountain' is missing. Further analysis will be carried out.

Members of my local society (Blackpool AS) were positioned just north of the centre line and recorded a 'miss'. This observation has eliminated some other spurious points on the predicted profile. Len Entwisle in Elland (West Yorks) was clouded out. Teams of observers in the Netherlands and Germany also reported very successful observations, with at least 5 video recordings. Another team of 9 observers near Berlin was clouded out until 2 minutes **after** the graze! I have not, so far, received any other UK reports. It is reported that this will be the brightest graze visible in Europe until 2015.

Predictions for 1°44'44.0"W 52°27'41.4"N Alt. 50m, (Birmingham) Tel diam 150mm – Dec 2007

Day	Time-UT h	m	s	Ph	Star No	Sp D	Max Mag V	% Snlt	Elon	Sun Alt	Moon Alt	Az	CA °	PA °	WA °	a Min/°	b	Star's R.A. h	m	s	apparent Dec o	m	s
01/04	23	39	M		1525	M2	5.6v	53-	94		43	149	13S	214	194	+0.4	+0.6	10	25	40.8		8	44	40
	1525 = 44 Leonis (DE)																							
01/04	54	13	r		118292	DF0	7.7s	53-	93		45	159	44S	245	226	+2.5	+2.3	10	26	0.7		8	44	10
02/03	09	26	r		1615	A2	7.8	43-	82		26	121	66S	269	247	+1.0	+1.7	11	8	38.5		3	29	26
04/05	03	43	R		1809	A0	7.0	25-	60		19	135	54S	255	233	+1.6	+2.4	12	37	45.6	-	8	20	37
04/07	00	34	r		138905	F8	7.3	24-	59	-8	28	164	29N	351	330	+0.2	-1.6	12	41	5.0	-	8	29	31
05/06	43	48	r		157909	K1	8.2	17-	48	-11	20	151	52N	326	305	+0.6	-0.4	13	24	5.0	-13	41	23	
06/06	58	44	r		158384	G8	7.7	10-	37	-9	13	146	74N	299	280	+0.9	+0.5	14	9	26.6	-18	32	17	
13/17	45	41	d		189497	F3	8.3	15+	45		10	215	83N	71	84	+1.0	-0.8	20	38	3.1	-21	18	34	
13/18	38	20	d		3014	cK0	7.3	15+	45		5	226	33N	21	34	-0.1	+0.4	20	38	52.7	-20	58	5	
17/22	08	40	d		128524	K2	7.6	55+	96		22	244	32N	9	31	+0.2	+1.6	24	0	48.6		2	43	16
18/17	01	05	d		109413	K2	8.0	64+	106	-9	39	140	74S	84	106	+1.3	+1.2	0	44	18.6		7	36	3
18/18	09	50	d		109437	G5	7.8	65+	107		44	161	69S	89	111	+1.6	+0.5	0	46	5.9		7	53	26
19/18	23	51	D		244	K0	6.7	75+	120		48	146	74N	55	76	+0.9	+1.5	1	39	42.2		14	19	44
20/19	19	34	d		93033	SK0	7.2	85+	135		53	143	48S	118	136	+2.0	-0.4	2	39	5.6		19	45	55
20/21	43	44	d		75531	DG5	7.7	86+	136		56	202	49S	118	136	+1.9	-2.0	2	43	29.5		20	16	4
20/23	09	08	d		75558	A0	7.7	86+	136		49	232	87N	74	92	+1.2	-0.4	2	46	16.4		20	43	46

```
Pleiades Passage Start:
21/21 14 53 D     536 cB7  5.5   93+ 149     61 162  48S 127 140 +2.0-1.7  3 45 18.4  24 19  3
       536 = Celaeno = 16 Tauri
21/21 19 41 D     539 SB6  4.3   93+ 149     61 164  85S  90 103 +1.4+0.3  3 45 42.8  24 29 43
       539 = Taygeta = 19 Tauri
21/21 41 01 D     542  B8  5.8   93+ 150     62 174  88N  83  96 +1.4+0.3  3 46 24.8  24 34 57
       542 = Asterope = 21 Tauri
21/21 41 59 d   76152 cB9  7.2s  93+ 150     62 175  43S 132 145 +2.1-2.5  3 46  8.0  24 21 49
21/21 45 01 D     543 cA0  6.4   93+ 150     62 176  84S  91 104 +1.5+0.0  3 46 33.2  24 33 21
21/21 45 25 D     541 cB8  3.9   93+ 150     62 176  49S 126 139 +1.9-1.9  3 46 19.9  24 23 44
       541 = Maia = 20 Tauri
21/22 14 54 D     548 cB9  6.8   93+ 150     62 190  69S 107 119 +1.6-0.9  3 47 29.7  24 32 52
21/22 26 09 d   76194  A0  7.7   93+ 150     61 195  78S  97 110 +1.5-0.5  3 47 54.4  24 36 58
21/22 27 24 r     539 SB6  4.3   93+ 150     61 197 -60S 235 248 +1.2+1.0  3 45 42.8  24 29 43
       539 = Taygeta = 19 Tauri
21/22 28 48 r     541 cB8  3.9   93+ 150     61 197 -26S 201 214 +1.0+3.0  3 46 19.9  24 23 44
       541 = Maia = 20 Tauri
End of Pleiades Passage.

21/23 13 31 D     555  K5  6.4   93+ 150     59 216  20N  16  29 +1.1+3.5  3 48 36.9  25  0 58
      Distance of     555 to Terminator = 18.0 ; to 3km sunlit peak = 6.9
22/01 06 24 d     574 cG0  6.8   94+ 151     46 251  24N  21  33 +1.4+2.2  3 52 41.8  25 11 23
22/22 04 20 d     732 cK3  7.5   98+ 164     63 154  51S 138 145 +1.8-2.2  4 53 29.9  26 47 35
22/23 12 20 d   76841 cK1  7.3   98+ 164     65 187  49N  59  66 +1.3+1.1  4 56  6.4  27 13  3
23/01 20 01 d     746 WB7  7.0   98+ 165     54 239  31N  42  49 +1.5+1.1  5  0 25.6  27 20 24
      Distance of     746 to Terminator = 8.7 ; to 3km sunlit peak = 2.2
24/19 35 33 r    1062 cB8  6.4   99- 168     26  81  55N 296 291 +0.4+0.9  6 59 59.6  25 54 14
      Distance of    1062 to Terminator = 12.8 ; to 3km sunlit peak = 4.6
25/00  2 30 r    1085 SG8  7.1   99- 166     61 150  40N 314 308 +1.3-1.3  7 10  6.9  25 42 57
      Distance of    1085 to Terminator = 11.0 ; to 3km sunlit peak = 3.5
25/21 20 55 R    1221 cM3  6.0v  95- 154     30  92  31N 337 326 +1.0-1.1  8  6 48.7  22 36 44
      1221 = 9 Cancri = BL Cnc.
25/21 44 37 r    1222  G5  7.2   95- 154     34  97  73N 295 285 +0.7+0.7  8  7  4.6  22 26  0
27/00 33 11 r    1362 cK3  7.2   88- 140     45 128  45N 331 315 +0.9-1.3  9  9 30.9  17 26 10
27/08 01 38 r    1385  A1  6.6   87- 137  -3 22 267  40S 238 221 +0.9-1.1  9 21 43.4  15 20 11
28/23 27 06 r    1567  K1  6.4   72- 116     14  98  67N 316 295 +0.3+0.2 10 46 31.8   6 19 47
28/23 51 48 r    1573 cA2  7.1   72- 116     18 103  35N 348 328 +0.3-1.5 10 47 45.2   6 18 10
29/04 20 56 r  118562  G5  7.8   70- 114     42 176  53S 256 235 +2.3+0.8 10 53 28.2   4 55  6
30/03 13 40 M    1685 cG9  4.3   61- 103     31 145  13S 217 195 +2.3+0.8 11 37 22.3 - 0 52  8
      1685 = upsilon Leonis
30/03 39 15 r  138302  K0  7.7   61- 103     34 152  81N 303 281 +1.1-0.2 11 37 42.2 - 0 37 24
```

Key to changes and less obvious column entries in new predictions above:

- There is no longer an ‘observability’ or ‘value’ column. Predictions are computed for a telescope aperture of 150mm using a detailed observability algorithm.
- Lower case D, R, Gr in Phase column means the star is within 1 magnitude of observability limit, i.e. less easy to see. M, or m, indicate a bright star miss at the above coordinates, but which may be an occultation nearby.
- Star catalogue, nnnn = ZC, nnnnn or nnnnnn = SAO, Xnnnnn = XZ80, ?nnnn = other catalogue, where ‘?’ is a letter indicating the catalogue.
- Character in ‘D’ column indicates a double star – careful timing/video recording may reveal the duplicity.
- Character in ‘V’ column indicates a variable star. (Extra information lines for double/variable stars removed to save space.)
- Other entries are as for the pre-2007 predictions produced by ‘OCCMOON’ in previous LSC’s.

Predictions courtesy of David Herald’s **Winoccult** program, version 3.6.
See LSC **35**, 5 (May 1999) for comments on recording observations using the predictions.

Eyepiece Corner...
On the next page is another list of features that might repay examination. This time it is for the period 1st Qtr to Full Moon, and last Qtr to New moon. Remember, NSEW is in the classical sense, with W to the left and E to the right. My thanks to Alan Heath again.

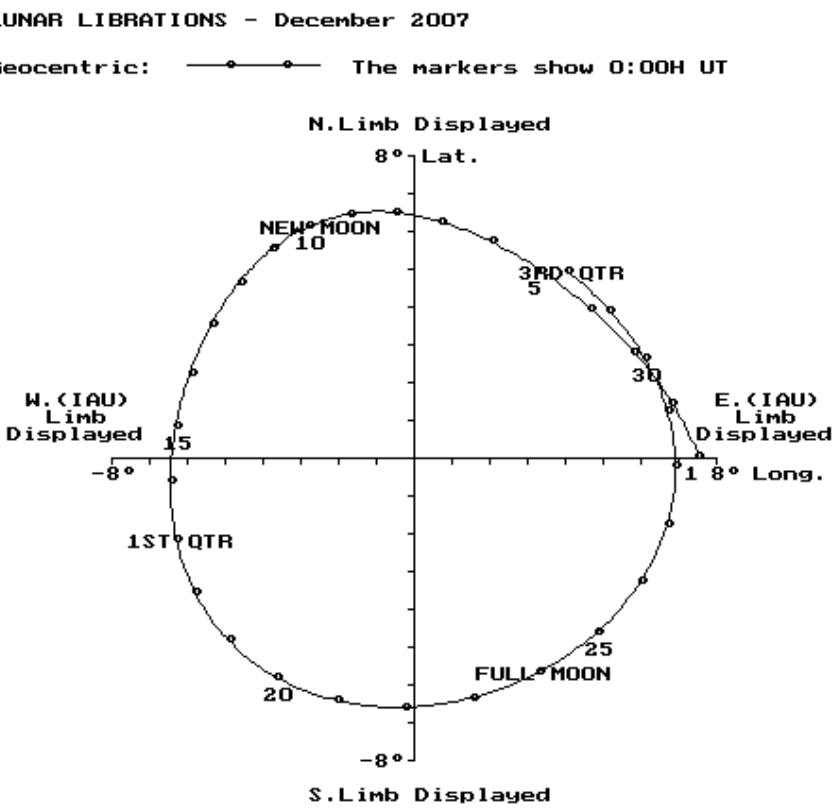
Lunar features to follow up

1st Qtr to Full Moon and Last Qtr to New Moon

Feature	Lat	Long	
MOSTING A			Appears to be the centre of minor ray system
PTOLEMAUS			Low angle at sunrise, surface is dark ashy grey, almost black
ERATOSTHENES			Bright oval marking on inner slope of E wall (Pickering)
BRAYLEY			Two dark rays inner slope E wall
TIMOCHARIS			To the N a small faint crater B which according to Elger is connected to the glacis by a prominent ridge. Not found by Goodacre
HORTENSIUS			In the direction of Reinhold is an obscure ring. Difficult to see (A). Cleft running from C towards Copernicus, Neison shows a short cleft. Existance is doubtful
PARRY			Neison refers to Parry A as bright surrounded by a brilliant circle of light. Does not seem to apply now
BULLIALDUS			Extending towards C is a chain of craterlets not shown on any previous map and absent from Mt. Wilson photograph
CICHUS			From N side of G and running across the plain to the E as far as curved mountain ridge Barker found a delicate cleft
CLAUSIUS			The floor is said to contain a small central peak
DOPPELMAYER			Central peak surrounded by a bright ring, seen once by Goodacre To NE of Doppelmayer are remains of ring, P, N boundary is a low peak. Running downcentre of P is a delicat cleft
KEIS			Molesworth shows a third opening by the W side of the spur not recorded by any other observer
LUBINIESKY			It is said the floor contains no objects but Molesworth finds a craterlet near the centre and another under the W wall and a hill to the N of the latter.Kreiger shows 7 or 8 low hills mostly on E side
VITELLO			Indications of an obscuer ring under the SE wall and a craterlet under the NE wall
ARZACHEL			E of central peak crater-like object whose real nature is difficult to determine
DAVY			Neison and Elger mention a cleft crossing the floor and intersecting three craterlets
LASSELL			Neison figures a long curved cleft running from Prom. Enarium in a NE direction, passing E of Lassell. Not shown by Schmidt or other
MARE HUMORUM			Greenish colour in part
SCHICKARD			Peculiar variations of shade
WILSON			Madler draws the interior completely level but it appears to contain at least two small crater-like depressions and a low ridge
LEGENTIL			Between Legentil and Bailly, Schmidt has seen what he thinks is a great curved ridge
NEWTON			S of Newton Schmidt has seen a formation regarded by him as a great crater -rille
HORREBOW			Small depression on the NW of interior and a small gap on west wall
LICHENBERG			Reddish tint seen by Madler, appears to have since faded
HERODOTUS			South of D is a short rille, difficult to detect. Two others NE mentioned by Schmidt
ARISTARCHUS			Misty blue tint at times
MARIUS			Schroter draws a minute craterlet on SW wall, but never recovered
BIRT			E of the ring plain is a fine curved rille to which Madler found a southern continuation but not seen by other observers since
HELL			Near Q appeared the celebrated white cloud seen by Cassini which soon disappeared and in its place he saw a new formation

LIBRATION DEC 2007

Date	Libration amountø	PAø	Feature presented
1.0	8.4	274	Babcock*
2.0	7.9	284	Ibn Yunus*
3.0	7.4	296	Joliot*
4.0	7.0	309	Riemann*
5.0	6.8	323	Mercurius*
6.0	6.7	337	Strabo*
7.0	6.8	350	Baillaud*
8.0	6.9	2	Anaxagoras*
9.0	7.0	13	Poncelet*
10.0	7.1	23	Pythagoras*
11.0	7.1	33	Xenophanes*
12.0	7.1	44	Gerard*
13.0	7.1	55	Ulugh Beigh*
14.0	7.1	67	Bartels*
15.0	7.2	79	Bohr*
16.0	7.3	91	Riccioli*
17.0	7.3	103	Maunder*
18.0	7.3	115	Eichstadt*
19.0	7.2	127	Bouvard*
20.0	6.9	140	Inghirami*
21.0	6.5	156	Segner
22.0	6.2	173	Casatus
23.0	6.1	193	Boussingault
24.0	6.2	213	Hanno
25.0	6.6	231	Gum*
26.0	7.0	247	Curie*
27.0	7.4	260	Hansky*
28.0	7.6	272	Peek*
29.0	7.7	283	Ginzel*
30.0	7.6	295	Joliot*
31.0	7.5	306	Rynin*



Program by Bob Roberts.
Observer at: Lat. 51.0øN, Long. 1.8øW
* indicates that the feature is not illuminated.

Physical Data for Lunations: 1050/1051 — Computed by Gareth Williams

2007 DEC.	Age d	Phase	Earth's Selenographic Longø	Earth's Selenographic Latø	Sun's Selenographic Colongø	Sun's Selenographic Latø	R.A. h m	Dec. ø	Rises h m	Sets h m	Transit h m	Alt ø
1.0	21.0	0.555	7.6	0.1	166.1	-1.52	10 17	10.6	23 55	12 40	05 49	47
2.0	22.0	0.455	6.9	1.5	178.3	-1.52	11 02	5.0	.. ..	12 51	06 31	41
3.0	23.0	0.359	5.9	2.8	190.5	-1.52	11 45	-0.8	01 07	13 00	07 11	35
4.0	24.0	0.270	4.7	4.0	202.6	-1.52	12 28	-6.4	02 18	13 11	07 51	29
5.0	25.0	0.191	3.4	5.0	214.8	-1.52	13 11	-11.7	03 29	13 22	08 31	24
6.0	26.0	0.123	2.1	5.8	227.0	-1.52	13 56	-16.5	04 42	13 37	09 14	19
7.0	27.0	0.069	0.7	6.3	239.2	-1.52	14 42	-20.8	05 55	13 55	09 59	15
8.0	28.0	0.029	-0.5	6.6	251.4	-1.52	15 31	-24.2	07 07	14 21	10 46	12
9.0	29.0	0.007	-1.7	6.5	263.6	-1.51	16 23	-26.6	08 16	14 57	11 37	10
10.0	0.3	0.002	-2.8	6.2	275.8	-1.50	17 17	-27.8	09 15	15 46	12 29	10
11.0	1.3	0.016	-3.8	5.6	287.9	-1.49	18 12	-27.7	10 01	16 48	13 22	11
12.0	2.3	0.049	-4.6	4.7	300.1	-1.48	19 07	-26.2	10 35	18 01	14 14	13
13.0	3.3	0.100	-5.4	3.6	312.3	-1.47	20 00	-23.4	11 00	19 20	15 05	16
14.0	4.3	0.169	-6.0	2.3	324.5	-1.45	20 52	-19.4	11 19	20 40	15 53	21
15.0	5.3	0.252	-6.3	0.9	336.7	-1.44	21 41	-14.5	11 33	22 00	16 39	27
16.0	6.3	0.349	-6.5	-0.6	348.8	-1.42	22 30	-8.9	11 46	23 20	17 24	33
17.0	7.3	0.454	-6.3	-2.1	1.0	-1.41	23 18	-2.7	11 57	00 41	18 10	40
18.0	8.3	0.565	-5.8	-3.5	13.2	-1.39	00 06	3.7	12 10	00 42	18 58	46
19.0	9.3	0.674	-4.9	-4.8	25.3	-1.37	00 57	10.1	12 24	02 07	19 48	53
20.0	10.3	0.778	-3.7	-5.8	37.5	-1.36	01 51	16.1	12 42	03 37	20 44	58
21.0	11.3	0.867	-2.1	-6.4	49.6	-1.34	02 49	21.4	13 08	05 10	21 44	63
22.0	12.3	0.937	-0.3	-6.6	61.7	-1.32	03 51	25.3	13 46	06 42	22 49	65
23.0	13.3	0.982	1.6	-6.3	73.8	-1.31	04 57	27.5	14 42	08 03	23 55	65
24.0	14.3	0.999	3.4	-5.6	86.0	-1.29	06 05	27.8	15 58	09 04	.. ..	..
25.0	15.3	0.986	4.9	-4.6	98.1	-1.27	07 10	26.0	17 25	09 45	00 57	63
26.0	16.3	0.948	6.0	-3.2	110.2	-1.26	08 11	22.6	18 53	10 12	01 59	60
27.0	17.3	0.888	6.7	-1.7	122.3	-1.24	09 07	17.9	20 17	10 31	02 52	55
28.0	18.3	0.812	6.9	-0.2	134.5	-1.22	09 59	12.5	21 36	10 45	03 41	49
29.0	19.3	0.724	6.7	1.3	146.6	-1.21	10 46	6.7	22 52	10 57	04 25	43
30.0	20.3	0.630	6.1	2.7	158.8	-1.20	11 31	0.9	.. ..	11 07	05 07	37
31.0	21.3	0.533	5.2	4.0	170.9	-1.19	12 15	-4.9	00 04	11 17	05 47	31

Jan 2008

1.0	22.3	0.437	4.1	5.0	183.1	-1.17	12 58	-10.3	01 16	11 29	06 28	26
2.0	23.3	0.345	2.8	5.8	195.2	-1.16	13 42	-15.4	02 28	11 42	07 10	21
3.0	24.3	0.259	1.5	6.4	207.4	-1.15	14 28	-19.8	03 41	11 59	07 54	16
4.0	25.3	0.181	0.2	6.7	219.6	-1.14	15 17	-23.4	04 54	12 22	08 41	13
5.0	26.3	0.114	-1.0	6.7	231.8	-1.13	16 08	-26.1	06 04	12 53	09 30	11
6.0	27.3	0.061	-2.1	6.4	243.9	-1.11	17 01	-27.6	07 07	13 38	10 23	10
7.0	28.3	0.023	-3.0	5.8	256.1	-1.09	17 56	-27.9	07 59	14 37	11 16	10
8.0	29.3	0.003	-3.8	4.9	268.3	-1.08	18 51	-26.7	08 37	15 48	12 09	12
9.0	0.5	0.003	-4.5	3.8	280.5	-1.06	19 46	-24.2	09 05	17 07	13 01	15
10.0	1.5	0.024	-4.9	2.5	292.7	-1.03	20 39	-20.4	09 25	18 28	13 50	20
11.0	2.5	0.066	-5.2	1.1	304.9	-1.01	21 30	-15.6	09 41	19 49	14 37	25
12.0	3.5	0.128	-5.2	-0.5	317.1	-0.98	22 19	-10.0	09 54	21 09	15 23	31

To receive regular copies of this circular, please send stamped addressed envelopes to the Director. Envelopes at least 110mm by 220mm will ensure no damage in transit.
Members who have Internet access may care to receive their Circulars (colour version) by E mail. Please contact the Director for details.
Contributions related to a specific sub-section should be sent to the appropriate co-ordinator, but send any material of a more general nature to the Editor at:

John Pedler,25 Beverley Hills Park,Porton Road,Amesbury,Wilts.SP4 7LH.
Tel. No. 01980 622314 Email jhnpedler@aol.com

Items for the December 2007 circular should reach the Editor by November 10th