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DEDICATION

This symposium is dedicated to Professor Maurice Holt on the occasion of his seventieth birthday in tribute to his four decades of research in applied mathematics and fluid mechanics. Since he is still very active in research and considers the last four decades as but the first phase of his research career, a final evaluation of his contributions is premature. However, it is only proper that his biography be briefly sketched with a mention of honors and recognitions he has already won.

Professor Maurice Holt was born on May 16, 1918 in Wildboarclough, Cheshire, England. He was educated at the Manchester Grammar School and the University of Manchester in England. He did his Masters thesis with T. G. Cowling in 1944, and his doctorate with Sydney Goldstein in 1948. Immediately after graduation, he joined the University of Liverpool as a lecturer in Mathematics, and a year later moved to the University of Sheffield in England. In 1952, he joined the Ministry of Supply where he served as the Principal Scientific Officer in charge of the Theoretical Aerodynamics Section of the Applied Mathematics Division, Armament Research and Development Establishment, Fort Halstead, Kent. In 1955, he was a visiting lecturer in the Mathematics Department at Harvard University at the invitation of Garrett Birkhoff. In 1956, he entered the United States, and joined the faculty of the Division of Applied Mathematics at Brown University. Since 1960, he has been Professor of Aeronautical Sciences at the University of California at Berkeley.

Professor Maurice Holt's scientific work is too extensive to be discussed in detail here. Suffice it to say, then, that his research in fluid mechanics has encompassed a diverse range of physical problems. Supersonic and transonic aerodynamics, blast waves, underwater explosions and supersonic separated flows are some of the subjects on which his work has received international recognition. He is one of the pioneers in the field of computational fluid dynamics. Not only did he develop some numerical techniques that were widely used during the 1960's for supersonic blunt body problems, conical flows and separated flows, but he also is a leading figure in the establishment of East-West cooperation in computational fluid dynamics. In 1969, he and Academician Belotserkovskii together started the highly successful conference series, the International Conference on Numerical Methods in Fluid Dynamics.

As an excellent applied mathematician, Professor Holt's keen insight into the physics of fluids has become a trademark of his work. His work has been fundamental and applied, in the best scientific tradition. He has been a valuable consultant to both industry and government at various times. Lockheed Aircraft Corporation, Northrop Corporate Laboratories, The Aerospace Corporation, and Lawrence Berkeley Laboratory are some of the organizations which have profited from his expertise. He has been a visiting professor at a number of international institutions such as Université Paris, and Université Pierre et Marie Curie. As an excellent teacher, he has taught and trained nearly three dozen students who have themselves become leaders in research. He has served as editor of several journals, including the ASME Journal of Applied Mechanics. In recognition of his pioneering research contributions to fluid mechanics and his training of two generations of students, he has been elected a fellow of the American Society of Mechanical Engineers and the American Physical Society. His recognition extends beyond the western world; he was invited to be the guest of the USSR Academy of Sciences and the Romanian Academy of Sciences because of his leadership in fluid mechanics research.

It is with affection for the deep impact that he has had on our lives and with respect for his accomplishments as a teacher and a scholar that we dedicate this symposium to Professor Maurice Holt. We only hope that our interaction with him will continue for many years to come.

W. F. Ballhaus, Jr.
M. Y. Hussaini

Editors' Preface

The present volume of Lecture Notes in Physics covers the proceedings of the Eleventh International Conference on Numerical Methods in Fluid Dynamics, held in Williamsburg, Virginia, June 27-July 1, 1988. It contains 103 papers. Seven of these papers are based on invited lectures, and the rest were selected on the basis of abstracts submitted from all over the world by four paper selection groups, one in the U.S.A. headed by Maurice Holt, another in Europe headed by Roger Temam, the third in U.S.S.R. headed by Victor Rusanov, and the fourth in Japan (representing the Pacific Rim Countries) headed by K. Oshima. Following the usual tradition, the invited papers appear first, and then the contributed papers in alphabetical order by first author.

The conference co-chairmen were D. L. Dwoyer and Robert G. Voigt; they are indebted to many who helped with the detailed organization of the meeting; they thank all of them, and in particular, Ms. Mary Adams who was in charge of the computer graphics displays and Ms. Emily Todd, the conference secretary.

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November 1988.

D. L. DWOYER

M. Y. HUSSAINI

R. G. VOIGT

(Editors)

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