

Book Reviews

Materials Brought to Book

Sensors Update, Volume 2. Edited by *H. Baltes, W. Göpel, J. Hesse*, VCH, Weinheim 1996, xi, 236 pp., hardcover, DM 348.00, ISBN 3-527-29432-5.

We have considered this book from two points of view, that of a more general reader active in the multidisciplinary field of microsystems research and that of the specialist in one of its topic areas.

The field of microsystems research is very wide, and keeping abreast of all the current developments in sensors science and technology is very difficult. This book makes a significant contribution to facilitating this task. Building on the content of books in the series "Sensors", it provides clear and well-written overviews of current "highlights" in sensors science. As non-specialists in many of the topic areas covered, we found the book most stimulating and expect that it will become a well-used favorite. The chapters on "New Metal Oxide Sensors" and "Pattern Recognition" were most useful.

The book was slightly less favorably received by specialists in the particular topic areas. The chapter on "Image Sensors" was considered to be a little dated and not representative of the "cutting edge". Similar feelings were also expressed about the chapter on "Chips and Computers for Artificial Neural Nets". It should also be stated, however, that the specialist reviewer was delighted to see some of the other chapters outside of his specialist area.

We welcome the publication of this book and are sure that it will be a useful addition for workers in the multidisciplinary field of sensors and microsystems. If its aim is to help the reader keep abreast of developments in the multidisciplinary field of multisensors, then it has certainly succeeded. However, if you want to get to the cutting edge, you may need to dig a little deeper.

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Enough for One Lifetime. Wallace Carothers, Inventor of Nylon. By *Matthew E. Hermes*, American Chemical Society, Washington, DC 1996, xvii, 345 pp., hardcover, \$38.95, ISBN 0-8412-3331-4.

Carothers (1896–1937), the inventor of nylon, did not experience the naming and the introduction onto the market of this first fully synthetic fiber. Nylon, the result of systematic work by Carothers over several years in the area of polyesters and polyamides at DuPont, was at that time an advanced material par excellence. In the time before nylon, Carothers, together with Arnold Collins, discovered the first fully synthetic rubber, neoprene, in a more or less accidental way. Synthetic rubber and "synthetic silk": "that will be enough for one lifetime" wrote Carothers in a letter to a female friend of his youth. Matthew E. Hermes describes the life of Wallace Hume Carothers from its beginning in a Presbyterian family in Iowa via his chemical studies at the College in Tarkio, Missouri, and at the University in Urbana, Illinois (under Roger Adams), his time as a lecturer in organic chemistry at the University of Harvard and his research work at DuPont in Wilmington, Delaware, to its conclusion with his early death of his own choosing. The author describes in detail the scientific achievements, above all, however, the private side of the man: his inclinations, his liking for literature and his love of music, his relationships to friends and professional colleagues — who admired him not only as an outstanding scientist, but also because of his cultivated and excellent character — and the human tragedy, the alcoholism and the deep depressions, which in the end drove him to suicide, only a few months after his late marriage and a few weeks after receiving the highest official honor, admission to the National Academy of Sciences.

The biography is based on innumerable sources: archives of universities and the DuPont Company, Carothers's correspondence and, especially, on almost 50 interviews, which the author held with,

amongst others, Carothers's now aged friends. Because these sources, however, could not reveal everything about the apparently inherited psychological frailness, Hermes examines intensively the relevant literature and gives examples of depressive writers in a kind of parable in order to understand and present the dark side of the personality.

The author is himself a chemist and worked for twenty years at DuPont. The wish to write the biography of Carothers prompted him to take a second university course (leading to an M.A. in liberal studies), in mid-life, in order first to learn how to write. The style of the book is lively, exciting to read, sympathetic and tactful in describing the human tragedy. The author shows us the life of Carothers against the background of cultural, political and economic events and also gives us an insight into the America of the 1920s and 1930s.

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Langmuir–Blodgett Films: An Introduction. By *M. C. Petty*, xviii, 234 pp., Cambridge University Press, Cambridge 1996, Softcover, £16.95, ISBN 0-521-42450-X.

Molecularly structured organic thin films belong to the emerging field of nanomaterials. They possess at least one-dimensional order along the film normal, but might well show two-dimensional order within the layer plane. Such films are currently gaining interest in both basic and applied science due to the challenge associated with their fabrication, the complexity of their structure and dynamics and, last but not least, their potential for certain applications. Langmuir–Blodgett (LB) multilayers have dominated the field for a long time and they are the subject of the book by M. Petty. His account is certainly not the only recent review of the field, but he takes a distinct approach: the book is aimed at a rather novice audience and strives to provide the underlying principles