Graham A. Ormondroyd and Angela F. Morris (Eds); Designing with Natural Materials

Ken Jones¹

Published online: 18 December 2018
© Springer-Verlag GmbH Germany, part of Springer Nature 2018

Bibliography

Designing with Natural Materials
Graham A. Ormondroyd, Angela F. Morris (Eds)
CRC Press, Boca Raton, FL, USA, 2019, pp 340
ISBN 978-1-4987-8270-8
GPP 86.40, USD 135.96

The specialist nature of the subject matter has restricted the number of authors to 11, spread over ten chapters. That is, it has been published in the teeth of the recently created furore over global plastic contamination which is no accident and is a welcome and timely addition to the literature. The overall justification for this compilation is based on plain logic. Natural materials have resulted from millions of years of ‘free’ research and development (evolution through natural selection) and have reached a degree of technical sophistication that makes it virtually impossible for today’s world to emulate them. Therefore, why reinvent the wheel when solutions already exist? As always, the drift to the widespread use of plastics has been fuelled by cost, inevitably followed by a drift to the cheapest possible solution—hence the almost universal adoption of plastics. This driving force of cost before all else has been cleverly addressed by the addition of an easily read price (of product) vs density graph. This graph is reproduced as part of what is one of the most important chapters in the book: Selection

of Natural Materials Using the CES Edupack, a regularly updated database providing comprehensive product information on almost 4000 natural materials.

The remainder of the book is then built around these data, demonstrating the how, the why and wherefore of how some of these materials can be used commercially, practically and economically in modern situations. With case studies, research, and historical perspectives scattered throughout various chapters, the case is made that natural materials are automatically rejected in favour of synthetics without any consideration of sustainability, suitability, quite often cost, and performance. That oceanic contamination is but one manifestation of the need for change is not emphasised at any point, but the overall message is subtle and powerful. The process starts with design, where natural materials are first considered rather than rejected out of hand. With just three industries examined in detail, automobile manufacture, the structure of tall buildings, and packaging, it provides thought-provoking incentives to dig further.

There was perhaps an opportunity to exploit the massive public concern resulting from disastrous building fires caused by flammable plastic insulation, exemplified at Grenfell, Dubai and Shanghai, but in practice, the editors have no specific need to sensationalise their message.

It is anticipated that this book will attract a wide audience, not just the obvious designers considered to be artists rather than scientists, but also those involved in engineering. If their mindset can be altered, replacement of unsustainable and non-biodegradable materials by natural materials can be taken to massive advantage.

✉ Ken Jones

¹ Knutsford, UK