A Concise History of Drying Technology - An International Journal

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As is well known to everyone familiar with this journal- now in its 27th year of publication- Dr Carl W. Hall is the Founding Editor and Marcel Dekker the original publisher of the journal. Later Dr Maurits Dekker-then Chairman of Marcel Dekker Inc. NY, USA- was the originator of the idea following up on the success of the first two IDS conferences we held in Montreal in 1978 and 1980. I was involved with the journal from Day 1 as Dr. Hall drafted me to assist him. We sought papers through the network generated by the IDS conferences. As there was little R&D activity in North America in drying, we had to seek contributions from Western Europe, then USSR, Soviet bloc countries in east Europe, Japan etc. Indeed, this was a very major effort as their papers from non-English speaking countries had to be edited profusely and revised to meet the publisher's requirements for a camera-ready manuscript. This was a massive task that readers not familiar with mechanical typewriters, and snail mail for sending out manually corrected and marked manuscripts to and from authors, referees and eventually publisher, cannot appreciate. With the internet, word processing and low cost instant communication the process today is at least an order-of-magnitude, if not even more- faster and simpler. This is true of management of journals, organizing conferences as well as publishing edited and/or authored books. In some cases, we even translated original papers from some European languages to have reasonable technical content in the journal. Even to publish two journal issues in the first two years was a major challenge. Concurrently, Dr Dekker convinced me, against my initial hesitation- to edit a Handbook of Industrial Drying. This book appeared in 1987 after a marathon five year single-handed effort. As you know, we published second and third editions of this Handbook in 1995 and 2007.

From two years in first two years, the journal grew slowly but steadily in next 5 years to four issues a year. Reviewing and getting the papers in camera-ready format remained a huge task for both editor and authors. Since there was no assistance from the publisher in copy-editing the revised papers, as editors we also did the final proof-reading and copy-editing as needed just to have enough papers to publish in given time period, especially with the slow mail service and need to handle paper manually and using xerox machines. Our university had no funds to support such an activity despite the massive publicity and visibility received through such acts of "dedicated service ".

In 1988, I took over as Editor-in-Chief. The number of issues increased slowly from four to five to seven to ten and eventually twelve some ten years ago. For continual renewal we had an editorial board with limited tenure. Eventually, as activity in drying R&D in the globe rose, we needed more Associate editors and Assistant Editors. I recruited younger faculty members from around the world to assist and also to mentor. The future of the journal as well as the future of IDS and drying R&D rests with the younger generation of researchers. Hence this was done as a deliberate move, which has shown success.

It is noteworthy that up until early 90's the major source of global scale publication was through a large number of books and proceedings of the IDS series rather than via journals. Many papers were scattered in diverse disciplinary journals and trade journals focusing on specific industries. I edited books such as Drying (80, 92,94,95 etc), Advances in Drying (5 volumes), Drying of Solids (3 volumes) aside from the multi-volume IDS proceedings during 1978-92. Most recently, the series Modern drying Technology (co-edited with Prof. E. Tsotsas) covers a broad range of themes of academic interest. Thus, unlike many other fields, technical literature in drying science, engineering and technology was disseminated primarily through books rather than journals for at least two decades. This was necessary due to the fact that R&D in drying indeed followed the initiation of the IDS series rather than preceding it. Many entered this multi-disciplinary field as a result of the success of the IDS series which publicized the need for and challenges in drying R&D.

So far Drying Technology has published over 2400 refereed papers. With rejection rate approaching 70 per cent and the manuscript flow rising continuously, it is hard to imagine the hard start-up period of the journal. Even to maintain a very modest publication rate of just four or five issues of the journal we had to be innovative. I initiated the idea of theme issues with expert Guest Editors who were interested in specific areas of drying and had the necessary network limited to those areas. Indeed, I guest-edited the first two such issues dealing with drying of pulp and paper and enlisted co-editors from the relevant industry. This concept was later expanded to many other areas and over the past decade this has been our normal mode of operation. Drying Technology may well have been the first journal to issue theme issues over two decades ago. Another innovation was to publish a book on a specific topic of drying as a theme issue. Professor R. Toei's book was translated from Japanese to English by Prof. Wiwut of Thailand, and published as a full issue. Another idea originated by Dr. Hall was to reprint a couple of classical papers from 1940's that were not read by most drying researchers of 70's and 80's.

The role of referees to maintain high quality of any journal cannot be overstressed. Because of the limited number of drying experts in the west, this was a massive challenge, especially since most of our authors came from non-English speaking countries. Referees had the dual role of examining the technical quality and also make the necessary revision to the English text since the papers after acceptance were simply reprinted from camera-ready manuscripts. It was not unusual for me to rewrite full papers and my better half (Purnima Mujumdar) to retype manually full papers. Those with extensive mathematical expressions were truly massive effort that today's authors cannot even imagine.

To encourage more research in drying, we published a theme issue just on R&D Needs and Opportunities in Drying in 1996. I gave a number of keynote lectures identifying research area worthy of serious R&D. These efforts have shown positive results with many readers picking up on ideas and suggestions in these papers. In fact several Drying R&D Centers evolved at several universities once they were convinced of the long term viability of drying research. General lack of access to relevant literature has been a deterrent in the past. With easy access through the internet the situation has improved considerably. However, competition from other fields and reduced R&D resources will continue to make it difficult to attract new researchers to the field. Senior researchers in drying need to make special effort to encourage and guide younger researchers to the field. Industry needs to provide tangible support which will eventually benefit their own bottom line with improved efficiency, safety and reduced environmental impact via innovative drying technologies found in almost all industrial sector..

Another avenue that I had to follow was to divert my own papers to the journal simply to attract papers from other authors. The result is that I am author or co-author of over 120 papers published in this journal.

Such tangible support was necessary for the journal to flourish. In fact, this was the only archival outlet for engineering papers focusing on drying. This philosophy that showed my personal confidence of the long term viability of the journal in fact has proven effective. The impact factor of the journal has been rising continuously over the past five or more years. In my opinion this is not a truly reflection of our real impact. As a technology journal we meet the needs of academia as well as industry. The latter do not publish papers; they benefit from results we publish. Unfortunately, we have no known measure of this impact but there are many anecdotal examples showing the industrial value of our journal. Lack of major funding for drying R&D also limits the number of publications in this area, Hence, a high impact factor comparable to medical or science journals will never be possible. Yet, the journal is already in the top 15 journals out of over 100 Mechanical Engineering journals, for example.

For the future, I believe we will have shortage of papers for at least ten more years. However, it is good to look into the future and identify areas where drying will be significant and also expand the reach to include non-thermal dewatering as well as pre- and post-processing. So far we have attracted mostly applied, technology-oriented papers. In future, I hope we can get a stronger base in science. New analytical and computing techniques and tools will lead to greater depth in drying R&D. However, this will not happen naturally. A concerted effort will be needed to achieve this.