



The Man Behind *Principles of Refrigeration*

Dossat teaching at the University of Houston in 1957.

By Stephen Gill, Member ASHRAE

Few technical books remain in print for almost 50 years. *Principles of Refrigeration* by Roy J. Dossat, Life Member ASHRAE, is a rare exception. First published in 1961, the book quickly became an international best seller in its field and through five editions, the latest in 2001, has continued to attract worldwide sales.

Principles of Refrigeration is considered an essential resource for engineers worldwide, but few people know anything of the author himself. Dossat joined ASRE in 1955, a few years before its merger with ASHVE formed ASHRAE. Dossat remained a member of this new, combined society. He always held ASHRAE in high regard and acknowledged the society as his main reference source.

Roy Joseph Dossat was born on Jan. 19, 1920. Refrigeration indirectly played a significant part early in Roy's life as it was at the local ice rink in Houston where he met and dated his high school sweetheart Mary. They married in June 1942 and had a son, also named Roy, a year later.

After a stint in the U.S. Air Force, Dossat worked as a salesman in Houston

at Dad's Root Beer Company until the firm relocated its operations. Dossat then found a job working for two brothers who repaired refrigerators out of their garage. After about a year, he felt he needed more training, so he used his military benefits to attend a refrigeration and air-conditioning course at the University of Houston to learn the trade properly.

Dossat made such a good impression at the University that he was offered a job as an instructor and spent the rest of his career there, retiring as professor. Bill Wilson, the department head who was teaching the course, later told Dossat's wife that the main reason he offered the position to Dossat was that he questioned every statement Wilson made to the class.

About the Author

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Wilson grew so tired of having to research the answers that he eventually told Dossat, "You can teach the course and that way you can find out 'why' yourself!"

In teaching, Dossat found his vocation and, as with everything else he did, he threw himself into it. However, he soon became disappointed and frustrated at the lack of good teaching material. The lack of a proper textbook bothered him so much that he announced that something had to be done so he was going to write his own book. His wife was astonished and thought that he was out of his mind. Dossat admitted he didn't know a great deal about writing a book, but he felt certain he could write a better one than those they were using.

For the next two years, he spent evenings, weekends and holidays working on the book. Dossat sat at a large table in the corner typing on an old manual typewriter using just his two index fingers. He never did learn to type properly.

Dossat's primary intention was to have some proper material for teaching his class, and to provide his students with a good reference book. His thoughts about having the book published didn't really extend beyond this aim, and he was pleasantly surprised when the book was snapped up by the publisher, John Wiley and Sons. The book was first published in 1961, and its immediate success came as a total surprise to Dossat. He had never thought about possible financial gain. His wife recalls that he was so surprised when he received his first royalty check for \$500 that he called her at home in disbelief.

The first edition was written in I-P units, but as the book began to attract increasing interest from overseas, it was decided at the time of the second edition in the late 1970s to issue an international edition in SI units in 1981. A reviewer at the time praised "*Dossat's ability to effectively communicate a very considerable amount of refrigeration information through concise, clearly written explanation. It is a most appropriate work for instruction but can be equally useful as a reference. There is excellent treatment of pretty well every aspect bearing upon the mechanical refrigeration cycle, its associated equipment and its application.*"

With these two second editions, book sales increased worldwide. To accommodate this international interest, the book was translated into many languages and published in places including Mexico, Philippines, Brazil, Russia, the Mideast, Japan, Taiwan and India.

The edition for Great Britain and Europe was published by Wiley's London company. This 1981 edition in SI units, with its pale blue cover, is still the one favored and used by many engineers in the United Kingdom as well as the rest of Europe. Those fortunate enough to own a tattered copy treasure them, and they rarely appear for sale.

A few publishers visited the Dossats in Houston and took them to dinner to persuade Dossat to write another book, but he always declined. He said that he had dedicated more than a year of his life to write the first one because he needed it to teach. However, he didn't want to spend time away from his family to write another.

Dossat was passionate about his teaching and took a lot of interest in his students. He frequently received letters from past students thanking him for the knowledge they learned in his classes and extra help that he gave them. Dossat's wife recalls that one ex-student told Dossat that he could not find a job; he had been on countless interviews and could not get hired. This was in the 1960s when it was fashionable to have long hair. Dossat said, "I do not want to hurt your feelings, but on your next interview, I recommend that you have a haircut, dress in a suit and wear shoes instead of sandals." The student was hired on his next interview after following Dossat's advice.



Dossat in 1992

With the book selling in tens of thousands, it is not surprising that Dossat received mail from readers with queries and comments from many countries. He received hundreds of letters over the years but always took the time to reply to each one. He received letters from places such as Nigeria, China, Russia and Europe, seeking advice or clarification on some technical point. He kept a copy of each letter with his reply attached to the back. Interestingly, out of this mountain of

letters that he received, there was only one negative letter; a university professor complained the book was too detailed and didn't use enough complex mathematics!

Although the book was successful, it had little effect on Dossat or his family. It was rarely mentioned except when Dossat would complain about having to take time to update it. The book provided him with sufficient money to enable him to take early retirement. Although he loved to teach, as he advanced at the university, his job became increasingly administrative. He was happy to retire early and devote more of his life to his family and to the things he liked doing.

Roy Dossat died on Jan. 19, 2000 after a long illness.

His son summed up his father this way. "My father was not really outgoing and in many ways was very private. He was, however, very well liked and respected. He was extremely honest and had a knack for always doing the right thing. He loved animals and donated money to a number of animal groups. He and my mother were extremely devoted and he would never go anywhere without her. My father was a really wonderful person."

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