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*Report on Observations of Luminous Meteors, 1862-63. By a
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Society, &c.; ROBERT P. GREG, F.G.S., &c.; E. W. BRAYLEY,
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IN presenting this Report upon the Luminous Meteors of the past year the Committee have much pleasure in drawing attention to the marked advance in the number of coincident observations of meteors, regarding it as a most satisfactory proof of increased vigilance on the part of observers. Thus, of one meteor, viz., that of November 27th, 1862, no less than thirty-eight accounts have been received, of which ten of the most trustworthy have been used for the determination of the path of this detonating meteor. (See Appendix No. II.) Of many other meteors also, have duplicate accounts been received.

To several meteors, of which accounts have been printed in previous Reports, satisfactory tracks have been assigned, which appear in the series of papers forming No. I. of the Appendix.

For the better determination of the heights and velocities of meteors during the August epoch, many observations were made on the 10th of August, 1863, in the S. and E. of England, and the paths and magnitudes of twenty have been calculated. (See Appendix No. V.)

Respecting the Catalogue itself no change of form has been made from that followed in preceding years, but it is enriched by the addition of several ancient observations, collected from uncommon, and generally inaccessible sources. In selection of the observations, meteors inferior to the 3rd magnitude of stars have generally been excluded from the Catalogue.

In the Appendix (following the papers bearing more immediately upon the observations contained in the Catalogue) will be found abstracts from some of the most important papers upon Meteoric Science which have appeared during the past and previous years.

A CATALOGUE OF OBSERVATIONS

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1761. Feb. 7	h m 8 30 p.m.	Winbourn, Dorsetshire.	.....	Light enough to pick a pin from the ground.	Lasted at least 5 minutes (while leaving the carriage to run into the house).	.....
1763. Apr. 29	2 48 a.m.	Observatory ; Hotel Cluny, Paris.	Globe of fire ; one-third diameter of moon.	Bright red ...	40 seconds falling.	12°
Oct. 17	7 0 p.m.	Scotland	Splendour equal to that of broad day.	.....	With great velocity.	.....
	19 7 45 p.m.	St. Neots, Huntingdonshire, and at London.	9 in. in diameter...	.....	26 seconds ...	Began immediately S. of Capella.
1769. Jan. 12	1 30 a.m.	High Holborn, Tower Hill, and at London.	.....	.....	.....	It appeared to come from the S.E.
1854. Oct.	9 11 p.m. ; same hour to a minute as that of August 18, 1783.	Hurworth, Darlington, Durham.	2 × full moon at rising.	Vivid flame-colour, dark red overhead.	Lasted a few seconds.	.....
1859. Aug. 20	6 40 p.m.	Amoy, China ...	Globe 4 or 5 in. in diameter to size of a man's head.	Light blue ...	Half a minute; grew swifter as it rose.	Rose a very little height above the water in the harbour; disappeared overhead.

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OF LUMINOUS METEORS.

Appearance ; Train, if any, and its Duration.	Length of Path.	Direction ; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Like two pillars on the top of the house. When it disappeared, it seemed to move forward and to sink down below the roof. The interiors of the rooms were plainly visible from the outside by the diffused light.			Intensely dark night. It was also seen 6 miles from this, lasting apparently half a minute. ? Aurora.	Annual Register, 1761.
With long tail like a rocket		Fell perpendicularly	The moon greatly diminished in brightness. Sky almost entirely overcast. Wind S.E.	M. Messier, Astronomer at Paris.
An extraordinary luminous appearance.		N. to S.	A similar meteor observed in France.	Annual Register, 1763.
Fireball		Course directed towards the E.	Silent. Providentially no person received any hurt.	Id.
A ball of fire seen			Was attended with noise resembling thunder.	Annual Register 1769.
Tongues and coruscations all round; globular; golden - coloured neck. Tail silvery, vaporous, full of amber-coloured sparks from one side of the sky to the other; lasted a few seconds; much expanded at the point of first appearance.		N.E. to S.W. Appeared pretty low down and passed exactly overhead. Set below the horizon.	Tail very extraordinary. Seen also at Durham, Dundee, Sheffield (Dr. Dick).	E. Collins.
Increased at first, sending off sparks at a good height like fountain jets from the main column of the light; then decreased gradually. Left a trail from the first, remaining overhead ten minutes, becoming zigzag.		Rose vertically	Many persons observed the trail of light, which was like a rent in the blue sky. The sun had not yet set.	

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1859. Oct. 4	h m 9 5 p.m.	Roorkee, N. India	Far brighter than any star then visible in the sky.	.....	Slow motion at beginning and end, quick in the middle.	Appeared at altitude 12° , due E.; passed within 5° of the zenith, and disappeared at altitude 20° , 25° S. of W.
1860. Aug. 11	.....	Newhaven, Connecticut.	46 shooting-stars.....	.....	.....	.....
1861. July 16	10 10 p.m.	Vauxhall, London.	Beautiful meteor.....	.....	.....	Descended towards the earth in a northerly direction.
	24 7 10 p.m.	Lat. $22^\circ 21'$ S., Long. $3^\circ 17'$ E.	= 3rd mag.*	White	1.2 second ...	From Saturn towards the horizon, along axis of the zodiacal light.
	27 7 55 p.m.	Lat. $19^\circ 44'$ S., Long. $0^\circ 18'$ W.	= 3rd mag.*	White	2 seconds.....	From near δ Centauri to western side of Crater.
Aug. 10	About 10 p.m.	Dieppe (France)	Very brilliant shooting-star.	.....	Considerable duration.	Disappeared behind hills in W.: from altitude 45° .
	10	Newhaven, Connecticut, N. America.	95 shooting-stars.....	.....	.....	.....
	10	Burlington, New Jersey.	289 shooting-stars.....	.....	.....	.....
	15 7 0 p.m.	Lat. $6^\circ 19'$ N., Long. $25^\circ 43'$ W.	α Cygni	Slightly red-dish.	1 second	α Cephei towards α Cygni.
	19 7 49 p.m.	Lat. $9^\circ 48'$ N., Long. $17^\circ 10'$ W.	= 1st mag.*.....	Bluish white..	2 seconds.....	Through Cepheus...
	20 7 35 p.m.	Lat. $10^\circ 6'$ N., Long. $28^\circ 15'$ W.	$> \eta$ Ursa Major ...	White .....	.....	α Draconis to η Ursæ Majoris.
	21 9 5 p.m.	Lat. $10^\circ 46'$ N., Long. $29^\circ 28'$ W.	$> \gamma$	White	Not > 0.5 sec.	θ to η Draconis and onwards.
Sept. 25	8 30 p.m.	Lat. $50^\circ 37'$ N., Long. $0^\circ 16'$ E.	= 2nd mag.*	Deep rose-red	Not > 0.25 sec.	μ Serpentis to the N.E.
	25 8 32 p.m.	Ibid.....	= 1st mag.*.....	White	Not > 0.5 sec.	From near χ Ceti towards S. horizon.

A CATALOGUE OF OBSERVATIONS OF LUMINOUS METEORS. 213

Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Far most brilliant at the centre of its course; a tail began to follow it as it rose. A fine meteor from first to last.	E.N.E. to W.S.W.	Gave irresistibly the impression of a body becoming luminous on entering the atmosphere.	J. Herschel.
.....	36 or 80 per cent. emanated from a point; R. A. 48° 6', N. Decl. 50° 57'.	.....	E. C. Herrick.
Left a long and brilliant tail behind it; near the horizon the head burst and emitted a light similar to what we see when a sky-rocket bursts.	Its course was in a northerly direction.	.....	'Illustrated London News.'
No track left; no sparks...	Along axis of the zodiacal light.	.....	T. Halis.
No track left; no sparks...	Id.
Numerous shooting-stars overhead in all directions. Some lasted one or two seconds.	A fog then filled the sky; calm air.	Jas. Philp.
.....	80 per cent. radiated from R. A. 47° 56', N. Decl. 47° 56'.	β Camel.; R. A. 48° 6', N. Decl. 50° 57'.	E. C. Herrick.
.....	88 per cent. radiated from R. A. 48° 6', N. Decl. 50° 57'.	.....	V. Marsh and — Gummen.
Slight train seen through twilight.	T. Halis.
Train disappearing at same time as meteor.	S. to N. ....	.....	Id.
No track left; no sparks...	Id.
No track left; no sparks...	Id.
No track left; no sparks...	Very rapid	Id.
Train	Id.

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1861. Nov. 19	h m 9 45 p.m.	London	Very surprising meteor.	Colour a fine sky-blue.	About 60°	
Dec. 5	7 15 p.m.	Lat. 6° 2' N., Long. 17° 45' W.	= 1st mag.*		1.5 sec.	From Cassiopeia through Lynx.
	8 20 p.m.	Seacombe (near Liverpool).	Half diameter of full moon. Light like the sun, casting deep shadows on all objects.			It disappeared about 40° above the horizon, near the three bright stars of Draco.
	9 5 15 a.m.	Lat. 1° 13' N., Long. 19° W.	= 2nd mag.*			α Crucis through β to α Centauri.
	24 9 0 p.m.	Lat. 35° 54' S., Long. 5° 14' E.	= 2nd mag.*			Greater Magellanic cloud to Canopus.
	31 9 20 p.m.	Lat. 37° 55' S., Long. 23° 28' E.	= 2nd mag.*			Canopus towards Achernar.
1862. Jan. 20	8 35 p.m.	Lat. 21° 30' S., Long. 74° 20' E.	= 1st mag.*	White	1.5 sec.	δ Hydræ Australis to η Toucani.
Feb. 2	7 15 p.m.	Lat. 9° 55' N., between Ceylon and Madras.	Venus	White	3 seconds.....	From Monoceros to 30° above the horizon.
	21 8 52 p.m. G. M. T.	Cambridge Observatory.	Auroral arch	White	Endured a considerable time.	Gradually rose towards the zenith. Passed over the Pole-star at 8 ^h 52 ^m p.m.
	23 9 25 p.m.	Weston - super Mare.	Light as strong as half-moon.	Red		
Mar. 27	9 20 p.m.	Kurrachee (Bombay), India.	Exceedingly large meteor.	Blue.....	2 or 3 seconds	From nearly due S., under Rigel to the Pleiades.

Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Head much brighter than the tail, of a parabolic shape, about 25' across the broadest part. Behind the head extended a tail about 5° in length and 12' broad in the middle.			After proceeding about 60°, the meteor broke up into a great number of pieces and finally disappeared.	J. H. Davis.
				T. Halis.
Large fireballs, or rather more than one. They almost immediately, suddenly, became extinct as soon as seen. A few dull red sparks remained, but these also vanished very quickly.		 <p data-bbox="491 690 562 714">Meteor.</p>	No report heard	J. M ^c Innes.
		 <p data-bbox="496 844 556 868">Moon.</p>		T. Halis.
				Id.
				Id.
Train				Id.
Left no track; no sparks...		N.E. to S.W.		Id.
Its brightest part was towards the E.		Its vertex was apparently upon the magnetic meridian.		James Challis.
Its light was comparable to a flash of lightning two miles from the spectator. Very intense.				Communicated by W.H. Wood.
				H. Temple Humphreys.

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862.	h m					
June 4	8 30 p.m.	Urbino, Rimini (Italy).	Fine bolide			
	5 9 20 p.m.	Lat. 52° N., Long. 89° 35' E.	=2nd mag.*	White	1.5 second ...	From ζ Centauri to N.N.E.
	14 7 15 p.m.	Lat. 1° 7' S., Long. 85° 45' E.	=4th mag.*	White	1 second	Through Centaurus to S.S.E.
	18 9 0 p.m.	Lat. 7° 1' S., Long. 79° 20' E.	=2nd mag.*	Rich red	3 seconds.....	From near β Triang. Aust. to δ Arae.
July 8	6 30 p.m.	Lat. 33° 17' S., Long. 32° 45' E.	>1st mag.*	Arcturus	2 seconds.....	λ Scorpii towards W.N.W.
	19 10 15 to 11 p.m.	Prestwiche, near Manchester.	Not a single shooting-star.			
	20 7 15 p.m.	Lat. 28° 48' S., Long. 9° 54' E.	=2nd mag.*	White	1 second	η Serpentis to S Taur. Poniat.
Aug. 4	9 45 p.m.	Euston Road, London.	Fine meteor, equal to 1st mag.*		5 seconds.....	From star BAC 219 to do. BAC 1001.
7, 8, 9		Brussels, and also at Havannah.				
	10 8 30 to 13 p.m.	Rome; Observatory of the Capitol.	19 shooting-stars recorded.			
	10	Havannah and Paris.	31 and 54 shooting-stars per hour.			
	12 10 0 p.m.	Euston Road, London.	=2nd mag.*		4 seconds.....	76 Ursæ Majoris to 3 Can. Venat.
	12 10 14 p.m.	Ibid.....	=2nd to 3rd mag.*			Appeared in absolute conjunction with Mizar, and vanished just under it.
	12 10 49 p.m.	Ibid.....	=1st mag.*.....		Occupied only 2 or 3 secs. in passage.	From 85 Hercules to 62 Hercules. (Approx.)
	12 10 52 p.m.	Hawkhurst (Kent).	=2nd mag.*	White	1.2 second ...	From ½ (ζ Ursæ Maj., κ Bootis) to β Bootis.
	12 11 1 p.m.	Flimwell, Hurstgreen (Sussex).	=1st mag.*.....		Rapid	From β Draco-nis to A Hercules.
	12 11 11 p.m.	Greenwich	Bright meteor ...	White	Moved very rapidly.	Appeared from the W., and swept close below the 'Pointers' towards the horizon. Centre at κ Bootis..
	12 11 35 p.m.	Hawkhurst	=δ Ursæ Majoris...	White	0.5 second ...	
	12 11 41 p.m.	Flimwell, Hurstgreen (Sussex).	=1st mag.*.....		Rapid	From 15 Vulpeculæ to 5° below δ Aquilæ.

Appearance ; Train, if any, and its Duration.	Length of Path.	Direction ; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Train				Jac. Bianconi (Bologna). T. Halis.
No track left ; no sparks...				Id.
Left no track ; no sparks..			Slow motion	Id.
Train same colour as head			Moderately rapid. Moon 11·2 days old at noon.	Id.
			Clear sky, fine night ...	R. P. Greg.
No track left ; no sparks...				T. Halis.
Left a train for 3 seconds..				T. Crumplen and J. Townsend.
Two to three shooting-stars per hour.			Sky particularly clouded	Ad. Quetelet, Andres Poey.
A small fireball. First and second magnitude shooting-stars.		Radiated from the head of Cepheus and cluster of Perseus.		Madame Scarpellini.
				Andres Poey, Coulvier Gravier.
No train left				T. Crumplen and J. Townsend.
				Id.
Left a slight train			Seen through clouds ; part of passage quite obscured.	Id.
Sparkled slightly				A. S. Herschel.
				F. Howlett.
	Had a very long run.			W. Airy and W. Stone.
No track left	5°	Towards δ Bootis		A. S. Herschel.
				F. Howlett.

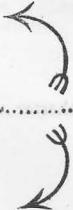
Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Aug.12	h m 11 48 p.m.	Flimwell, Hurst-green (Sussex).	= 1st mag.*.....		Rapid	From 41 Antinoi to 55 Sagittarii.
	13 0 13 a.m.	Hawkhurst	= α Aquilæ		0.6 second ...	Appeared 1° W. of π Ursæ Majoris.
	13 0 15 a.m.	Ibid.....	= α Aquilæ		1 second	From $\frac{1}{2}$ (κ α) Draconis to near ζ Ursæ Majoris.
	13 0 30 a.m.	Ibid.....	= Arcturus	Red	1 second	κ to τ Can. Venat..
	19 11 30 p.m.	Hay, S. Wales..	= 2nd mag.*			Halfway between Ursa Major and Minor. Parallel to δ α Ursæ Majoris.
	23 4 0 p.m.	Georgia (North America).	Great luminosity...			High up in the sky
	23 9 55 p.m.	Weston - super - Mare.	Brilliant meteor; lit up the sky.			Altitude 35° , S.S.W. to W.
Sept.16	9 10 p.m.	Ibid.....	= to Mars at his brightest.	Bright yellow	$1\frac{1}{2}$ sec.; rapid	H 69 Ursæ Majoris to ρ Bootis.
	16 9 14 p.m.	Ibid.....	= 2nd mag.*	Blue.....	$1\frac{1}{2}$ sec.; slow	Fell vertically 8° below χ Draconis.
	16 9 38 p.m.	Ibid.....	= 2nd mag.*	Blue.....	2 secs.; very slow.	From ν Ursæ Majoris to 15 Leonis Minoris.
	16 10 0 p.m.	Ibid.....	= 2nd mag.*	Blue.....	$2\frac{1}{2}$ secs.; slow	η Persei to Capella
	16 10 17 p.m.	Ibid.....	= 1st mag.*.....	Dull yellow ...	$1\frac{1}{2}$ second ...	δ Cephei to 17 Lyncis.
	18 8 54 p.m.	Ibid.....	= to Venus.....	Bright yellow	4 secs.; very slow.	β to λ Ophiuchi ...
	18 8 58 p.m.	Ibid	= Arcturus	Blue.....	2 seconds.....	μ to ζ Herculis ...
	18 9 30 p.m.	Ibid.....	Very bright meteor	Blue.....		
	19 6 10 p.m.	Reigate	Large meteor in broad day, just after sunset.		Disappeared very quickly.	Fell down in the S.W.
	19 10 15 p.m.	Ramsbury, near Hungerford (Wilts).				Passed among the stars of Aries, Musca, and Triangula.

Appearance ; Train, if any, and its Duration.	Length of Path.	Direction ; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
				F. Howlett.
No track left	6° or 7° ...	Towards θ Ursæ Majoris		A. S. Herschel.
Faint track 4° long, 1 sec.		Towards η Ursæ Majoris		Id.
		Slight deflection in last half of course.		Id.
No track left	10°	δ to α Ursæ Majoris		T. W. Webb.
Like a sword. Handle silver, blade and point red, ten times as long as broad.		Pointed for S.W. to N.E.		Monticello Journal (Florida).
Left a large luminous streak.		Horizontal		W. H. Wood.
Left a narrow yellowish streak 30°, 3 seconds ; η Ursæ Majoris appeared through it.			About one shooting-star every 5 minutes for 1½ hour.	Id.
				Id.
				Id.
				Id.
Increased in size. An adhering dull red tail 8° long.				Id.
Increased in size and brilliancy. From first magnitude star, became very bright, globular, and suddenly extinct.				Id.
A slender adhering tail ...				Id.
				Id.
A ball of fire with a long tail of sparks.			A large meteor was also seen at Southampton on the same date (— Burningham, Jun.).	Thomas Burningham.
				A. Butson.

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Sept. 19	h m 9 55 p.m.	Caen (Normandy).	Globe as large as a fist. Vividly illuminated all objects.	Globe as blue as some port-fires. Diffused light, yellow, then deep blue.	.....	From the middle of $\alpha \beta \gamma$ Aurigæ to the middle of $\lambda \mu \psi$ Ursæ Majoris.
19	10 0 p.m. (+).	Manchester	Strong glare seen; from behind the observer.	.....	A few seconds	Moved along in an upward course.
19	10 12 p.m.	Chiswick	Light more intense than any single flash of lightning.	.....	.....	Exactly overhead when first perceived. From a little west of Vega towards the S.W.
19	10 15 p.m.	Arnside Tower...	Brilliant glare seen	Meteor bluish.	.....	Moved along the sky in a N.E. direction.
19	10 15 p.m.	Wellington (Somerset).	4 times μ or 10 times Sirius.	Body and train blue.	Not very rapid	Appeared about 4° north of the Pleiades. Moved N.W.; descending from ζ Persei to β Aurigæ.
19	10 15 p.m.	Great Malvern.....	.....	.....	.....	The track extended from Capella directly towards the Pleiades, but did not reach the Pleiades.
19	10 15 p.m.	Peckham Rye, London.	.....	.....	.....	A broken line of fire extended from the zenith to the Great Bear.
20	5 0 a.m.	St. John's Wood, London.	As large as a small plate; very bright.	.....	.....	Position not ascertained.
20-30	.....	Manchester	= 8th-10th magnitude stars.	.....	.....	Chiefly in the N.E. sky.
22	10 22 p.m.	Euston Road, London.	= to Mars	Ruddy	3 secs.; slow and uniform motion.	From 10° E. of Delphinus, and same altitude as Delphinus to 7° below Mars.

Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
At first a large caudate shooting-star; tail continuous. Expanded suddenly like a bouquet, whence issued a blue globe with a tail formed into parcels. Left a train of rocket-like sparks after disappearance.				Eudes Deslongchamps.
Brilliants were falling from it.				Communicated by R. P. Greg.
Globe scattered blue light; became egg-shaped, elongated itself, and disappeared without sparks. Track like a fluttering riband three or four inches broad. Yellow - orange colour near Vega, the rest beautiful blue.				S. Richards, Jun., communicated by T. Slater.
Like the electric light. It had a tail, and many sparks and stars.				Communicated by R. P. Greg
			No report heard	James Glaishez.
				Communicated by T.W. Webb.
Meteor not seen, but the flash only.				Communicated by T. Crumpler.
A large meteor				Id.
Telescopic meteors; one, two, or even three on every fine night.			Striking frequency of them.	Jos. Baxendell.
A train 5° long				T. Slater.

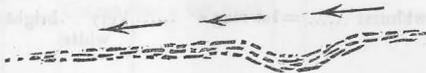
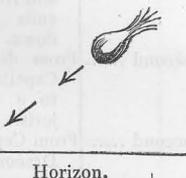
Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Sept. 22	h m s 10 22 p.m.	Etchingham (Sussex).	= 1st mag.*.....	Red and blue, dull.	4½ to 5 secs...	Started very near Delphinus; travelled through Pegasus and disappeared half-way between α Arietis and α Trianguli.
	22 10 23 p.m.	Ibid.....	= 4th mag.*.....	.....	Rapid	Described a curve round the head of Delphinus.
	22 10 23 30 p.m.	Ibid.....	= 4th mag.*.....	.....	Rapid	Described a reverse curve about Capella.
	22 10 26 p.m.	Euston Road, London.	= 3rd mag.*.....	Bluish	Rapid; 1 sec.	γ Pegasi to 22 Andromedæ.
	22 10 47 p.m.	Ibid.....	= 2nd mag.*	White	1 second	χ Cygni to 5° below τ Cygni.
	22 11 3 p.m.	Ibid.....	= 1st mag.*.....	White	1 second	Crossed a point 0° 48' following, and 0° 5' S. of Mars.
	22 11 31 30 p.m.	Ibid.....	= 2nd or 3rd mag.* .....	.....	2 seconds.....	From the Pleiades to near σ Arietis.
	22 About 11 48 p.m.	Ibid.....	= 2nd mag.*	White	Rapid motion..	From 1° E., 6° below Mars to 8° below.
	25 About 6 p.m. or very little later.	Smedmore, Kimmeridge (Dorset).	Very bright ball of light.	.....	.....	Presented itself at altitude 70°, going towards S.E.
	25 Shortly before 6 30 p.m.	Between Llan-gollen and Corwen.	Half size of the moon.	.....	.....	Appeared falling towards the W., as if down upon a hill, but disappeared behind it.
	25 6 28 p.m. or 6 30 p.m.	Oakley, Bishop Stortford (Essex).	A splendid meteor.	.....	.....	Descended in a westerly direction.
	25 6 30 p.m.	Loughton (Essex).	As large as the planet Jupiter.	Bright hues of blue and red.	10 seconds ...	From E. to N.W....

Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Meteor reddish, and tail blue, or <i>vice versâ</i> . Extraordinary for its protracted course.	85° .....	.....	No meteor ever seen to travel so slowly.	F. Howlett.
.....	.....	.....	.....	Id.
.....	.....	.....		Id.
Slight train	30° .....	.....	.....	T. Crumplen.
Tail of 2°	10° .....	.....	.....	Id.
Train of 10°, lasted one second, fading gradually.	.....	.....	.....	Id.
Left a train of 7° .....	.....	.....	.....	T. Slater and J. Townsend.
Left a slight train .....	.....	.....	.....	T. Crumplen.
After attaining its greatest height, burst into about two dozen small balls of the same light as the meteor, and retaining the same direction for 3 or 4 seconds. Left a slight smoky track behind it.	.....	.....	.....	Communicated by Sir John Herschel.
Very bright, and appeared to be quite close.	.....	.....	.....	'The Standard,' Oct. 10, 1862.
.....	.....	.....	.....	'The Standard,' Oct. 2, 1862.
Very brilliant appearance even in the evening sky. In the dark it would undoubtedly have been as fine as the large meteor of September 19th.	.....	.....	39 minutes after sunset.	.....

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Sept. 25	h m About 7 39 p.m.	London	Fine meteor; = 1st mag.*	.....	0.8 second ...	From near Polaris to 3° above β Ursæ Minoris.
25	8 32 p.m.	Brighton	Most brilliant meteor.	White, then green.	.....	Descending in the N.E.
27	Soon after 8 p.m.	Cuckfield (Essex)	Several splendid meteors.	.....	.....	Traversed the eastern sky.
29	8 49 30 p.m.	Manchester	Decidedly > Ca- pella; nearly = to Mars.	Bluish white.	1½ to 2 secs...	From R. A. 1 ^h 58 ^m , Declination N. 28½° to R. A. 3 ^h 51 ^m , Declination N. 30°.
Oct. 3	7 35 p.m.	Vienna	One-fifth diameter of the moon.	Yellow in centre; greenish on outer edges and on tail.	2 seconds.....	Altitude 34° in S.W.
5	8 0 p.m.	London	> Arcturus.....	.....	Rapid	From near Arcturus to below the ho- rizon.
7	12 30 p.m. Noon.	Mens, Fürsten- berg (Meck- lenburg).	Aërolite, 16 lbs. ....	.....	.....	.....
15	9 1 p.m.	Senftenberg (near Berlin).	7' diameter	Greenish blue, then red.	2½ seconds ...	From near Perseus to feet of Ursæ Major.
15	9 14 p.m.	Ibid.....	5' diameter	Greenish blue, then red.	2 seconds.....	From Pleiades to- wards Cetus.
15	9 24 p.m.	Prague	Large fireball	Greenish .....	.....	From altitude 19° to about 10° alti- tude at last.
15	9 30 p.m.	Senftenberg (near Berlin).	4' diameter .....	.....	2½ seconds ...	Polaris, past Lyra to S.W.
15	9-10 p.m.	Lake Constance, S.W. end.	= Venus	Yellowish.....	3½ seconds ...	From 20° altitude in E. to 30° alti- tude in N.E. or N.
16	9-10 p.m.	Rothnen-Siedel..	2 × full-moon.....	Prismatic colours.	.....	.....
16	9-10 p.m.	Ibid.....	Large fireball .....	.....	.....	.....
16	9-10 p.m.	Ibid.....	Large fireball .....	.....	.....	.....
18	9 25 p.m.	Greenwich	= 2nd mag.*	Blue.....	1 second	From α Persei to the Pleiades.
18	10 36 p.m.	Ibid.....	= Capella.....	Bluish white.	1 second	In N.; disap- peared near α Draconis.
20	6 34 p.m.	London	A little less than Mars.	Intense white	1 second, or a little less.	From 2° W. of ϵ Pegasi to 1° W. of and above α Aquarii.
20	9 49 p.m.	Greenwich	= 2nd mag.*	Blue	1 second	From Perseus to β Andromedæ.

Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Left a train of 1°				T. Crumplen.
Changed from silvery brightness to a most beautiful green colour, at the same time emitting sparks.		Descended S.W. to N.N.E.	Light breeze and passing clouds.	F. E. Harrison.
Two or three were transcendently bright and very eccentric in their movements, one performing for many degrees a snake-like course.		Serpentine course	Starlight night after an extensive distant thunder-storm.	'Kent and Sussex Advertiser,' Sept. 30.
It left no train behind it, but threw off two or three fragments in a downward direction at the moment of its extinction.		Its course was undulating.		Jos. Baxendell.
Tail of 30' in length	23°	E.S.E. to W.N.W. downwards at an angle of 17°.	Described with other meteors by Dr. Haidinger.	H. Wolf.
Left a train for a second or two.		Fell vertically		T. Crumplen.
			Earth and 'sand' was thrown up into a shepherd's face.	Communication by Dr. Haidinger.
				T. Brorsen.
Burst into sparks				Id.
Long train		Oblique path in the N.E.		J. Müller.
Long red fiery train	80°			T. Brorsen.
	30°	Inclined slightly upwards towards Ursa Major.		R. P. Greg.
Long train		N.E. to S.W.	Probably October 15 ...	Id.
			Probably October 15 ...	Id.
			Probably October 15 ...	Id.
Small train			Hazy	W. C. Nash.
Fine train		E. to W.		Id.
Slight tail, leaving a faint blue light.	10°			T. Crumplen.
Slight train				W. C. Nash

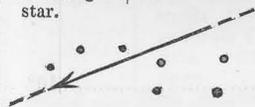
Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Oct. 20	h m 9 52 p.m.	Greenwich	=2nd mag.*	Blue.....	1 second	From Cassiopeia to α Pegasi.
	20 11 58 p.m.	Ibid	=2nd mag.*	Blue	1 second	From direction of the Pleiades to γ Aurigæ.
	20 11 59 p.m.	Ibid	=3rd mag.*	Blue	$\frac{1}{2}$ second	From γ to ζ Orionis.
	24 10 21 p.m.	Hay (S. Wales)..	=1st mag.*	Yellow .....	.....	From 5° below α Aquarii to 5° above δ Aquarii.
	26 7 45 p.m.	Weston - super - Mare.	A sudden brilliant light.	Colour of streak bright orange.	Meteor not more than 1 sec.; not seen.	Brightest on curved part S.W. by W.; altitude 45° .
	26 9 0 p.m.	Greenwich	=1st mag.*	Blue	1 second	Fell from a point a few degrees E. of the Pleiades.
	26 9 30 p.m.	Weston - super - Mare.	=Mars	Yellow.....	.....	From altitude 30° S.W., down to the horizon or below it, in S.
	27 6 30 p.m.	Troppau .....	.....	.....	.....	Altitude 40° in W.
	31 8 45 p.m.	Weston - super - Mare.	=1st mag.*	Blue	1 second	From altitude 25° in W.
Nov. 2	10 7 p.m.	Thornliebank, Glasgow.	A sudden flash illuminated every object.	Meteor white-blue.	.....	Fell down from no great elevation to below the horizon; a little N. of W.
	2 A little after 10 p.m.	Glasgow	Nearly as large as full moon.	White .....	.....	It appeared to be falling towards the horizon from the N.W. of the sky.
	3 Evening ...	Prestwitch(Manchester).	Four shooting-stars in a moderate time.	.....	.....	.....
	5 6 0 p.m.	Liverpool.....	As large as an orange, or 5' diameter.	Quite white...	$2\frac{1}{2}$ seconds ...	In the E.S.E., from altitude 30° to altitude 12° .
	5 6 10 p.m.	Manchester, 10 miles S.	Large fireball .....	.....	2 seconds.....	From N.N.E. to S..

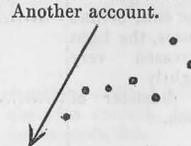
Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
				W. C. Nash.
Faint train				Id.
				Id.
Many shooting-stars observed this evening. Two of first magnitude appeared together.				T. W. Webb.
A luminosity remained three minutes. Disappeared and reappeared several times, the light fluctuating from right to left.		A little inclined to the horizon.		W. H. Wood.
				
Left a train a few degrees in length.		Perpendicular downwards.		J. MacDonald.
			Many meteors in this locality.	W. H. Wood.
				
		S. to N.		J. Schückle.
	20°	Nearly vertical down		W. H. Wood.
Left two red sparks, the upper one brightest. Both disappeared with the meteor. No streak left.			In bright moonlight	Professor W. Thomson.
Ball of white flame; train of red sparks like stars, four or five in number. Appeared with extraordinary suddenness.			Sky extremely clear at the place where the meteor appeared: bright moonshine.	Paragraph in 'Glasgow Herald,' November 4.
		Radiant, ill-defined, near head of the Lynx.	Full moonlight	R. P. Greg.
Nearly round; no tail or sparks.	16° or 18°	Downwards towards the left, 70° from horizontal.	During moonlight	H. Gair.
Nucleus and tail of sparks				R. P. Greg.

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Nov. 9	h h m 7 to 7 30 p.m.	Prestwitch, Manchester.	Not one shooting-star.			
9	9 3 p.m.	Weston - super - Mare.	> Mars	Silvery white.	1½ second ...	From altitude 10° S.; to altitude 2°, 5° W. of S.
9	10 41 p.m.	Greenwich	=2nd mag.*	Blue	Less than 1 sec.	From direction of α Perse ^t towards N.; disappeared about 15° below Polaris.
10	7 to 7 30 p.m.	Prestwitch (Manchester).	Two shooting-stars			Fell down in N.W..
11	7 10 p.m.	Hawkhurst	=1st mag.*	Very bright white.	Very slow motion.	From α Ursæ Majoris to ϵ Ursæ Majoris, but turned a perfect half circle round δ Ursæ Majoris.
11	8 45 to 9 p.m.	Weston - super - Mare.	Two or three shooting-stars; =3rd mag.*	Blue		From Mars towards the W., and from ξ Herculis vertically down.
11	9 10 p.m.	Greenwich	=3rd mag.*	Blue	1 second	From direction of Capella, almost to σ Ursæ Majoris.
11	9 28 p.m.	Ibid	=3rd mag.*	Blue	1 second	From Cepheus to α Draconis.
11	10 30 to 11 p.m.	Prestwitch (Manchester).	No shooting-stars seen.			
12	6 5 p.m.	Accrington (Lancashire).	=2nd mag.*	Faint white ...	Rather slow...	Fell from Pegasus..
12	7 46 p.m.	Weston - super - Mare.	=to α Lyræ	Blue	2¼ seconds ...	From Mizar to π Herculis.
12	8 45 p.m.	Accrington (Lancashire).	=3rd mag.*	Bright white..	Rapid; instantaneous.	About 10° above Castor.
12	9-10 p.m.	Prestwitch (Manchester).	Four shooting-stars			Two at the N.W. horizon, from Draco. The others eastward, from Cassiopeia and Pleiades.
13	Until 9 p.m.	Weston - super - Mare.	No shooting-stars visible.			
16	6 28 p.m.	Accrington (Lancashire).	=Mars	Yellow, somewhat dull.	2 or 3 seconds; tolerably quick.	From Auriga, under Capella, towards Pleiades, which it nearly reached.

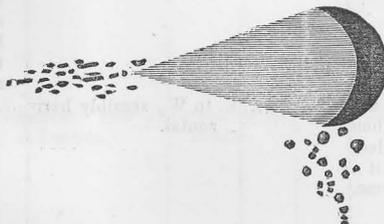
Appearance ; Train, if any, and its Duration.	Length of Path.	Direction ; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Stellar brilliancy, increasing ; left no tail ; suddenly vanished.	12°		Sky very favourable ; moon rising.	R. P. Greg. W. H. Wood.
Appeared within one minute of each other ; no other shooting-stars seen in 30 minutes. Steady light, at last fading to nothing.	Long paths.	Directed apparently from Mars. Course like a fish-hook.	Favourable sky	R. P. Greg. T. Humphrey.
				W. H. Wood.
	10°			W. C. Nash.
				Id.
	About 10°	Almost vertically, but inclining westwards.	Bright moonlight	R. P. Greg. L. E. Becker.
Two, minima of size, one near centre of course ; thin adhering tail.	Long path			W. H. Wood.
The two near the horizon must have been brilliant where they fell.	5°	Fell vertically		L. E. Becker.
		No radiant point discernible.		R. P. Greg.
Grew smaller, as if burning itself out. Drew a straight train of sparks behind it.			Then overcast	W. H. Wood. L. E. Becker.

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Nov. 16	h m 10 40	p.m. Hampstead (London).	Bright meteor, like a globe.	Nucleus white, track greenish.	.....	Appeared 20° below, and a little west of Mars.
	16 10 48	p.m. Weston - super Mare.	Twice as large as Venus; light = half moon.	Bright yellow.	1½ second; very rapid.	From 4° S.E. of Mars.
	22 9 2	p.m. Ibid	Resembled Mars ...	Resembled Mars.	1½ second ...	From ϕ Piscium to τ Ceti. Passed within 3° (W.) of Mars.
	23 7 8	p.m. Ibid	Two shooting-stars, 1st and 2nd mag.	Blue .....	.....	Disappeared near Mars.
	23 8 30	p.m. Ibid	Quarter moon's diameter.	Deep orange...	3° or 4° in 1 sec.; very slow.	Appeared 3° over α Eridani. Hidden from view after falling 4° or 5°.
	26 6 40	p.m. Leeds	Bright meteor .....	.....	More slowly than any shooting-star.	In Ursa Major.
	26 6 48	p.m. Peebles	Double the size of the largest planet.	.....	Very rapid ...	Appeared in N.W. Passed with great velocity across the heavens to S.E.
	26 About 7	p.m. Selkirk (Roxburghshire).	Light like the moon	.....	.....	Passed overhead to altitude 42°, 36° W. from S.
	26 7 45	p.m. Melbourne (S. Australia).	Fully as large as the moon. Light quite eclipsed the moonlight.	Pale, but intensely bright hue.	.....	Passed near the zenith.
	27 4 55	p.m. Strasbourg	Great fireball .....	.....	.....	.....
	27 5 40	p.m. Millwall, N. bank of the River Thames, opposite Greenwich Hospital.	Appeared to be as large as the full moon.	Green, yellow, blue, alternately.	.....	Appeared near the zenith, and moved on an inclined path towards S. horizon.
	27 5 45	p.m. Torquay	Apparent size of full moon.	Colour of full moon.	2 seconds.....	Began and ended E. of Mars. Lower than Mars.



Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Left a streak for a short time.	15° or 20° ..	Downwards to the right, 30° from horizontal.	.....	T. Potter; H. T. Humphreys.
Pear-shaped and tailed. Burst with a shower of 1st magnitude yellow stars which fell vertically.	.....	Parallel to the ecliptic, westwards.	Sky and sea calm	W. H. Wood.
Light intermittent .....	.....	.....	.....	Id.
.....	.....	Radiated from ν Cassiopeiae.	.....	Id.
Several until 10 ^h p.m., in same place and direction, the last a 1st magnitude star, blue.	4° or 5° ...	Fell nearly vertical .....	.....	Id.
Like ball of a Roman candle. Disappeared in a bank of clouds which rose up within five minutes.	.....	Another account.	.....	John Marshall.
Illuminated the whole country with extraordinary brilliancy.	.....	.....	In 4 minutes rumbling concussions were heard for 90 seconds..	Peebles 'Advertiser' (R. Chambers).
Exploded at the end of its course with a very bright light.	.....	.....	A prolonged report followed the appearance in about one minute.	G. Lewis.
Nearly round, rather elongated. Finally disappeared behind a dark cloud.	45°	In a southerly direction	At right angles to the usual course of such visitants.	Owen's Advertiser.
A train of pale-coloured light remained for some seconds.	.....	N.W. to S.E. ....	.....	Cosmos, Paris, December 5th.
Yellow sparks thrown off throughout the whole course; a train also seen after meteor's disappearance for half a minute.	.....	In a S. by W. direction.	The meteor fell behind St. Alphege church, Greenwich, exhibiting that building in bold relief from surrounding objects; then suddenly disappeared, leaving all objects totally undistinguishable.	J. R. Nash.
At first mistaken for the moon; circular; then pyriform, and exploded, shooting out behind it a brilliant crimson flame, like fireworks.	28°	E. to W., sensibly horizontal.	.....	W. Pengelly.

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Nov. 27	h m s 5 45 p.m.	Deal.....				From near Mars; passed under the moon, and burst at altitude 20° above the horizon.
27	5 45 p.m.	Sunderland (Durham).	Brighter than Venus.	White	3 seconds.....	From altitude 9°, 38° E. from S. to altitude 3°, 5° W. from S.
27	5 45 p.m.	Springfield (Essex).				Passed some distance below the moon into a long dark cloud to the right of it.
27	5 45 p.m.	Hastings	At the end, behind houses, the light increased very brightly.		While a person might walk ten paces.	From about altitude 60° to about altitude 35°.
27	5 45 p.m.	Saltford (Bath)..	Half diameter of moon.		Barely 3 secs...	From altitude 11½° S.E., to altitude 10°, 17½° E. from S.
27	5 45 p.m.	Broxbourne.....	Magnificent meteor	Red, then blue, then red.	6 or 8 seconds	It appeared to be about a mile off, and 400 or 600 yards high.
27	Appeared 5 47 5 p.m.	Sandgate (near Dover).	Greatest width 0° 13'; greatest length 0° 26'. Would certainly have appeared a bright body on the surface of the moon.	Colour of meteor white, but reflected light bluish.	Not more than 4 or 5 secs.; motionslow.	Appeared at R. A. 23 ^h , S. Decl. 7°, and disappeared at R. A. 20 ^h 40 ^m , S. Decl. about 25°.
27	5 47 5 p.m. Extinction.	Grantham	Width across the head 31'; length longitudinally 1° 17'; by comparison with the moon.	Blue	From α Ceti to end of course 8 seconds.	View commenced near α Ceti; passed almost across β Ceti, and then immediately above Fomalhaut, vanishing 4° beyond this star, and about 5° above the horizon. Dropped balls of light between β Ceti and Fomalhaut.



Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Like a globe of phosphorus driving a dark-coloured head or bolt burning before it. Left a golden thread behind it. Burst with a crackling appearance.	Sloped gently down towards the W.	.....	G. Brown (Deal Telegram).
Left no permanent streak, but sparks only, upon a short train.	Almost horizontal, slightly inclining downwards.	.....	Rev. G. Ilyffe.
Two elongated, intensely blue pear-shapes, raced closely side by side, preceded by a flattened orb of vivid red, one-eighth of the magnitude of the whole, followed by a stream of light like that of a rocket.	Writer in 'The Standard.'
Scattered sparks like a piece of white-hot iron brought out of a smith's fire.	N.E. by N. to S.W. by S.	.....	James Rock, Jun.
.....	Azimuths doubtful; but altitudes correct, by house roofs, &c.	.....	Francis Cotterell.
Changed from red to blue, and again to red, when it disappeared.	Writer in 'The Morning Star.'
Kite-shape, or like Prince Rupert's drop. A train of red sparks left in the rear; no coloured balls seen to drop from the head.	Path perpendicular to the line of the moon's cusps. Produced backwards, would have passed halfway between Mars and the moon.	Although the moon (7 days old) was extremely bright and clear, its light was lessened by the meteor.	H. P. Finlayson.
Kite-shaped; light most intense in front, in a crescent form, expanding occasionally almost to a circle. Cone milky white, phosphorescent, or dim in comparison. A train of ruddy sparks, lasting 2 or 3 seconds, followed the meteor. Large blue balls scattering yellowish balls, which burst into sparks, fell perpendicularly from the head.	The meteor gradually increased in size, but not uniformly, an occasional decrease in size and brightness taking place. Momentary checks in the velocity each time that it discharged a shower of balls. It vanished at its maximum brightness, not bursting, but as if going behind some opaque body.	E. J. Lowe.

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Nov. 27	h m 5 48 p.m.	Westminster, London.	.....	Many colours..	Steady motion	Moved from over Parliament Houses towards the W. below the moon.
27	5 49 p.m.	Euston Square (London).	Diameter equal half diameter of moon, but more brilliant than the full moon.	Very bright green.	.....	First seen at R. A. 23 ^h 40 ^m , S. Decl. 6° or 8°. Disappeared from view at R. A. 22 ^h 30 ^m , S. Decl. 10°.
27	5 50 p.m.	Kensal - green (London).	Like the moon at the time.	Nucleus of a light green colour.	.....	From 2° or 3° S. of the Pleiades to about 15° or 20° S. of the moon.
27	5 50 p.m.	Clapham (near London).	Very large meteor..	Brilliant colours.	About 5 secs...	From 28° E. from S. altitude 16°, to 11° W. of S. altitude 17° or 18°.
27	5 50 p.m.	Near Windsor ...	Light sufficient to read by.	Rainbow colours.	.....	.....
27	5 50 p.m.	Liverpool	The light appeared to flash while the meteor was hidden behind houses.	Bluish white, yellow at the edges, and red at the extremity of the tail.	Moved three and a half times its own length in a second.	Altitude 8° from S.E. by E. to S. by E.
27	5 50 p.m.	Etchingham (Sussex).	As large as the moon.	.....	.....	Underneath the moon.
27	5 50 p.m.	Hawkhurst (Kent).	Outshone the moon; light sufficient to read by.	Blue	3 seconds.....	λ Aquarii to ζ Capricorni.

Appearance; Train, if any, and its Duration.	Length of Path.	Direction; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Body green; tail golden. Disappeared in a sparkling shower of colours.				H. R., writer in 'The Times.'
Tail like a rocket; beginning and end hidden.		Nearly horizontal	A serene night and sky. Moon seven days old.	A.B.Clementson.
In form somewhat oval. A train stretched far behind, composed of amber- and crimson-coloured sparks. Balls fell from it, which burst into other balls.			As the meteor shot forward it increased and diminished alternately in size, especially just before disappearance.	C. H. Bright.
				
At first small, but grew very bright, and left a train of sparks. Disappeared without bursting.		Ascended somewhat	Positions measured by description the following evening.	Communicated by A. S. Herschel.
Light, with a rugged appearance, moved along the tail and formed sparks for an instant behind it.	About 40°	Inclined downwards 4° or 5° from horizontal.	Disappeared from sight behind buildings.	Writer in 'The Standard.' H. P. Horner.
				
Followed by a train of sparks.		E. to W., obliquely downwards.		E. Hussey.
No streak remained, but sparks followed thinly in a train; beginning and end hidden by obstacles. Flakes of light were left behind below.		Downwards towards the right at a considerable slope.	The light caused the observer to turn round towards the moon.	F. Young.
				

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Nov. 27	h m 5 50 p.m.	Caen (Normandy). (Seen also at Cherbourg.)	Glare from behind only perceived.	First red, then blue.	.....	Moon and haze obscured the stars.
27	5 53 p.m.	Weston - super Mare.	One-third diameter of moon.	Silvery white.	4 to 5 seconds	From N.E., altitude 10° to S.E. by S., altitude 10°.
27	5 55 p.m.	Mottingham, Chislehurst (Kent).	A ball as large as two fists; lighted up the pathway.	.....	.....	.....
27	5 55 p.m.	Peckham Rye ...	Most beautiful meteor; large as an ordinary gas-lamp.	Beautiful blue tinge.	Did not travel at a very rapid rate.	.....
27	5 55 p.m.	Mile End Road, London.	Width of head one-eighth diameter of moon.	Bright yellow, shading to rose pink and rich violet.	4 to 6 seconds	About 15° above the horizon.
27	5 55 p.m.	Chislehurst (Kent).	As large as full moon; light sufficient to read by.	Very blue colour.	Very slow motion; visible 3 seconds.	.....
27	Between 5 and 6 p.m.	Lymington (Hants).	Ball of bright blue; light like a Roman candle.	Blue, red, yellow.	.....	My eyes resting on the Pleiades, just below them issued a mass of light. The meteor cast off sparks when nearing the Needles. These, when it got over the Needles, vanished away underneath the moon.
27	Between 5 and 6 p.m.	Etchingam (Sussex).	Splendid meteor ...	Nearly every colour.	.....	.....

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Nov. 27	h m Shortly before 6 p.m.	Havre (France)..	Great fireball .....	.....	With astonishing rapidity.	Passed over the town.
27	6 0 p.m.	Newport, Isle of Wight.	.....	Blue	Moderate speed.	Passed under the moon, more near to the moon than to the horizon.
27	6 0 p.m.	Wrotham (Maidstone).	About equal to the moon; light not quite so bright.	Light white, like moonlight.	.....	Passed under the moon.
27	6 0 p.m.	Bridport (Dorset).	Rather longer than moon's diameter; twice as long as broad.	.....	.....	N.E. to S.E.; greatest height about 20°.
27	6 0 p.m.	English Bicknor, Forest of Dean (Gloucestershire).	.....	Intense blue...	.....	The height above the horizon was guessed to be about 60°.
27	6 0 p.m.	Sutton Court, Abingdon.	.....	.....	.....	.....
27	6 0 p.m.	Cambridge Observatory.	Overpowered the light of the moon with intermittent flashes.	Deep blue ...	Slowly pursued its course.	Passed at about 112° N. P. D., or altitude 16° from S.E. to S.W.
27	6 0 p.m.	Honiton, near Exeter.	Larger than full moon.	Intensely blue	Very slow motion, 10 secs. at least.	Judging from the moon, the altitude was about 35° from 20° E. of S. to 5° E. of S.
27	6 3 p.m.	Pendock (Worcestershire).	Half size of full moon.	Intense blue...	3 or 4 seconds	Appeared between Pleiades and Aries. Passed under Mars, and burst immediately below the moon.

Appearance ; Train, if any, and its Duration.	Length of Path.	Direction ; noting also whether Horizontal, Perpendicular, or Inclined.	Remarks.	Observer.
Left a luminous track behind it.	N. to S.	Seen also at Bolbec, Ivetol, and Rouen.	(Cosmos, Paris, Dec. 5th).
Appearance like a Roman candle ; a cylinder ten or twelve diameters in length of uniform brightness ; not pear-shaped or kite-shaped. No other tail.	E. to W. ; straight and level course.	The moon shone brightly.	James Rock, Jun.
Lenticular when first seen, thus— →  Disappeared as a shooting-star might do, vanishing not quite suddenly.	Moved downwards towards W.S.W., at an angle inclined 6° to the horizontal.	.....	J. C. Kent.
.....	Rose in N.E., moved horizontally, and disappeared in S.E.	.....	Charles Walke
One or two solitary sparks, at first increased to a stream until the meteor was formed. The meteor increased in glory and volume until it vanished.	J. Burdor.
Its sudden disappearance was very remarkable, there being apparently no obstacle to hide it.	The same remark made at Hazely Heath, Hants, by Mr. J. Seeley.	J. Kent.
The flashes resembled summer lightning, reaching nearly to the zenith. Dispersed sparks on all sides ; left no streak ; went out suddenly. (Ring of red and blue light with tail appended; 2nd account).	Ring of red and blue light with a tail appended (second account).	H. Todd.
.....	Almost horizontal ; somewhat depressed.	.....	J. Huyshe.
A yellow halo and long luminous tail. Numerous sparks scattered when it burst.	No report was heard ...	W. S. Symonds.

Date.	Hour.	Place of Observation.	Apparent Size.	Colour.	Duration.	Position, or Altitude and Azimuth.
1862. Nov. 27	h m 6 30 p.m.	Windsor	Cast shadows through a window more strong than those of the moon.	.....	.....	Underneath the moon. Altitude about 15°.
27	.....	Bray (County Wicklow).	Width at head half diameter of moon, tapering to extremity of tail; four moon's diameters in length.	Blue and green	Lasted only a few seconds.	Appeared almost due E., and moved rapidly to about due S.E. at an altitude of 5° or 6°.
27	.....	Tunbridge	One-third diameter of moon.	.....	Comparatively slow.	Appeared near Mars; descended across the sky, under the moon. Disappeared halfway from the moon to the horizon.
27	8 48 p.m.	Greenwich Park..	= 1st mag.*	Blue	1 second	From direction of α Draconis to β Aurigæ.
Dec. 3	7 30 p.m.	Lymington	As large as the moon when full.	.....	Very rapid; 10 or 12 secs.	Went S. in a low curve towards the Needle rocks and descended into the sea; from W. of Ursa Major in N.
10	About 7 p.m.	Weston - super Mare.	Large bolide	Blue .....	.....	From altitude 25° or a little higher in the E. to altitude 10° S. or S.S.W.
10 & 11	6-6½ p.m. 8-9 p.m. 10½-12 p.m.	Prestwich (Manchester).	10 or 12 meteors = 1st mag.* .....	.....	.....	In all quarters of the sky.
12	10 15 p.m.	Greenwich	= 1st mag.* .....	.....	1 second	Fell down perpendicularly from a few degrees E. of the Pleiades.
12	10 20 p.m.	Ibid	Small .....	.....	2 seconds	Passed from ϵ Orionis in a S.W. direction for 10°.
12	10 30 p.m.	Ibid	About twice as large as Sirius.	Blue	0.5 second	Seemed to spring from θ Ursæ Majoris, about 5° above it, and burst at about 2° from ϵ Ursæ Majoris.
13	10 26 p.m.	Ibid	= 1st mag.*, brilliant.	Blue	1 second	From α Geminorum to γ Orionis.
15	6 50 p.m.	Dordogne Puycharnaud (France).	Twice Venus	White	Moved slowly.	Appeared near the Pole, and moved towards the horizon.

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with Alex^r. S. Herschel's
respects

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