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9 Vorwort der Herausgeber

Kulturgeschichte und Ethnologie

- 13 Christian-Heinrich Wunderlich**
Scharlach, Röteln und anderer Zinnober. Zur Kulturgeschichte roter Farbmittel
- 33 Daniela Niesta Kayser**
Der motivationale Einfluss der Farbe Rot auf Attraktivität und Status
- 43 Gregor Borg and Margaret Jacobsohn**
Ladies in Red – mining and use of red pigment by Himba women in Northwestern Namibia
- 53 Alexandra Wessel**
Rot in Melanesien: Eine Farbe zwischen Menschen und Ahnen
- 65 Annemarie Schlerka**
Rot im Wandel der Zeit durch Religionen und Kulturen

Archäologie: Paläolithikum bis Mesolithikum

- 79 Josef Eiwanger**
Farbgebrauch im Paläolithikum der Ifri n'Ammar (Nordost-Marokko)
- 89 Harald Floss und Monika Ostheider**
Die Farbe Rot in der paläolithischen Kunst
- 99 Constantin Rauer**
Die blutende Felswand. Zur Ikonografie der Farbe Rot im Jungpaläolithikum
- 113 Marcel Weiß**
Unsere Spuren sind ROT!
- 121 Judith M. Grünberg**
Rot in paläolithischen und mesolithischen Bestattungen
- 135 Christine Neugebauer-Maresch, Vera M. F. Hammer, Thomas Einwögerer, Marcel Händel und Ulrich Simon**
Die gravettienzeitlichen Rötelngräber und die Farbstoffe des Fundplatzes Krems-Wachtberg/
Niederösterreich

Archäologie: Neolithikum bis Spätantike

- 145 Harald Meller, Franziska Knoll und Juliane Filipp**
Rot – vom Leben bis zum Tod. Prähistorische Röt- und Hämatitfunde aus Mitteldeutschland
- 185 Andreas Siegl und Christian-Heinrich Wunderlich**
Moulin Rouge. Die Farbproduktion in der frühneolithischen Siedlung bei Breitenbach, Burgenlandkreis
- 199 Elke Kaiser**
Die Ockergrabkultur. Kritische Würdigung eines forschungsgeschichtlichen Konstruktes
- 217 Dovydas Jurkėnas, Xandra Dalidowski und Susanne Friederich**
Handwerkerdepot und rituelle Niederlegung? Ein außergewöhnlicher Befund der schnurkeramischen Kultur bei Köthen, Sachsen-Anhalt
- 221 Tünde Horváth**
The use of red painting in the Late Copper Age. Two case studies and their comparison
- 229 Timothy Darvill**
Fifty shades of red: The basic colour category red in the monuments and material culture of Neolithic and Bronze Age communities in Atlantic Northwest Europe
- 243 Torsten Trebeß**
Rotsandstein im Grabbau des Neolithikums und der Bronzezeit in Nordostdeutschland
- 251 Juliane Filipp**
ROT – RÖTER – Roteisenstein. Rotfunde in älterbronzezeitlichen Gräbern des Nordischen Kreises
- 265 Bernhard Steinmann**
Frühkykladische Marmorschalen mit roter Ausmalung: Grabkult oder Prestige?
- 275 Fritz Blakolmer**
Die Farbe Rot in Symbolik, Bildkunst und Sprache der bronzezeitlichen Ägäis
- 287 Vicente Lull, Rafael Micó, Cristina Rihuete Herrada und Roberto Risch**
Rot in der Unterwelt: Die chthonischen Rituale der Spätbronzezeit auf den Balearischen Inseln
- 307 Franziska Knoll, Christian-Heinrich Wunderlich, Maral Asgarzadeh und Vanessa Sever**
Alles Rot in der spätbronze-/früheisenzeitlichen Wandmalerei Mitteldeutschlands?
- 317 Susanne Friederich, Christian-Heinrich Wunderlich und Hans Szédeli**
Bunte Farbmaterialien – ein Alltagsgegenstand? Sechs Farbscheiben aus Niederröblingen, Lkr. Mansfeld-Südharz
- 325 Karina Iwe**
Die Farbe Rot in der Pazyryk-Kultur
- 333 Lukas Thommen**
Der Purpur Spartas
- 341 Marco Schrickel und Klaus Bente**
Bedeutung und Bedeutungsverlust roter Korallen: Archäologische und naturwissenschaftliche Studien zu eisenzeitlichen Fibeln
- 353 Dominika Reich**
Rot gegen das »Böse Auge« – die apotropäische Rolle der roten Farbe auf römischen Fußbodenmosaiken

Historische Wissenschaften

361 Doris Oltrogge

Von Purpur zu Parisrot – zur Nutzung roter Farbmittel in mittelalterlichen Handschriften

371 Caspar Ehlers

Otto II. »der Rote« oder »der Blutdurstige« – Beobachtungen zur Symbolik der Farbe Rot in schriftlichen Quellen des Mittelalters

Naturwissenschaften

385 Annemarie Elisabeth Kramell, Christian-Heinrich Wunderlich und René Csuk

Identifizierung von historischen Textilfarbstoffen aus der Bestattung Königin Edithas

393 Henrik Helbig, Wolfgang Kainz und Mechthild Klamm

Rötliche Färbungen in Böden: anthropogen oder natürlich? Fallbeispiele aus Sachsen-Anhalt

407 Manuela Frotzscher

Hämatit in Mitteldeutschland

415 Wolfhard Schlosser

Urknall und Rotverschiebung

Fifty shades of red: The basic colour category red in the monuments and material culture of Neolithic and Bronze Age communities in Atlantic Northwest Europe

Timothy Darvill

Zusammenfassung

Traditionell tendieren Archäologen dazu, die Vorgeschichte schwarz, weiß und grau zu sehen – in den Farben archäologischer Publikationen. Die technische Entwicklung in den Bereichen Druck, Fotografie und in den digitalen Medien macht nun das gesamte Farbspektrum unserer Vergangenheit sichtbar.

Dieser Beitrag erforscht das Vorkommen und die Bedeutung roten Materials aus dem Neolithikum und der frühen Bronzezeit in Nordwesteuropa. Beginnend mit der sprachwissenschaftlichen Abhandlung von Berlin und Key und der Erkenntnis, dass die meisten Jäger-und-Sammler und die ersten Ackerbaugemeinschaften bereits Begriffe für die Farben Schwarz, Weiß und Rot kannten, wird das Verhältnis des Begriffs Rot zu bekannten Proto-Indoeuropäischen Wörtern und Bedeutungen untersucht.

Archäologische Untersuchungen an Steinmonumenten auf der Iberischen Halbinsel, im nördlichen Großbritannien, in Norddeutschland und im südlichen Skandinavien zeigen, wie Steine verschiedener Farben ausgewählt und genutzt wurden. Rote Steine waren ein bevorzugtes Material und kamen oft dort zum Einsatz, wo das Licht der auf-, bzw. untergehenden Sonne ihre Farbwirkung noch intensivierte. Diesem Phänomen nah verwandt sind mit roter Farbe gemalte Felsbilder, rote Gefäße und Steinartefakte

Aber was bedeutete die Farbe Rot für vorgeschichtliche Gemeinschaften? Und warum wurde gerade diese Farbe ausgewählt? Die Bezeichnung »Rot« umfasst bisweilen auch einen Bereich dunkler, warmer Töne wie Braun und steht so als Farbe des Bodens in Verbindung mit der Erde. Rot wird ebenso assoziiert mit Blut, Feuer und der Sonne, wichtige Quellen der Lebenskraft.

Summary

Traditionally, archaeologists have tended to see the ancient world in black and white or shades of grey: the colours of printed excavation reports. Revolutions in printing, photography and digital media have changed this, and the past can at last be seen for what it is – a polychromatic panoply. This paper explores the incidence and meaning of red-coloured materials from Neolithic and Early Bronze Age contexts in Atlantic Northwestern Europe. Starting from the linguistic work of Berlin and Key, and the recognition that most hunter-gatherer and simple agricultural communities have basic colour terms for black, white and red, the red category is explored in relation to known Proto-Indo-European words and meanings. Recent archaeological work at stone monuments in Iberia, Northern Britain, Northern Germany and Southern Scandinavia has shown how stones of different colours were selected and deployed in particular situations. Red stones were one of those preferred choices and were often used in situations where the rising or setting sun gave the stone a greater depth of colour. Closely related are red-painted rock art, red-coloured pottery and worked red stone artefacts. But what did red mean to these communities? And why did they select it? The broad colour category »red« is usually taken to include a range of warm dark colours including shades of brown, and at one level it may be linked through soil-colour to the earth. Red is also commonly associated with key symbolic dimensions linked to blood and to fire and sun as major recognisable life-forces.

Introduction

For the past two or three centuries archaeologists have tended to view the past through the filter of black and white or grey-scale images. This was how excavation and survey reports were usually published and, with other weighty matters such as chronology and sequence to consider, little attention was paid to the colour choices made by people in the distant past. It is a way of thinking that is now changing. Greater attention is now directed towards cognitive archaeology and structuralist archaeology as components of post-processual interpretative approaches to understanding the past, and colouring the ancient world has become part of mainstream studies (Lynch 1998; Jones/Bradley 1999; Brad-

ley 1999; Cummings 2002; Jones/MacGregor 2002). Technical developments in digital photography, affordable colour printing and the widespread use of electronic media for the dissemination of reports have opened up numerous possibilities for appreciating the colours represented in the materials used to construct monuments and manufacture objects. The past can at last be seen for what it is – a polychromatic panoply.

Focusing on the colour red, this paper explores the incidence and meaning of red-coloured materials from Neolithic and Early Bronze Age contexts in Atlantic Northwest Europe. After a consideration of colour categorisation through semantics and language, attention is directed to questions of aesthetics and material culture through a dis-

cussion of selected monuments and artefacts that include red materials. The final section moves towards semiotics and materiality, asking what red as a colour category meant to these communities.

In exploring the colour red in relation to prehistoric cultures it is necessary to draw on a range of disciplines that extend well beyond archaeology but which have much to tell us about the way people perceived and used colours in everyday life. In doing so, however, there is an inherent tension. Some perspectives promote universalising views of colour categories in relation to human behaviours, a sort of normative position. Other perspectives foreground culturally specific usage within defined contexts and situations, an essentially relativist position. There is no easy way to reconcile these approaches as both are relevant within systems of thinking about the world, and in the following sections no excuse is made for moving seamlessly between them.

In thinking about the colour-category »red« two key principles need to be asserted at the outset. The first is that Neolithic and Chalcolithic communities living in Atlantic Northwest Europe during the fifth, fourth and third millennia B. C. would not have seen and understood what we now term the colour »red« in same way that we do living in the third millennium A. D. The challenge for archaeology is therefore to explore how red-coloured materials and objects were used and what they meant. Second, the colour red is not simply transmitted, reflected or refracted light travelling at ~620–740 nm with a wavelength of ~480–400THz. Red colouration is part of the way the world is, whether it can be seen and appreciated or not. Like any basic colour-category, »red« has various dimensions and characteristics which are summarised in Figure 1. These can be used to help unpick the archaeological evidence represented by monuments, structures and artefacts.

Getting red: Semantics and language

Words talk. They mean particular things in particular contexts, the word itself standing for a shared category of thought, understanding or sensual comprehension of the lived-in world. The starting point for thinking about the history and development of colour-categories amongst human societies is the work of anthropologist Brent Berlin and linguist Paul Kay, presented in their seminal publication *Basic colour terms* (1969) and later revised and expanded as understandings of the complexity of basic colour vocabularies grew (Kay et al. 1991; Kay/Maffi 1999; Kay/Regier 2003; Kay et al. 2009; and see Biggam 2012, 70–85 for critique). Their evolutionary approach to basic colour category acquisition in the languages of hunter-gatherer and simple agricultural societies initially suggested seven main stages to the development of a rich polychromatic colour lexicon, although it was later reduced to five main stages with various sub-types and the possibility of up to five developmental trajectories. Figure 2 shows in simplified form the most common path for colour-category development (Trajectory A). Here, Stage I is represented only by terms for black/dark (also embracing cool primary colours such as green and blue) and white/light (embracing warm primary colours such as yellow and red).

Dimensions	Characteristics
Appearance	Hue/Chromatic colour (Red/Yellow/Green etc.)
	Saturation (Vivid/Grey/Dirty etc.)
	Tone/Achromatic »colour« (Light/Pale/Medium/Dark/White/Black etc.)
Texture	Brightness (Dazzling/Shining/Bright etc.)
	Look (Shiny/Lustrous/Matt/Dull)
	Feel (Smooth/Rough)

Fig. 1 Colour terminology based on C. P. Biggam.

Such categories, especially those for black and white, were present in the languages of all 98 societies initially studied by Berlin and Kay. Stage II saw the appearance of terms for a category involving red and yellow, and a term for red in particular was found in 95 % of the languages sampled in the initial survey. Stage III saw an expansion into four main colour categories comprising white, red/yellow, green/blue, and black; further separation into five categories in Stage IV is followed by six categories in Stage V.

Evolutionary models are not the only way of looking at the pattern of colour categories used by particular societies (Biggam 2012, 86–108). Amongst relativist perspectives, for example, Lars Sivik (1974) shows that people differ considerably in their perception of colour categories and that unipolar scales provide a better reflection of perceptions, cognitions and reactions to colours than bipolar scales that accentuate contrasts between opposing pairs of words and concepts. Also relevant is the work of Robert MacLaury and others on Mesoamerican languages past and present (MacLaury 1997; MacLaury et al. 2007). These studies focused on diachronic changes and regional variations in the use of colour categories. Influenced by research in the field of cognitive semantics they led to the development of a model known as »Vantage Theory«. In this model, variations in their environment or economic regime have changed the focus of people’s observations and this has prompted them to pay increasing attention to differences in what is perceived. This in turn leads first to the subdivision of basic colour categories and then to the enlargement of each category by drawing in other hues. Over time colour categories become increasingly abstract, forming type-categories that embrace a wide range of perceived hues, saturations, tones and phases of brightness. The process of constructing and using colour categories as represented within Vantage Theory is not conscious, but is rapid and automatic as it forms the foundations of thought and speech (MacLaury 2002, 494–495).

Axiomatic to all these approaches is the need for direct evidence of the words used to communicate the socially determined concepts behind particular colour categories, although care needs to be exercised when connecting basic colour terms with colour categories because colour descriptions will be encompassed within broader cultural expressions of experience (see for example Rosch 1973; Gage 1999; 1999a). In the context of prehistoric Northwest Europe, with

no written language and no possibility of interviewing original populations, this might look like a blocked avenue of research. However, language can be transmitted by oral tradition over long periods of time while retaining structures and meanings. Archaeolinguistic research has shown that the modern language families of Europe are no exception (Renfrew 1987). Right across Europe our modern words standing for basic colour categories are fairly similar in sound and spelling. For example, in the case of »red« we find: *red, rot, röt, rood, rōd, rojo, rouge, rosso, and ruber* amongst others. In many languages there is more than one term relating to the colour category »red« because of perceived variations in hue, saturation, tone and brightness (for example, English includes: crimson, maroon, pink, red, ruby, scarlet, vermilion etc.). This commonality strongly suggests the existence of a root-term or terms for the colour-category »red« that was in widespread usage before the emergence of recognisable Indo-European language families. Painstaking research by Jim Mallory and Douglas Adams has reconstructed a sizable chunk of the Proto-Indo-European lexicon (Mallory/Adams 2006) in a way that allows the application of anthropological approaches to colour semantics in pre-literate prehistoric European populations. A key question, however, is when the PIE language spread across Europe and so which early societies might have understood the words and the concepts behind them? Mallory and Adams themselves advance linguistic and archaeological evidence in favour of the period 4500–2500 B.C. for the spread and adoption of Proto-Indo-European (2006, 103), a position not very different from that advocated by Colin Renfrew (1987, 159), who associated it with the spread of farming practices across Europe between the seventh and fourth millennia B.C. Certainly such a chronology is consistent with the cultural content of the

Proto-Indo-European language which comprises an essentially Neolithic vocabulary.

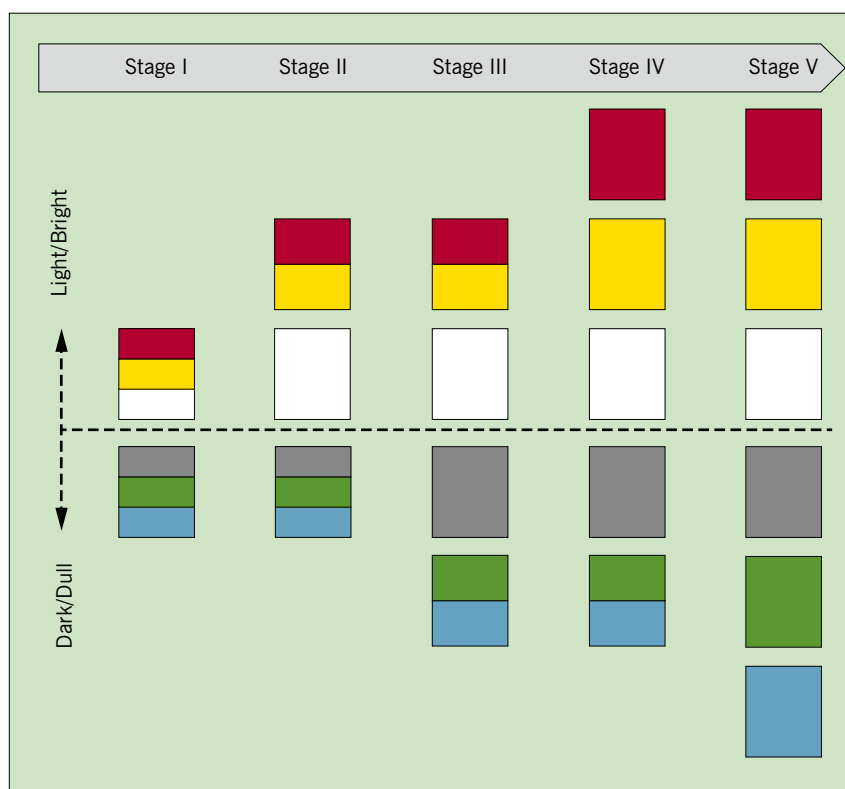
The Proto-Indo-European lexicon contains a variety of reconstructable colour terms (Mallory/Adams 2006, 331–334) including words for black (including dull, intense deep shade, grey, brown, brownish black), white (including pale), red (including bright red, dull red), blue (including greyish blue, blue/green), and yellow. This would appear to place the Proto-Indo-European language within Stage IV of the expanded Berlin and Kay scheme (see Fig. 2), thereby providing a real insight into the likely working categories and semantic context of colour amongst communities of the fifth, fourth and third millennia B.C. along Europe's Atlantic coast. In effect the Proto-Indo-European lexicon identifies the basic palette of colour categories that these communities used when thinking about the world they created for themselves, experienced in their everyday lives and represented through material culture at all scales from the smallest artefact to the largest monumental structures.

Building red: Aesthetics in monuments and artefacts

During the fifth and fourth millennia B.C. some of the most striking uses of red materials and colouration can be found in the architecture of stone-chambered tombs of various kinds, although we should also bear in mind the possibility of red painting on timber equivalents that have not survived. Only a small sample can be explored here by way of illustration, because many traditions still require detailed investigation in order to document and understand patterns of colour usage.

In Northern and Central Portugal and Galicia in Western Iberia, painted decoration has been recorded on around

Fig. 2 Schematic representation of Basic Colour Category acquisition for the most common path (Trajectory A) defined by Paul Kay and Luisa Maffi.



120 stones within 40 passage graves (Twohig 1981, 13–38; Ramírez/Behrmann 1997). In the chambers and passages of these monuments a white or cream clay wash was applied to selected orthostats in order to create a smooth background surface for the execution of painted motifs. Red is the predominant colour used for painting; 76 panels of painted megalithic art recorded in the Iberian peninsula by Twohig used red as the only colour. Black was found in association with red on a further 16 panels, while carving was found in association with red motifs on 17 of the painted stones (1981, 33). At Juncais, Portugal (Leisner 1934, Fig. 13.2; 14.1), two shades of red were noted: a dark crimson red, and a lighter, scarlet shade. A similar differentiation of light and dark shades has been noted elsewhere. Iron ochre was used to make the red paint. Black paint was made from wood charcoal, with the result that direct dating of these paint samples has been possible (Steelman et al. 2005). Dates from the paint samples accord well with the overall chronology of the passage grave tradition in this region during the late fifth and fourth millennia B.C. (Criado Boado/Valcare 1989). All of the ten motifs represented in Iberian megalithic art appear in red painted form: human figures, skin skeuomorphs (a copy of something in another material) rows of triangles or V's, the saw-tooth motif, vertical serpentiforms, horizontal serpentiforms, radial-line or sun motifs, circles, U-motifs and the handled-cup motif commonly known as »The Thing«. Of these the vertical and horizontal serpentiform motifs are by far the most common. In addition, hunting scenes involving people and dogs chasing deer have been identified on two stones (Twohig 1981, 22–31). Situationally, the painted orthostats tend to be at the back of the chamber opposite the entrance, as occurs in 18 of the 26 chambers with these stones preserved in the sites catalogued by Twohig (1981; and see Ramírez/Behrmann 1997, 706). A good example is Santa Cruz, Oviedo, Spain (Fig. 3a). The back-stone carries painted motifs: a vertical edge or dog-tooth border of solidly painted triangles at each side with two parallel zigzags in the centre (Twohig 1981, 143). To the right on entering the chamber a small stone is seen with picked zigzags, serpentiform lines, a U-motif and a crook motif. Vilarinho da Castanheira, Bragança, Portugal (Fig. 3b) has a more simple design with a single rectangular »body« motif, perhaps intended as anthropomorphic or a skin skeuo-

morph (Twohig 1981, 149). In contrast, some sites have complicated decorative schemes with up to eight decorated orthostats at Antelas, Oliveira de Frades, Portugal (Albuquerque e Castro et al. 1957) and Pedra Coberta, La Coruña, Spain (Leisner 1934).

Beyond Iberia the distribution of painted decoration in chambered tombs in Northwest Europe remains to be determined, but there are indications that it may be fairly widespread. Black charcoal ornamentation has been recorded in the rock-cut hypogea of the Paris Basin in France (Twohig 1981, 84), in the *dolmens angoumoisins* of Western France (Devignes 1996, 19) and in the passage graves of Orkney (Bradley et al. 2001, 54). More widespread is the selective placement of coloured stones in the construction of megalithic tombs, and especially the use of red-coloured stones.

In Western France three Pornic-type passage graves overlooking the estuary of the Haute-Perche were amongst the first to be recognised as incorporating the selective use of coloured stones (Scarre 2004). Two of the three monuments are now poorly preserved, but Les Mousseaux survives and has been subject to further investigations (L'Helgouach/Poulain 1984). The cairn contains a pair of passage graves with transepted chambers. Although now rather weathered and patinated, the orthostats forming the walls of the chambers were originally red, red-brown, yellow or grey. In both the northern and southern passages a pair of red ferruginous sandstone orthostats form the middle setting, one on each side, sandwiched between pairs of grey stones. In the northern chamber there is a pair of red sandstone orthostats either side of the first (right-hand) transept; in the southern chamber the right-hand transept has red sandstone orthostats on either side while the left-hand transept has a similar pattern but with the addition of a third red orthostat forming the back wall. A single red orthostat is also present on the left-hand side of the inner passage in the southern chamber. The sources of these stones are not precisely known, but probably lay within a few kilometres of the monument. However, rather than indicating colour symbolism, Chris Scarre (2004, 199–200) sees the selection and deployment of the stones used at Les Mousseaux as being all about connections between people and the places from which the stones derive. This, he suggests, links to ideas, beliefs and memories that were embedded in the landscape. Certainly such

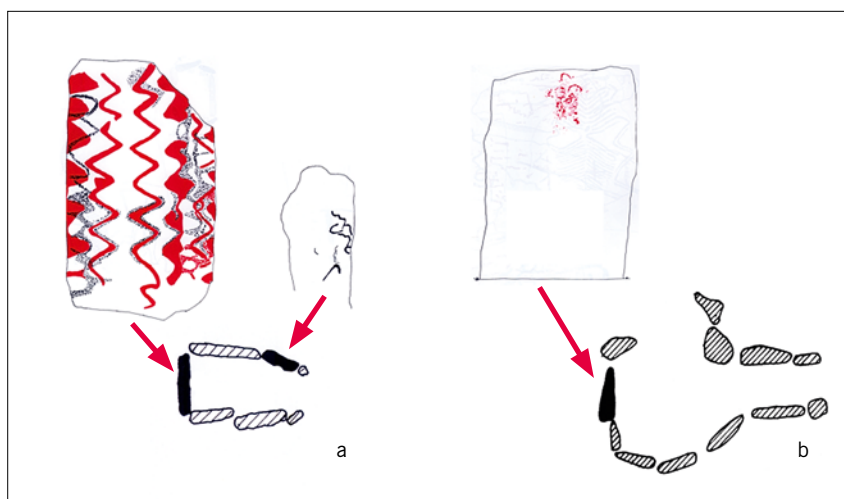


Fig. 3 Red painted decoration in Iberian passage graves of the fifth and fourth millennia B.C. a Santa Cruz, Oviedo, Spain; b Vilarinho da Castanheira (Pala de Moura), Bragança, Portugal.



Fig. 4 Dolmen at Friedrichsruhe-Goldenbow, Ludwigslust-Parchim district, Germany, with red-coloured capstone.

things may have been important, but the regular positioning of red stones flanking passageways and in chambers suggests that colour was significant as well as origin.

To the north, the possible early Neolithic *terres tumulaires* at Jardin aux Moines, Brittany, is edged by a kerb of locally derived red schist blocks alternating with quartz blocks probably brought from exposures 3–4 km distant (Lynch 1998, 64; Scarre 2002, 232). And further north still, amongst the passage graves of Ireland, the selective use of coloured stones is increasingly being recognised. Most impressive are the large developed passage graves in the bend of the River Boyne west of Drogheda, County Meath. At Newgrange and Knowth, five non-local types of stone were used to embellish the tombs: white quartz, dark grandiorite, granite, gabbro and siltstone. Glacial erratics were used for the kerbs and parts of the mound and passages, green-coloured Palaeozoic greywacke quarried from nearby outcrops was used for most of the orthostats in the chambers, but blocks of white-grey limestone and red-pink sandstone were also used within and around the monuments (Eogan 1986, 112–113; Mitchell 1992; Stout 2002, 30). A decorated phallus-shaped conical object 25 cm in length found near the entrance to the western passage grave at Knowth is made from a pink-red coloured stone (Eogan 1986, 179). The backstone of the central (northern) recess of the cruciform chamber at Newgrange carries simple lozenge, triangle and zigzag motifs (O'Kelly 1982, 178) but was probably the stone illuminated during sunrise at the winter solstice, when it would have taken on a bright red-orange colour. At Knockroe, County Kilkenny, excavations by Maris O'Sullivan revealed a con-

centration of white quartz around the entrance to the eastern passage grave and the use of red sandstone slabs at the entrances to both the eastern and western passage graves (O'Sullivan 1993). Throughout Ireland the use of coloured stones appears to emphasise zones of astronomical or orientational significance (Sheridan 1986).

Coloured stones also played a role in the design of long barrows on the island of Arran off the west coast of the Scottish mainland (Jones 1999). Geologically the island has three main rock types with contrasting colours: white granite and schist in the north, black pitchstone in the centre and red sandstone in the south. At a general level, individual barrows tended to draw mainly on locally available stone, principally the granite and sandstone. However, Andy Jones has drawn attention to subtleties in the pattern: colour is linked to landscape in such a way that architectural features look towards the areas of the island where the stone used in their construction dominates. At Carn Ban, situated between an area of sandstone and schist, the chamber walls are constructed of schist supplemented by dry-stone walling of red sandstone, while the capstones alternate schist and sandstone. Inside the chambers of long barrows across the island, artefacts placed with the dead include black pitchstone implements, grey and red flint tools, pottery fired red with white inclusions visible, a dark grey polished stone axe and a mottled black and white macehead. The recurrent juxtaposition of contrasting red, black and white materials and artefacts suggested to Jones that the use of coloured stones in the construction of the tombs, the specific architectural features and the deposits placed within and around the tomb were all



Fig. 5 Dolmen (Grab II) in a round mound at Everstorfer Forst, Grevesmühlen, Nordwestmecklenburg district, Germany, with re-coloured capstone and orthostat at the back of the chamber.

selected in order to articulate a particular experience of the world (Jones 1999, 348).

Across the North Sea red-coloured boulders appear to have been preferentially selected from the range of erratics available and used extensively in all kinds of megalithic monuments. The capstone of a dolmen at Friedrichsruhe-Goldenbow, Ludwigslust-Parchim district, Germany (Sprockhoff 1967, no. 405), is red granite and contrasts with the grey orthostats supporting it (Fig. 4). Cup-marks are present on the upper surface of the capstone; it may have originally been a natural earthfast boulder raised above the ground. At Everstorfer Forst, Grevesmühlen, Nordwestmecklenburg district, Germany, a dolmen (Sprockhoff 1967, no. 312) has a red capstone, again ornamented with cup-marks (Fig. 5), while in the same extended cemetery there is a large long barrow 43 m by 12 m (Sprockhoff 1967, no. 311; Schuldt 1972, Abb. 41) in which red boulders have been used in the kerb and chamber (Fig. 6). The passage grave at Gaarzerhof, Rerik, Rostock district, Germany, utilises red and grey boulders in the façade and red boulders for the capstones (Fig. 7; Sprockhoff 1967, no. 327; Schuldt 1972, Tafel 44a).

Broadly similar patterns are visible across the Baltic in Sweden. Christopher Tilley (1999, 9–11) notes how the smoother and flatter faces of selected stones were placed so as to form the inner walls of the chambers and passages with the rougher and more irregular surfaces facing outwards. In Västergötland red limestone and sandstone tended to be used for the orthostats while igneous rock was always used for the keystone or roofing capstone placed at the point at which the passage joined the chamber. A variety of thin-bedded sedimentary stone was used to make walling between the orthostats and much of it was probably local.

However, red Kågeröd sandstone was used at several sites in western Skåne and this seems to have been deliberately quarried from outcrops at least 20 km away to the north in the valley of the River Råån (Hårdh/Bergström 1988, 48). At Tårup, East Jutland, Denmark, the preserved floor within a dolmen perpetuated the red, white and black tripartite colour system already noted, with red scorched areas surrounded by spreads of black charcoal and white burnt flint (Holst 2006).

Richard Bradley and Tim Phillips (2008) working on passage graves in Bohuslän on the west coast of Sweden show how textures and mineral inclusions were used to contrive striking visual effects within the chambers, on the outer faces of cairns and on cover-mounds, so that some were apparent to casual visitors whereas others were only apparent to those inside the chamber. Although no single scheme was recognised, the familiar use of red, white, grey and pink stones was widespread, whereas natural striations, patterned inclusions and sparkling surfaces tended to occur in the chambers rather than the passages.

Red finds of the fourth millennium B.C. are relatively rare. Pieces of ochre and haematite are represented at sites from the Early Mesolithic onwards in many parts of North-west Europe and modern methods of sampling and retrieval suggest that these materials may be more widespread than has commonly been thought (Clarke 2012). These were presumably used as colouring materials, and perhaps for painting stone or wood. Fragments of haematite have been found in long barrows of the Cotswold-Severn tradition in the West of England (Darvill 2004, 169–170), a region where red stone is rare. Some contemporary pottery has a red colour to it, but in general colour varies considerably across the surface of most vessels. A small fragment of leather



Fig. 6 Long barrow (Grab I) at Everstorfer Forst, Grevesmühlen, Nordwestmecklenburg district, Germany, with red-coloured stones in the kerb.

binding on a yew-wood bow recovered from Meare Heath in Somerset, which was dated to 3650–3000 cal B.C. (Q-646: 4640 ± 120 B.P.), may have been dyed red (Clark 1963, 56–59).

For the third millennium B.C. the incidence of red materials and colouration in monuments is also strong, especially in late megalithic tombs and the range of circles and other arrangements of upright stones that are closely associated with these traditions.

At the cemetery of Balnuran of Clava near Inverness, Scotland, two passage graves and a ring-cairn dating to the early second millennium B.C., laid out on an axis that runs southwest to northeast, make extensive use of coloured stone in their architectural design (Bradley 2000; Travarthen 2000). A distinction has to be drawn between the widespread use of glacial boulders and erratics, which occur in profusion on and near the site, and the limited distribution of red sandstone slabs, which had to be specially quarried. The entrances to the two passage graves open towards the midwinter sunset while the opposite side of the cairns face the midsummer sunrise. This distinction is reflected in the choice of building stone. The light of the setting sun would have illuminated a series of dark red sandstone slabs around the entrance to the passage graves. By contrast the rising sun at midsummer would have emphasised a number of pieces of white quartz on the opposite side of each monument. The passage grave at the southwestern limit of the cemetery faces directly into the sunset at the winter solstice and there is evidence that it was originally capped by a series of red boulders that had been selected for that purpose (Jones/Bradley 1999, 114; Bradley 2000, 216–7).

Also in Eastern Scotland is a distinctive series of recumbent stone circles which appear to include a strong colour

symbolism in the selection and placement of stones (Burl 1970; Bradley 2005, 107–8). Frances Lynch (1998, 65) notes that nearly half the examples for which information is published have a grey or white recumbent stone while the pillars of the circle are red or pink. Gavin MacGregor (2002) suggests that a considerable degree of freedom was exercised in the use of colour to express meanings, such as the experience of being inside or outside the monument, or to emphasise particular sectors within the circle. Adam Welfare (2011, 254–255) takes this further, focusing on the cosmological round – birth, growth, life, death and rebirth – fixed into the architecture of the monuments. Easter Aquhorthies, Aberdeenshire, is a good example. The recumbent stone is white, the pillars on the east side – tentatively associated with the fullness of life and death – are pink/red, while the pillars on the west side – associated with birth and growth – are grey (Welfare 2011, 177).

Many of the single standing stones or menhirs found widely across the British Isles used red-coloured slabs or blocks of stone (Fig. 8). Some may have been selected because their shape suggests a human form, while others perhaps represent particular anatomical elements (cf. Williams 1988, 54–60; Tilley 2004, 33–86). Just 120 m northwest of the recumbent stone circle at Midmar Kirk, Aberdeenshire, is a flesh-pink granite pillar 2.6 m tall and markedly phallic in profile. It is set in the centre of a low grassy mound (RCAHMS 2007, 69 and Fig. 5.34). Many of these standing stones occur in regions where red stone naturally outcrops quite extensively, but some have clearly been selected and moved. One of the most celebrated examples is the so-called Altar Stone in the centre of Stonehenge, Wiltshire (Fig. 9; Darvill 2006, 121). It is not known whether



Fig. 7 Passage grave at Gaarzerhof, Rerik, Rostock district, Germany, with red-coloured stones as capstones for the chamber, in the façade, and as walling between the façade peristaliths.



Fig. 8 Long Meg, Cumbria, England, UK. Red-coloured sandstone menhir 3.7 m tall standing 18 m to the southwest of a stone circle. The stone was brought to the site from at least 2 km away. The southeastern face of the menhir is decorated with rock art including a cup-and-ring mark, spirals and concentric rings.

this stone was originally standing or whether it was prostrate as a kind of table or bench, because it was crushed by the fall of Stone 55 sometime before the seventeenth century A.D. and now lies partly buried beneath the debris (Burl 2001). Originally ca. 5 m by 1 m by 0.5 m this substantial block of Devonian Old Red Sandstone originates amongst the Senni Beds somewhere between Kidwelly and Abergavenny in South Wales (Ixer/Turner 2006) and was therefore transported a distance of at least 120 km. Its position at the focus of the Trilithon Horseshoe in the centre of Stonehenge (see Darvill et al. 2012) becomes more poignant when we realise that soon after sunrise during the summer solstice the elongated phallic shadow of the Heel Stone penetrates the Sarsen Circle to reach the Altar Stone (Meaden 2012). Fertility, birth, life and the sun again seem to be the main themes of the symbolism communicated by this event.

Coloured stones may have been considered important as a means of communication between worlds, as they are frequently found at chambered tombs and stone circles and near standing stones (Darvill 2002). At Billown on the Isle of Man, pits and ditches from the fourth, third and second millennia B.C. contained placed deposits of beach pebbles brought inland a distance of around 3 km, including white (quartz), red, black and speckled examples (Darvill 2002, 76). It is possible that these were tokens representing the soul of those attending the rituals and ceremonies that led to their deposition (Darvill 2002, 85).

At Skara Brae in Orkney, Scotland, Gordon Childe identified nine small stone hexagonal, rectangular and triangular vessels that he called paint-pots because they contained traces of red pigment (Childe 1931, 134); five examples made



Fig. 9 Stonehenge, Amesbury, Wiltshire, England, UK. Old Red Sandstone »Altar Stone« at the focus of the inner stone setting, now partly covered by blocks of collapsed stone from around about it. The scale lies parallel with the edge of the Altar Stone and totals 2 m in length.

of whale-bone were also found alongside pieces of haematite that were powdered to form the red pigment (Childe 1931, 137). At the time Childe suggested that the pigment had »doubtless been used for painting the body« (1931, 144) but recent finds at the Ness of Brodgar suggest a different interpretation. Here there was evidence from Structure 10 that haematite or ochre had been crushed to prepare red pigments used for painting the walls. Careful excavation revealed red, black and yellow designs on dry-stone walling (Card 2013, 17–18).

Much of the rock art in Scandinavia is nowadays painted in red in order to make it clear to see, but there is considerable debate about whether, or to what extent, these carved images were painted in the past (Hygen/Bengtsson 2000, 205). It may be that selected images were coloured or that motifs were coloured to enhance their meaning and interpretation by those viewing them (Fig. 10).

The intimacy of reading colour through material culture was important. Pottery of the third millennium B. C. seems to have been produced in a more controlled way, with increasing attention to surface finish and colouration. A Ronaldsway jar (Fig. 11) buried up to its rim in a small pit at Billown on the Isle of Man had a red fabric decorated with black and white designs (Darvill/Andrews in prep.). At Ness of Brodgar, Orkney, Grooved Ware pottery with deliberately created white, black and red surfaces have been recorded (Card 2013, 18). More widespread is Beaker pottery which was manufactured to a high standard with a distinctive red surface created through close control of the firing conditions (Clarke 1970; Leeuw 1976). Some vessels are exceptionally well finished and a small proportion have a white paste (pos-

sibly made from crushed calcined bone) filling the impressed decoration to create an intricate finish (Clarke 1970, 567 n. 4).

Red stone is also widely reported from sites of the third and early second millennia B. C., including particular kinds of red flint. Especially distinctive is the evocatively named bloodstone, a red-coloured cryptocrystalline silica which occurs in association with the lavas of Tertiary age that form Finochra and Bloodstone Hill in the west of Rhum in the Inner Hebrides (Wickham-Jones 1990, 51–52). And for the Early Bronze Age of Britain and Ireland Andy Jones has emphasised the increased use of heat and fire to alter materials and change their characteristics, but also the low-level presence of highly coloured artefacts in grave deposits. Black jet and shale as well as red amber are among the exceptions (Jones 2002, 168), leading Alison Sheridan and Andrew Shortland to speculate that composite necklaces were used as a kind of supernatural power-dressing by affording protection to the deceased on their journey to the »otherworld« (Sheridan/Shortland 2004, 276).

Reading red: Semiotics and materiality

Recognising the presence of red-coloured materials incorporated into specific elements of material culture such as those discussed above is one thing, reading back the meaning in terms of its symbolism is quite another. In modern societies the colour category red is widely associated with danger, with happiness, ceremony and auspicious occasions, and with love and passion. The last of these is often represented by a red-coloured highly stylised heart and it is tempting to



Fig. 10 Open-air rock art panel at Tanum, Västra Götalands län, Bohuslän, Sweden. Identified motifs are traditionally coloured with red pigment.

think of its derivation from blood as a fundamental body-fluid and the heart as the engine that powers the human body. Blood can also be seen to underlie the idea of danger (spilled blood/bloodshed), as well as the kind of red-faced cheer associated with the emotions of happiness and pride.

Body metaphors have been widely used to decode the use of colour in a wide range of societies, particular those that have been classed as in the early stages of development in the analysis of their use of colour-terms. Victor Turner's discussion of what he termed the basic colour triad (white, black and red) in relation to rituals amongst Ndembu people in Zambia has been especially influential (Turner 1967, 88–91). He theorised notes that all three colours come together during initiation rites because they epitomise the main kinds of universal organic experience by making explicit reference to fluids, secretions and waste products of the human body. In this scheme red is the symbol of blood, white symbolises breast-milk and semen and black symbolises faeces. The emission, spilling or production of these body-products, he suggests, is associated with heightened emotions; the physical experiences associated with all three colours are also experiences of social relationships. Analogues of physical experience may then be found wherever the same colours occur in nature, thereby connecting the material itself back to the sources of physical experience in society and the wider cosmos (Turner 1967, 89).

Turner's colour triad certainly influenced Christopher Tilley's (1996, 317) analysis of colour symbolism in the architecture and material culture of *Trichterbecherkultur* (TRB) burial monuments in Southern Scandinavia, in which he suggests that the colour of things links together materials that might otherwise seem separate (Fig. 12). This is clearest, he suggests, within the tomb chambers: the »blood« of amber and ochre is mingled with the »semen-milk« of the ancestral bones (1996, 322). Andy Jones also draws on the colour triad with reference to the long barrows of Arran, suggesting that during the Neolithic colour was categorised within a broad relationship of white with barrenness, hardness and bones; red with fertility, softness and flesh or blood; and black with darkness and death (1999, 348). However, back in the 1990s, Tilley and Jones did not yet have access to the lexicon of Proto-Indo-European words and colour-terms, a polysemic symbolic logic that can be used to create a rather different set of meanings, at least for the »red« components.

Red is a fundamental colour category in Proto-Indo-European and has recently been the subject of detailed analysis by Carole Biggam (2012, 183–192). Drawing on historical phonology (Mallory/Adams 2006, 551), four reconstructions indicate the hue that we known as »red«: *h₁ei-*, *h₁elu-*, *h₁reudh-* and *kóunos*. Julius Pokorny (1959–1969) contextualised these in terms of the associations established through descendents of these root words to describe trees, mammals and birds, for example *h₁elu-(el-)* defined as »red, brown«, when applied to animal- and tree-names, but as »white, shining« when used in the names of various aquatic sea birds such as swans. From these observations Biggam takes the cognates and semantic shifts a step further back to postulate a fundamental ancient source-concept for all four words that might be formalised as something »white+



Fig. 11 Ronaldsway jar from Billown, Santan, Isle of Man. Traces of the black and white decoration over a red fabric can be seen.

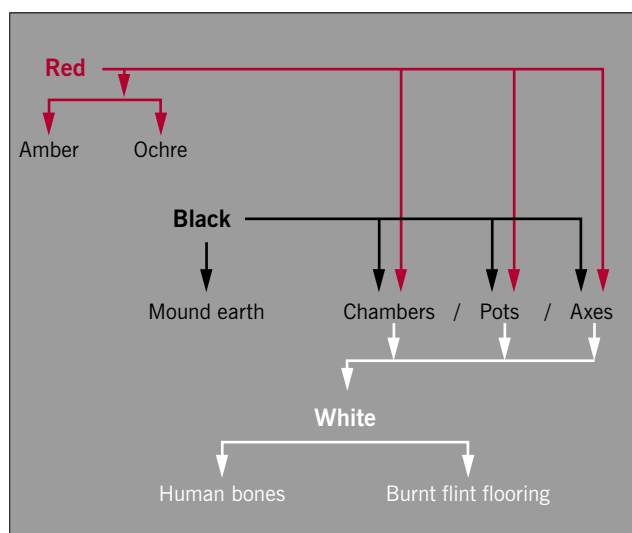


Fig. 12 Schematic representation of triad colour symbolism and potential symbolic links for *Trichterbecherkultur* artefacts and monuments as suggested by Chris Tilley.

bright+(eye catching) red/yellow»: something best resolved as fire (2012, 191) or, more probably, the sun or life itself. Since fire, sun and life are all referred to by well-recognised Proto-Indo-European words with later pan-European cognates (h_xng^{wnis} = fire [Latin: *ignis*]; $séh_aul$ = sun [Latin: *sōl*]; $h_aóyus$ = life-force [Latin: *aevus*]; g^{weih}_3- = to live/become healthy [Latin: *vivō*]), links between the original sig-

nifier and the signified must lie deep in ancient pre-Proto-Indo-European languages such as the Nostratic or Proto-Nostratic macrofamilies.

Conclusion

If we accept that through historical semantics the basic colour category »red« can be traced back in Proto-Indo-European languages to something white, bright and eye-catchingly red/yellow, and beyond this to a fundamental semiotic reference to fire/sun/life-force, then an interesting cosmology falls into place which neatly accommodates, and perhaps even explains, much of the observed archaeology. Metaphorically, in such a scheme, the red sun becomes the giver of life, red blood becomes the sustainer of life and red materials become symbols of life. In this way red stands alongside white/light as standing for life itself (cf. Turner 1967, 89) and in opposition to black/darkness in representing death. Creating or colouring images in red gives them »life« and makes them »alive«. Juxtaposing red stones with dark-coloured stones indicates the passage of life and death; positioning the red stones so that they are illuminated by the sun at certain times of the year creates propitious moments when worlds collide and the boundaries between life and death are blurred. Red amulets promote well-being, while, seen in this way, the ubiquitous red Beaker pottery might, symbolically, be a container for the »water of life«; literally, the »aquavit« of the Chalcolithic world.

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Source of figures

- 1 Based on Biggam 2012, 199–200
- 2 Based on Kay/Maffi 1999 with additions
- 3 From Twohig 1981, Fig. 14 and 33
- 4–11 The author
- 12 Based on Tilley 1996, Fig. 6.57

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