

# Astronomy and the I.G.Y.

By JOHN HODGES, Regina

We have been hearing announcements regarding a combined operation of scientists all over the world in a study of the Earth. This extensive programme of research is called the International Geophysical Year and will begin July 1, 1957. Actually, the "year" will be 18 months long, allowing time for observing phenomena which may occur over a period of time greater than 12 months, and so allowing for overlapping of observations from various parts of the world. Soon we shall be referring to this programme as the I.G.Y. as we become more familiar through world-wide publicity with its dramatic projects and their results.

This is not the first operation in which scientists from many countries have co-operated to gather data and learn more about a particular subject. But it will be the greatest. During this operation, scientists hope to unravel some of the mysteries about the earth, such as its magnetism, its true size and shape. The phenomenon of aurora in our upper atmosphere will come under close scrutiny. Since the source of these displays probably lies deep in the Sun, in learning about aurora we may learn more about our nearest star, the Sun.

Man occupies very little of the atmospheric envelope, his usual level of occupation being from the surface of the earth to the top of the Empire State Building. A few go deep in mines, or fly fairly high in the lower regions of the atmosphere, but no one knows just what the conditions are "high up". To gain data, rockets will be sent up to gather samples and radio temperatures, etc. back to earth.

Canada will play a very important part in I.G.Y. The University of

Saskatchewan will be a centre for aurora studies. The base for some of the rocket launching will be Churchill. Meteor data will be gathered, both by visual methods and by radar, through the National Research Council, Upper Atmosphere Division, Ottawa.

One of the most dramatic events to occur during the I.G.Y. will be the launching of satellites. Man has undertaken to put a sphere 30 inches in diameter, packed with instruments weighing approximately 21.5 pounds, 300 miles above the earth's surface and to keep it there by imparting to it a speed of 17,053 miles an hour in a course parallel to the earth's surface.

The first of these satellites and perhaps the second will not be visible at Regina's latitude. However, with binoculars you may get a good look at number three, and even without glasses, a few peeks at sunrise or sunset. If you are not fortunate enough to see it the first time, bear in mind that it will rise and set 15 times during 24 hours if it returns over your locality.

Perhaps one of the first benefits of this project to you and me will be what is learned about forecasting weather. We should also like to know whether the earth is warming up, and if so, how fast. These studies will require men to go to the coldest regions of the earth, and many expeditions are already in position. We hope for much from the International Geophysical Year, for we are living in an age that promises to reveal more about the universe we live in than any past age has done. The really interesting point at this time is that more than 40 countries have enlisted the ability of over 5,000 scientists in a co-operative effort to help man take his first step into space.

Contributions to this page or enquiries about astronomy may be sent to **John Hodges, 1554 Elphinstone St., Regina.**