PROJECT 10073 RECORD CARD

1. DATE	2. LOCATION		12. CONCLUSIONS
18 November 1963	New Paltz, N.Y.		☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon ☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft X Was Astronomical Meteor ☐ Probably Astronomical ☐ Possibly Astronomical ☐ Other ☐ Insufficient Data for Evaluation ☐ Unknown
3. DATE-TIME GROUP Local GMT 18/0905Z	4. TYPE OF OBSERVATION X Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar		
5. PHOTOS ☐ Yes X No	6. SOURCE Civilains		
7. LENGTH OF OBSERVATION 5 Minutes	8. NUMBER OF OBJECTS 1	9. COURSE SE	

10. BRIEF SUMMARY OF SIGHTING

White smoke like streak breaking into 300-400 pieces. Particles travelled through sky in V formation. Resembled ECHO or SPUTNIK. Dull faint sound of explosion. Speed estimated too fast for a/c. Observation duration 5 minutes. Estimated altitude above 50,000ft. Initial observation at 70 deg in South. Disappearing 10 deg elev in East.

11. COMMENTS

No decay for 18 Nov. Evaluated as Meteor. Much conflicting data. Assume narrative of ~~///~~ speed in excess of a/c indicates motion. Rather than duration (Is correct)

ATIC FORM 329 (REV 26 SEP 52)

[illegible] C534ZCJYC[illegible]

23 Nov 63 01 40z

RR RUCD[illegible]

DE RUEAKN 32 22/1730Z

ZNR

R 221725Z

actioo 1/3/7E (UFO) 4xn

FM [illegible]AIRDIV STEWART AFB NY

TO RUHCALE/ADC

RUCD[illegible] AFSC FOREIGH TECHNOLOGY DIV WPAFB OHIO

RUEAH/HQ USAF WASH DC

RUEAHQ/SECAF WASH DC

INFO RUEA[illegible]/26TH ADIV HANCOCK FLD NY

BT

UNCLAS 26NOIN 11-2002.

HQ USAF ATTN: AFCIN. SECAF ATTN: SAFOI. SUBJECT: UFO.
THE FOLLOWING INFORMATION IS SUBMITTED IN ACCORDANCE
WITH PARAGRAPH 14, AFR 200-2. A. DESCRIPTION:
(1) WHITE SMOKE - LIKE STREAK IN SKY WHICH SHATTERED
AT ITS [illegible] END INTO 300-400 BRIGHT RED COLORED
PARTICLES. (2) EACH OF THE 300-400 PARTICLES SIZE OF
BASEBALL AT ARMS LENGTH. (3) WHITE STREAK, RED
PARTICLES. (4) ONE STREAK, 300-400 PARTICLES
(5) PARTICLES TRAVELLED THROUGH SKY IN "V" FORMATION

PAGE 2 RUEAKN 32 UNCLAS

WITH [illegible] OF "V" CURVED TO THE OUT[illegible] AT THEIR
[illegible]. (6) [illegible] AT LEAST SEVEN [illegible]
[illegible] T[illegible] YEARS AGO. (7) [illegible]. (8) [illegible]
[illegible]. (9) T[illegible]
AT [illegible] WHICH OBSERVE[illegible] ESTIMATE[illegible]
[illegible]. B. [illegible]
(1) [illegible] STREAK [illegible] NEL [illegible]

EXTREMITIES. (6) RESEMBLED SATELLITE OBSERVER HAD SEEN TWO YEARS AGO. (7) NONE. (8) DULL, FAINT SOUND OF EXPLOSION WHEN OBJECT SHATTERED. (9) TRAVELLED AT SPEED WHICH OBSERVER ESTIMATED TO BE TOO FAST FOR AN AIRCRAFT. B. DESCRIPTION OF COURSE OF OBJECT: (1) WHITE STREAK IN SKY AND DULL EXPLOSIVE NOISE. (2) 75 DEGREES ABOVE HORIZON - SOUTH. (3) 18 DEGREES ABOVE HORIZON - SOUTHEAST. (4) STRAIGHT LINE, ESE, BETWEEN HYDE PARK AND POUGHKEEPSIE, NY. (5) DISAP- PEARED OVER HORIZON. (6) 5 MINUTES. C. MANNER OF OBSERVATION: (1) GROUND - VISUAL. (2) NONE (3) N/A. D. TIME AND DATE OF SIGHTING: (1) 102953Z. (2) NIGHT. E. LOCATION OF OBSERVERS: 3 MILES W OF NEW PALTZ, NY. F. IDENTIFYING INFORMATION OBSERVERS: (1) CIVILIANS: (A) [redacted], AGE 35, [redacted], NY; LABORER, F-6. (B) [redacted] AGE-33 [redacted] ST., POUGHKEEPSIE, NY; TRUCK DRIVER, F-6. (C) [redacted] AGE-35, [redacted] POUGHKEEPSIE, NY; LABORER, F-6. (D) [redacted]

PAGE 3 RUEAKN 38 UNCLAS

STREET, POUGHKEEPLIE, NY; OCCUPATION UNK F-6. (E) [redacted] AGE-29, [redacted] POUGH- KEEPSIE, NY; LABORER, F-6. (2) N/A. G. WEATHER AND WINDS: (1) CLEAR, NO WIND. (2) SURFACE-112 DEGREES AT 5 KNOT . FOLLOWING WINDS ALOFT ARE ESTIMATES ARRIVED AT BY LOCAL W O. 6,000FT - 270 DEGREES AT [illegible] KNOT . 10,000FT - 2[illegible] DEGREES AT 40KNOT . [illegible],000FT - 270 DEGREES AT 50 KNOT . [illegible],000FT - 270 DEGREES [illegible] . [illegible],000FT - 270 [illegible] . [illegible],000FT - 27[illegible] [illegible] . [illegible] - [illegible] DEGREES AT 65 KNOT . [illegible],000FT- NO ESTIMATE AVAILABLE. [illegible] - [illegible] . (4) [illegible] - [illegible] . (5) [illegible] - [illegible] . (6) [illegible] -

[illegible] (7) [illegible]

(C) [redacted], AGE-[illegible], [redacted] ST., POUGHKEEPSIE, NY; LABORER, F-6. (D) [redacted] AGE-30 [redacted] ST., POUGHKEEPSIE, NY; TRUCK DRIVER, F-6. (C) [redacted], AGE-35, [redacted] ST., POUGHKEEPSIE, NY; LABORER, F-6. (D) [redacted], AGE-32 [redacted]

PAGE 3 RUEAKN 33 UNCLAS

STREET, POUGHKEEPLIE, NY; OCCUPATION UNK F-6.

(E) [redacted], [redacted] T. POUGHKEEPSIE, NY; LABORER, F-6. (2) N/A. C. WEATHER AND WINDS: (1) CLEAR, NO WIND. (2) SURFACE-110 DEGREES AT 5 KNOTS. FOLLOWING WINDS ALOFT ARE ESTIMATES ARRIVED AT BY LOCAL WXO. 6,000FT - 270 DEGREES AT 30 KNOTS. 10,000FT - 260 DEGREES AT 40 KNOTS. 16,000FT - 270 DEGREES AT 50 KNOTS. 20,000FT - 270 DEGREES AT 50 KNOTS. 30,000FT - 270 DEGREES AT 60 KNOTS. 50,000FT - 270 DEGREES AT 65 KNOTS. 60,000FT - 270 DEGREES AT 55 KNOTS. 80,000FT- NO ESTIMATE AVAILABLE. (3) CEILING - NONE. (4) VISIBILITY - 7 MILES. (5) AMOUNT OF CLOUD COVER - HIGH, THIN, SCATTERED. (6) THUNDERSTORM -NONE. (7) VERTICAL TEMP. GRADIENT - UNK. H. OTHER UNUSUAL ACTIVITY - NONE KNOWN. I. INTERCEPTIONS - NONE. J. AIR TRAFFIC - NONE KNOWN, ACCORDING TO CHIEF CONTROLLER, HANCOCK FLD, NY. [illegible] - [illegible]. K. STAFF INTELLIGENCE OFFICER, DIRECTORATE OF INTELLIGENCE, [illegible] [illegible] [illegible]

NN... 18 Nov 18/0905Z DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
INCOMING MESSAGE
INCOMING

OI

AF IN : 35338 (22 Nov 63) C/bfb

ACTION: NIN-9

INFO : XOP-1, XOPX-4, DIA-25, DIA-CIIC-2, SAF-OS-3 (45)

SMB C290

ZCHQE498ZCKNA773

RR RUEAHQ

DE RUEAKN 30 22/1706Z

ZNR

R 221705Z

FM 26AIRDIV STEWART AFB NY

TO RUWGALE/ADC

RUCDSQ/AFSC FOREIGH TECHNOLOGY DIV WPAFB OHIO

RUEAHQ/HQ USAF WASH DC

RUEAHQ/SECAF WASH DC

INFO RUEASN/26TH ADIV HANCOCK FLD NY

BT

UNCLAS 26NOIN 11-0002.,

HQ USAF ATTN: AFCIN. SECAF ATTN: SAFOI. SUBJECT: UFO.
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PARTICLES. (4) ONE STREAK, 300-400 PARTICLES
(5) PARTICLES TRAVELLED THROUGH SKY IN "V" FORMATION

BASED UPON OBSERVER,S ESTIMATE OF ALTITUDE ("ABOVE
50,000FT"), COLOR OF OBJECT, EXPLOSION AND RESULTANT
SHATTERING AND SPEED. L. NONE.

BT

NNNNPA

S

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

PAGE 2 RUEAKN 30 UNCLAS

WITH ARMS OF "V" CURVED TO THE OUTSIDE AT THEIR EXTREMITIES. (6) RESEMBLED SATELLITE OBSERVER HAD SEEN TWO YEARS AGO.,(7) NONE. (8) DULL, FAINT SOUND OF EXPLOSION WHEN OBJECT SHATTERED. (9) TRAVELLED AT SPEED WHICH OBSERVER ESTIMATED TO BE TOO FAST FOR AN AIRCRAFT. B. DESCRIPTION OF COURSE OF OBJECT: (1) WHITE STREAK IN SKY AND DULL EXPLOSIVE NOISE. (2) 75 DEGREES ABOVE HORIZON - SOUTH. (3) 10 DEGREES ABOVE HORIZON - SOUTHEAST. (4) STRAIGHT LINE, ESE, BETWEEN HYDE PARD AND ~~POUGHKEEPSIE~~, NY. (5) DISAP-PEARED OVER HORIZON. (6) 5 MINUTES. C. MANNER OF OBSERVATION: (1) GROUND - VISUAL. (2) NONE (3) N/A. D. TIME AND DATE OF SIGHTING: (1) 180950Z. (2) NIGHT. E. LOCATION OF OBSERVERS: 3 MILES W OF NEW PALTZ, NY. F. IDENTIFYING INFORMATION OBSERVERS: (1) CIVILIANS: (A) [redacted], AGE 35, [redacted], POUGHKEEPSIE, NY; LABORER, F-6. (B) [redacted] AGE-33 [redacted] ST., POUGHKEEPSIE, NY; TRUCK DRIVER, F-6., (C) [redacted] AGE-35, [redacted], POUGHKEEPSIE, NY; LABORER, F-6. (D) [redacted] AGE-30, [redacted]

? Too fast for A/c ?

DEPARTMENT OF THE AIR FORCE
MESSAGE BRANCH
INCOMING

PAGE 3 RUEAKN 30 UNCLAS

STREET, POUGHKEEPLIE, NY; OCCUPATION UNK, F-6.
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WINDS: (1) CLEAR, NO WIND. (2) SURFACE-112 DEGREES AT
5 KNOTS. FOLLOWING WINDS ALOFT ARE ESTIMATES
ARRIVED AT BY LOCAL WXO. 6,000FT - 270DEGREES AT
30 KNOTS. 10,000FT - 260 DEGREES AT 40KNOTS.
16,000FT - 270 DEGREES AT 50 KNOTS. 20,000FT - 270 DEGREES
AT 50 KNOTS. 30,000FT - 270 DEGREES AT 60 KNOTS.
50,000FT - 270 DEGREES AT 65 KNOTS. 60,000FT - 270
DEGREES AT 35 KNOTS. 80,000FT- NO ESTIMATE AVAILABLE.
(3) CEILING - NONE. (4) VISIBILITY - 7 MILES. (5) AMOUNT
OF CLOUD COVER - HIGH, THIN,, SCATTERED. (6) THUNDER-
STORMS-NONE. (7) VERTICAL TEMP. GRADEINT - UNK.
H. OTHER UNUSUAL ACTIVITY - NONE KNOWN, I. INTERCEP-
TION - NONE. J. AIR TRAFFIC - NONE KNOWN, ACCORDING
TO CHIEF CONTROLLER, HANCOCK FLD, NY. BALLONS -
NONE. K. STAFF INTELLIGENCE OFFICER, DIRECTORATE
OF INTELLIGENCE, HEADQUARTERS 26TH NORAD/CONAD
REGION. OPINION FORMED IS THAT SIGHTING WAS A METEOR,
BASED UPON OBSERVER'S ESTIMATE OF ALTITUDE ("ABOVE
50,000FT"), COLOR OF OBJECT, EXPLOSION AND RESULTANT
SHATTERING AND SPEED. L. NONE.

BT NOTE: ADVANCE COPY DELIVERED TO DIA & NIN

OBSERVER'S PAGE

Universal time (UT) is used unless otherwise noted.

Many Observers Count Leonids

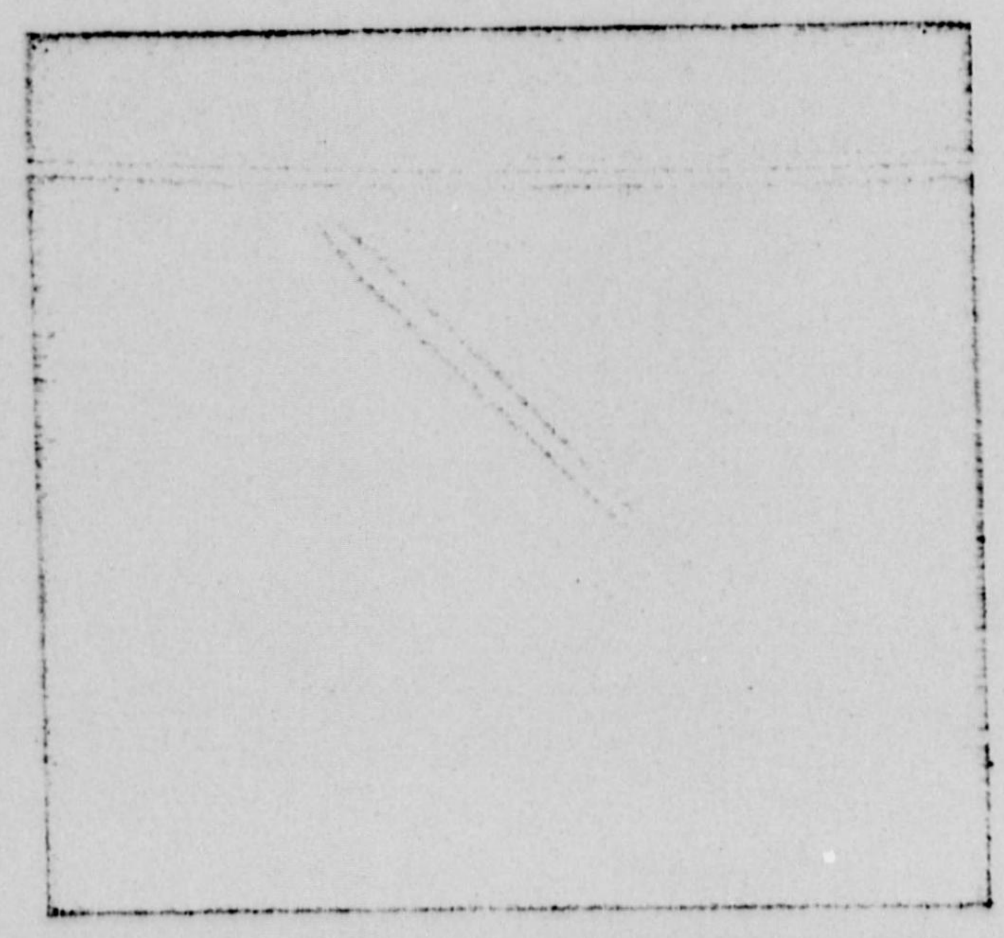
THIS YEAR'S Leonid meteor shower was about as active as the display in 1962 (described in this department last January). Apparently, the maximum occurred on the night of November 16-17, but hourly rates remained below those of 1961 (Sky and Telescope, February, 1962, page 64).

Most observers agreed that the shower members were strikingly bright, left short trains, and were predominantly white. Ralph Boineau of Columbia, South Carolina, comments, "Almost all the Leonids brighter than 1st magnitude left trains that endured from two to five seconds. The trains from these swift meteors were short, none longer than 20 degrees. All the Leonids I saw were white with just a touch of orange in about half the cases."

As in past years, fireballs were sighted along with other shower members. John Smatko, Yonkers, New York, saw a Leonid fireball "as bright as the quarter moon" through a hole in the clouds 10 degrees west of the radiant. This was at 4:37 a.m. Eastern standard time on November 18th. The meteor left a train that was quickly distorted.

The table lists meteor rates by 17 amateurs who recorded individual counts over specific intervals. Beside each name the observing period is stated in Universal time. *L* is the number of Leonids counted during that interval, *S* the number of sporadic (non-Leonid) meteors. The last column indicates the direction *D* that the observer was facing. All observations were made under reportedly clear skies.

One observer worked on three nights —



On November 17th at 2:24 a.m. Pacific standard time, Robert La Pierre of Whittier, California, photographed this Leonid of magnitude −2. He used a 35-mm. Argus camera set at f/3.5 and Plus-X film. He also recorded the Perseid meteor shown on page 299 in the November issue. That picture was incorrectly credited to William OKer, an observing companion.

Observer	*Time (UT)*	*L*	*S*	*D*
	NOVEMBER 15			
Millard	9:00-10:00	6	5	
	10:00-11:00	8	5	
	11:00-11:15	2	3	
	NOVEMBER 16			
Millard	9:00-10:00	12	6	
	10:00-11:00	20	9	
	11:00-11:15	5	2	
Morrison	10:45-12:15	7	5	
	NOVEMBER 17			
Chapman	9:20-10:20	16	28	NE
	11:30-12:30	23	14	NE
Davis	9:20-10:20	6	7	SE
	11:30-12:30	20	8	SE
Karger	6:20- 7:20	6	8	W
	7:20- 8:20	6	11	W
	8:20- 9:20	7	8	W
	9:20-10:20	14	9	W
Key	7:00- 8:30	13	7	
Larson	9:20-10:20	10	15	N
	11:30-12:30	19	13	S
McCants	7:20- 8:20	7	8	W
	8:20- 9:20	11	7	W
	9:20-10:20	14	5	W
McDonald	9:20-10:20	14	13	NW
	11:30-12:30	16	14	NW
McLean	9:20-10:20	11	10	S
	11:30-12:30	29	11	N
Meeus	0:18- 1:03	0	2	E
Millard	9:00-10:00	5	4	
	10:00-11:00	15	4	
	11:00-11:15	6	1	
Milon	9:20-10:20	7	12	E
	11:30-12:30	30	11	E
Molinaire	6:20- 7:20	2	4	E
	7:20- 8:20	3	13	E
	8:20- 9:20	10	3	E
	9:20-10:20	7	4	E
Morrison	11:00-13:30	14	9	
Russell	6:20- 7:20	7	23	E
	7:20- 8:20	5	14	E
	8:20- 9:20	19	4	E
	9:20-10:20	18	9	E
Sears	9:20-10:20	9	10	SW
	11:30-12:30	20	14	SW
Souther	6:20- 7:20	2	7	W
Thomson	6:20- 7:20	3	9	S
	7:20- 8:20	1	10	S
	8:20- 9:20	7	4	S
	9:20-10:20	4	5	S

J. Millard at Atlanta, Georgia. J. Meeus is in Kessel-Lo, Belgium, L. Key at Fernandina Beach, Florida, and R. Morrison in Los Angeles, California.

Two teams of observers supplied the bulk of the meteor counts. C. Chapman, D. Davis, J. Fountain (timekeeper), S. Larson, L. McDonald, D. McLean, D. Milon, and W. Sears watched from Kitt Peak, Arizona. At Montgomery, Texas, another group consisted of Karger, M. McCants, B. Molinaire, Russell, and K. Thomson; Souther kept time during most of the observing session.

On the morning of November 16th, between 2:30 and 4:00 a.m., Central standard time, Randy Baldwin, Wayne

Wooten, and Larry Smith together saw 26 Leonids and 20 sporadics from Florala, Alabama. The next morning a three-hour watch began at midnight, with 30 Leonids and 36 other meteors logged by the first two observers.

Carl McLelland, Jr., and Robert La Pierre watched on the night of November 16-17 from 9:00 p.m., Pacific standard time, until dawn. During this interval these Whittier, California, amateurs counted 178 meteors.

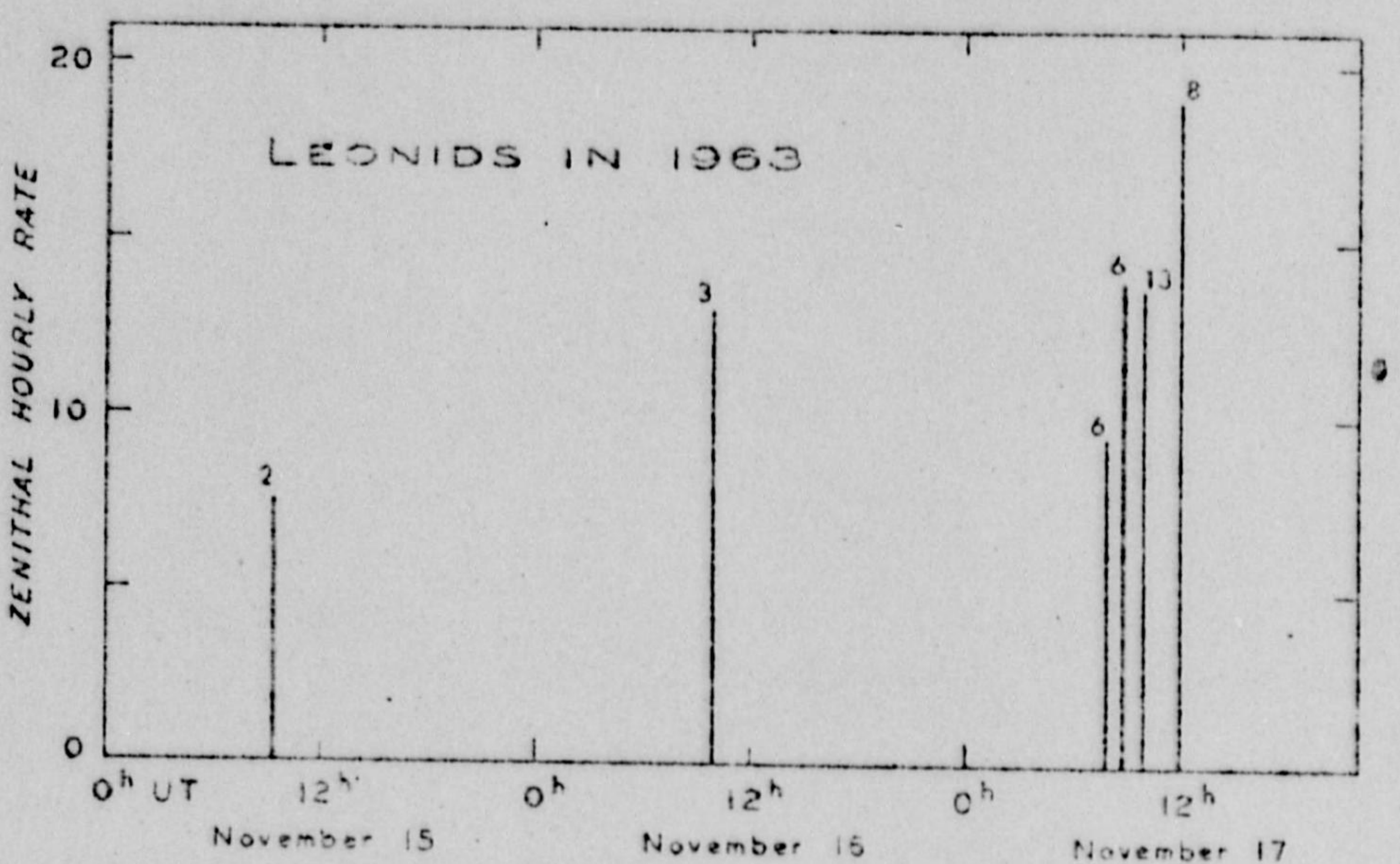
At Wooster, Ohio, William Werner and nine other members of the Wayne County Astronomical Society recorded 70 meteors during 3½ hours, beginning at 9:10 p.m. CST.

The number of Leonids an observer will count is larger the higher the radiant point is above the horizon. If the radiant were directly overhead, he could expect 10 percent more meteors than for an altitude of 60°, 30 percent more than at 45°, and 71 percent more than at 30°.

To make the tabulated counts of Leonids comparable, they must first be reduced to hourly rates, and then converted to zenithal rates. Counts made when the constellation Leo is too near the horizon cannot be safely converted.

Corrected rates, corresponding to the number of meteors that a single observer would see with the radiant in the zenith, are presented in this diagram. For simplicity, simultaneous data have been averaged. Note how the zenithal hourly rate climbed gradually to about 19 by 12h UT on November 17th. No SKY AND TELESCOPE readers reported appropriate data for the following night, so it is uncertain from this sample just when peak activity of the meteor shower actually occurred.

The increase in richness of the Leonid shower during November 15-17 is shown by these corrected counts. The length of a bar represents the number of meteors that would have been seen in one hour with the radiant exactly overhead. With each bar is the number of individual determinations that were averaged together.



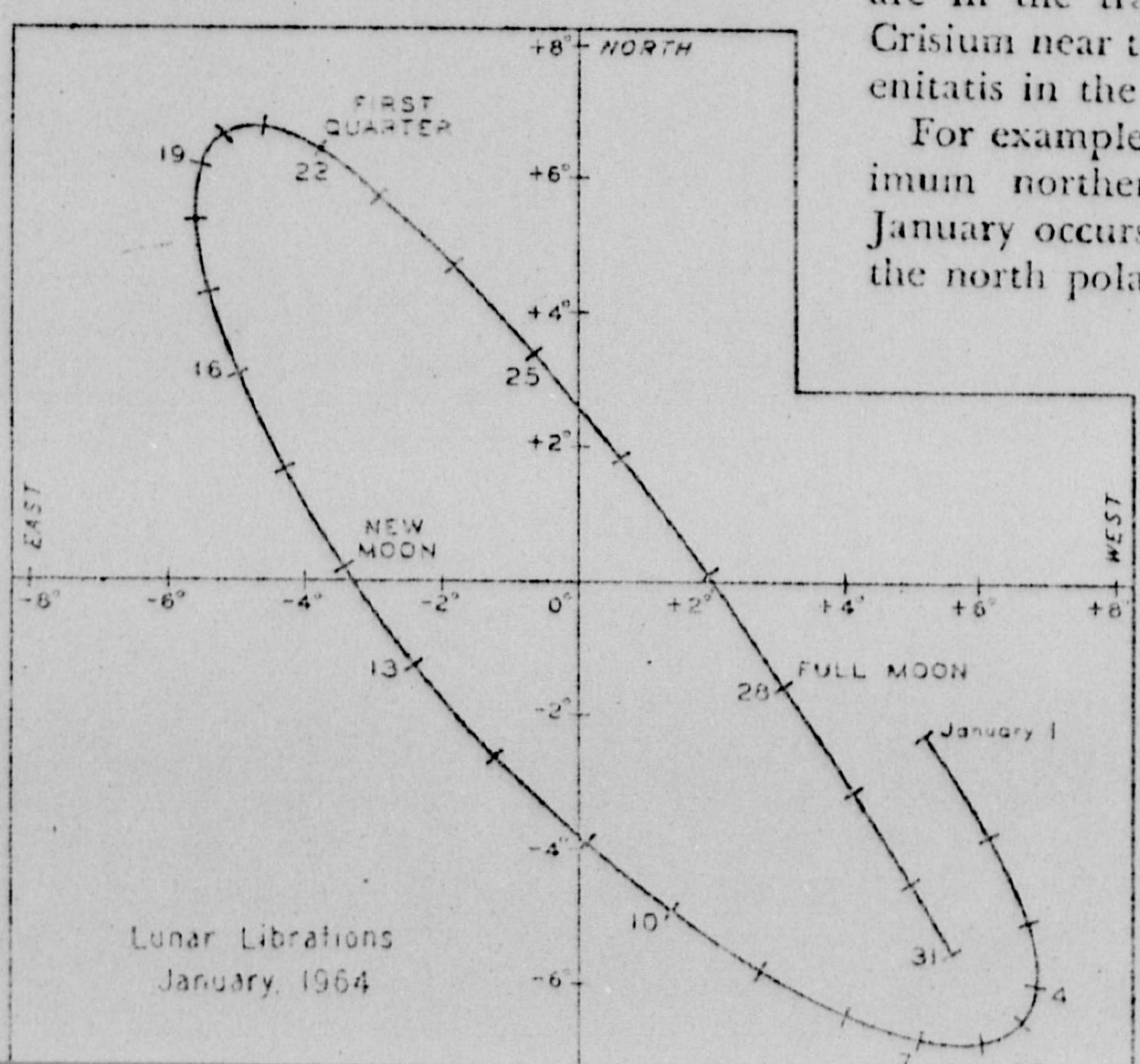
LUNAR LIBRATION CHART

LIMB REGIONS are the least observed parts of the moon. Near the moon's edge some features are always visible, but greatly foreshortened; others are only intermittently carried into view by libration. This is the apparent monthly rocking of the moon in both north-south and east-west directions.

To predict when a particular portion of the limb will be favorably tipped toward the earth during a month, I plot a chart like the one below. My information comes from the *American Ephemeris and Nautical Almanac*, where daily values are given for the earth's selenographic latitude and longitude (the lunar coordinates at the center of the apparent disk). Positive numbers indicate that the north or west limb is exposed. Directions are in the traditional sense, with Mare Crisium near the west limb and Mare Serenitatis in the northern hemisphere.

For example, my chart shows that maximum northern libration (positive) in January occurs on the 21st. At this time the north polar region may be best seen.

ALIKA K. HERRING



The curved line in this chart by Alika K. Herring shows the moon's varying librations during January. Similar charts for other months can be plotted from information given in the "American Ephemeris."