

(4)

OCCULTATIONS FOR JANUARY AND FEBRUARY

Date	No.	Mag.	Time	Edge
1/20/51	885	5.6	3:31.4 AM	D
"	1008	5.0	9:17.2 PM	D
25	1600	5.1	9:17.2 PM	B
29	2039	5.6	9:39.5 PM	B
30	2051	5.7	5:50.9 AM	B
2/18/51	1088	5.6	9:51.0 PM	D
23	1663	5.2	12:29.7 AM	B
25	1884	5.3	2:26.8 AM	B
28	2276	5.6	2:54.5 AM	B

THE AMERICAN EPHEMERIS AND NAUTICAL ALMANAC

Bright Asteroid Positions

Massalia No. 20		Mag. 8.4	
Date	R.A.	Decl.	
	h m	o	
1/14/51	10 02.6	10	49
24	9 57.1	11	16
2/3/51	9 48.9	11	58
13	9 39.4	12	48
23	9 30.1	13	38

  

Bellona No. 28		Mag. 9.2	
Date	R.A.	Decl.	
	h m	o	
1/24/51	10 01.1	10	21
2/3/51	9 54.7	11	43
13	9 47.0	13	14
23	9 32.2	14	44

--- Cincinnati Observatory

A copy of the ephemeris for the bright minor planets may be had by sending a stamped self-addressed envelope to the Cincinnati Observatory, Cincinnati 8, Ohio.

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JUNIOR STAR DUST

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The Nature Of Science

Science is the subject of generalization. A scientist spends his time trying to find general rules by which the universe is governed. He tries to formulate rules which will account for as many attributes of the universe as possible at one time. Kepler proposed three laws which govern the motions of the planets; at about the same time Galileo was studying the acceleration of objects due to gravity. Soon after, Newton came along and announced three laws from which Kepler's laws could be derived and which explained Galileo's experiments of gravity. This generalization was a great triumph in science for it not only encompassed many observed phenomena but it also brought to light many natural occurrences which were not realized. Newton's law of Gravitation as well as other rules of science can only be accepted as true within the limits of experimental error. The explanation of physical nature by means of Newton's laws is called classical mechanics. Though classical mechanics is satisfactory when dealing with ordinary magnitudes of distance, speed, mass, energy and so forth, it is entirely inadequate when dealing with the velocity of light, mass and size of an electron, or the energy of a single X-ray.

When modern scientists began experimenting with the latter quantities they found that they had to completely reconstruct their theories. They could not be satisfied with special set rules for their new observations. They now had to seek general theories which would encompass the subject of classical mechanics and the new observations.

The Nature Of Science Cont.

In 1881 the Michelson-Morley experiment showed that light apparently has the same velocity independent of the relative motion of the observer or source. In 1900, W. Kaufmann found that the mass of an electron increases with its velocity. These two discoveries and others made around the same time could not be explained by classical physics. The problems were investigated individually for a while, then Einstein, like Newton two centuries before, gathered together the conclusions of his predecessors into a general theory. This "Theory of Relativity" triumphed by the prediction of converting mass to energy.

About the same time Max Plank's Quantum Theory of radiation and later Heisenberg's uncertainty principle were helping bring science up-to-date. Scientists are still trying to interweave their theories together into more general ones embracing more and more of the physical attributes of the Universe.

- - - John R. Edmonds, Jr.

Meteors for January and February

As far as meteors are concerned the new year started quietly but for you indefatigable observers here is what you can see in the early morning hours.

<u>Date</u>	<u>Name</u>	<u>Radiant</u>
Jan. 17	Cygnids	Cygnus
Feb. 2-3	Quadrantids	Draco
Feb. 5-10	Aurigids	Auriga

\* \* \* Bob. Green  
A.M.S.

The Planets for January and February 1951

MERCURY was in inferior conjunction with the sun on Jan. 1 and will be at western elongation of the 23rd. It rises about 1½ hours before the sun and will be visible at magnitude 0.2 until the first week in February.

VENUS is moving eastward from the sun and sets about an hour after it. Its magnitude will be about -3 throughout Jan. and Feb. Venus will have about 97% of its 10" disk illuminated.

MARS is still visible early in the evening sky. The magnitude will be about 2 and on the 7th of February there will be a close conjunction with Jupiter at about 7 p.m.

JUPITER can be seen in the southwestern sky during the first two months of the year. On the 10th of Jan. there will be a close conjunction with the 3 day old Moon. Jupiter will be -1.6 magnitude and setting about 4 hours after the sun. In February the great planet will set 2 hours after the sun. The polar diameter is about 32".

SATURN is now the only planet in the midnight sky. You will find it located between Regulus and Spica. Saturn is moving slowly westward and on the 13th it begins its retrograde motion. The magnitude will be 1.0 in Jan. and 0.9 in Feb. The rings will be 41" by 3.1" and the polar diameter about half Jupiter's for both months.

URANUS and NEPTUNE are both visible with optical aid in the late evening sky.

- - - Jimmy Weinstein