REVIEWS


In 1983 October S. Chandrasekhar delivered in Cambridge two lectures at the invitation of the Master of Trinity and his Council to celebrate the centenary of the birth of Eddington. This book is based on those lectures.

The first chapter is on Eddington as a theoretical astronomer and astrophysicist. After three short sections on Eddington's early life, his general views and habits, and his contributions to the theory of star-streaming, Chandrasekhar turns to his pioneer work on stellar structure and evolution. He sets out the main features, due to Eddington, of our present understanding of stars, drawing particular attention to his prediction in 1920 of the source of stellar energy. Eddington's theory of stellar structure arose from his efforts to understand the nature of Cepheid variability and by means of it he established the pulsation theory, although the complete solution of the problem required the efforts of later workers.

The second, and longer, chapter is on Eddington as the expositor and the exponent of general relativity. Chandrasekhar begins with a detailed account of how Eddington came to be involved in the famous eclipse expedition of 1919. He pays tribute to Eddington's well-known textbook The mathematical theory of relativity and comments that Eddington, when he cared, could solve deep problems in the theory, "But he does not seem to have cared much". Chandrasekhar criticizes Eddington's belief in the necessity of the cosmical constant and also Pauli's view that it should be automatically rejected. Although he points out that our current knowledge leads us to reject Eddington's particular expanding world-model that began as an unstable Einstein Universe, he does not mention that Lemaître's variant of that model cannot be ruled out in the same way. He goes on to consider Eddington's highly idiosyncratic approach to the unification of quantum theory and relativity and to the great controversy, in which he himself was involved, due to Eddington's rejection of the formula for relativistic degeneracy which implied an upper limit to the mass of degenerate configurations and the associated concept of gravitational collapse. He concludes with a brief account of the way in which Eddington's attitude to scientific research changed over the years.

This short book is clearly and authoritatively written with copious relevant extracts from Eddington's own writings. It can be strongly recommended to all who are interested in the achievements and limitations of one of the major figures in twentieth-century science.—G. J. Whitrow.


Of all the children's astronomy books that I have seen in the last few years, Astronomy Today counts as one of the best, and I have no hesitation in recommending it whole-heartedly for young readers in the 9-to-15 age group. Writing about science for children is not as easy as it seems. Expressing physical processes in simple terms, without making the essence of the statement factually wrong, requires a certain amount of imagination. Dinah Moché uses turns of phrase that are refreshingly original and picturesque without resorting to boring superlatives. Apart from one place where 'up' and 'down' get confused with 'north' and 'south', it is difficult to fault the content, and all the facts that a schoolchild is likely to want to know are there.