

PROFESSOR D. BRIAN SPALDING  
ON HIS 60TH BIRTHDAY



PROFESSOR D. BRIAN SPALDING is an editor and one of the founders of this journal. It is, therefore, appropriate here to reflect upon his contributions to heat and mass transfer on the occasion of his 60th birthday, which was on 9 January 1983. He has made a significant impact on this field of science through his creative ideas and splendid vision. Many of his writings have become classics in their own right and have served as an inspiration to many researchers.

While examining his research contributions, one is amazed at the variety of subject areas to which he has made a substantial contribution. His research has led to major advances in heat transfer, thermodynamics, combustion, mass transfer, boundary layer theory, turbulent flows, numerical methods, and multiphase phenomena. Even more fascinating is the nature of his contributions. In almost every field he has touched, he has made a breakthrough, opening the road to many scientific opportunities that did not exist before. All his pioneering papers (and there are many of these) are

characterized by a creative brilliance that produces a quantum jump in the prevailing scientific capability. He considers himself to be a generalist rather than a specialist, and yet, upon entering a new subject area, he has been able to overcome some major difficulties that have plagued the specialists in that area for a number of years.

His research in engineering sciences has all along been strongly motivated by its practical relevance. He has been interested in devices and techniques for making predictions. His early work on thermodynamic charts, analog devices, and simple formulas for convective mass transfer can be traced to his desire for a predictive capability, which has now culminated in the development of general-purpose numerical techniques. The strength of his approach lies in his ability to generalize and extend a given concept, formula, or technique. He sees all thermo-fluids phenomena through a general framework and thus has been able to transfer his experience from combustion to turbulence,

heat exchangers to two-phase flow, and so on. It is an important tribute to his pioneering work that over the past decade the engineering industry has started using computational models for multi-dimensional heat transfer and fluid flow in the analysis and design of complex equipment such as combustion chambers, furnaces, heat exchangers, cooling towers, and steam generators.

Professor Spalding was born on 9 January 1923, in New Malden, England. He obtained his BA and MA degrees from the University of Oxford and his Ph.D. in 1952 from Cambridge. He joined the Imperial College, London as a reader in 1954 and became Professor of Heat Transfer in 1958—a position that he has held ever since. He has been a strong influence on his many students, colleagues, and associates. It is true to say that the majority of researchers working today in the field of computational heat transfer have been either directly or at least indirectly influenced and inspired by Professor Spalding.

In addition to being a professor at Imperial College, he heads a company called Concentration, Heat and Momentum Limited, which provides a mechanism for the speedy application of the results of academic research to engineering practice. He is an editor of this journal and the Editor-in-Chief of *Physicochemical Hydrodynamics*. In addition, he serves on the editorial boards of a number of international journals. He has been active in international meetings and conferences and taken a major role in the activities of the International Center for Heat and Mass Transfer.

He is a prolific writer and has authored or co-authored eight books and numerous journal articles. His writings and speeches are very clear, fluent, lucid, and entertaining. They are enlivened by his sense of humor and by his interests in music, languages, and poetry. He is a warm and sensitive individual with a keen sense of friendship and concern for others.

His professional excellence has been widely recognized through a number of honors and awards. These include the Max Jakob Award in 1978, the Gold Medal from the French Institute for Energy and Combustion in 1980, and the Bernard Lewis Medal from the Combustion Institute in 1982.

During the last two years, Professor Spalding has embarked upon the construction of a highly sophisticated and refined computer program for the simulation of heat transfer and fluid flow. The program is intended to be an ultimate in generality, economy, and reliability. The aim is to prepare a single computer program suitable for situations of any dimensionality and time-dependence, for single or multi-phase flows, and for a variety of thermo-fluid processes that arise in engineering practice. The engineering community will be watching with great expectation and interest the development of this magnificent endeavor.

On the occasion of his 60th birthday, his students, colleagues, and friends throughout the world join with the editors of this journal to wish Professor D. Brian Spalding a happy life, continued good health, and many more productive years.

SUHAS V. PATANKAR