

by voluntary contributions. The Ford Foundation, following this tradition, has endowed the International Bureau with a gift of \$32,500, so that an immediate start may be made on a programme of comparison of ionizing radiation measurement standards. The National Research Council will place a recognized expert, C. Garrett, at the disposal of the Bureau so that an early start may be made on this programme. Authority to undertake the measures required for such a programme was given to the International Committee. The measures will be subject to approval at the Twelfth General Conference.

In the light of its new responsibilities, it appeared quite appropriate for the International Bureau to be assigned the task of safeguarding the international standard of radium. This still unofficial standard is the legal property of the Radium Institute of the University of Paris, which agreed to transfer it to the International Bureau. Under the new terms of reference of the Bureau, it is to be presumed that the standard of radium will soon be officially accepted internationally.

The New Standard Meter

One of the highlights of the Conference, especially for the Canadian delegation, was the introduction by Dr. Howlett of a resolution recommending a new international standard for measuring length. Dr. Howlett introduced the resolution in his capacity as chairman of the Advisory Committee for the Definition of the Meter. The resolution was based on recent research in the U.S.A., Russia, Japan, West Germany, France, England and Canada. Canadian scientists, notably Dr. K. M. Baird of the National Research Council, have made important contributions towards compiling evidence for adoption of the new standard. The world's only working apparatus using the new standard for directly measuring linear scales was designed and built at the National Research Council by Dr. Baird. Four different copies of the old standard bar were measured by the instrument and the results convinced the delegates to the General Conference of the value of the new standard.

New Length Standard

The new standard meter is 1,650,763.73 times the chosen wave-length of orange light emitted by the gas krypton 86. It is well over 100 times more precise than the old meter bar. The use of light as a yardstick has been attractive for some time. It was first suggested by J. Babinet in 1827. A hundred years later, in 1927, a relationship was accepted between the physical meter and a red line of cadmium. However, no known light source was entirely suitable as a base for the meter until recent years, when isotopes became available.

One of the advantages of the new standard is that it can be readily and accurately reproduced anywhere in the world by any well-equipped physics laboratory. Unlike the metal bar, it cannot be destroyed, lost, or affected by changes in temperature or pressure. The new standard is available in all countries