

Conserving buildings : guide to techniques and materials

- [M. Weaver, F. Matero](#)
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A General Introduction to the Conservation of Buildings Investigating Old Buildings The Study of Building Materials Restoring and Repairing Old Wooden Structures Restoring Stonework Architectural Ceramics Cementitious Materials Cleaning Masonry Architectural Metalwork Paints and Coatings (by Frank G. Matero) Architectural Glass Foundations and Footings Restoring Slate Roofing Synthetic Resins, Polymers, and Preservation Historic Wallpapers Index.

BOOK REVIEWS

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MARTIN E.WEAVER, WITH F. G. MATERO *CONSERVING BUILDINGS: GUIDE TO TECHNIQUES AND MATERIALS* New York: John Wiley and Sons, 1993. 270 pages, \$59.95 hardcover. Available from John Wiley and Sons, Inc., Professional, Reference and Trade Group, 605 Third Ave., New York, N.Y. 10158-0012.

As the field of architectural conservation has grown professionally, the need for a core body of written materials, education, and training has become apparent. The field of historic preservation has provided some interesting books on the philosophy of preservation, but only a few have concentrated on the technical aspects. In recent years several books on the conservation of buildings have been published in Great Britain (e.g., Bernard Feilden, *Conservation of Historic Buildings*, 1982; Gower Technical Press, *Practical Building Conservation Series*, 1988; and Ashurst and Dime, *Conservation of Buildings and Decorative Stone*, 1990). While informative on the British viewpoints and techniques, the practical and technical information has limited application to work in North America due to differing local materials and resources.

Much relevant information exists in articles from various publications and professional journals that span many disciplines. Additional valuable research has been accumulated in the many unpublished reports of most conservation practices. Still, general reference books from this side of the Atlantic that bring this knowledge together are lacking.

Martin E. Weaver's *Conserving Buildings* begins to fill this void. Weaver presents an overview of typical North American building materials drawing from his vast experience as a practitioner, author of various articles, and worldwide lecturer. Many readers familiar with his lecturing will recognize his presentation style, which combines the history of technology and the properties of materials with interesting, and sometimes amusing, field observations that further illustrate his point. Weaver's work is coupled with the efforts of F. G. Matero (former director of the Center for Preservation Research at Columbia University, currently director of the University of Pennsylvania Conservation Research Center) on paint technology. The combination covers the primary materials encountered in architectural conservation.

Each chapter addresses a class of material with a brief history of use, technology, and general descriptions of characteristic deterioration. Typical conservation treatments are described. Occasionally case histories based on the research conducted by conservators of the Center for Preservation Research (of which Weaver is now director) are presented. As a former conservator with the center, I am familiar with the projects.

One of the features of this book I like is that each chapter is self-contained, a valuable asset for a reference book. Weaver has assembled relevant information on the properties of each material, various problems associated with that material, and treatment options. Formulas and data from other sources or unpublished material are included. A list of sources for specific products and supplies follows the conservation sections. When a topic exceeds its allotted space, titles for further reading are suggested. References and bibliographies, by chapter, also list resources for further research. The book concludes with an index utilizing general topic entries.

Words alone are sometimes inadequate for thorough descriptions of conditions and procedures. A plethora of photographs, details from historical sources, line drawings, and construction details complement the text. The reader must study the illustrative material, for frequently there is no cross reference within the text, and occasionally a detail is illustrated with very little text description.

The chapter on wood is the strongest and most thorough. This is no surprise considering that wood is a subject on which Weaver has lectured extensively. A quick overview of historic construction techniques and the properties of wood makes way for the lengthy discussion of biodeterioration, pesticides, and preservatives. The line drawings may assist in identifying sources of infestation, but while the enlarged drawings are valuable as visual aids at first glance, the scale may be a bit misleading. Descriptions of various pesticides and preservatives, along with their associated health risks, provide possible methods for eradication. Possible conservation treatments are presented including patching, reinforcement, and consolidation. Two epoxy resin-

based methods of reinforcement and consolidation (WER system, developed in Canada, and BETA System, developed in the Netherlands) are described and illustrated with detailed step-by-step drawings.

Although this book assumes that the reader has a basic knowledge of chemistry, most chemical properties are discussed briefly; analytical data for specific materials are included in the case studies. In-depth chemical analyses of architectural materials are not generally provided. One exception is the chapter on metalwork, in which the basic chemistry of the deterioration of metal is explored, in the form of a rust primer, as a preface to the discussion of restoration treatments. Another exception is the chapter on synthetic resins and polymers, which introduces the reader to the general terminology for this classification of materials often used in conservation treatments. On account of its brevity, this chapter will be more useful to allied preservation professionals such as architects, historic preservationists, and curators than to conservators.

The section on paints and coatings is an excellent, but brief, discussion of the materials, methods for examination and analysis, and overview of treatment techniques and materials used in the conservation of painted finishes. This chapter may be especially useful as a guide for allied professionals working with paint consultants.

Other chapters worthy of mention are on the materials of terracotta and cementitious materials. The inclusion of foundations and footings and slate roofing round out the topics encountered in conserving buildings and completing this book's usefulness as a general reference.

The book's preface warns that tackling a “comprehensive study” of any subject is monumental and likely to fall short of the mark. In general *Conserving Buildings* has brought together in one volume an excellent overview of a wide range of materials, but some areas receive less attention than others. Considering the amount of information concerning the wood pesticides and preservatives, one might have expected the same degree of discussion in the following chapters on the various biocides and consolidation chemicals for stonework and masonry. Chapters on associated materials such as architectural glass and historic wallpapers lack depth. These chapters are short and quickly define the general nature of the material, deterioration problems, and treatments; the suggested further reading resources are necessary to fill in the gaps.

Rather than produce a massive tome covering every aspect of building conservation, *Conserving Buildings* has succinctly provided a systematic compilation of the technology and practical skills of the conservation of the built environment of North America. It not only provides adequate information for basic understanding of

materials and the state of conservation treatments but also gives the reader directions for further reading and additional research. This book is a useful resource for the architectural conservator and conservator of outdoor monuments as well as for historic preservationists such as architects, engineers, and curators.