JOINT COLLOQUIA

25 June 1959

Digital Computers in Australia

by D. Jenssen

Mr. Jenssen of the Meteorology Department, University of Melbourne, briefly outlined the basic elements of computer design, including the representation of ordinary decimal numbers in their binary form and how they are handled within the machine. Various types of memory storage were explained and also the ordering of commands for sequential machines (where the commands are selected successively in an automatic manner) and non-sequential machines (where the position of the next command must be given to the computer).

He then showed how any general problem could be solved by means of a digital computer. The steps necessary for this were a restatement of the problem as a series of small arithmetical and logical operations (an arithmetical operation being addition, subtraction, etc., and a logical operation a test for a number negative, a jump to different parts of the calculation according to the value of some variable, etc.,); a translation of these steps into machine code; and from the written code the production of a punched paper tape, compatible with the machine, with the commands now as a series of holes on it.

Mr. Jenssen described the general features and main differences of the computers available in Australia.

The talk was concluded with an analysis of the particular case of a bouncing snow particle subject to wind and resistance forces and its solution by the digital computer CSIRAC, at the Physics Department of Melbourne University.

30 July 1959

Measured Radiative Flux Divergence near the ground and Radiation Charts

by J.P. Funk

Dr. Funk of the Division of Meteorological Physics, C.S.I.R.O., Aspendale, explained the importance of a knowledge of radiation near the ground for agriculture and other purposes.