



Book Review

Chemistry and Technology of Printing and Imaging Systems. Edited by P. Gregory. Blackie Academic and Professional, Glasgow, 1996. xiii + 226 pp. ISBN 0 7514 0238 9. Price: £59.00.

Perhaps one of the most disappointing aspects of the microchip revolution has been that the promised elimination of paper as a means of communication never materialised, and instead there has been a paper-consumption explosion, thanks to the ease with which electronically generated data can be converted into high quality hard copy. Human nature is such that a real-life object will always be more satisfying than its virtual reality equivalent, and one can only hope that as long as the world's supply of paper can be satisfied with proper management of natural resources, then no real harm will have been done by this unprecedented growth in demand. Traditional industries have experienced a new lease of life as a consequence of the electronics revolution and indeed many new industries have been born directly from it. The present book is therefore both an invaluable and timely contribution to the literature of modern printing and imaging technology.

The book consists of a collection of chapters covering the most important current printing and imaging technologies, as well as technologies whose potential has yet to be exploited, and each is written by an expert in the relevant field. The balance and readability of the book is excellent, since the older technologies such as traditional impact printing (chapter 2) and silver halide photography (chapter 3) are given full weight alongside the newer technologies of non-impact printing and optical data storage. The non-expert is therefore able to obtain a true perspective of the various technologies in current use and to assess their relative merits and shortcomings.

Non-impact printing is dealt with in chapters covering electrophotography (e.g. xerography, laser printing), ink-jet printing, thermal printing (direct and transfer), and lesser known 'niche' systems (e.g. electrostatic, ionographic and magnetographic processes). A chapter on optical data storage systems,

whilst not strictly belonging to the same theme as other chapters, nevertheless is of direct relevance and a most useful inclusion.

As the title of the book accurately states, the overall approach taken throughout the text is to concentrate on the chemical and technical principles of the various processes concerned. Thus the physics and mathematical modelling of the processes are not considered, and instead chemists (particularly colour chemists) and technologists will find much of interest here. The theoretical principles of each technique are presented in an easily understandable form with appropriate diagrams (two colour plates are included in the text), and organic colorants and related materials are discussed with due regard to chemical structure and toxicology.

Perhaps the only criticism that can be levelled against the book is the limited extent of referencing in some of the chapters, which is particularly true for patents. In this respect the book is more of a general educational text rather than a reference source, but nevertheless this is a book to be highly recommended to anyone with an interest in modern printing and imaging technology, and has no competitor at the present time.

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