



Book Review

Review of 3D Data Creation to Curation: Community Standards for 3D Data Preservation

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ABSTRACT

Review of Moore, Jennifer, Adam Rountrey, and Hannah Scates Kettler, eds., *3D Data Creation to Curation: Community Standards for 3D Data Preservation*. Chicago, Illinois: Association of College and Research Libraries, 2022.

KEYWORDS

Academic libraries, 3D data, data curation, data preservation

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Data preservation has long been a topic of significant interest in academic libraries, with standards available for every step of the process. However, only in recent years have those in the field begun applying creation and preservation standards to 3D data. In *3D Data Creation to Curation: Community Standards for 3D Data Preservation*, which details the work of the IMLS grant-funded Community Standards for 3D Data Preservation initiative, Jennifer Moore, Adam Rountrey, and Hannah Scates Kettler contend with “open-ended questions about how to ensure the stability and durability of this data type” and take readers through the standards for 3D data creation and curation developed by the CS3DP group.

The intended audience is those involved in working with 3D data in a professional capacity, whether as a novice or more experienced practitioner, but the book is also accessible to library and archival professionals who are less familiar with the topic. While the authors assume that readers have at least a basic understanding of 3D data, they provide working definitions to ground the discussion. Two broad types of 3D data are covered - “data that may include 3D points, edges, and faces,” like a polygonal mesh which represents a physical 3-dimensional object, and volumetric data, “a 3D array or grid with values assigned to cells in the grid” (p. 8.) Detailed descriptions of each data type and their subtypes are also included.

The volume is divided into seven chapters, each with an extensive notes and bibliography section, and also includes a detailed glossary. Chapters are written by scholars and researchers who are involved in 3D data creation, access, and preservation in a variety of ways, and move from best practices, storage, and metadata creation to legal issues and access. Each chapter provides a unique perspective on the challenges associated with varied 3D data types. The introduction includes a “What to Expect” section that outlines the rest of the book, which is helpful for someone who doesn’t want to read the entire volume at once. While each chapter could be read individually, they do build on each other, and readers will ideally go through all seven to understand the full scope of 3D data curation and preservation issues.

Chapter 2 describes the work of the CS3DP Preservation Best Practices working group. It focuses on the concept of preservation intervention points (PIPs), which are defined as “moments to stop and ask, ‘What files should I save?’ and ‘What information should be recorded at this point?’” (p. 15.) Most of the other chapters refer to these best practices and several, including this one, provide case studies on implementation. The authors propose a framework based on identifying PIPs, the major goal of which is documentation for the collection or creation of workflows, and an easy Good/Better/Best format for recommended implementation. This format is utilized throughout the rest of the chapters as well.

A detailed appendix provides best practices for implementation, along with excellent documentation of the GBB and PIP identification processes for different example projects. These touch on a wide variety of 3D data types and run the gamut from high-resolution scanning of Burmese amber at the University of Texas to a fascinating multimodal site documentation

project at the University of Virginia, providing a unique reference for readers involved at all points of the process. Not all examples hit the “Best” level in the GBB framework, which helps provide a realistic view of the challenges of 3D data preservation. It would have been useful to have one or more of these examples integrated into the body of the chapter, but readers may appreciate having them all together to refer to in the appendix as they establish their own practices.

Chapter 3 focuses on preservation as “an essential outcome of the data curation process” and summarizes the results of two surveys designed to “gather information on the issues of data organization, preservation, and sustainability” (p. 90-91.) These surveys helped the CS3DP group learn more about how different groups store, access, manage, and utilize their 3D data, and better understand the current landscape of 3D data, as well as challenges to address in the future. They found that 3D data managers are adapting existing preservation practices to their needs, but survey data allowed them to come up with a list of recommendations and improvements specific to 3D data based on survey responses using the Good Better Best format established in Chapter 2. (See table 3.20.) While it is clear that the needs of different institutions vary greatly, there are commonalities across all data types and disciplines. This chapter does an excellent job of summarizing these via the survey results and ties in nicely with chapter 2 to provide a springboard for newer 3D repository managers, or to provide additional ideas for best practice implementation for those more experienced in the field. Two detailed appendices provide the survey results and instruments for review as well.

Chapters 4, 5, and 6 provide additional context to some of the larger issues surrounding 3D data and allow those who might be more familiar to delve deeper into these concepts. Chapter 4 also integrates the Good Better Best framework, and provides an overview of metadata types common to all 3D data categories. It also utilizes a five-stage digital asset life cycle model and the results of two surveys to delve into the complexities of specific 3D data types and their associated metadata. The authors note that much of what is discussed in this chapter and the rest of the book will evolve as practices for 3D data creation and standardization continue to solidify, but they provide a solid overview of the current landscape. While Table 4.1 provides a detailed aggregation of the Good Better Best recommendations, the survey instruments provided in the appendix could have been presented in a much more readable format than the provided screenshots of Google forms.

Chapter 6 moves on from the creation of 3D data and metadata to tackle the “complex and multilayered” dual challenges of access and preservation (p. 259.) It covers access and preservation practices that are essential for all data types, 3D or not, while acknowledging the additional complexity of 3D data. The chapter is divided into seven sections to help practitioners think through the practicalities involved in utilizing all the tools and techniques outlined in chapters 2-4. The authors encourage readers to think through future data reuse, which is often an afterthought during the data creation process, and may be especially fraught for 3D data

given the wildly disparate nature of the data types and the ways in which they must be accessed. The authors do an excellent job of outlining the challenges while making the processes detailed throughout the full volume feel accessible even to novice practitioners.

Overall, this volume is an excellent introduction to the complexities of working with these data types. The book is perhaps best suited as a resource for those who are actively involved in the work of 3D data curation, or those who are just beginning their journey into 3D data types. However, the authors and editors do an excellent job of making the subject matter accessible to those who are simply reading for interest as well.