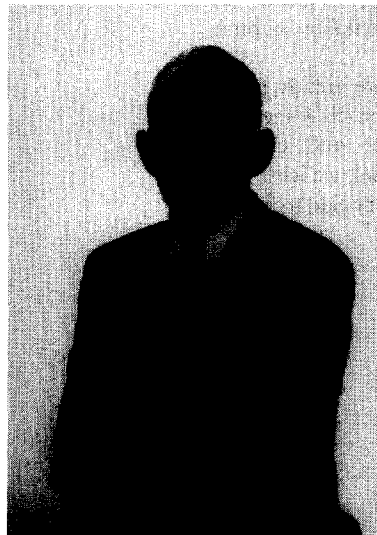# Professor Benjamin Gebhart
on his 70th birthday

PROFESSOR Benjamin Gebhart celebrated his 70th birthday on 2 July 1993. Active as ever and branching further out, his many and steadfast contributions to the field of heat and mass transfer and to the mechanical engineering profession inspire this brief congratulatory note, which complements and updates the more detailed comments published in this journal on the occasion of his 65th birthday (*Int. J. Heat Mass Transfer* **31**, 2399–2400 (1988)).

Born in Cincinnati, he served as a Marine in World War II, and earned his Bachelor's degree in Mechanical Engineering in 1948 and his Master's degree in 1950, both at the University of Michigan. He then earned his Ph.D. from Cornell University in 1954, and remained there on the faculty of Mechanical Engineering till 1975, when he joined the Department of Mechanical Engineering at the State University of New York at Buffalo as Leading Professor and Chairman. Since 1980 he has been the Samuel Landis Gabel Professor at the Department of Mechanical Engineering and Applied Mechanics of the University of Pennsylvania.

During the four decades of his career, Professor Gebhart has made remarkable contributions to fundamental engineering research, to engineering education, and to the Mechanical Engineering profession. His research, recorded in more than 170 archival publications, has explored, discovered and explained fundamental phenomena arising from buoyancy-driven flows, mixed convection, melting and freezing, mass diffusion, and, more recently, microconfigured surface radiation and phase-change processes. Always emphasizing the need to 'listen to nature' as he phrases it, his research combines theoretical analysis with sophisticated experiments which are conducted to guide the research, make discoveries, and validate the theoretical models.

His well-known earlier textbook *Heat Transfer* (1961, 1971) has had an important role in the education of many generations of students, as no doubt will his newest text and reference book *Heat Conduction and Mass Diffusion* (McGraw-Hill, 1993). In between he published, jointly with three co-authors, the book *Buoyancy-Induced Flows and Transport* (1988). In his writing and teaching Professor Gebhart emphasizes a combination of theoretical rigor, clarity of principles, and an intimate connection with engineering practice. More than 28 students have earned their Ph.D. degrees under his guidance.

He has chaired various technical committees and conferences of the ASME, and when on leave he has been a visting professor at several leading universities in this country, in France and in Scandinavia, with visits and research interactions also extending to the former USSR and to the People's Republic of China. He is a Fellow of the ASME and a recipient of the ASME Heat Transfer Division Memorial Award, and is a member of the editorial boards of a number of

leading archival journals in the field.

Professor Gebhart is daunted neither by white bears when he is studying freezing and melting on icebergs in the Arctic icepack, nor by black flies when he is studying flow over cornfields in upstate New York. Drawing on his roots in rural Ohio, he loves nature and expresses this love amply. A naturalist par-excellence and avid hiker, he assembled a number of land parcels into a 340 acre natural sanctuary near Ithaca, N.Y., where he practices reforestation (in competition with wily beavers), wildlife habitat improvement, and soil restoration.

We who know him more closely are greatly privileged to have his friendship and counsel. Joined by many other colleagues, his former and current students, and the editors of this journal, we wish him a very happy 70th birthday, and are very glad to honor his outstanding achievements and to wish him further success and much happiness.

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H. H. BAU

V. P. CAREY

S. W. CHURCHILL

W. N. GILL

R. GREIF

Y. JALURIA

R. L. MAHAJAN

P. J. MARTO

O. G. MARTYNENKO

W. J. MINKOWYCZ

K. E. TORRANCE

K. T. YANG

S. M. YANG

J. P. HARTNETT

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