

Considering Creativity

Creativity, Knowledge and Practice in Bronze Age Europe

Edited by
Joanna Sofaer

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Front cover: A passementerie fibula from Sviloš, Serbia (Archaeological Museum in Zagreb) and Bronze Age textiles from Hallstatt, Austria, (Natural History Museum, Vienna). Back cover: Axe made for the BOAT 1550 BC project (A. Lehoërrff)

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Joanna Sofaer

Introduction

Joanna Sofaer

Creativity is embedded in human history. Indeed, it is impossible to understand material change and the development of the new without invoking creativity (Bender Jørgensen, Sofaer and Sørensen 2018). The location, exploration and analysis of creativity should therefore be of particular concern to archaeologists. This volume engages with this challenge by focusing on the outcomes of creativity – material culture – and an exploration of creative practice. The European Bronze Age provides a useful focus for discussions of the outcomes of creativity because in this period we see the development of new materials that we take for granted today, in particular textiles and bronze. We also see new ways of working with existing materials, such as clay, to create novel forms. In both new and existing materials it is frequently possible to see the growth of technical skill, to produce complex forms and elaborate decorated surfaces.

The papers in this volume view Bronze Age objects through the lens of creativity in order to offer fresh insights into the interaction between people and the world, as well as the individual and cultural processes that lie behind creative expression. Many have their origin in the international conference *Creativity: An Exploration Through the Bronze Age and Contemporary Responses to the Bronze Age* held at Magdalene College, University of Cambridge in 2013 as part of the HERA-funded project Creativity and Craft Production in Middle and Late Bronze Age Europe. Contributions span the early to late Bronze Age, deal with a range of materials including textiles, metal, and ceramics, and reflect on data from across the continent including Iberia, Scandinavia, Central and Eastern Europe. This breadth illustrates the wide-ranging importance and applicability of creativity as an heuristic concept. The volume further develops a range of theoretical and methodological directions, opening up new avenues for the study of creativity in the past.

The first paper in the volume, *Creativity and Knowledge*, is by Bengt Molander and offers an epistemological framework for addressing skill and knowledge in creative practices. It sets the tone for the volume by presenting an important argument for creativity and knowledge not just as abstract concepts, but as important aspects of human life that are accessible through material culture. He argues that 'creativity' and 'knowledge' are important ways of understanding people through human practices, and that they are very much complementary. This is not, however, to say that 'creativity' and 'knowledge' are necessarily easy, transparent or unproblematic. For Molander, creativity does not imply ideas that 'change the world', instead 'it has more to do with having an eye for new ways of 'making things better', coming up with new ideas, or being able to catch new possibilities that may occur'. Knowledge, or as he calls it 'insight', is closely linked to skill and artistry, and to the practices of knowing human beings. Molander provides an insightful discussion of these notions and how they may be linked through learning and the idea of 'attentiveness'. To Molander, practices themselves constitute forms of understanding of the world, thereby placing creativity and knowledge firmly within the realm of material culture in terms of 'how people create'.

In *Copying from Sherds. Creativity in Bronze Age Pottery in Central Iberia (1800-1150 BC)* Antionio Blanco-González takes up the challenge of addressing what is, and is not, creative within the context of Bronze Age pottery in Central Iberia. Through a detailed case study of Cogotas I style ceramics and their ornamentation, he argues that the continuity of tradition is due not to passive inertia, but to its active regeneration. Thus enduring practices and the rupture of tradition are not diametrically opposed or clear-cut categories but rather an outcome of dynamic processes that involved mimetic expression through the fitting together of existing and new motifs linked to the socio-political, cosmological and technical contexts of practice. Tradition is also a key concern of the following chapter, *Creativity versus Taboo in Late Bronze Age Central and Southeast Europe* by Carola Metzner-Nebelsick but, in contrast to Blanco-González, she addresses

the deliberate suppression of creativity and innovation, arguing for constraints on creativity for metal objects in Late Bronze Age Central and Southeast Europe. In particular, the iconic nature of certain objects meant that creativity became limited in the sphere of status representation as traditionalism became an important way of maintaining the social and cosmological order.

Karina Grömer and Regina Hofmann-de Keijzer focus on the human motivations that may lie behind the creative elaboration of Bronze Age textiles - their surfaces, textures and colours. In *Dull Hues versus Colour and Glamour. Creative Textile Design in the 2nd Millennium BC in Central Europe* they take inspiration from classic work in psychology and neuroscience. They are particularly influenced by American psychologist Abraham Maslow and the more recent work of archaeologist Peter Wells who has also taken on psychological insights, to suggest that Bronze Age textiles served aesthetic and visual purposes as well as basic physiological, functional ones. They suggest that the contact of a textile with the human body means that its haptic aspects may be especially closely experienced, thereby lending creativity in textiles heightened significance. Grömer and Hofmann-de Keijzer show how Bronze Age textiles, though primarily based on simple cloth types, were the product of substantial experimentation and innovation. These had the potential to play an important role in social strategies and were designed to impress the onlooker and to create social categories. In *The Imaginary Crested Helmet of Vercingétorix: What is 'Creativity' in Bronze Age Metal Production?* Anne Lehoërrff moves forward the discussion of creativity in making objects through a detailed consideration of the history and technology of the famous 'helmet of Vercingétorix' - a Bronze Age crested helmet of Bernières d'Ailly type found in the hoard of the same name. She uses this object as a jumping off point to discuss the notion of 'uniqueness' in archaeological objects. The nature of uniqueness, and thus of similarity and difference in material culture, is a recurring question in archaeological discussions. Lehoërrff's focus on creativity and technology offers a new dimension to this longstanding issue that asks us to consider technological possibilities and social choices in the production of objects as an integral part of prehistoric creative endeavour and its enduring legacy.

Nona Palincaş returns to ceramic ornamentation as a means of exploring the creativity embedded in the practice of pottery production. In *Creativity and the Making of a Pottery Decoration Style in Middle Bronze Age Transylvania: The Building of a Theory of Movement*, she uses the distinctive motifs on Wietenberg pottery, in particular the spiral-meander motif, as well as those which are local variants of motifs found elsewhere, to explore questions of authorship, how creative processes may have unfolded, and the consequences of these for local society. She argues that ritual, warfare and social distinction were driving forces behind the creation of the new Wietenberg pottery style. The decoration of Wietenberg pottery not only required more complex technical skills but also the understanding of motifs as part of a wider philosophy in which the motifs were a 'meditation on movement'. She suggests that the movement of heavenly bodies formed part of a cosmology that was understood and guided by a ritual elite, and that this social context underpinned ceramic production. Wietenberg decoration thus erased personal preferences in favour of the promotion of a Wietenberg world-view. The importance of cosmology and ritual knowledge as a driving force for new creative practices is further emphasised by Flemming Kaul in *The Nordic Razor as a Medium for Creativity*. Kaul draws on the rich iconography of the Nordic Bronze Age to argue for a fundamentally different view of creativity to that frequently articulated in discussions of twenty-first century art. He suggests that Bronze Age figural art served purposes that went beyond the inner personal and rebellious urge of a romantic artist. The Bronze Age artist was not concerned with challenging the social order or norms, but rather was concerned with maintaining social and cosmological order. Here creativity was employed to find ways of delivering religious or cosmological messages in four dimensions, including space and time, so that the pictorial realization of a central myth became a creative art form in itself. Thus, while the objects on which the messages were deployed were very personal, they were also designed to remind their owners of a wider shared world view.

Antoinette Rast-Eicher, with contributions by Thereza Štolcová and Helena Březinová, takes the discussion of Bronze Age creativity in a different direction. *In the Beginning was the Fibre* offers a close exploration of the ways in which the emergence of white wool, which could be dyed, allowed creative developments through new coloured patterns and designs. This is followed by Lise Bender Jørgensen's

chapter *Towards Textile Textures* which takes the story of creativity in textiles further by focusing on the affordances of fibres, and choices made by Bronze Age people in fibre selection and preparation, the development of yarns, weaving, the shape of fabrics, and in finishing processes. She demonstrates how textile craftspeople explored the affordances offered by fibres, yarns, weaves and other methods in order to obtain variation in the basic structure of textiles. Some of these were variations of existing techniques but others represent the exploration of new materials and techniques, such as the introduction of wool, twill and dyestuffs. Some were simple, while others required good command of techniques and technology.

Daria Ložnjak Dizdar's chapter bridges creativity in in textiles and metals. *The Appearance of Fibulae in the Late Bronze Age. Creativity in the Crafting of the First Clothes Fasteners in the South of the Carpathian Basin* discusses violin bow fibulae - the precursor of the modern safety pin. She traces the development of the fibulae and how this was not only related to developments in textiles which required solutions to fastening garments, but also to the cultural conditions in the Carpathian Basin. These provided the setting for creative exchange of ideas and the development of solutions through interaction between different circles of production and communication, that resulted in the shaping of new costume pieces, primarily intended for individual use. The final paper in the volume is by Jozef Bátora. He too focuses on creativity in the Carpathian Basin but though a discussion of Early Bronze Age ceramic objects. *Creative Elaboration in Clay in the Early Bronze Age in the Carpathian Region*, examines novelty in the development of two groups of objects. The first are objects associated with food preparation that not only reveal shifts in food preparation but creativity and ingenuity in the production of objects required to facilitate new ways of eating. The second are objects used for ritual purposes that reveal creative developments in form and in new ways of thinking about the world, which were made material through clay. Many of the artefacts that Bátora describes were completely new in this period and he explores what underpinned this sudden burst of innovation. He too points to the importance of cultural conditions and external inspirations for creativity in material culture, as well as to cosmology in stimulating creativity by making beliefs real and tangible.

In *The Act of Creation*, the writer Arthur Koestler famously stated that, 'true creativity often starts where language ends' (Koestler 1964:177). This statement has particular resonance for the archaeological study of objects, which are the material outcome of creative processes and that therefore move beyond language. The contributions to this volume highlight both the importance and accessibility of studying creativity in Bronze Age objects, which not only predate the written word but are the product of different kinds of knowledge and making practices, including the technical, the social and the cosmological. They show that material culture need not 'stand for' or 'represent' creativity as an abstract, unknowable process. Instead, making, using and perceiving objects require a material engagement that is both mental and physical. Knowledge and practice are not directly aligned with either of these concepts but lie in the intersection between them. It is through the investigation of knowledge and practice in material culture in terms of an understanding of continuity and discontinuity, the multi-dimensional roles of objects, technical and social choices in production, material affordances, the social and cosmological order, and cultural conditions, that understandings of creativity are starting to emerge.

References

Bender Jørgensen, L., Sofaer, J and Sørensen, M.L.S. with contributions by Appleby, G., Becker, S., Bergerbrant, S., Coxon, S., Grömer, K., Kaul, F., Maričević, D., Mihelić, S., Rast-Eicher, A., and Rösel-Mautendorfer, H. 2018. *Creativity in the Bronze Age. Understanding Innovation in Pottery, Textile and Metalwork Production*. Cambridge: Cambridge University Press.

Koestler, A. 1964. *The Act of Creation*. London: Arkana.