

The following chapters explore the practices involved in making, assembling, and disassembling art. Chapter 3 examines gesture, which highlights the importance of touch and performance in the act of making art and that can be explored through the notions of *chaîne opératoire* and technical style. Chapter 4 discusses experimentation, performance, and improvisation that are inherently present in the making of art and depend on the intra-actions between artists and the materials employed, the art's intended performative functions, and reliance on previous material forms. Chapter 5 considers issues of scale and art ranging from miniatures to gigantic images that invite different relational intra-actions through visual and tactile engagement, such as manipulation and touching, feelings of awe, and oscillating perspective. Chapter 6 examines color and light, which generate diverse affects through their changing nature and the sensuous qualities of their associated materials, such as luster or translucence. Chapter 7 explores the assembly and disassembly of art such as breakage, fragmentation, and reconstruction that are generative of new images and that can be examined through the process of assemblage. Assemblages are further explored in Chapter 8, where the authors propose to move away from style as predetermined and functional to style as assemblage: fluid and dependent on materials, techniques, technologies, and social factors. Such assemblages, when re-created, become styles. Chapter 9 delves into the meaning and analysis of semiotics and highlights both the importance of matter in that eternal quest and meaning's fluid nature. Chapter 10 provides a lengthy case study of Neolithic art in Ireland and Britain and discusses the importance of materials and the flexible nature of art, whereas Chapter 11 advocates for the use of new digital technologies in the study of old art that can reveal further clues about past artistic practices such as improvisation and reworking. The last chapter pleads the case of fluid images studied beyond representation while considering their materiality and their continuous changes over time from emergence to discard or permanence. Ultimately, the book advocates for an ontology of images because they shape ontologies, realities, and experiences.

The book highlights larger questions about art and ontology that Jones has been exploring for some time now and that have been popular in rock art studies in the past decade. The call for the inclusion of modern artists' reflections on art is refreshing, although it is disappointing that only Western European artists are invoked in a book that examines ancient art on a global scale. Although we should free ourselves from the shackles of modern Western conceptions of art to study ancient art (as this book advocates), the inclusion of diverse voices from around the world would help further dismantle the authoritative aura of Western art. The book is accessible and devoid of unnecessary jargon, and it provides concrete examples that can guide future explorations of (ancient) art.

Overall, the book should be of interest not only to those who study ancient art but also to anyone interested in material culture and its importance in our lives. Those who would like to engage in more explorations of art and images should check out *Images in the Making: Art, Process, Archaeology* (2020, Manchester University Press), coedited by Ing-Marie Back Danielsson and Andrew Meirion Jones, for further musings on the dynamic nature of images.

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***Understanding Chipped Stone Tools.* Brian Hayden. 2022. Eliot Werner Publications, Clinton Corners, New York. \$32.95 (paperback), ISBN 978-1-7342818-6-6.**

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This book is a refreshing approach to understanding the basics of stone tools. Brian Hayden sets out to accomplish the goal of introducing stone tool technology by promoting a design perspective drawn

from engineering. This use of design theory emphasizes not only the process of creating stone tools but also the problems of the past addressed by use of those tools. Over nine chapters the author draws on a wide range of research and experience gained throughout his career to provide an overview of stone tool technology. It is all conveyed in an approachable manner that is less intimidating for students, novice archaeologists, or those with little to no experience in the area than specialized texts on lithics might be.

After relaying essential background information and describing the utility of an experimental/experiential approach (making and *using* stone tools) in the first chapter, the author introduces design theory in Chapter 2 as a useful technique for investigating stone tools and human behavior. The author explains how design theory differs from the *chaîne opératoire* approach in emphasizing why one stone tool design would be valued and adopted over another. He also discusses the utility of ethnohistoric inquiry and ethnographic observation as modes of gaining insight into the design of stone tools and the identification of connections to nonlithic artifacts influencing such designs.

In Chapters 3–5, which form the bulk of the book, Hayden integrates the design theory approach into our understanding of lithics. In Chapter 3, the author outlines the specific design of items with multipurpose flexibility, such as expedient flakes, versus those with possibly more specialized functions, such as endscrapers designed for the task of scraping hides. However, in Chapter 4, Hayden reiterates that even for specialized stone implements there is still functional flexibility; for example, using an endscraper for scraping not only hide but also bone and wood. This is compared to the flexibility of a modern screwdriver that is used for functions other than fastening, even if its *specific design* is intended to turn screws. In this chapter, Hayden also presents some of the differences between tools and stone tool manufacturing debris (debitage) and an introduction to flake tools. Chapter 5 continues with an overview of specialized tools and the lithic terminology that all students of archaeology should know. It explores the reductive techniques of production: blade production, bipolar percussion, and direct percussion for creating bifaces. These three chapters acquaint the reader with key concepts of debitage analysis and the myriad ways that humans have modified the edges of stone tools to haft, reshape, resharpen, or recycle them into unique task-oriented tools. The concepts of non-intentional breakage (e.g., trampling and plow damage) and unmodified edges (e.g., Levallois point) are also presented.

In Chapter 6, the author explains why lithic analysts think stone tools are designed the way they are to accomplish specific tasks, calling on important echoes of the key theoretical underpinnings developed in the study of stone tools (i.e., the concept of reliability/maintainability). Chapter 7 then takes a short jaunt through changes over time of various stone tool technologies and their unique characteristics, from the Paleolithic to recent periods of the past. Hayden then connects these concepts in Chapter 8 by providing an example of a stone tool assemblage derived from his own work at the Keatley Creek site in British Columbia. Chapter 9 completes the book with summative statements and a reemphasis on exploring ethnohistoric and ethnographic cases as sources of behavioral models of stone tools in action with which to compare archaeological material.

A highlight of this book is that it engages readers at the close of each chapter with an experiential exercise, in which they can complete a task requiring the use of stone tools or where tool use would increase chances for its successful completion. Each chapter also ends with key readings. Overall, this book is an enjoyable read that will certainly encourage readers to see the excitement and passion that students of lithic technology experience in the study of stone tools. The length and pacing of the book make it easily digestible and accessible to a wide audience.