TORONTO GLOBE & MAIL MAY 24/65

Amateur Sky Patrol

Astronomers Watch for Blast

Hundreds of scholarly Canadians spend their spare time watching avidly for explosions that occurred thousands of years ago. They are members of the Royal Astronomical Society of Canada, unmatched in the world for its association of amateurs and professionals

On Saturday, the society celebrated its 75th birthday with a general assembly at the Education Centre in which members of the American Association of Variable Star Observers participated. The RASC was formed in 1890 as the Astronomical and Physical Society of Toronto with Andrew Eldon as prime mover.

The society changed its name and obtained a royal charter in 1904; it now has a membership of 2,200, mostly amateurs, Isabel Williamson of Montreal, mathematician with an insurance firm, is the observation co-ordinator of the amateur programs in 16 centres across the country.

Astronomy is not a costly hobby. Miss Williamson, in fact, persuades neophytes to begin observing the heavens before they have built or bought a telescope. Devoted amateurs are rewarded with their own sections of the sky; one of their most valuable functions is a constant watch for novas — star explosions.

These furious flares thousands of light years away are of brief duration. The instruments in the big observatories are tightly programmed; hence, the professional astronomers may not look at the section of the sky where a nova occurs.

The amateurs, as soon as they see an abnormal burst of light, draw it to the attention of the professionals with the big scopes.

Information obtained from the observation of novas is of first importance in trying to understand the structure of the universe and the stars that compose it.

The amateurs have less exciting duties they perform faithfully: they count sunspots and meteors, and observe lunar occultation (the disappearance of a star behind the body of the moon) to help maintain accurate astronomical calendars. They have devoted much time recently to watching and photographing the aurora borealis.

Study Radio Waves

University of Toronto scientists are involved in a project relating to Bell Telephone Laboratories observations of radio waves that may be remnants of the explosion which many scientists believe gave birth to the universe.

Prof. J. L. Yen, associate professor of electrical engineering, was at the Bell laboratories when Dr. Arno A. Penzias and Dr. Robert W. Wilson discussed their findings with Dr. Robert H. Dicke of Princeton.

The Bell scientists had picked up very weak radio waves which seemed to come from no particular source and which they could not account for. Dr. Dicke, without knowing of these observations, had predicted the existence of just such waves.

It is thought that they may be remnants of light waves from the primordial flash, which have been changed to radio wavelengths by the vast expansion of the universe that occurred after the explosion.

Dr. Yen said the Bell observations were made over a year or two with a radio telescope.

More experiments are required to substantiate the theory that the emissions are remnants of the big bang that began the universe, however, Dr. Yen said. Several groups are undertaking these.