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Book Review

Drying '91, '92, Parts A and B, edited by A.S. Mujumdar and I. Filkova (1991), and A.S. Mujumdar (1992), Elsevier, Amsterdam, 1991, xiv + 632 pages; 1992 Part A, xxviii + 910 pages; Part B, 1042 + XXII pages. Drying '91 costs Dfl. 395.00 (approx. $225.50), and Drying '92 (in two volumes) costs Dfl. 765.00 (approx. $437.00).

Drying is one of the most important industrial processes and the success of these books and the enormous number of contributions is an indication of this fact. The '91 book is a selection of papers presented at the 7th International Drying Symposium held in Prague in 1990 in conjunction with the CHISA '90 Congress. Part A and Part B '92 are the Proceedings of the 8th International Drying Symposium held at Montreal, Quebec, August 1992. The papers presented are a blend of theory, industrial design, and application. These volumes provide an excellent source of information on current aspects of drying from all quarters of the world. As the editors point out, this interest is stimulated by escalating energy costs, higher quality requirements, the need to cope with higher quality requirements, new products, and the development of new production processes. Environmental factors also feature in some of the contributions. Individual contributors must forgive the present reviewer for not mentioning names or particular papers. Several topics discussed come under the heading of fundamental aspects, such as the problem of heat and mass transfer in polymer and gel drying, the physical structure of dehydrated foods, modeling of industrial drying processes, and the kinetics of the drying process. The number of materials investigated is staggering; putting them under labels such as foodstuffs, pharmaceutical products, ceramics, cellulosic materials, and minerals avoids naming the individual materials but gives some indication of this wide coverage. It must also be noted that it is apparent that a wide coverage of information can be obtained without recourse to thermal analysis techniques, that much of the new information refers to large amounts of material, and that microwave drying techniques are an expanding part of the industry. There was very little speculation on the extent to which drying should be carried out — how far, for example, do we need to go to eliminate the water. I could cite instances of drying in brown coal and active carbons where excessive drying leads to spontaneous combustion. Then there must be a clear distinction between drying and dehydration. Finally the consideration of the nature of retained small regions of water in materials (water which is present as water but lost at

comparatively high temperatures) must be a subject to discuss at some length. It is hoped that the series will continue under the patronage of Elsevier and one looks forward to Drying '94.

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