

served for two years with the Royal Canadian Navy on Operational Research associated with the anti-submarine warfare in the Atlantic. Dr. C. S. Beals, as Provincial Gas Officer, devoted approximately three years to a study of Civilian Defence against poison gas. Mr. W. H. Stilwell assisted the Geodetic Service in an important war project, in the survey of new air fields in the Hudson's Bay area. The Director, Dr. J. A. Pearce, served for two years as an instructor in the Royal Canadian Artillery. Accurate time was furnished daily to the Air Force, and many technical instruments for all branches of the Armed Forces were repaired in the Observatory workshop. Notwithstanding their various war effort activities, the reduced staff maintained the photographic work with the seventy-three-inch telescope at normal efficiency, and a total of 8,000 spectra was secured during these years.

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The outstanding development of science in the 20th century has been the increase in knowledge about atoms, especially the discovery of the secret of atomic fission. Many years ago, at the Dominion Astrophysical Observatory, examination into the mass of the electron was made from studies of the spectrum of certain very hot stars and the homogeneity of matter throughout the universe was proved. By close collaboration between physicists and astronomers this present comprehensive knowledge of the structure of matter has been slowly built up. It is this knowledge that has provided the basis of many modern inventions—radio, the electrical reproduction of the human voice, radar, the use of infra-red and other rays, etc. Thanks largely to purely astrophysical investigations, the world is now entering upon a new era with vastly increased resources at its command.