

PROFESSOR SUBRAMANYA CHANDRASEKHAR, F.R.S.

NOT a few Indian intellectuals have found a congenial home in the United States of America and are engaged in scientific or industrial pursuits with great credit to themselves and to the land that gave them birth. Amongst these, by far the best-known internationally is the young Indian who holds the Chair of Theoretical Astronomy and Astrophysics at the Yerkes Observatory of the University of Chicago. The very high estimate in which Dr. Chandrasekhar is held by his colleagues at Yerkes Observatory and by American astronomers generally was demonstrated in practical fashion by his recent promotion from an associate to a full professorship in the University. He has already built up around himself a strong school of young American investigators, and the place he has made for himself is being increasingly recognised as one indispensable for the progress of astronomy in his country of adoption.

Professor Chandrasekhar is only 33 years of age. His election to the Fellowship of the Royal Society announced in a recent message of Reuter from London is one of the series of notable academic and scientific distinctions he has already achieved. As in the case of the late Mr. Ramanujam, the F.R.S. was preceded by the distinction—unique for an Indian—of the Fellowship of Trinity College at Cambridge. Last year, the New York Academy of Sciences crowned his work on stellar dynamics by the award of a coveted prize. A list of the Universities and of the learned societies in Europe and America which have honoured Chandrasekhar by an invitation to lecture before them and shown their appreciation of his contributions in one way or other would be a lengthy document. The Harvard University was one of these, and the lecture course he delivered at that great centre of learning resulted in an invitation to join the staff of its well-known astronomical observatory. Chandrasekhar, however, preferred the position he now occupies at Chicago, in view of the opportunities which the chair gives him of being in constant contact with the work of an active group of astronomers at a number of observatories including that at Yerkes.

Dr. Chandrasekhar's publications cover many aspects of Astronomy and Astrophysics. During his Cambridge period, his papers appeared for the greater part in the *Proceedings of the Royal Society of London* and the *Monthly Notices of the Royal Astronomical Society*. After he went to Chicago the papers by himself and his collaborators are a regular feature in the *Astrophysical Journal*. A complete bibliography of

these would include over eighty titles. Special mention should be made of three major treatises which Dr. Chandrasekhar has written during recent years, and in which the interested reader can find an exposition of his ideas and contributions. The first book entitled "An Introduction to the Study of Stellar Structure" was published in 1939 as one of the series of Astrophysical Monographs issued by the University of Chicago Press. This treats in a deductive manner the subject of stellar interiors, the necessary physical theories and mathematical methods being fully explained. The treatise includes accounts of the foundations of thermodynamics, the theory of radiation, the quantum theory of a perfect gas, and a discussion of the elements of nuclear physics. The whole subject is presented with enviable crispness and clarity of expression. The second treatise entitled

"The Principles of Stellar Dynamics" appeared in the same series in 1942. In this monograph the dynamical methods of interpreting the motions in the galaxy, spiral nebulae, and star clusters are developed from a coherent point of view. An American astronomer reviewing this treatise remarked that it should exert a profound influence on the future developments in the field of galactic dynamics. The third monograph by Dr. Chandrasekhar entitled "Stochastic Problems in Physics and Astronomy" was published by the American Physical Society in the *Reviews of Modern Physics*. The analogies



which exist between the movements in star clusters and the Brownian movements in colloids are here developed and expounded in an interesting way.

Chandrasekhar is one of that small rare group of men who combine a profound grasp of physical theory and principles, an unrivalled grasp of the methods of mathematical analysis, and a deep and abiding interest in the phenomena presented to us by Nature in the fields of Physics and Astronomy. The names of Newton, Laplace and Einstein spring to the mind when we contemplate the past history of astronomical science and its debt to men who have exhibited this combination of qualities. In the achievements of Chandrasekhar during the past fifteen years, we have at least the promise of a career which should place him in the front rank of the world's great astronomers. The cordial good wishes of all our readers will go out to encourage him in his future activities and to wish him and the talented young Indian lady who shares his home at Yerkes Observatory an uninterrupted welfare and happiness.