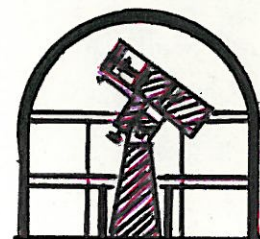




the spectrum



APRIL 1965

THE BUFFALO ASTRONOMICAL ASSOCIATION

B. COOK EDITOR

• B.A.A. MEETING

The April meeting of the Buffalo Astronomical Association will take place on Friday, April 10th at the Buffalo Museum of Science. This will be our annual business meeting. There will be an important discussion of new amendments to the by-laws of the association. A vote on these amendments will be taken after the discussion.

We are pleased to announce what promises to be a very interesting talk by Harold Becker, who just recently spoke before the Lockport Astronomical Association. His topic will be "Astronomical Photography Techniques". He will show some photographs taken both with and without his telescope and he will tell us about the techniques involved in these kinds of picture taking. His most recent interest has been making transparency copies of color pictures taken at the Mount Palomar Observatory - principally with 200 " telescope. Seeing these pictures should be quite a treat as Harold feels that the transparencies projected on a screen are more beautiful than the prints from which they were made.

ALLEGHENY TRIP

It is urgently requested that all those intending to go on the trip to the Allegheny Observatory on June 12th be present at the April meeting. There are 36 openings for this trip (the capacity of the bus that has been hired) and those places will go to the first 36 people who make reservations at the meeting. The bus fare will be \$7.00 round trip and at least a partial payment of the fare

must be made to validate the reservation. Come prepared with checks or bills in hand.

SECTION MEETINGS

The Instrument Section held a meeting on March 26th at the Museum of Science. It was decided that a mirror holder and diagonal holder be purchased. Frank Fronczak brought the 12½" mirror for testing. It was decided to hold the next meeting, Friday, April 23rd, at the Newstead Observatory for the purpose of looking over maintenance needs and the possibility of covering the dome with plastic.

The Advanced Study and Advanced Observing Sections were cancelled because of illness. They will next meet on Saturday, April 24th at 1:00 and 3:00 respectively.

CONVENTION CANCELLED

The proposed Niagara Frontier Astronomical Convention scheduled for May 12th will not be held. The response was very poor due, in the main, to conflicting conventions. Many amateur astronomers who might otherwise have been interested were previously committed to the Canadian Association of Variable Star Observers and the North Eastern Regional Convention of the Astronomical League.

NEWS BRIEFS

At the request of the Jet Propulsion Laboratory Ernst Both will spend two weeks making observations of Mars in preparation for the photographs due to be taken by Mariner 4 early this summer. Ernst will make his observations with the 20" telescope at the Van Vleck Observatory in Middletown Conn. Our congratulations to Ernst and Good seeing.

MARS

The Crimson World

Since Mars is nearing opposition, I thought a few well chosen facts might be appreciated.

~~Mars~~

Mars, the fourth planet from the sun, is the last of the inferior planets in order of increasing distance from our primary. Its diameter is 4200 miles which is just over one-half the Earth's size. Its distance from the Sun ranges from 128,750,000 miles to 155,000,000 miles and averages a distance equal to 1.52 astronomical units. Due to the combined effects of both the Earth's and Mars' eccentric orbits, Mars apparent diameter varies from 3.6 " of arc to 25".1 of arc, a considerable variation in size. On account of its shape, the orbit of Mars is far from being concentric to the Earth's orbit. Where these two celestial highways cross most nearly, they are only 35,000,000 miles apart, while at maximum separation the distance between them can be 62,000,000 miles.

~~Mars~~

Mars period of revolution is 687 d 23 h, which makes their year more than twice our year, although its rotation, or length of day, is 24h 37m 23s or almost the same as our day.

Since Mars axis is inclined by about 25° and its year is more than twice as long, its seasonal effects are more significant. The axis of Mars is inclined in such a way that the Southern Pole is exposed at perihelic oppositions and the Northern hemisphere is exposed at aphelic oppositions. Thus the southern hemisphere is presented under the most favorable conditions.

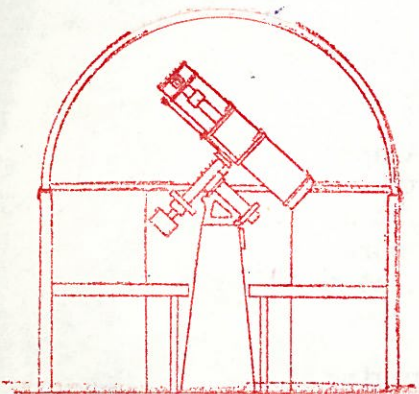
The density of Mars is estimated at 3.8, in contrast to 5.52 for the Earth. From this it can be calculated that the force of gravity is much smaller on Mars. An object weighing 100 lbs. on Earth would weigh only 37 lbs. on Mars. A freely falling object would fall about 6 feet in the first second as opposed to 16 feet on the Earth.

The question concerning Mars is not whether it has an atmosphere, but how much and what kind? The principle evidence in favor of an atmosphere is the presence of polar caps and further the observation of frequent clouds. The mean temperature of the Martian surface has been deduced as -20° to -30° C., compared with 10° to 20° C on Earth. However, in the tropics the highest temperatures are well above zero reaching 10 to 20° C for the bright regions and 20 to 30° C in the darker patches about midday.

The curious canals of Mars were first noticed about 1877 by the noted astronomer Schiaparelli. His observations show an astonishing system of lines of varying intensity, linking one dark spot to another, crossing the 'continents' and covering the surface with a sort of geometric network.

Again in 1877, the two satellites of Mars were discovered by Asaph Hall. They were named Phobos and Deimos (fear and terror), the attendants of Mars. Phobos revolves about Mars at a distance of 5800 miles, and Deimos at a distance of 14,600 miles. Being so near its primary, Phobos moves more rapidly than Deimos, making one revolution in 7h 39m, while Deimos, at a greater distance, takes 30h 17m.

As to life on Mars, our present knowledge is certainly discouraging. Mars is a desert, drier than Sahara and colder than Siberia. Its maria, although devoid of water, may be tundralike plains, covered with a strange vegetation of mosses or lichens; its continents, covering the major part of the planet, are deserts where dust clouds are sometimes raised by whirlwinds. The almost complete absence of oxygen makes the planet quite unacceptable for human beings. The best explanation still seems to be that the dark areas are covered by vegetation. This is supported by the seasonal character of the changes of the dark areas. If life exists on Mars, it must be adapted to stern conditions which there is not the like on Earth.



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PEACE



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