

The transition to clothing as dress

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Zusammenfassung

Der Übergang der Bekleidung als Körperschmuck

Es gibt Belege aus verschiedenen Fachrichtungen, dass Kleidung bei einem biologisch nackten Primaten, der im Pleistozän massiven Schwankungen der Umgebungstemperaturen ausgesetzt war, als Schutz vor Kälte entstand. Das pragmatische Motiv für die Einführung von Kleidung wirft jedoch die Frage auf, wann und warum Menschen begannen, Kleidung als eine Form des Körperschmucks einzusetzen. Tatsächlich war die Verwendung von Kleidung als persönliche und soziale Zurschaustellung oder als Aufmachung in vielen Teilen der Welt während der gesamten historischen Ära der Hauptgrund für das Tragen von Kleidung. Thermische Aspekte sind oft von untergeordneter Bedeutung, wenn nicht sogar völlig irrelevant. Jüngste archäologische Entdeckungen und theoretische Neuformulierungen werfen ein Licht auf diesen entscheidenden Prozess, bei dem Kleidung von einer thermischen zu einer sozialen Notwendigkeit wurde. Man kann zwischen einfacher und komplexer Kleidung unterscheiden, wobei letztere enganliegende Kleidungsstücke umfasst, die den Körper vollständiger bedecken und die Verwendung von Kleidung als eine Art von Aufmachung oder »Tracht« fördern. Dekorative Artefakte wie durchbohrte Muscheln und Perlen wurden während des letzten Eiszeitzyklus in kühleren Teilen Afrikas immer häufiger, was mit der Entwicklung komplexer Kleidung in kälteren Klimaphasen zusammenfiel. Die russische Fundstätte Sungir bestätigt das Vorhandensein komplexer, reich verzierter Kleidung vor 34 000 Jahren. Zu dieser Zeit war die menschliche Körperoberfläche stärker bedeckt und für die Übermittlung sozialer Inhalte weniger geeignet, was eine funktionale Verschiebung der Kleidung begünstigte, die in der Folge zu einem globalen Phänomen wurde.

Schlagwörter Kleidung, Schmuck, Mode, Paläolithikum, Pleistozän

Introduction

Clothing is now the dominant form of human body adornment, the most visible means of altering our naked appearance for social and psychological purposes. As natural as this situation may seem for those people habituated to wearing clothes – and for those residing in social environments

Summary

Evidence from a range of disciplines indicates that clothing originated as protection from cold for a biologically naked primate exposed to massive fluctuations in environmental temperatures during the Pleistocene epoch. However, a pragmatic motive for adopting clothes raises the question of when and why humans began to deploy clothing as a form of body adornment. Indeed, the use of clothing as personal and social display, or dress, has been the main reason for wearing clothes in many parts of the world throughout the historical era. Thermal issues are often of secondary import, if not entirely irrelevant. Recent archaeological discoveries and theoretical reformulations are shedding light on this pivotal process whereby clothes transitioned from a thermal to a social necessity. A distinction can be made between simple and complex clothing, with the latter comprising fitted garments that provide more complete body cover, promoting the use of clothing as dress. Decorative artefacts such as pierced shells and beads became increasingly common during the last glacial cycle in cooler parts of Africa, coinciding with the development of complex clothing during colder climate phases. The Russian site of Sungir confirms the presence of complex, highly decorated clothing 34 000 years ago. By that time, the human body surface was more fully covered and rendered less accessible for social purposes, favouring a functional shift in clothing which has subsequently become a global phenomenon.

Keywords Clothing, adornment, fashion, palaeolithic, pleistocene

where the wearing of clothes is sanctioned – anthropological evidence shows that the use of clothing as body adornment is not intrinsic to being human. On the contrary, ethnographic data demonstrate that many hunter-gatherer societies functioned without clothes, weather permitting, and people dressed themselves adequately – often quite elaborately – with alternative decorative techniques, such as body

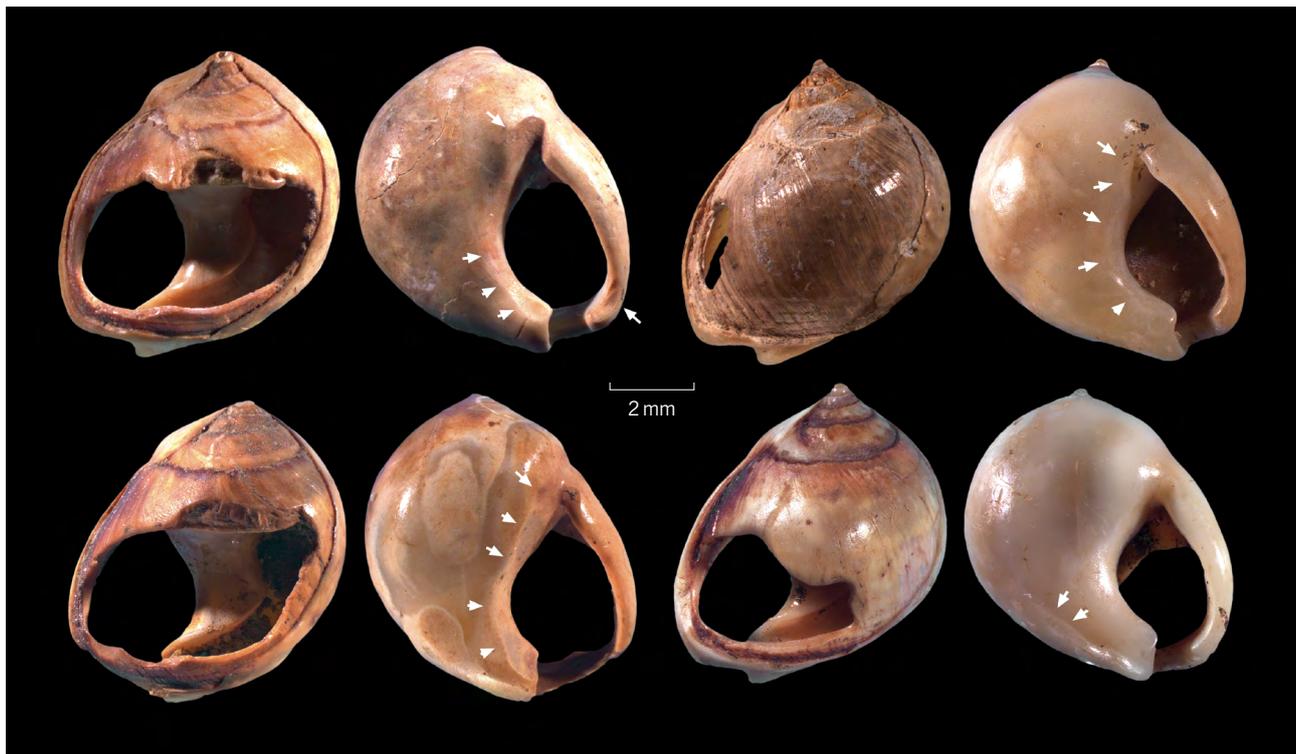


Fig. 1 Shell beads from Blombos Cave's Still Bay layers, Western Cape Province (South Africa), dated to c. 73 000–70 000 years ago. Arrows indicate use wear facets.

Abb. 1 Muschelperlen aus den Still-Bay-Schichten der Blombos-Höhle, Provinz Westkap (Südafrika), datiert auf ca. 73 000–70 000 Jahre vor heute. Die Pfeile heben Abnutzungsfacetten hervor.

painting, scarification, and tattooing. Likewise, while direct archaeological evidence for Palaeolithic clothing is essentially non-existent, indirect evidence indicates that clothing is a relatively recent innovation in hominin prehistory.

Clothing origins

The Pleistocene epoch presented serious thermal challenges as hominins migrated into middle latitudes. In particular, a substantial reduction in body hair cover – likely established prior to the Pleistocene (Rogers et al. 2004; Reed et al. 2007) – placed a premium on developing technologies that could provide adequate portable insulation from cold temperatures and wind chill. Control of fire offered only limited warmth in the open, and shelters (caves, rock shelters, and artificial shelters) could offer no protection outdoors. Environmental and physiological contingencies constitute the prehistorical context for the invention and elaboration of clothing. As clothing became more sophisticated and its use more regular – notably among mid-latitude *Homo sapiens* populations during the last glacial cycle from c. 120 000 years ago – a number of social and psychological repercussions of routinely covering the naked human body began to emerge (Gilligan 2016; Gilligan 2019). The main psychologi-

cal consequence was physical modesty, a sense of shame about appearing naked. The main social consequence was the transfer of body decoration from the surface of the human skin onto the more visible surface of clothes, resulting in the use of clothing as dress (Gilligan et al. 2024). Together, these two consequences of clothing – modesty and dress – encouraged the continued use of clothing for non-thermal reasons in some regions of the world at the outset of the Holocene epoch.

Simple and complex clothing

Simple forms of clothing comprise garments worn loosely on the body, such as capes, cloaks, and loincloths. Complex clothes are fitted, i.e. tailored to enclose the body quite closely, and often enclose the limbs, e.g. shirts with sleeves, and trousers. Complex clothing assemblages can also be multi-layered. The distinction between simple and complex clothing is important for a number of reasons which include the question of clothing origins, physiological aspects of clothing, archaeological evidence for Palaeolithic clothing (especially technological correlates), and repercussions of wearing clothes, notably the emergence of clothing as dress¹.

¹ Gilligan 2010, 63–65; Gilligan 2019, 90–92; d'Errico 2024, 5–11; Gilligan et al. 2024, 3.

Simple clothing likely had many independent origins extending into the Middle Pleistocene, if not earlier. Simple clothes were adopted and discarded in response to environmental conditions, and these garments did not acquire any enduring psychological or social purposes. With regards to dress, simple clothes did not interfere with traditional methods of adorning the body, such as body painting, tattooing, and deliberate scarification.

Complex clothing and body adornment

The advent of complex clothing was limited to the Late Pleistocene, judging from available evidence (Gilligan 2010, 43–53; Gilligan et al. 2024, 3–6). The archaeological evidence includes likely technological correlates of manufacturing complex clothes. Simple clothing generally requires little more than hide-scrapers. Complex clothing requires hide-scrapers but also hide-cutting tools (e.g. lithic blades) and hide-piercing tools, e.g. bone awls and eyed needles. While eyed needles have traditionally been viewed as an archaeological signature for tailored garments, recent re-evaluations of the evidence suggest that eyed needles were not required to sew fitted garments – alternative technologies such as lithic borers and bone awls were adequate for the task (Calvo et al. 2019, 427; Doyon et al. 2023, 9–11). Rather, the invention of eyed needles may relate to a need for finer sewing connected with making very delicate garments (e.g. underwear) and/or the more elaborate adornment of garments (d’Errico et al. 2018, 72; d’Errico 2024, 8; Gilligan et al. 2024, 3).

In contrast to simple clothes, the more-or-less complete and regular body covering associated with complex clothing necessarily restricted access to the naked skin surface for purposes of adornment, promoting the acquisition of decorative functions for clothing. Furthermore, whereas a thermal protective function for clothing is contingent on local environmental conditions, the social purposes of body adornment are enduring and essentially independent of environmental conditions.

Evidence for adornment

The archaeological record for clothing in the Pleistocene epoch relies entirely on indirect or proxy evidence and, undoubtedly, the vast majority of body adornment must remain invisible. Nonetheless, adornment is attested archaeologically by a couple of findings, namely, the presence of ochre, and pierced items that served as beads. Ochre and beads can adorn the naked body, and both can also be used to decorate garments. While neither ochre nor beads are specific to clothing, the situation with beads is nonetheless more revealing with respect to the decoration of clothes.

Ochre

Archaeological evidence for the use of ochre by hominins provides a reasonable proxy for body adornment, and ochre is found at sites in Africa, South-west Asia, and Europe from c. 400 000 years ago (Dapschauskas et al. 2022; Rosso 2022; d’Errico 2024, 11–12). Red is the most popular colour, followed by yellow and black. Ochre becomes more commonplace during the last glacial cycle, beginning at Blombos Cave, Western Cape Province (South Africa), 100 000 years ago (Henshilwood et al. 2011) and Qafzeh Cave, Northern District (Israel), 92 000 years ago (Hovers et al. 2003). In Siberia, ochre use is documented c. 43 000 cal BP at Kara-Bom, Altai Republic (Russia; Shunkov et al. 2020, 59). In China, ochre is present c. 40 000 cal BP at Xiamabei, North China (Wang et al. 2022), and c. 35 000 cal BP at Zhoukoudian Upper Cave, Beijing (d’Errico et al. 2021). Use of ochre – and probably manganese, if not related to making fire (Heyes et al. 2016; d’Errico/Soressi 2018) – is documented among Neanderthals (Soressi/d’Errico 2007; Roebroeks et al. 2012), and ochre is almost ubiquitous in Upper Palaeolithic burials (Pettitt 2010). Ochre is present from 42 000 cal BP in South-east Asia (Langley/O’Connor 2019). In Australia, ochre is found at sites dating from when humans arrived on the continent c. 50 000 years ago, if not earlier (Clarkson et al. 2017, 308–309).

In addition to decorating the skin surface, ochre was applied to clothes. Ochre is not restricted to decorating the unclad body, and therefore its presence at archaeological sites does not preclude the use of clothing. Ochre was probably utilized in tanning animal hides (Meller 2003; Rifkin 2011), and ochre is frequently found on tools used to manufacture clothing, such as hide scrapers, and sometimes on ornaments that might have been attached to clothes (Julien et al. 2019).

Beads

Pierced shells and drilled bone beads – and similar items like drilled pendants – offer unequivocal evidence for adornment. Early examples in northern Africa are dated to late in marine isotope stage (MIS) 6, c. 142 000 years ago, and in MIS 5². In southern Africa, early examples occur from 90 000 years ago³, and during MIS 4 (Fig. 1).

Subsequently, beads are documented in South-west Asia and in South-east Europe c. 43 000 cal BP (Kuhn et al. 2009). Beads are common in European assemblages from ca. 42 000 cal BP (Vanhaeren/d’Errico 2006; d’Errico/Vanhaeren 2015; Baker et al. 2024). Beads also appear with Neanderthals in Châtelperronian contexts (Zilhão 2007, 24–27). In South-east Asia, beads occur from c. 42 000 cal BP (Langley et al. 2016; Langley et al. 2023), and in Australia from at least 30 000 cal BP (Morse 1993).

With the exception of ochre – and even ochre is ambiguous – body adornment in general suffers from limited

2 Vanhaeren et al. 2006; Bouzouggar et al. 2007; d’Errico et al. 2009; Steele et al. 2019; Sehassheh et al. 2021.

3 Henshilwood et al. 2004; Vanhaeren et al. 2013; Vanhaeren et al. 2019; d’Errico et al. 2005; d’Errico et al. 2023; Miller/Wang 2022.

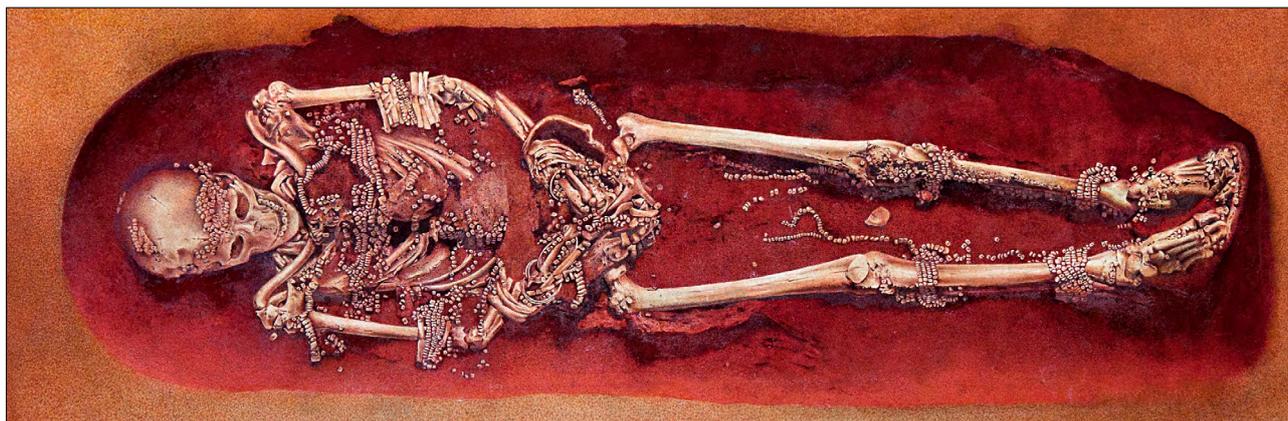


Fig. 2 Burial of adult male (man Sungir 1) of the Sungir burial complex, Vladimir Oblast (Russia; lower tier), with the arrangement of mammoth tusk ivory beads indicating highly decorated fitted garments 34 000 cal BP.

Abb. 2 Bestattung eines erwachsenen Mannes (Individuum Sungir 1) aus dem Sungir-Bestattungsbereich, Oblast Wladimir (Russland; untere Schicht), mit Elfenbeinperlen aus Mammutstoßzahn, die auf hochdekorierte, enganliegende Kleidung hinweisen, 34 000 Jahre cal BP.

archaeological visibility. Beads are the best proxy but given the likely ubiquity of adornment among later – and perhaps earlier – hominins, the increased frequency of beads in the archaeological record of the last glacial cycle raises a question. Preservation and taphonomic issues may not suffice as explanations for the relatively recent increase in archaeological evidence for adornment. One possibility is that while adornment of the unclad body remains largely invisible, the adornment of clothing may be more visible, e.g. with shells and beads sewn onto garments. An increasing presence of beads during the last glacial cycle may therefore reflect the advent of complex clothing (Gilligan 2010, 53–56). In Australia, where only simple clothing was used (Gilligan 2007; Gilligan 2008), beads were less likely related to clothes but instead were deployed mainly in necklaces and similar decorative items (Wright et al. 2016; Balme/O'Connor 2019). In other regions though, use-wear evidence may be more suggestive of decorative artefacts being sewn onto garments. Use-wear findings consistent with attachment of beads to clothes are reported at Üçağızlı Cave, Hatay Province, in Turkey 41 000 cal BP (Stiner et al. 2013, 391), and at Shuidonggou 2 in north-eastern China c. 34 000 cal BP (Wei et al. 2016, 17). A pierced badger canine tooth at the Zhoukoudian Upper Cave also has use-wear consistent with attachment to clothes (d'Errico et al. 2021, 17–22). In northern Siberia, beads have been recovered in association with numerous bone awls and eyed needles at Yana RHS within the Arctic Circle, dated to 33 000 cal BP, with the beads probably sewn onto clothes⁴. The most compelling evidence for beads attached to complex clothing is found at the Russian site of Sungir, Vladimir Oblast, c. 34 000 cal BP⁵.

Sungir

The arrangements of beads on human skeletons in graves at the Russian site of Sungir (56° 10' N, 40° 30' E) confirm

the presence of complex clothing (Bader 1978; Bader 1998) and also the adornment of garments with beads (Fig. 2). More than 10 000 beads made from mammoth tusk ivory were recovered during excavations between 1957 and 1977. Red ochre was abundant, especially around the crania. The distribution patterns of the beads indicate that the people of Sungir wore shirts with sleeves, trousers, footwear, and head coverings, and also outer cloak-like garments (i.e. fitted garments, with multiple layers). The beads were probably strung on animal sinews, and these decorative strings were then sewn onto garments. In addition to beads, other decorative artefacts found at Sungir include drilled Arctic fox canine teeth, stone pendants, rings on some of the fingers, and bracelets made from thin plates of mammoth tusk ivory. The significance of the Sungir burials lies not only in the unique archaeological evidence for the use of complex clothing as thermal insulation from cold temperatures and wind chill in middle latitudes during the latter part of the last glacial cycle. The remarkable numbers and patterns of beads – together with other decorative artefacts such as Arctic fox canines – indicate that by c. 34 000 cal BP, clothing had begun to inherit important social functions associated with adorning the human body, functions which hitherto

Fig. 3 (right page) The main transitions in clothing, from *ad hoc* to routine use and from simple (loose) to complex (fitted and/or layered) garments, together with the acquisition of decorative and symbolic functions. These transitions occurred within an environmental context of intensified global climate change, associated with temperature fluctuations of increasing magnitude.

Abb. 3 (rechte Seite) Darstellung der wichtigsten Übergänge in der Geschichte der Bekleidung, von *ad hoc* genutzter bis zur Alltagskleidung und von einfacher (lockerer) zu komplexer (anliegender und/oder mehrlagiger) Kleidung, zusammen mit dem Erwerb dekorativer und symbolischer Funktionen. Diese Übergänge erfolgten in einem Umweltkontext mit verstärktem globalen Klimawandel, der mit zunehmenden Temperaturschwankungen verbunden war.

4 Hoffecker 2017; Pitulko et al. 2012; Pitulko/Pavlova 2019; Fedorchenko/Belousova 2021.

5 Bader 1978; Bader 1998; Alekseeva/Bader 2000; Nalawade-Chavan et al. 2014;

Trinkaus et al. 2014; Trinkaus/Buzhilova 2018; Kuzmin et al. 2022.

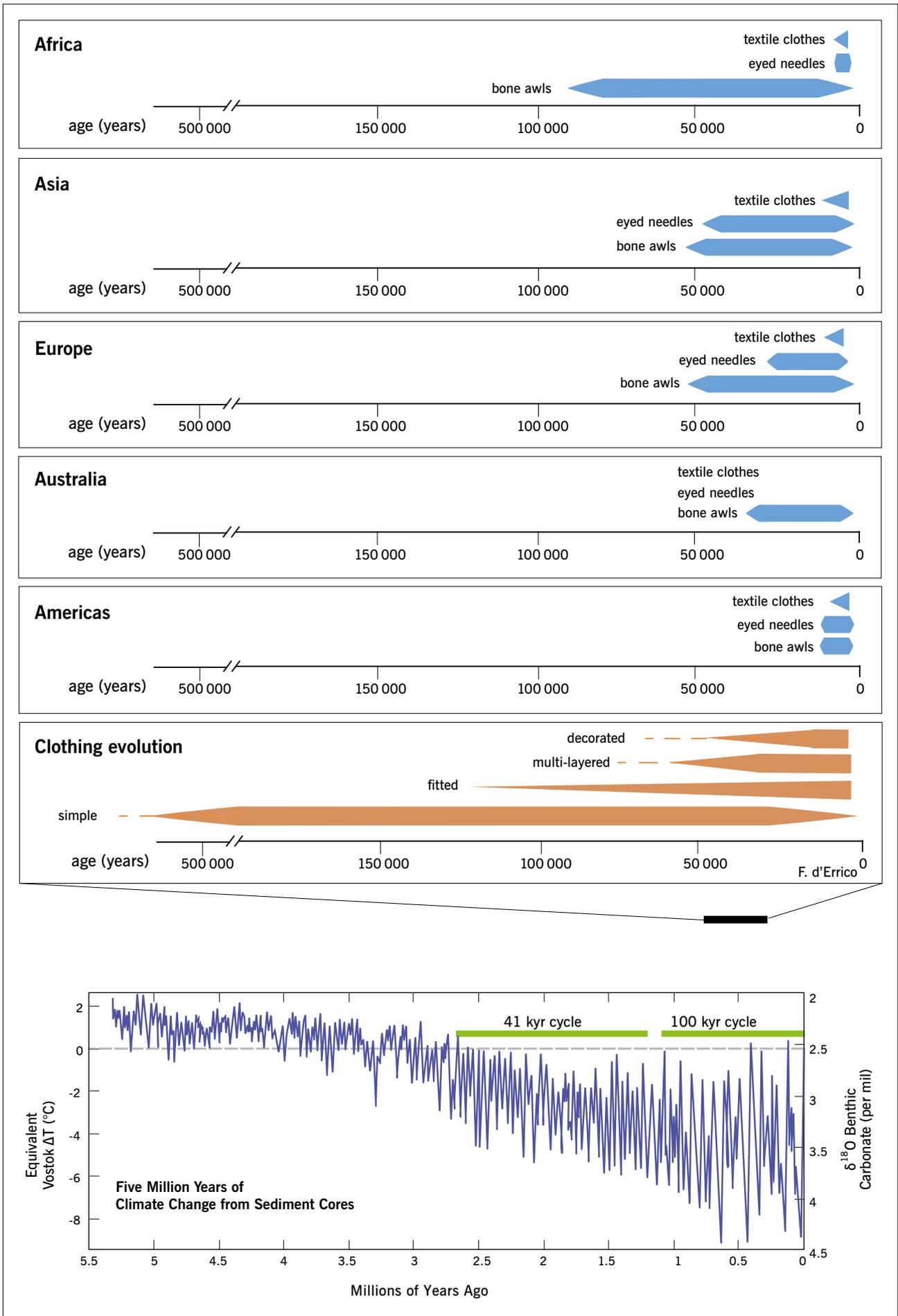




Fig. 4 Artist's impression of decorated complex clothing in the Upper Palaeolithic, based largely on the Sungir findings.

Abb. 4 Künstlerische Darstellung von verzierter, komplexer Bekleidung aus dem Jungpaläolithikum, weitgehend basierend auf den Funden von Sungir.

had been served by decorating the unclad body. In other words, Sungir confirms the transition to clothing as dress.

Clothing as dress

The evolution of clothing began as a technological adaptation to global climate change, mainly among hominins residing in cooler regions. Simple garments were utilised on a utilitarian basis, starting from at least the Middle Pleistocene, progressing to complex clothing assemblages (fitted garments, and then multiple layers) for physiological reasons during the Late Pleistocene (Fig. 3). The next major development with Palaeolithic clothing occurred specifically with complex clothing, when the social and psychological functions traditionally served by decorating the human body began to be transferred from the human skin surface onto the surface of clothes.

Despite the archaeological invisibility of clothing *per se* in the Palaeolithic era, the merging of two purposes for clothing – insulation and decoration – is corroborated by

archaeological evidence in the Late Pleistocene, notably at Sungir. Upper Palaeolithic clothing combined sophisticated thermal protection with increasingly elaborate adornment for social purposes (Fig. 4). The latter function – adornment – was subsequently to become more important than the original function of clothing, effectively decoupling clothing from climate. This functional transition was responsible for the postglacial persistence of clothing. Woven textiles replaced animal hides and furs as preferred materials for clothes in the warmer and more humid environments. Furthermore, a demand for fibres – wool, cotton, flax, and hemp, among other natural fibres – may have augmented food production as an impetus for transitioning from hunter-gatherer to agricultural economies. The rest is history. Specifically, the historical era has witnessed a global expansion of populations and cultures where clothing comprises the most prominent form of dress.

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