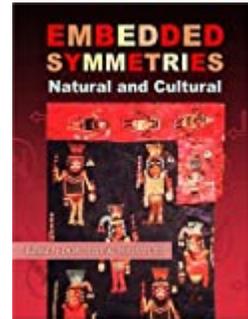




Dorothy K. Washburn, ed. *Embedded Symmetries: Natural and Cultural*. Albuquerque: University of New Mexico Press, 2004. ix + 189 pp. \$96.95 (cloth), ISBN 978-0-8263-3152-6.



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Symmetry and Human Culture

For several hundred thousand years at least, humans have displayed a penchant for imposing visual order or pattern on items they fashion or objects they transform—a type of behavior we tend to characterize as artistic or aesthetic. Most notable among the visual regularities that humans create are various forms of symmetry (mirror reflection, rotational, translation, and glide reflection symmetry are perhaps the most common among a much more elaborate series discerned by mathematicians). Why do humans display this behavior, which forms does it take, and what might the resulting products “mean” to their creator and his or her conspecifics?

Anthropologist Dorothy Washburn’s interest in human-made symmetries and related types of visual pattern has led to date to three scholarly volumes, two of which she co-edited with mathematician Donald Crow (*Symmetries of Culture*, 1988, and *Symmetry Comes of Age*, 2004). The present edited volume grew out of a symposium held at the Amerind Foundation in 2000 that brought together an interdisciplinary group of scholars, some of whom also contributed to Washburn’s other book projects.

The title of this volume, *Embedded Symmetries*, refers to the book’s main intention to investigate the meaning and role of visual symmetry in human cultures. More specifically, it would seem to refer to the editor’s thesis that in many ways human-made “symmetry embodies and communicates cultural principles” (p. 5)—that geometric patterns, rather than being merely “decorative,” are “powerhouses of information and knowledge” (p. 55). It is less clear what the “natural” of the subtitle denotes. It soon becomes obvious that the term does not refer to symmetries occurring in nature, as in crystals or butterfly wings. Perhaps the adjective “natural” is intended to qualify the volume’s first two chapters dealing with humans’ evolved, “pre-cultural” perceptual abilities to detect particular forms of symmetry with relative ease. Humanistic scholars may find these two chapters on perceptual psychology (written by Diane Humphrey, and Michael Kubovy and Lars Strother) rather technical at times, but they do introduce the reader to interesting types of research that are invaluable in trying to comprehensively understand human engagement with symmetry.

Thomas Wynn, discussing the origin and development of symmetry in human artifacts, admirably takes into account that readers may not be familiar with his field of study, “the archaeology of mind.” Having outlined the goals, problems, and potentialities of what he also calls the archaeology of cognition, Wynn discusses the evolution of the human ability (biomechanical and perceptual/cognitive) to impose symmetry on made objects, beginning with the symmetrical design observable in stone tools known as bifaces. The first traces of symmetry are found in tools made about 1.4 million years ago, with symmetry becoming much more striking (and three-dimensional: both *en face* and in profile) in handaxes produced after 500,000 B.P. Among other things, Wynn also discusses Upper Palaeolithic cave paintings in Europe, where symmetry would not only seem discernable in single images, but also in compositions encompassing various drawings (e.g. in the form of rotational symmetry).

Regrettably, Wynn refrains from systematically addressing the intriguing question of *why* humans began to impose symmetry on form (and have continued to do so to this day). In the case of handaxes, might symmetry relate to utilitarian function, or are we perhaps dealing with the expression of an aesthetic sensibility—or both? Wynn does refer to the “sexy handaxe” hypothesis of Marek Kohn and Steven Mithen, who propose that symmetrical handaxes served to impress members of the opposite sex, owing in part to the appeal of symmetry to humans. This in turn brings us to the question of why humans actually consider symmetry attractive—a phenomenon that in this volume is assumed rather than elucidated.

These three introductory chapters serve as overtures to the discussion of several case studies that in various ways elaborate on the idea of human-made symmetry functioning as a visual form of communication, embodying and conveying crucial cultural knowledge. Preceded by an essay of the editor, these five chapters address Andean fabrics (Anne Paul discusses Paracas/Topará; embroidered textiles dating from ca. 100 B.C.E to 200 C.E., whereas Ed Franquemont reports on present-day Inca weavers and their products), ancient Antillean ceramics

(Peter G. Roe), Maori two-dimensional visual art (F. Allan Hanson), and Fijian barkcloth (Rod Ewins). Importantly, all these analyses operate on the tacit assumption that humans conceptualize various non-visual cultural domains (such as reciprocal exchange or gender relations) in visual terms, so that mirror or bilateral symmetry, for example, may be construed as a visual analogy or metaphor for, say, the notion of gender complementarity.

The authors presenting specific archaeological and ethnographic cases appear sympathetic to the editor’s thesis that human-made symmetry encodes and communicates culturally salient information. Yet most of them do point in one way or another to the epistemological and methodological problems involved in corroborating this thesis. In short, what empirical evidence do we actually have that visual symmetry and other types of pattern do indeed function to embody and transmit cultural knowledge? Indeed, which kind of information is in fact in this manner conveyed synchronically and diachronically? In the case of living societies, too, where makers and users might supply the researcher with insights into their intentions and interpretations, it proves difficult to establish a plausible link between visual symmetries and “non-visual symmetries” as these are conceptualized by the analyst or perhaps the people themselves. Ewins assumes in the case of Fiji that local knowledge in these matters has now been lost for the most part, whereas Hanson suggests more generally that the cultural principles concerned, and by implication their expression in visual form, are likely to be so fundamental as not to be part of culture members’ conscious awareness.

Taken together, the essays in this volume remind one of the many problems confronting the scholar who wishes to delve into the nature of human visual representations, the various patterns they display, and the meanings that may be ascribed to them. As Washburn suggests (especially in chapter 4), this is a topic that may be best approached by taking into account a growing body of data and insights from a variety of relevant disciplines, including neuroscience, evolutionary biology, perceptual psychology, archaeology, and cultural anthropology.

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