

PREFACE

In April of 2008 Petrified Forest National Park hosted the first in what we hope to be a series of annual meetings concerning topics related to the treatment, care, and preservation of fossil specimens. Professional and volunteer fossil preparators, collections managers, librarians, and other interested individuals attended from across North America. Fifteen talks, three posters, and four workshops were presented during the three day symposium, and attendees were offered tours of park collections, labs, and localities.

Paleontologists have a great ethical, and sometimes legal, obligation to properly care for the specimens that we hold in trust within our institutions. Unfortunately, the sub-discipline of fossil preparation and care is a field with limited established curricula, literature, educational, or training opportunities for professionals, students, or volunteers. Likewise, other workers within paleontology do not always have a full understanding of the broad extent of knowledge and skills required to safely and adequately treat fossil specimens, or the resources or ability to obtain the services of a trained and skilled preparator. We sincerely hope that conferences and publications of this nature will make a significant contribution to that understanding, to provide resources for those interested in fossil preparation, and to provide encouragement to others interested in building professionalism within the field of fossil care.

This volume represents a collection of papers presented at or inspired by the symposium. These papers provide a broad look at some of the methods and challenges presented in the field of preparation, but barely scratch the surface of the body of knowledge and skill required to competently prepare fossils. Articles by Wylie and Gavigan discuss some of the greater practical and philosophical aspects of fossil preparation. Brinkman provides a look at the development of many tools, techniques and lab practices that modern preparators are familiar with, as well as politics and mindsets that sometimes still persist. Bergwall discuss evaluation rationale and methods, while Maltese, Davidson and Alderson, Cavigelli, and Stein and Sander outline procedures for aspects of field and laboratory preparation. Papers by Cherney, Erickson, and Nolan, Atkinson, and Small highlight innovations in the molding and casting lab. Brown and Parker examine a methodology for creating quick, in-house exhibits, and Hunt-Foster demonstrate a method for protecting specimens during transit. Davidson provides a recap, evolution, and evaluation of the adhesives mini-seminar presentation. Abstracts from the symposium are reprinted following the articles.

We appreciate the support of park Superintendent Cliff Spencer and Chief of Resources Patricia Thompson and Paul Dobell of the Petrified Forest Museum Association. Thanks to all contributors of articles and abstracts, and to all attendees of the symposium. Special thanks to all volunteer peer reviewers.

Matthew Brown, John Kane, and William Parker, February 2009

FOREWORD (AND FORWARD)

Preparators have always been, as Gilbert Stucker (apparently quoting tool maker David R. Barton) first described us, the “Jimmy Valentines of science”, always inventing, creating, adapting, and accomplishing the seemingly impossible with the fossils in our charge. As they have from the very beginning of our profession, these traits still characterize good preparators, but they do not fully define them. Ours has been, for a greater part of our discipline’s history, a gradual evolution of techniques, materials and professionalism. But what we are now experiencing approaches *revolution* in scale. What truly separates us from our predecessors, what defines the modern preparator, is not greater creativity, inventiveness or skill; it is our access to *information*.

Traditionally, preparators’ techniques and materials were learned in-house from our immediate predecessors, our own development limited by their expertise and experiences, as theirs was by their predecessors’. More importantly, this form of apprenticeship in the relative isolation of one’s own institution gave us little opportunity or encouragement to seek alternative methods, better materials or rationale; things were done the way they were done because that’s the way they were done. Publication was rare among preparators, due in part to the lack of potential outlets for their work and in part to the general humility of preparators who believed, wrongly, that they had little of value to contribute.

By the 1970s, this isolation had begun to erode. The publication of the newsletter “The Chiseler” in 1978 signaled a change of attitude, an attempt to reach beyond our own walls and share ideas with others in our profession. In 1979, four preparation papers were presented at the annual meeting of the Society of Vertebrate Paleontology (SVP). In the early 1980’s, a Preparators Q & A Bulletin Board was posted at the SVP meeting and the first Directory of Vertebrate Fossil Preparators was compiled, both attempts to provide an information resource and to create a sense of community among preparators. Thus began the quiet revolution. In the ten years between 1996 and 2005, nearly 200 preparation papers were presented at SVP annual meetings; between 2006 and 2008 alone, another 84. A handful of well-executed volumes dedicated to preparation have also appeared in the past quarter century. Preparators have now not only come to expect a body of preparation literature, they have finally embraced the idea that each of them has something of value to share with their colleagues, and each is a potential author.

Paleontology is one of the last collection-based disciplines to adopt the principles of conservation science, perhaps because fossils were long deemed, somewhat naively, as being somehow invulnerable to the agents of deterioration that affect other collections. Today, preparators are keenly aware of the need to choose appropriate materials and techniques if we are to properly preserve the specimens and the data they contain, and are coming to understand that conservation principles lay at the very heart of our discipline. Incorporating these principles into our own practices, papers and presentations, and expecting them in others’, has become a hallmark of the modern preparator.

In establishing a standing Preparators Committee and permanent Preparators Session at the society’s annual meetings, the value and professionalism of preparators has now been recognized by the Society of Vertebrate Paleontology. Yet the venues available to preparators for formal publication of their work are still fairly limited. The dramatic success of the First Annual Fossil Preparation and Collections Symposium at Petrified Forest National Park and the publication of this Proceedings volume mark yet another defining moment in our history. It is indeed an exciting time to be a preparator.

A. E. Rixon noted that a preparator “is a living contradiction of the old adage, for he must be a jack of all trades in order to be the master of his own; but the most essential piece of knowledge he must have is an awareness of his own limitations. When confronted with a problem which is outside his experience, he must never guess but consult an expert or read up on the subject in text books.” Other than his frequent and exclusive use of the male pronoun, his words still ring true today, but today our access to collegial expertise and a wide variety of publications is greater than ever before. I encourage all preparators to take full advantage of this volume and those surely to follow, to take pride in their contributions to the science of Paleontology, and to continue sharing their own knowledge through presentations and publications.

Enjoy this volume, as we continue (with apologies to Firesign Theatre) to move “Forward into the Past!”

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