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# Conservation Of Wood Artifacts A Handbook Natural Science In Archaeology

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Conservation Of Wooden Objects

Abstracts of Papers Presented at Painted Wood/History & Conservation

Principles and Methods

An Archaic Mortuary Pond

CONSERVATION OF WOODEN OBJECTS

Nanotechnologies in the Conservation of Cultural Heritage

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Postprints of the Wooden Artifacts Group

Postprints of the Wooden Artifacts Group Presented at the 31st Annual Meeting of the American Institute for Conservation, Arlington, Virginia, June 2003

Abstracts of Papers Presented at Painted Wood : History and Conservation, Williamsburg, Virginia, November 11th-14th, 1994

Painted Wood

A compendium of materials and techniques

Painted Wood

Conservation Practices on Archaeological Excavations

Conservation of Furniture

Presented at the 25th Annual Meeting of the American Institute for Conservation, San Diego, California, June 1997

Specialty Session, June 7, 1992, AIC Annual Meeting, Buffalo, New York

Key Principles and Approaches

History & Conservation : Williamsburg, Virginia, November 11th-14th, 1994

Principles and Practices of DART-MS

Paintings, Textiles, Fossils, Wood, Stones, Metals, and Glass

Papers Presented at the Wooden Artifacts Group

Presented at the 23rd Annual Meeting of the American Institute for Conservation, Saint Paul, Minnesota, June 1995

The Oxford Handbook of Roman Sculpture

Direct Analysis in Real Time Mass Spectrometry

Proceedings of a Symposium at the J. Paul Getty Museum, 24-28 April 1995

A Guide to Non-Toxic, Minimal Intervention Artifact Stabilization

Monitoring for Gaseous Pollutants in Museum Environments

Practical Applications for Organic Artifact Stabilization

Chemicals and Methods for Conservation and Restoration

Properties, Chemistry, and Preservation

Archaeological Conservation Using Polymers

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Presented at the 24th Annual Meeting of the American Institute for Conservation,

Norfolk, Virginia, June 1996

Specialty Sessions, June 2 & 3, 1990, AIC Annual Meeting, Richmond, Virginia  
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## **BROWN NOVAK**

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*Conservation Of Wooden  
Objects* Getty Publications

The book deals exhaustively with conservation of our ancient heritage existent in the form of wooden artefacts. This volume contains four chapters. The first chapter deals with the history of use of wood, location of wooden artefacts and the need to review our policy of acquisition of artefacts. The second highlights the information on the source of wood, identification, properties of wood, and techniques of making wooden objects. The third one explains the deterioration mechanism of wood substance and other constituents by various agencies of degradation, inherent structural defects and need for proper examination and

documentation to decide on the treatment required. The final chapter details the conservation technology for wooden objects explaining the steps in eradication of biodeterioration, cleaning, physical repairs, restoration/retouching and preventive measures. No doubt this book should serve as a valuable guide to archaeologists, conservators, and students of museology. *Abstracts of Papers Presented at Painted Wood/History & Conservation* Routledge Master conservator Douglas R. Armstrong imparts his many years of first-hand, practical experience in the field of marine artifact conservation within the pages of "Practical Conservation of Archaeological Objects". This newly updated version for 2012 includes his methods of cleaning coins recovered from a number of shipwrecks, in particular the inventory of

the Chanduy Reef Capitana, and the Consolacion in Ecuador. This is a manual of proven methods that all collectors, be they archaeologists or treasure hunters, at land or at sea, will find indispensable when restoring and conserving a wide range of objects, ranging from buttons, cannon, sword handles, or glassware, to pieces of eight. The author was the first craftsman to handle many objects hereto untouched by conservators of the day, not the least of which are delicate pistols, one of the first wrought iron guns, the original Tumbaga bars of the Bahamas, and a bronze saker made for King Henry VIII. The book is richly illustrated with before and after photos of these projects and is fully indexed. The technology and tools used are described in great detail. Truly, this is a manual that every conservator needs at hand. *Principles and Methods*

Getty Publications  
With an emphasis on passive sampling, this volume focuses on the environmental monitoring for common gaseous pollutants. It offers an overview of the history and nature of pollutants of concern to museums and the challenges facing scientists, conservators, and managers seeking to develop target pollutant guidelines to protect cultural property.

### **An Archaic Mortuary**

**Pond** Oxford University Press

In 2008, the City of Aspen, Colorado received a grant from the National Center for Preservation Technology and Training to fund the research and compilation of a comprehensive manual written for cemetery stewards to facilitate the preservation of wooden artifacts in cemeteries. The document is intended to fill the current void - the lack of easily accessible information on the conditions and conservation of wooden artifacts in cemeteries. The goal of the document is to provide a foundation for understanding wooden artifacts in cemeteries and offer realistic preservation options for cemetery stewards who must often act to

preserve fragile artifacts with limited financial resources. Additionally, the manual identifies the research priorities necessary to develop state-of-the-art methodologies and technologies for cemetery conservation. The manual provides information on the mechanisms of deterioration for wooden artifacts, methods of identifying forms of deterioration, and possible treatment options. The first section, Understanding Wood in Cemeteries, discusses some of the physical properties of wood and the reasons why treatments suitable for wood in structures or museum artifacts are not always suitable for wooden artifacts in cemeteries. This section also includes an overview of the Secretary of the Interior's Standards for the Treatment of Historic Properties. The second section, Mechanisms of Wood Deterioration, identifies the various forms of wood deterioration that can occur within wood exposed to the elements. The third section, Methods of Identifying and Monitoring Problems, serves as a how-to guide for cemetery stewards to

assess the conditions of the wooden artifacts in their care, while the fourth section, Corrective Measures, offers low-cost, low-maintenance options for extending the life of wooden cemetery artifacts. The final section, Considerations for Repair and Treatment, is provided to emphasize that wood within an environmental context functions as a part of that environment and reiterates the importance of understanding the impact of the environment on repairs and treatments. This section includes examples of failed repair and treatment attempts and also discusses the limitations of current repair and treatment options. Advanced assessment technologies that can help to extend the service life of wooden artifacts in cemeteries are also discussed in this section. Wooden artifacts in cemeteries are often overlooked as pieces of significant cultural heritage and dismissed as impermanent and/or unsalvageable objects. This manual provides the guidelines for simple, affordable maintenance procedures that can extend the service life of wooden artifacts for

years, if not decades, to come.

#### CONSERVATION OF WOODEN OBJECTS

BoD – Books on Demand

Ever since its original publication in Germany in 1938, Max Schweidler's *Die Instandsetzung von Kupferstichen, Zeichnungen, Buchern usw.* has been recognized as a seminal modern text on the conservation and restoration of works on paper. This volume, based on the authoritative revised German edition of 1950, makes Schweidler's work available in English for the first time, in a meticulously edited and annotated scholarly edition. An extensively illustrated appendix presents case studies of eleven Old Master prints that were treated using the techniques Schweidler discusses.

#### *Nanotechnologies in the Conservation of Cultural Heritage*

Before the 1970s, most information concerning the conservation and restoration of paintings, wood, and archaeological artefacts were focused on the history of the artefacts, previous attempts of conservation, and the future use of these artefacts. The technical methods of how the restoration and

conservation were made were dealt with only very briefly. Today, sophisticated methods of scientific analysis such as DNA are common place, and this encourages conservators and scientists to work together to work out the development of new methods for analysis and conservation of artefacts. This book focuses on the chemicals used for conservation and restoration of various artefacts in artwork and archaeology, as well as special applications of these materials. Also the methods used, both for cleaning, conservation and restoration, as well as methods for the analysis of the state of the respective artefacts. Topics include oil paintings, paper conservation, textiles and dyes for them, archaeological wood, fossils, stones, metals and metallic coins, and glasses, including church windows.

#### Conservation of Plastics

#### Conservation of Wood

*Artifacts A Handbook*  
A fundamental part of modern technology is composed of devices that use special materials as main components. Since the last few decades of

the last century and even more recently, a remarkable development has been achieved in new micro- and nanostructured materials with compositional structures and production methods that open unprecedented technological, economic, and ecological perspectives due to high yields, economies of scale, the possibility of reducing weight and size, and the low environmental impact of the equipment that contains them. This book offers a collection of excellent studies that use state-of-the-art methodologies developed by professional researchers from different countries in diverse areas of materials. In this way, this book is particularly useful to academics, scientists, practicing researchers, and postgraduate students whose work relates to the latest nanomaterial technologies.

#### Postprints of the Wooden Artifacts Group

#### Amer Chemical Society

This teaching guide covers the identification, deterioration, and conservation of artifacts made from plant materials. Detailed information on plant

anatomy, morphology, and development, focusing on information useful to the conservator in identifying plant fibers are described, as well as the processing, construction, and decorative techniques commonly used in such artifacts. A final chapter provides a thorough discussion of conservation, preservation, storage, and restoration methods. This is a valuable resource to conservators and students alike.

**Postprints of the Wooden Artifacts Group Presented at the 31st Annual Meeting of the American Institute for Conservation, Arlington, Virginia, June 2003**

Createspace

Independent Pub  
Over the years, archaeologists have developed a number of techniques for conserving historical artifacts for future generations. Along with these techniques, researchers have developed a series of ethical principles for treating materials in a way that allows them to be not only observed and analyzed for the present, but also in re-studied in the future. Conservation techniques used up to now, however, have

provided artifacts only a limited lifespan, and in some cases they do not work well with water-logged materials. Within the past few years, archaeological chemistry and concerns of longevity testing have become central issues in the development of conservation treatment strategies. This problem became particularly acute when members of the Texas A&M Nautical Archaeology Program were called on to conserve artifacts from La Belle, the sunken ship of La Salle excavated in the 1990s off the coast of Texas by the Texas Historical Commission. "Entombed in the mud that sealed it from decay for over three centuries," C. Wayne Smith writes in his introduction, "the waterlogged hull and hundreds of thousands of fragile artifacts, including brain matter in the skull of one unfortunate sailor, would have been a futile conservation effort without new preservation technologies." Working with Dow Corning Corporation, Texas A&M's Archaeological Preservation Research Lab (APRL), and the Conservation Research Lab (CRL), Smith and his colleagues in A&M's

Nautical Archaeology Program set out to develop a series of chemistries and techniques that would provide successful and affordable treatment strategies for organic materials. In this groundbreaking description of the processes and materials that were developed, Smith explains these techniques in ways that will allow museums and historical societies to conserve more stable artifacts for traveling exhibits and interactive displays and will allow researchers to conserve new discoveries without sacrificing important information. Beyond the advantages offered by polymer replacement (Passivation Polymer) technologies, Smith considers a concept seldom addressed in conservation: artistry. Variance in equipment, relative humidity, laboratory layout, intended results, and level of expertise all affect researchers' ability to obtain consistent and aesthetically correct samples and require a willingness to explore treatment parameters and combinations of polymers. Smith prescribes an effective layout for day-to-day conservation of small

organic artifacts and then examines some of the mechanical techniques used to process various organic materials from marine and land sites. He concludes with an exploration of new tools and technologies that can help conservators devise more effective conservation strategies, including CT scans and Computer Aided Design images and stereolithography. All archaeologists, conservators, and museologists working with perishable artifacts will benefit from the careful explication of these new processes, and those wishing to incorporate some or all of them will find the step-by-step instructions for doing so. Abstracts of Papers Presented at Painted Wood : History and Conservation, Williamsburg, Virginia, November 11th-14th, 1994 John Wiley & Sons DART-MS is a relatively new, but very fast evolving technology. Due to its versatility, it addresses fields of crucial importance to people and community, e.g. food or agricultural, forensic, industrial, environmental, medicinal and clinical analysis. Painted Wood Springer

This handbook is the most comprehensive, up-to-date source of information on the history of wood conservation, on the structure and properties of wood, on organisms causing deterioration, on methods of diagnosis of wood condition, on materials and methods of wood preservation, on consolidation of deteriorated wood, and on wood adhesives. Although it provides many techniques of wood conservation in detail, it goes far beyond the scope of a "recipe book" by giving an overview of the use of particular materials and methods as they apply to dry as well as wet or waterlogged wood. Access to the enormous wealth of information is facilitated by separate indexes for trade names, pests, and conservation materials. The latter, together with their methods of application, were gathered from the literature and organized chronologically. For liquid preservatives, fumigants, and consolidants, these listings are preceded by important data on each of the materials.

**A compendium of materials and techniques** Texas A&M University Press  
This book presents novel

applications of nanotechnology for the preservation of artistic and historical artifacts. It explains the scientific principles behind numerous nanomaterials and discusses their applications to different types of common movable and fixed artistic substrates. It starts with an overview of the nano-tools developed over the last three decades, such as dispersions of nanoparticles, micellar solutions, microemulsions and gels. Compared to traditional methods, these new tools have the benefit of considerably less impact on both the operators and the environment. Each chapter is dedicated to a specific type of cultural heritage material (wall and easel paintings, stone, paper, canvas and wood) starting with the main degradation paths and discussing protocols for the application of innovative nanomaterials-based tools for cleaning, consolidation, or deacidification, which represent the majority of the case studies encountered in restoration facilities, workshops and ateliers. The book provides step-by-step descriptions that are meant to support

conservators in the application of these novel materials and methods. The aim of the book is to equip end-users and conservators with essential information and knowledge on the availability and applicability of different nano-materials and dispersed systems. While the book's focus is on the practical aspects, interested readers will also find references to the relevant advanced colloid and material science literature. Main audience: Expert conservators, restorers and technical staff at conservation institutes and museums, students at conservation and restoration schools, and scientists who are new to the field of conservation of artistic and historical artifacts.

**Painted Wood** Springer Science & Business Media

Over the past twenty years there has been a significant increase in underwater activities such as scuba diving which, coupled with the adventure and romance always associated with shipwrecks, has led to rapid developments in the discovery and excavation of shipwrecked material. These shipwrecks are invaluable archaeological 'time capsules', which in

the majority of cases have come to an equilibrium with their environment. As soon as artefacts on the wreck site are moved, this equilibrium is disturbed, and the artefacts may commence to deteriorate, sometimes in a rapid and devastating fashion. In fact excavation without having conservation facilities available is vandalism--the artefacts are much safer being left on the sea bed. Such famous shipwrecks as the Mary Rose (1545), the *Wasa* (1628) and the *Batabia* (1629) have not only brought the world's attention to these unique finds, but have also produced tremendous conservation problems. The treatment of a 30 metre waterlogged wooden hull or large cast iron cannon is still causing headaches to conservators.

Conservation Practices on Archaeological Excavations Getty Publications

This is the first book to combine chemistry with techniques of preserving archaeological wood. Among the topics discussed in its 17 chapters are the chemical composition of wood and changes brought about by the decay process,

biopredators, radiation curing, freeze-drying, chemical preservation techniques, museum environments, the ethics of conservation, and value systems for choosing among the qualities of wood that can be preserved. This volume provides understanding, from a scientific perspective of archaeological wood, its properties, its chemistry and its preservation.

*Conservation of Furniture* Getty Publications

This is a Foreword by an archaeologist, not a conservator, but as Brad Rodgers says, "Conservation has been steadily pulled from archaeology by the forces of specialization" (p. 3), and he wants to remedy this situation through this manual. He sees this work as a "call to action for the non-professional conservator," permitting "curators, conservators, and archaeologists to identify artifacts that need professional attention and, allow these professionals to stabilize most artifacts in their own laboratories with minimal intervention, using simple non-toxic procedures" (p. 5). It is the mission of Brad's manual to "bring conservation back into

arch- ology” (p. 6). The degree of success of that goal depends on the degree to which archaeologists pay attention to, and put to use, what Brad has to say, because as he says, “The conservationist/archaeologist is responsible to make preparation for an artifact’s care even before it is excavated and after its storage into the foreseeable future”. . . a tremendous responsibility” (p. 10). The manual is a combination of highly technical as well as common sense methods of conserving wood, iron and other metals, ceramics, glass and stone, organics and composites—a better guide to artifact conservation than was available to me when I first faced that archaeological challenge at colonial Brunswick Town, North Carolina in 1958—a challenge still being faced by archaeologists today. The stage of conservation in 1958 is in dramatic contrast to the procedures Brad describes in this manual—conservation has indeed made great progress. For instance, a common procedure then was to heat the artifacts red hot in a furnace—a method that made me cringe.

*Presented at the 25th Annual Meeting of the American Institute for Conservation, San Diego, California, June 1997*

Elsevier  
Plastic objects are included more than ever in museums and galleries collections these days, but these items can start to deteriorate when they are just a few years old. In this book Yvonne Shashoua provides the essential knowledge needed to keep plastic pieces in the best possible condition so that they can continue to be enjoyed for many years. The historical development of plastics, as well as the technology, their physical and chemical properties, identification, degradation and conservation are all clearly and concisely covered within this single volume, making it an invaluable reference for the increasing number of conservators and curators that are encountering plastics in their day to day work.

Specialty Session, June 7, 1992, AIC Annual Meeting, Buffalo, New York  
Routledge

The study of Roman sculpture has been an essential part of the disciplines of Art History and Classics since the eighteenth century.

Famous works like the Laocoön, the Arch of Titus, and the colossal portrait of Constantine are familiar to millions. Again and again, scholars have returned to sculpture to answer questions about Roman art, society, and history. Indeed, the field of Roman sculptural studies encompasses not only the full chronological range of the Roman world but also its expansive geography, and a variety of artistic media, formats, sizes, and functions. Exciting new theories, methods, and approaches have transformed the specialized literature on the subject in recent decades. Rather than creating another chronological catalogue of representative examples from various periods, genres, and settings, *The Oxford Handbook of Roman Sculpture* synthesizes current best practices for studying this central medium of Roman art, situating it within the larger fields of Art History, Classical Archaeology, and Roman Studies. This comprehensive volume fills the gap between introductory textbooks and highly focused professional literature. *The Oxford Handbook of Roman Sculpture* conveniently presents



new technical, scientific, literary, and theoretical approaches to the study of Roman sculpture in one reference volume while simultaneously complementing textbooks and other publications that present well-known works in the corpus. The contributors to this volume address metropolitan and provincial material from the early republican period through late antiquity in an engaging and fresh style.

Authoritative, innovative, and up-to-date, The Oxford Handbook of Roman Sculpture will remain an invaluable resource for years to come.

*Key Principles and Approaches* Getty Publications

Before the 1970s, most information concerning the conservation and restoration of paintings, wood, and archaeological artefacts were focused on the history of the artefacts, previous attempts of conservation, and the future use of these artefacts. The technical methods of how the restoration and conservation were made were dealt with only very briefly. Today, sophisticated methods of scientific analysis such as

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History & Conservation : Williamsburg, Virginia, November 11th-14th, 1994 Springer Science & Business Media  
 Conservation of Wood ArtifactsA HandbookSpringer Science & Business Media  
Principles and Practices of DART-MS John Wiley & Sons

The impetus for this book was the desire to

systematically organize the extant literature on the conservation of cultural property made of wood, from its beginnings before the Christian Era to the year 2000. Various published reviews and monographs, including *Holzkonserverung* (Wood Conservation) published by the senior author in 1988, have appeared over the years, especially in English and in German. They have provided exemplary treat merit of individual areas or aspects of wood conservation, but a comprehensive, up-to-date exposition of historic and current developments has been lacking. The diverse professional fields of the authors, as well as their insights into methods of conservation and restoration of wood artifacts in Europe, North America, and Asia provided a solid basis for the success of this undertaking. One of the goals during the examination of the literature was that not only well-known conservators and scientists from countries that are leaders in wood conservation should be represented, but that less well-known, often not as readily accessible contributions should also be included. Only in this

manner was it possible to draw a comprehensive picture of the national and international state of

wood conservation. The Art and Archaeology Technical Abstracts (AATA) of the Getty

Institute were very helpful in our efforts to evaluate as many publications as possible.

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