

In Memoriam

Professor James P. Hartnett (1924–2005)



It is with profound sorrow and an unfathomable sense of loss that we note the passing of Professor James P. Hartnett on September 1, 2005. Professor Hartnett was one of the towering giants who, in the latter half of the twentieth century, transformed the field of heat transfer from a scattering of individual practitioners to a world-wide community. This journal takes particular pride in his achievements and is especially impacted by his passing because Professor Hartnett was one of its founders. Indeed, during the early years of the Journal, he was the dynamo that provided the motive power for its dynamic rise to the highest levels of international prestige.

James Patrick Hartnett was born in Lynn, Massachusetts, a suburb of Boston, on March 19, 1924. He did his undergraduate work at the Illinois Institute of Technology and then went on to obtain a master's degree at the Massachusetts Institute of Technology. At MIT, he studied with Professor Warren Rohsenow, who became a major figure in subsequent decades. His doctoral work was performed at the University of California at Berkeley and completed under the guidance of Professor Ralph Seban, one of the most active heat transfer researchers of the time.

After obtaining his doctoral degree, Professor Hartnett joined the faculty of the mechanical engineering department

at the University of Minnesota. This was an auspicious move because it coincided with the founding and development of the most productive heat transfer laboratory of the mid-to-late twentieth century. The laboratory was directed by Professor Ernst Eckert, the towering heat transfer figure of the era, and the collaboration of Professors Hartnett and Eckert, started at that time, continued during their respective lifetimes.

In 1960, Professor Hartnett, by that time a mature researcher, undertook his first leadership role by accepting the chairmanship of mechanical engineering at the University of Delaware. There, he energized the development of laboratories and research facilities. In 1965, he accepted an even greater challenge. In that year, the University of Illinois opened a new campus in the city of Chicago. The new university implemented a novel concept in engineering education by abolishing the traditional disciplinary departments. Professor Hartnett was a leader in breathing life into that concept.

In 1974, he accepted still another challenge in creating the Energy Resources Center at the University of Illinois. Concurrent with this activity, he has served, by appointment of the Illinois legislature, as the secretary of the Illinois Energy Resources Commission which advised the

legislature on energy matters. He was often called upon for testimony and advice on energy questions by the US Congress and by state and federal government agencies.

In 1998, he retired from the directorship of the Energy Resources Center and from the University.

His many years as a university professor have netted a rich harvest of research. He has made major contributions to the permanent literature in the areas of liquid metal heat transfer, mass transfer cooling, and in heat transfer in non-Newtonian fluids. Besides these main themes, he has worked broadly in areas of heat transfer as diverse as thermal radiation, conduction, duct flows, and impingement flows. All told, the fruits of his research have yielded 180 papers.

Not only has he made an important mark in research, but he has also made unparalleled contributions to the development of an international heat transfer community and to the founding and management of publication vehicles for heat transfer information.

Professor Hartnett is widely acknowledged as being both the architect and the builder of the international heat transfer community. It was he, who for the first time, secured the breakthroughs which opened up channels of communication between the thermal scientists of the former Soviet Union and those of the Western Countries. It was also through his efforts that the Assembly for International Heat Transfer Conferences was established. He also played a leading role in the formation of the International Center for Heat and Mass Transfer and its continuing activities.

He has served on advisory committees and also as a consultant on research and educational activities in the former Soviet Union, Eastern Europe, Southeast Asia, and Korea. In addition, he has been a visiting professor at the University of Tokyo, the University of Alexandria, and the Israel Institute of Technology. In 1980, he was invited by the Chinese Academy of Sciences to visit the People's Republic of China and to present lectures at the Institute of Engineering Thermophysics and at several universities.

In 1995, Professor Hartnett was elected Honorary Member of the Japan Society of Mechanical Engineers, elected Foreign Fellow of the Indian National Academy of Engineering, and was named the first Dr. Arcot Ramachandran Chaired Professor of Heat Transfer at the IIT—Madras. In 1998, he was honored by being designated as the first UIC Distinguished Professor of the College of Engineering.

His contributions to the dissemination of information to the heat transfer community are of enormous scope. He was the prime mover in the founding and later in the development of the *International Journal of Heat and Mass Transfer*, the preeminent journal in the field, *International Communications in Heat and Mass Transfer*, and several other journals. In addition, he was the founding editor of the very successful *Advances in Heat Transfer* series. The *Handbook of Heat Transfer*, now in its third edition, was another of his editing achievements.

In recognition of his numerous significant contributions, many honors have been bestowed on Professor Hartnett. He has been the recipient of the A.V. Luikov Medal of the International Centre for Heat and Mass Transfer, the ASME Heat Transfer Memorial Award, the Max Jakob Award of AIChE and ASME, and the ASME Heat Transfer Division 50th Anniversary Award. He was also the recipient of a Fulbright Award, a Guggenheim Fellowship and the Professional Achievement Award from his Alma Mater, the Illinois Institute of Technology.

The multiple and unique facets of Professor Hartnett's long and distinguished career have marked him as a towering figure in the international community of heat transfer scholars. With profound respect, we pay him due homage for all his extraordinary achievements.

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