



the spectrum



OCTOBER 1966

BUFFALO ASTRONOMICAL ASSOCIATION

B. COOK EDITOR

MEETING OCT. 14

The next meeting of the Buffalo Astronomical Association will be held on Friday October 14th at 8:00 P.M. in the Buffalo Museum of Science. The new parking lot on the south-west side of the building will be open but entrance to the building will still be made by the usual old main entrance.

The main speakers will be a group of members of the Instrument Section. They will bring a variety of telescopes that they have built and there will be a discussion of how they were made.

There will also be short reports by Ron Clippinger and Ernst Both of observations made of the brilliant meteor seen on Saturday evening September 17th.

Following the meeting we will gather around the snack bar presided over by our faithful refreshment committee.

ANNUAL DUES

Time is upon us for payment of annual dues. There will again be no increase. Our dues have remained the same for the last 10 years, one of the few things that have not gone up considerably in cost! Members will receive by mail a statement of their dues and may pay them in person at the October, November or December meetings, or mail them to

Buffalo Astronomical Association
% Buffalo Museum of Science
Humboldt Parkway
Buffalo, N.Y. 14211

Please make checks payable to the Buffalo Astronomical Association, Inc.

HELP! HELP! HELP!

Don't fail to read the article on the top of page 2, first column.

CONVENTION PLANS

Following is a report of the convention proposals made at the September meeting of the Board of directors of the B.A.A.

Ed Lindberg displayed items provided by local businessmen to convention goers last year at Keene, N.H. A committee will be formed to contact local businessmen for support at our convention.

Addresses of all member societies of the Astronomical League and Canadian societies will be obtained by Dick Zygmunt and Ron Clippinger.

Several well known astronomers will be approached by letter and asked to be convention speakers.

The schedule of events was finalized as follows:

Friday May 26, 1966

6:00 P.M. Registration at Hotel Statler - Maple Leaf Room

8:00 P.M. Star night at Newstead

Saturday May 27

8:00 - 9:30 AM Registration and Exhibits - Washington Room

9:30 - 11:30 AM Presentation of papers - Empire State Room

1:30 - 2:30 PM A.L. business meeting
Empire State Room

2:30 - 3:30 PM "Story of Stellafane"
Empire State Room

3:30 - 5:00 PM Additional papers
Empire State Room

6:30 - ...PM Banquet guest speaker
Georgian Room

Sunday May 28

9:00-... AM Continuation of exhibits
Washington Room

10:00 - 12:00 Visit to Buffalo Museum of Science Solar Observatory

1:30 - 3:00 PM Visit to Walter Semmerau's Solar Laboratory. Or if inclement weather, films at the museum.

As you can well see on reading the article on the convention, this is a tremendous undertaking. Your Board of Directors are working very hard to get it organized. It is obvious that this is something we cannot "Let John Do". There are many committees on which to work and if every member pitches in willingly we will be able to get the job done. Edith Geiger will be contacting the membership and will expect each one of us to volunteer our services in some capacity. Let's get behind our Board of Directors and give them the cooperation they deserve and need.

WELCOME NEW MEMBERS

The following applicants were reviewed and accepted for membership:

Mr. Richard Wylegala
Mr. Wayne Johnson
Rev. Russell Jay Amend
Mr. Charles Mitsis
Mr. Michael Pasztor, Jr.

We are delighted to extend to all of you a most hearty welcome.

A somewhat different schedule has been agreed upon by the directors of the sections as to their meeting schedules this year. The Instrument section will meet on the fourth Friday of each month from 7:00 - 8:30 PM. The Advanced Study Section and the Observing Section will meet on alternate months on the fourth Friday from 8:30 - 10:00 PM. The Observing Section will meet on October 28th with Ernst Both as leader. The Advanced Study Section will meet in November with Ron Clippinger as leader. This arrangement will make it possible for a member to attend the meetings of all three of these sections without any time conflict, and still have to reserve only one night a month for his section meetings. The director of the Elementary Study Section has not yet announced any meeting time for this group. If you are interested in furthering your knowledge of the science of astronomy, or in developing your observing skills, now is the time to become a member of these sections which are open to any member of the B.A.A. at no additional cost. However, sections must consist of at least five members if they are to hold continuous meetings for the coming season, October - June. While it is possible to become a member of these groups at any time, it will be to your advantage and that of the section leaders to enroll all interested members at this time.

WHERE IS EVERYBODY By Carl A. Kalweit

It was the late Nobel prize winning physicist, Enrico Fermi, who asked the question: "Where is Everybody?" His reasoning was this:

The universe is so vast that according to mere blind chance there must be literally billions of planetary systems. With so many systems available, it is incomprehensible that intelligent life should have evolved only on Earth. There must be many millions, at least, of intelligent races elsewhere in space. But the universe is much older than the Earth. therefore the chances are that intelligent races exist that are much older than man. It is not impossible to imagine many races so far advanced that they have solved the problems of interstellar flight and communication. If this is true then:

Where is everybody? Why have not not established contact with us? Or does the fact that we have not received interstellar visitors prove that no intelligent life exists in space?

There are usually two reasons given for our lack of a noticeable tourist business.

A. The "grain of sand" argument.

B. The "postage stamp" analogy.

A man can measure the length of a beach, chart its shoreline and measure its depths. But can he carefully inspect every grain of sand on the beach? In other words, assuming that an advanced race could develop interstellar travel, could they explore every one of the Milky Way's evolution 100 billion stars in an effort to find other intelligent races?

Stated in this manner, the prospects for interstellar contact sound dim indeed. But let us examine this argument a little more closely. Basically it involves two facts.

A. The ability to achieve interstellar flight & communication.

B. The ability to investigate very large numbers of stars.

An intelligent race could develop the technology for interstellar flight & communications, and with a little knowledge of astronomy (The Hertzsprung-Russell Chart) need not inspect every one of the Milky Way's 100 billion stars. Some stars are obviously inhospitable to the evolution of life; Many others too young to have allowed intelligence time to evolve. Moreover the solar system is situated away from the center of the galaxy, out where the stars are relatively far apart. At the galaxy's heart, where the oldest stars are situated, interstellar distances must be less than those in our region of space.

It is possible then, to envision an intelligent race scouting the galaxy in a highly purposeful fashion, seeking out stars that are old enough to have sponsored intelligent life. With the aid of sensitive electromagnetic radio receivers or other detection devices, interstellar explores might be able to find ~~intelligent~~ inhabited planets at very great distances. So it seems that an intelligent race could find us, if it had enough energy, purpose, and time, of course.

The question of purpose brings us to the "postage stamp" analogy. You have no doubt, seen this picture painted by astronomers and anthropologists alike; Consider the history of the Earth. Let the height of the Empire State Building represent the planet's 5 billion years of existence. Man's one-million-year tenure can be represented by a one-foot ruler, standing at the very top of the ~~xxx~~ building. A dime placed atop the ruler represents the entire span of man's civilization. And, at the top of the whole wobbly conglomerate, is glued a postage stamp. This represents the time that man has developed modern science.

If other intelligent races exist, what are the chances of our meeting a race at exactly our own level of development? Within the thickness of the postage stamp, that is. They will probably be either far above or far below us, technologically speaking.

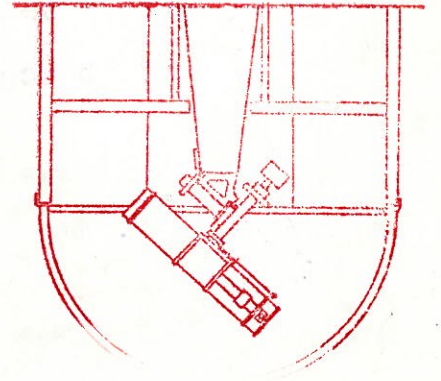
Several cosmologically-minded thinkers have arrived at the conclusion that technology may be only a passing phase in the development of an intelligent race. Perhaps it is only in the first blush of its youth that a race is interested in exploring the stars. This type of reasoning is typified by Sebastian von Hoerner, of the Astronomical Research Institute of Heidelberg, who states that an intelligent race is bound either to destroy itself or to stagnate within a few hundred, or at best, a few thousand years after reaching the modern earthly level of technology. In other ~~words~~ words, the postage stamp may grow as thick as a dime, but certainly no thicker. Is this a reasonable assumption? Will man destroy himself? Or will he become a passive, stagnant lotus-eater, served by his machines until his ultimate extinction?

Let us be optimistic and assume that man (or any intelligent race) will not destroy himself. Will he become stagnant? Is the Technological "state of mind" merely a passing fancy? Fortunately anthropologists have amassed some solid evidence that points entirely in the opposite direction. In short, an intelligent race is apt to be technologically oriented, and very unlikely to give up its technology.

It would seem then, that the postage stamp atop the Empire State Building is an artifact. Man's technology may be very young but so is man himself. As long as he has been human, he has been a tool-wielder. If and when we meet other intelligent races, the chances are that their technologies will be fully as old as they are.

To be concluded in next issue.

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