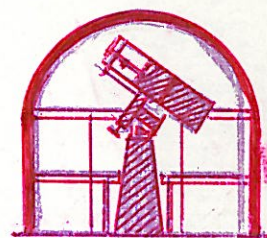




# the spectrum



FEBRUARY 1965

THE BUFFALO ASTRONOMICAL ASSOCIATION

EDITOR B. COOK

## MONTHLY MEETING

The next meeting of the Buffalo Astronomical Association will take place on Friday the 12th of February at at 7:45 P.M. in the Buffalo Museum of Science.

The program will consist of a lecture by Dr. Fred Price entitled "Lunar Ray Systems". Dr. Price is a member of the British Astronomical Association and has been a serious observer of the moon for many years. We are fortunate to have Dr. Price associated with the B.A.A. He is a bio-chemist by profession and is doing cancer research at the Roswell Institute.

Following the meeting there will be refreshments and a social hour. The refreshment committee for February will consist of Ernst Both, Mrs Both and Margaret Rabe.

Weather permitting there will be observation with the museum's 8" telescope. While there's life there's hope.

## NEW MEMBERS

The Buffalo Astronomical Association extends a hearty welcome to the following new members and hopes they will enjoy and profit by their association with us.

1. Sister Mary Clarita
2. Mrs. Ruth Newman
3. Mr. and Mrs. James Golding
4. Mr. Joseph Peterson
5. Dr. William Regelson
6. Mrs. Billie Both
7. Mr. Eugene Hazel
8. Mr. Lawrence Hazel

## ELEMENTARY STUDY GROUP

The Elementary Study Group will meet Feb. 27th at 1:00 in the Science Museum. Leader, Paul Redding will notify all members by mail. The subject will be announced at the meeting.

## ADVANCED STUDY SECTION

The January meeting of the Advanced Study Section was cancelled because of inclement weather. The disappointed members are looking forward eagerly to the next meeting which will be held on Saturday, February 27th at 1:00 in the museum of Science.

It is expected that the discussion started in December on "The Ephemeris, how to read and use it" will be continued. If any members of the B.A.A. have encountered in their reading, passages which they do not understand, they are encouraged to make note of them, bring them to the meeting of this valuable group and learn how profitable it is to become a member of the Advanced Study Section.

Our patient leader, Ronald Clippinger has requested that the name of this section not be abbreviated. Could it be that he thinks the members do not deserve so disparaging a designation?

## ADVANCED OBSERVING SECTION

The A.O.S. (Your editor feels no inhibitions about using initials for this section) met in January in spite of the weather with a somewhat diminished attendance. There was an open discussion of problems relating to the observation of certain of the more difficult lunar features. The discussion was guided and enlightened by the group's leader, Ernst Both, whose time and help are always vastly appreciated.

The February meeting which will take place on Saturday the 27th at 3:00 in the Museum of Science will consist of 10 minute reports on reading or observing by individual members

## JUPITER

### Giant among the Planets

Jupiter is the fifth planet from the sun and the first of the giant planets, not only in placement but in size. Its mean diameter is 85,750 miles or about 10.08 times the size of the Earth; its volume is about 1,312 times the Earth; its mass is 312 times the Earth's mass.

The Jovian disc appears flattened even in the smallest telescopes. Its polar diameter is almost  $1/15$  shorter than the equatorial diameter. This form is due to the great centrifugal force developed at the equator by its extremely rapid rotation.

Equatorial diameter: 89,300 miles  
Polar diameter : 83,900 miles

Jupiter's rotation period is the shortest of all the planets in the Solar System. It is about 9 hours and 58 minutes. Its inclination of its axis is only  $3^\circ$ , thus seasonal effects are not significant.

The force of gravity on Jupiter is 2.53 g, i.e., if a person weighing 100 pounds on the Earth were to transfer himself to the "surface" of Jupiter, he would weigh 253 pounds.

Jupiter's orbit is quite eccentric. At perihelion, or its most closest approach to the sun, its distance is 459,800,000 miles and at aphelion, or its most distant reach from the sun, its distance is 506,800,000 miles. When Jupiter is closest to the Earth, its distance can be 365,000,000 miles. Jupiter's year is 11 years 315 days long. It travels at a mean velocity of 8 miles per second in its orbit about the sun.

Since Jupiter receives about  $1/27$  of the solar radiation than the Earth, its surface temperature is about  $-135^\circ \text{C}$ .

Jupiter's apparent size varies from  $48''$  of arc at opposition to  $30''$  of arc at superior conjunction.

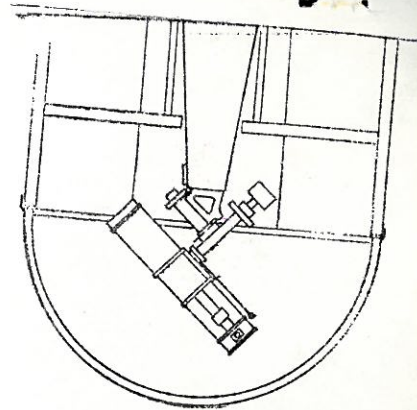
The Great Red Spot was first observed in 1665 and has been visible occasionally. It measures about 30,000 miles long and 7000 miles wide. Since its atmosphere consists mainly of methane and ammonia, its photochemical reactions have been carefully studied.

Methane decomposes into Hydrogen, higher hydrocarbons, and unsaturated hydrocarbons, probably ethylene. Ethylene reacts photochemically to produce a large number of products including acetylene and liquid polymers. Acetylene polymerizes to give Cuprene, a reddish compound of low volatility. These products in small amounts are very probably the source of the Red Spot and other activities.

### JUPITER'S SATELLITES

They were first discovered by Galileo in 1610 and have been referred to as Galilean satellites. Of the 12 known moons, only 4 are of significant size to be visible in smaller instruments. These four are, in order from the planet, Io, Europa, Ganymede and Callisto, sometimes called by these Roman Numerals: I, II, III, IV. Their revolution periods are:  $1 \frac{3}{4}$  days,  $3 \frac{1}{2}$  days, 7 days and  $16 \frac{2}{3}$  days. Their respective diameters are: approx. 2000, 2000, 3200, 3100 miles. Their distances from the planet range from 262,000 miles to 1,167,000 miles. The other eight moons are about 50 to 100 miles in diameter and are probably captured asteroids.

Jupiter's distance from the Sun in light time is  $43 \frac{1}{4}$  light minutes as compared to the Earth's distance of  $8 \frac{1}{3}$  light minutes.



Bruce Cook  
33 Burbank Dr.  
Snyder 14226 N.Y.



# JUPITER'S SATELLITES

There were first discovered by Galileo in 1610 and have been referred to as Galilean satellites. Of the 12 known moons, only 4 are of sufficient size to be visible in Galilean instruments. These four are, in order from the planet, Io, Europa, Ganymede and Callisto, sometimes called the Galilean moons. I, II, III, IV. Their revolution periods are 1.769 days, 3.551 days, 7.155 days and 16.689 days. Their respective diameters are approx. 2000, 2000, 3200, 3100 miles. Their distances from the planet range from 265,000 miles to 1,065,000 miles. The other eight moons are about 50 to 100 miles in diameter and are probably captured asteroids.

Jupiter's distance from the Sun in light time is 43 1/2 light minutes as compared to the Earth's distance of 8 1/3 light minutes.