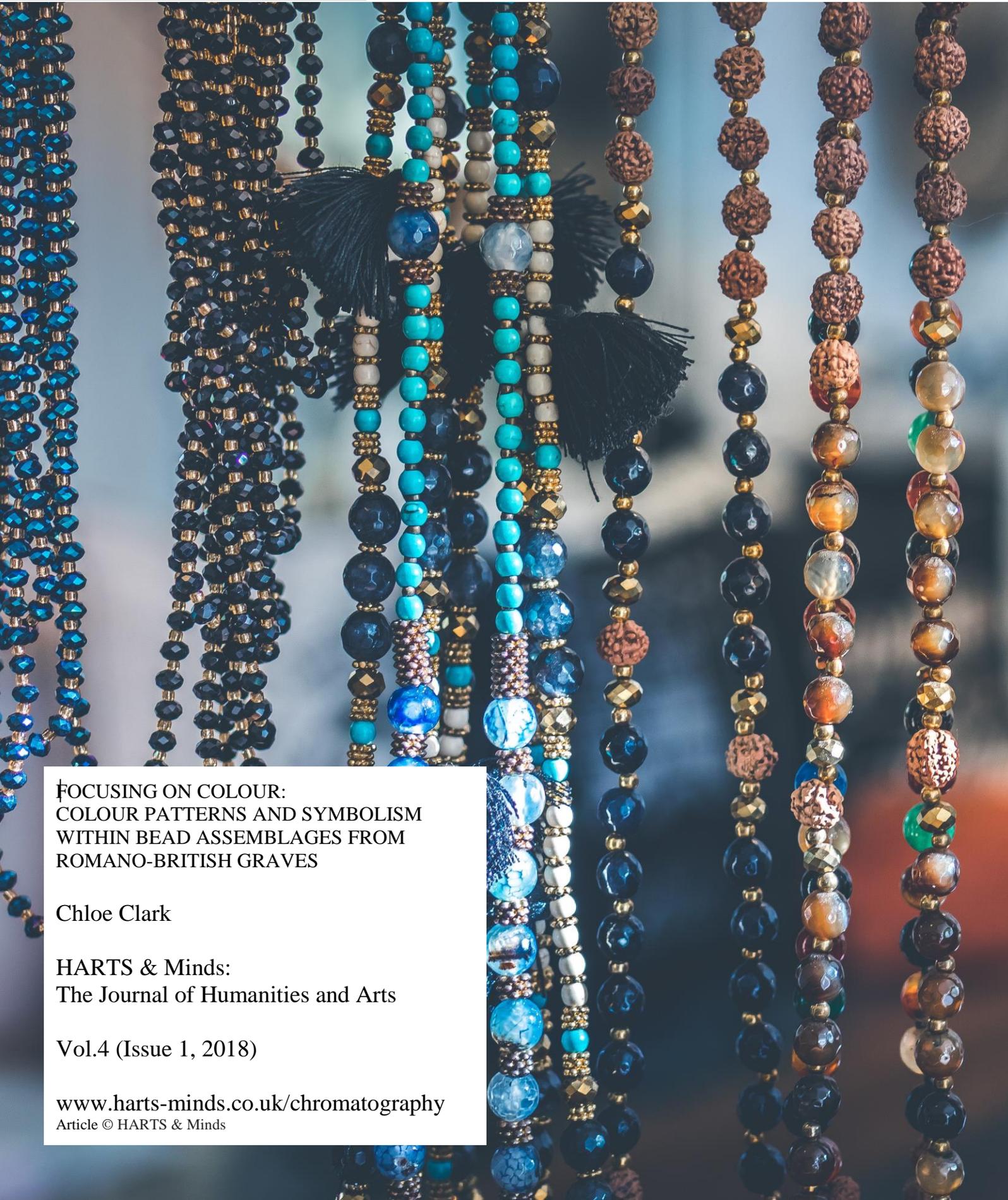


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WITHIN BEAD ASSEMBLAGES FROM
ROMANO-BRITISH GRAVES

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FOCUSING ON COLOUR: COLOUR PATTERNS AND SYMBOLISM WITHIN BEAD ASSEMBLAGES FROM ROMANO-BRITISH GRAVES

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Abstract

The aim of this paper is to determine whether colour patterns within bead assemblages from Romano-British burials reveal evidence of symbolic colour display and if so, what this may reveal about the intentional actions of mourners. This will be achieved via three objectives: firstly, beads from multiple London settlement (living) contexts will be analysed using a visual sensory approach. Secondly, beads from the Lankhills Cemetery and the Eastern Cemetery of Roman London will be catalogued and contrasted with the 'living' data set, thereby determining which colour trends were present within both living and funerary environments.¹ Finally, interpretation of these findings will take place within a framework of colour symbolism, drawn from established theoretical models and culturally determined colour associations present in Roman literature. The conclusions drawn will provide a deeper understanding of the colours selected for the dead and their potential symbolic relevance within display.

Key Words: Roman Britain, Colour Symbolism, Beads, Funerary Studies, Burial, Death,

Introduction

The beads that the people of Roman Britain selected for display during burial, either as worn items or as grave goods, betray a conscious moment of intentional ritual action. When this action is studied, it contributes to a deeper understanding of that rite. An indigenous tradition of burial beads existed in Iron Age Britain and these are hypothesised to have held symbolic resonances, especially for adult women and may have represented status, rites of passage or the number of children borne.² These associations would not suddenly disappear with the Roman conquest of 43 AD and may have become merged with Roman aesthetic considerations, creating an integration of ideology and appearance.

However, beads of Roman origin are also likely to have found their way to Britain before the conquest due to trading connections with mainland Europe. Roman bead types follow a well-established typology as outlined by Guido with the majority being glass, but examples in stone, bone, wood and metal are also known.³ More elaborate bead types such as pearls have also been discovered in addition to their appearance in literary sources, including Tacitus' disparaging reference to the whiteness of British pearls.⁴ As archaeological material, Roman glass is recognisable for its quality and relatively low rate of decay in comparison to later glass types, making it particularly suitable for study. Research into glass production has shown that there were several key glass-producing centres situated throughout the Roman Empire which would distribute glass to smaller workshops, where colours would then be added.⁵ Colourisation was achieved through the introduction of various elements such as copper and iron.⁶ In Britain, however, glass production remained limited and beads were manufactured with recycled glass, commonly from bottles.⁷ Whilst this invariably affected the colours of beads produced, it is less of an influential factor here because when we consider colour in display it is the decisions of the consumer or mourner that produce evidence of action and so any preferential colour choices remain informative within an understanding of issues surrounding availability.

The theoretical approach of this paper aims to analyse the sensory properties of funerary bead colours and interpret these findings within a framework of colour symbolism as established by the work of Chapman from Weirzbicka; a theoretical interpretive approach often applied to pre-literate societies.⁸ It could be argued that this approach is unnecessary in light of the quantities of written and diagnostic material relating to ritual in the Roman world. However, literary sources alone have the potential to neglect certain subtleties of the lived human experience, and so too the realities of differing socio-economic groups. People of the first to fourth centuries AD were just as capable of cognitive associations, emotional responses and symbolic metaphor with relation to colour as the pre-historic societies which came before them.

Indeed, that Roman people appreciated the aesthetic considerations of certain colours within dress is apparent from Ovid (*Ars Amatoria* III.190), who claims that women should wear colours suitable to their complexions.⁹ In addition, work by Harris has shown the possibilities of a sensory approach to archaeological materials, which provoked unexpected emotional responses whilst retaining the merits of the practice as an ‘entry point’ to the perspectives of ancient people.¹⁰ Touch, smell, sight, taste and sound are valid criteria for analysis and prove fruitful when combined with empirical data. In recent years several works have emerged with the senses as a central tenet.¹¹ Studies reliant on sensory stimuli from archaeological evidence is not, however, proportionally distributed—some senses, specifically touch and sight, are privileged above others in academic research. This is acknowledged within the research choices of this study, and there is an awareness that the decision to study colour consciously eliminates other sensory stimuli. This decision was taken in hope of fully exploring the complexities of colour symbolism within the space permitted without undermining the research aims. Other forms of analysis, particularly sound and touch would be particularly beneficial areas of future development.

Theoretical Framework and Methodology

Fundamental to the research objectives of this paper, Chapman’s work combines pre-existing strands of colour theory into a workable model by incorporating the principle of ‘dynamic nominalism’.¹² This approach recognises colour symbolism from both cultural and environmental spheres as well as the significance of colour in newly emerging environments. Chapman’s work provides the premise for the theoretical approach of this paper, whilst the cultural and environmental influences within colour symbolism outlined by Weirzbicka are fundamental to the interpretative model.¹³ Literary works as well as research concerning specific physical materials provided evidence for culturally determined colour symbolism. Outlined below are the conclusions of these strands:

Environmentally determined symbols

- White: day and bone
- Black: night
- Red: fire
- Yellow: sun
- Green: vegetation
- Blue: sky
- Brown: earth

To this can also be added Gold and Silver, which relate to the sun and moon. This well-documented association appears widely throughout many societies and is explored in various works including Hosler, although it is not covered directly by the Weirzbicka model.¹⁴

Culturally Determined Colour Symbols in Roman Britain:

Purple: Representative of royal or elite status, determined by multiple examples in literary sources. Purple is also unique in its ability to contain both dark and light properties. Gage has noted that within the Roman world, purple represented the ‘whole world of colour’.¹⁵

Red: Gage terms red the ‘colour of light’ and notes that it was significant in Roman religious buildings.¹⁶ Red is synonymous with blood (Pliny, *Naturalis Historia* 33.35), another key feature of many Roman sacrificial religious practices.¹⁷ Pliny also notes that red was a colour of high rank, which Croom has associated with military generals.¹⁸

Orange: One of the most notable connections with orange is amber. Amber in both Iron Age and Roman contexts was a significant material that held complex connotations. Amber is capable of containing light and was often used in parallel with jet, which some have suggested was an iconographic representation of life and death.¹⁹ The colour amber resembles the sun, honey and glowing embers.²⁰ The Roman word for amber is derived from the Greek for ‘sun’, a fact which gels with Weirzbicka’s method of environmentally attributable signifiers in linguistic colour categorisation.

Blue: Blue derived from lapis lazuli was expensive and difficult to acquire in antiquity, and as such it is possible that blue would have had connections with luxury and wealth. The association of blue with divinity or superstition is notable.²¹ Blue was also commonly found in bottle glass.

Black: Traditionally, black is the colour of death.²² This is attested in the Roman world with mourners wearing black clothes at funerals.²³ Black is also associated with jet which, like amber, contained certain electrostatic properties making it mysterious to onlookers. Jet was also strongly associated with women in the Roman period²⁴.

White: In the Roman world, as in other cultures and particularly in personal dress, whiteness was revered for its associations with purity.²⁵

Green: Similar to blue, the colour green may have had a strong association with bottle glass. However, in the context of glass beads it may also represent emeralds.²⁶

Gold: Gold is culturally synonymous with wealth in a large number of societies and was recognised as a valuable commodity in Rome.

Silver: Similar to gold, silver symbolises wealth and opulence in many societies.

Grey and pink did not provide any strong symbolic associations within the material studied. Colourless glass affords few insights, beyond the fact that the complexity involved in removing colour from glass betrays a purposeful intention for transparency. This is not a comprehensive list of all cultural colour associations in Roman Britain. It is however a collection of some of the most well-established and recognised links. This theoretical model is one which could be expanded to cover further artefact types and so develop a clearer understanding of the role of colour in mortuary ritual. Using this interpretive framework colour patterns present in burial data from two cemetery sites were analysed for their environmentally salient properties and culturally defined associations. Beads from a geographically proximate living sphere provide a baseline for comparison, specifically an understanding of the bead colours available to Romano-British people in their daily lives.

Results of Analysis

A note on data and statistical methodologies: the living or control sample comprised thirteen sites from London excavated by Museum of London Archaeology. From these sites, 274 beads were catalogued, and diagnostic features recorded. Typological categories were defined as per Birley's method.²⁷ Dating was undertaken primarily by use of site dates. If this data was not available or deemed unreliable, relative spot dating was used. The combination of these two methods ensured a reasonably high level of accuracy.

The Lankhills data was collated from Clarke's 1979 report and the subsequent 2010 Oxford Archaeology publication.²⁸ To retain the format of the control sample, each bead was recorded individually as opposed to by string. The later Lankhills publication provided detailed recording practices which required little adaptation or interpretation. The findings were placed in the same database as the earlier excavation data to facilitate a site-wide overview of the finds. This produced a collated total of 1578 beads. The Eastern Cemetery of Roman London report provided similar accuracy and data was recorded using the above techniques in a separate database to enable cross-site comparisons.²⁹ The total number of beads from this site was 1,473. The adoption of percentage ratios as the primary method of analysis aimed to mitigate any disparities within sample sizes. Colours were unified under the eleven colour terms defined by Berlin and Kay; black, white, red, yellow, brown, green, pink, blue, orange, purple, grey.³⁰

The adoption of the Berlin and Kay categories was undertaken because whilst aspects of their research may remain controversial, their colour groupings still form the basis for much subsequent work in the field of colour theory. Four additional colour categories were however added: multi-coloured, colourless, gold and silver. The importance of dark and light colour was explored in an additional data table. Assigning a range of coloured material to the fifteen colour groups outlined above required a degree of individual judgement. A method was created whereby the most immediately identifiable colour was assigned. It was felt that this would adhere to the sensory approach of the research. Whilst this method may be accused of a degree of subjectivism, it is hoped that these concerns will be mitigated by the transparency of the method as outlined below regarding some unusual or complex materials:

Natural Green Blue – Green

Carnelian – Red

Colourless and Gold or Gold in Glass – Gold

Amber – Orange

Coral – Orange

Carbonised – Brown

Opalescent – Multi

Beads with multiple decorative patterns – Multi

The carbonised beads proved particularly challenging to categorise. Originally wooden, it is possible that the beads would have been painted in colours now undetectable. It was however concluded that recording known certainties was more beneficial than documenting speculative possibilities and as such carbonised beads were placed within the brown category, as the most obvious colour type for wood.

Ages were categorised as follows:

0-2yrs = Infant

3-13yrs = Child

14-19yrs = Adolescent

20-25yrs = Young Adult

26-35yrs = Adult
35+ = Mature Adult

Living Sample

The living sample totalled 274 beads, encompassing glass, wood and jet varieties. The data was analysed for two primary criteria: firstly, the overall ratio of colours within the sample and secondly, the proportion of light and dark tones in the group.

Date Ranges

The highest density of beads from the living sample is concurrent with the 50-100 AD date range (48.17%). 101-150 AD comprises 13.61% of the assemblage and 151-200 AD forms 4.85%. There is a slight increase from the relatively low level of beads present in the middle period (201-350 AD) in 351-400 AD with this range contributing 3.11%. Beads of unknown or indeterminable date form 17.51% of the group and post-401 AD beads equal 10.21%. Throughout the sample there remains a similar trend in the prevalence of blue and green beads, which occur in all date periods. The large number of brown, i.e. wooden beads, in the 50-100 AD category is due to the carbonised nature of the beads, a likely result of the 61 AD destruction of London.

Colour	50-100	101-150	151-200	201-250	251-300	301-350	351-400	Post 401	Unknown	Total	Rounded	Percentage
Black	2	1			1	1		4	2	11	11	4.01
Blue	83.2	28.2	9.2	0.2	1.8	0.6	4.8	14	25	167	167	60.94
Brown	32				0.33	1.33	0.33	1		34.99	35	12.77
Colourless									2	2	2	0.72
Gold	1									1	1	0.36
Green	8.3	4.1	0.6	0.1	0.1	0.1	2.1	9	14	38.4	38	13.86
Grey	1									1	1	0.36
Multi	2									2	2	0.72
Orange							1		1	2	2	0.72
Pink										0	0	0
Purple					0.3	0.3	0.3			0.9	1	0.36
Red											0	0
Silver											0	0
Unknown		3.5	3.5						3	10	10	3.64
White	2.5	0.5								3	3	1.09
Yellow									1	1	1	0.36
Total	132	37.3	13.3	0.3	3.53	3.33	8.53	28	48	274.29	274	99.91
Percentage	48.17	13.61	4.85	0.1	1.28	1.21	3.11	10.21	17.51	100.05		

Figure 1. Bead colours from living data set divided by date.

Colour Breakdown in the Living Sample

The most numerous colour in the assemblage was blue, which equated to 60.94% of the total. This number is revealing when contrasted with the second most frequent colour, green, which totalled 13.86%. Brown, which largely consisted of the carbonised wooden beads equated to 12.77%. Lower occurrences of black (4.01%) and white (1.09%) were also evident. Colourless glass, orange and multi-coloured beads each contributed 0.72% to the total, whereas yellow, purple, grey and gold each made up 0.36%, the equivalent of one bead per colour. Pink and red did not feature at all in the assemblage and 3.64% were of unknown colour due to degradation. It should be noted here that whilst one of the orange beads was glass and found in a non-burial context, the second orange bead in this assemblage was a red and orange amber annular bead found within a ditch containing two adult human skeletons and canine remains. Whilst the excavation site was not characterised as a cemetery space, the presence of the skeletal remains implies that this bead cannot be isolated from mortuary action entirely.

Colours	Number of Beads	Percentage
Blue	167	60.94
Green	38	13.86
Brown	35	12.77
Black	11	4.01
Unknown	10	3.64
White	3	1.09
Orange	2	0.72
Colourless	2	0.72
Multi	2	0.72
Purple	1	0.36
Yellow	1	0.36
Gold	1	0.36
Grey	1	0.36
Total	274	99.91

Figure 2. Quantities of bead colours from living data set.

Dark and Light Tones

The composition of dark and light tones within the living sample was relatively equal, with a slightly higher occurrence of light colours (54.01%) in relation to dark (42.33%). Unknown colours due to colour degradation again equated 3.64% of the overall total.

Colours	Number of Beads	Percentage
Light	148	54.01
Dark	116	42.33
Unknown	10	3.64
Grand Total	274	99.98

Figure 3. Quantities of light and dark beads within the living data set.

Eastern Cemetery of Roman London

Date Ranges

There is a reasonably steady distribution of beads across the date ranges, with a moderate sample from 150 AD to 400 AD. 251-300 AD provided the greatest number of beads (29.36%), 301-350 AD produced the second highest density (22.39%) and 351-400 AD 21.91%. Blue and black categories produced the greatest number of beads with a peak of both colours in 250-300 AD resulting in 190 blue beads and 192 black.

Colour	50-100AD	101-150AD	151-200AD	201-250AD	251-300AD	301-350AD	351-400AD	Post 400AD	Unknown	Total
Black	0	0	37	66	192	162	155	0	1	613
Blue	0	0	47	171	190	143	143	0	2	696
Brown	0	0	0	0	0	0	0	0	0	0
Colourless	0	0	0	0	0	0	0	0	1	1
Gold	0	0	0	6.75	6.75	6.75	6.75	0	0	27
Green	0	0.25	0.55	0.55	14.55	15.5	15.5	0	0	47
Grey	0	0	0	0	0	0	0	0	0	0
Multi	0	0	0	0	0	0	0	0	0	0
Orange	0	0	0	0	0	0	0	0	0	0
Pink	0	0	0	0	0	0	0	0	0	0
Purple	0	0	0	0	0	0	0	0	0	0
Red	0	0	0	0	0	0	0	0	0	0
Silver	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	1
White	0	0	26.6	26.6	29.2	2.6	2.6	0	0	88
Yellow	0	0	0	0	0	0	0	0	0	0
Total	0	0.25	111.15	270.9	432.5	329.85	322.85	0	4	1473
Percentage	0	0.01	7.54	18.39	29.36	22.39	21.91	0	0.27	99.87

Figure 4. Colours of beads from the Eastern Cemetery of Roman London divided by date.

Colour Breakdown at the Eastern Cemetery of Roman London

Unlike the previous dataset, green is not one of the primary colours in the Eastern cemetery assemblage. Blue does remain the dominant colour (47.25%) but is followed by black (41.61%). White is the third most common colour (5.97%) with green substantially lower at 3.19%. Gold beads form 1.83% and colourless glass and unknown colour types form 0.06%.

Colour	Total	Percentage
Blue	696	47.25
Black	613	41.61
White	88	5.97
Green	47	3.19
Gold	27	1.83
Colourless	1	0.06
Unknown	1	0.06
Total	1473	99.97

Figure 5. Colours of beads from the Eastern Cemetery of Roman London.

Gender and Colour

Within the male graves the most frequent bead colour is black, consisting of 31.7% of the total assemblage. This figure is largely attributable to two male graves, one featuring a jet necklace and pendants placed by the right arm and a second string of black melon beads found by the right ankle in grave B197, an interesting fact considering the association of jet with women, which will be explored more fully below. Blue is significantly lower in the male group than the female, with only 10.25% being represented. White equates to 5.43% whilst gold, green and colourless glass are not present in the group. Within the female sample blue once more dominates (33.94%), however black is again present (4.61%). Unlike the male sample, gold features in the female data (1.83%) as does green (0.27%). White and colourless glass are however not present in the female graves. Of the graves of unknown gender, black once more is the most frequent (5.29%), then blue (3.05%), green (2.91%) and white (0.54%) with colourless and unknown colours forming 0.06% each. Gold did not appear in the sample.

Colour	Number of Beads	Percentage	
Female	599		40.66
Blue	500	33.94	
Black	68	4.61	
Gold	27	1.83	
Green	4	0.27	
Male	698		47.38
Black	467	31.7	
Blue	151	10.25	
White	80	5.43	
Unknown	176		11.94
Black	78	5.29	
Blue	45	3.05	
Green	43	2.91	
White	8	0.54	
Unknown	1	0.06	
Colourless	1	0.06	
Total	1473	99.94	99.98

Figure 6. Colours of beads from the Eastern Cemetery of Roman London divided by gender.

Age and Colour

Young adults form the largest group provided with beads (61.77%) at the Eastern Cemetery and adults were the second largest (26.2%). Children were one of the smallest groups (0.47%) in addition to mature adults (0.13%). Black remains the dominant colour in the child, adult and unknown categories and it is the only colour to feature in the adolescent category. Blue is the most common colour in the young adult group and green is the only colour present in the mature adult range. Young adults have the most varied colour group with four colours in total; blue, black, gold and green. Children and adults both have three colours; black, blue and colourless for the former and black, blue and white for the latter. Throughout all the groups there appears to be a limited range of colour use.

Colours	Number of Beads	Percentage	
Adolescent	25		1.69
Black	25	1.69	
Adult	386		26.2
Black	166	11.26	
Blue	140	9.5	
White	80	5.43	
Child	7		0.47
Black	4	0.27	
Blue	2	0.13	
Colourless	1	0.06	
Mature Adult	2		0.13
Green	2	0.13	
Unknown	143		9.7
Black	49	3.32	
Blue	43	2.91	
Green	42	2.85	
Unknown	1	0.06	
White	8	0.54	
Young Adult	910		61.77
Black	369	25.05	
Blue	511	34.69	
Gold	27	1.83	
Green	3	0.2	
Total	1473	99.92	99.96

Figure 7. Colours of beads from the Eastern Cemetery of Roman London divided by age group.

Worn and Unworn Colour Ratios

The highest proportion of beads (71.67%) were unworn at the Eastern Cemetery. Of these, blue formed the largest group (37.67%) followed by black (28.44%). Significantly less numerous were green, 3.19% and gold, 1.83%. Lastly, white comprised 0.54% of the sample. Colourless glass did not feature in the unworn sample. Within the worn beads, black was the predominant colour (13.17%) with blue forming 9.57% of the group as a whole. White and colourless glass are also within this group but green and gold are not.

Colour	Number of Beads	Percentage	
Worn	416		28.24
Black	194	13.17	
Blue	141	9.57	
White	80	5.43	
Colourless	1	0.06	
Unworn	1056		71.69
Blue	555	37.67	
Black	419	28.44	
Green	47	3.19	
Gold	27	1.83	
White	8	0.54	
Total	1472	99.9	99.93

Figure 8. Colours of beads from the Eastern Cemetery of Roman London divided into worn and unworn groups.

Dark and Light Tones

Dark tones are disproportionately represented in the Eastern Cemetery of Roman London with 91.85% compared to only 8.01% of light tones and a continuing marked distinction in the percentage of worn and unworn tones.

Tone	Number of Beads	Percentage
Dark	1353	91.85
Light	118	8.01
Unknown	2	0.13
Grand Total	1473	99.99

Figure 9. Quantities of dark and light beads from the Eastern Cemetery of Roman London.

Worn/Unworn	Number of Beads	Percentage	
Worn	416		28.24
Dark	335	22.74	
Light	81	5.49	
Unworn	1056		71.69
Dark	1018	69.11	
Light	37	2.51	
Unknown	1	0.06	
Unknown	1		0.06
Unknown	1		
Grand Total	1473	99.91	99.99

Figure 10. Quantities of dark and light beads from the Eastern Cemetery of Roman London divided by worn and unworn groups.

Colour Combinations per Grave

Within the graves of the Eastern Cemetery of Roman London the colour combinations of beads and associated artefacts remained limited. The most complex combination was three, which occurred twice. Interestingly, white only appeared when in these combinations.

The Lankhills Cemetery

Date Ranges

The majority (79.08%) of beads from Lankhills dated to 350-400 AD, with 15.96% dating to 300-350 AD and 4.94% determined to be post 401 AD, consistent with the duration of the Lankhills site.

Colour	50-100	101-150	151-200	201-250	251-300	301-350	351-400	Post 401	Unknown	Total
Black	0	0	0	0	0	0	0	1	0	1
Blue	0	0	0	0	0	60.5	520	1.5	0	582
Brown	0	0	0	0	0	0	5	0	0	5
Colourless	0	0	0	0	0	0	1	0	0	1
Gold	0	0	0	0	0	0	35.5	12.5	0	48
Green	0	0	0	0	0	92.5	430.5	63	0	586
Grey	0	0	0	0	0	0	1	0	0	1
Multi	0	0	0	0	0	0	5	0	0	5
Orange	0	0	0	0	0	26	117	0	0	143
Pink	0	0	0	0	0	0	2	0	0	2
Purple	0	0	0	0	0	0	0	0	0	0
Red	0	0	0	0	0	0.5	11.5	0	0	12
Silver	0	0	0	0	0	0	4	0	0	4
Unknown	0	0	0	0	0	0	5	0	0	5
White	0	0	0	0	0	0	1	0	0	1
Yellow	0	0	0	0	0	72.5	109.5	0	0	182
Total	0	0	0	0	0	252	1248	78	0	1578
Percentage	0	0	0	0	0	15.96	79.08	4.94	0	99.98

Figure 11. Bead colours from Lankhills Cemetery divided by date.

Colour Breakdown at the Lankhills Cemetery

Green comprises the most common colour within the Lankhills data totalling 37.13%. This is closely followed by blue (36.88%). There is however a significant reduction in the quantities of colour following this, with yellow equating 11.53%, orange 9.06%, gold 3.04% and red 0.76%. Whilst these colours may seem lightly represented their presence is significant when contrasted to the living context data, where red is not represented at all and yellow, orange and gold only marginally so. It is also striking that out of the three data sets, Lankhills alone shows evidence of all fifteen colour groups. Multi-coloured and brown beads equated 0.31%, silver 0.25% and pink 0.12%. Colourless, white, grey and black each represented 0.06%. Unknown colour types through colour degradation totalled 0.31%.

Colours	Number of Beads	Percentage
Green	586	37.13
Blue	582	36.88
Yellow	182	11.53
Orange	143	9.06
Gold	48	3.04
Red	12	0.76
Unknown	5	0.31
Brown	5	0.31
Multi	5	0.31
Silver	4	0.25
Pink	2	0.12
Colourless	1	0.06
White	1	0.06
Grey	1	0.06
Black	1	0.06
Total	1578	99.94

Figure 12. Quantities of bead colours from the Lankhills Cemetery.

Gender and Colour

No male skeletons have been positively identified with beads within the Lankhills data. Of the positively identified female burials, blue was the most highly represented colour (11.53%). Green (6.27%), orange (2.85%), yellow (2.4%) and finally gold (1.07%) were also associated with female burials. The higher proportion of unknown to known gender types means that

direct comparisons between male and female burials remains difficult. No colours were represented more by the female graves than by the unknown and as such it is unreliable to draw conclusions by comparative methods, beyond understanding which colours were definitely considered appropriate for use in female burials.

Colour	Number of Beads	Percentage	
Female	385		24.39
Blue	182	11.53	
Green	99	6.27	
Orange	45	2.85	
Yellow	38	2.4	
Gold	17	1.07	
Brown	1	0.06	
White	1	0.06	
Unknown	1	0.06	
Colourless	1	0.06	
Unknown	1193		75.6
Green	487	30.86	
Blue	400	25.34	
Yellow	144	9.12	
Orange	98	6.21	
Gold	31	1.96	
Red	12	0.76	
Multi	5	0.31	
Silver	4	0.25	
Unknown	4	0.25	
Brown	4	0.25	
Pink	2	0.12	
Black	1	0.06	
Grey	1	0.06	
Total	1578	99.91	99.99

Figure 13. Quantities of bead colours from Lankhills Cemetery divided by sex.

Age and Colour

Blue is the dominant colour within the infant range (7.47%). This is also reflected in the child group where it contributes 13.49%, however green is overall more common, equating to 14.32%. Yellow (8.74%), orange (4.50%) and gold (1.83%) were also evident. Small quantities of silver, multi-coloured, brown, black and grey are also apparent. The adolescent category provides a similar ratio with the small exception that orange exceeds yellow and red is also added to this group, whilst black, silver and grey are not present. A striking feature is the severe reduction of colour types in the young adult and adult groups, which only feature green and blue, both in modest quantities relative to the assemblage as a whole.

Colour	Number of Beads	Percentage	
Adolescent	680		43.09
Green	313	19.83	
Blue	223	14.13	
Orange	71	4.49	
Yellow	39	2.47	
Gold	19	1.2	
Red	10	0.63	
Unknown	1	0.06	
White	1	0.06	
Colourless	1	0.06	
Brown	1	0.06	
Multi	1	0.06	
Adult	67		4.24
Green	40	2.53	
Blue	27	1.71	
Child	697		44.16
Green	226	14.32	
Blue	213	13.49	
Yellow	138	8.74	
Orange	72	4.56	
Gold	29	1.83	
Unknown	4	0.25	
Silver	4	0.25	
Multi	4	0.25	
Pink	2	0.12	
Brown	2	0.12	
Black	1	0.06	
Red	1	0.06	
Grey	1	0.06	
Infant	128		8.11
Blue	118	7.47	
Yellow	5	0.31	
Brown	2	0.12	
Green	2	0.12	
Red	1	0.06	
Young Adult	6		0.38
Green	5	0.31	
Blue	1	0.06	
Total	1578	99.85	99.98

Figure 14. Quantities of bead colours from Lankhills divided by age group.

Worn and Unworn Colour Relationships

One of the defining criteria for Clarke in his initial excavations at Lankhills was the patterning of worn and unworn grave goods. There is a higher proportion of unworn beads within the sample and so this inevitably effects the quantities of colours present. However, spoti, the disparity between the groups, is still revealing as to the colours which were selected to be worn and those merely deposited. In the unworn sample, blue beads formed the larger category (23.89%), with green representing 22.05%, yellow 11.08% and orange 6.7%. Interestingly silver, grey and black were not represented at all in the unworn sample. Of the worn sample, green was the most numerous colour type (15.08%), with blue being secondary (12.99%), revealing an inversion of the unworn pattern. Examples of orange (2.34%) and yellow (0.44%) appear lower than the worn sample, but this again may be reflective of overall sample sizes. Colourless, pink and white beads are unknown from the worn sample. Interestingly, considering the proportional variability between the worn and unworn samples, gold, red and multi-coloured beads all provided higher percentages of worn than unworn beads.

Colour	Number of Beads	Percentage	
Worn	536		33.96
Green	238	15.08	
Blue	205	12.99	
Orange	37	2.34	
Gold	29	1.83	
Red	9	0.57	
Yellow	7	0.44	
Silver	4	0.25	
Multi	3	0.19	
Brown	2	0.12	
Black	1	0.06	
Grey	1	0.06	
Unworn	1042		66.03
Blue	377	23.89	
Green	348	22.05	
Yellow	175	11.08	
Orange	106	6.71	
Gold	19	1.2	
Unknown	5	0.31	
Red	3	0.19	
Brown	3	0.19	
Pink	2	0.12	
Multi	2	0.12	
Colourless	1	0.06	
White	1	0.06	
Total	1578	99.91	99.99

Figure 15. Bead colours from Lankhills divided by worn and unworn groups.

Dark and Light Tones

Lankhills shows a higher proportion of dark to light beads with 73.57% of the former and 26.04% of the later. This pattern is marked when compared to the Living sample, which shows a more equal balance between light and dark, with light beads actually occurring more frequently (54.01%). This distinction continues to be noticeable when further divided by worn and unworn criteria, yet also reveals significant relative differences in the percentages of dark and light tones in the worn group when directly compared to the unworn.

Colour	Number of Beads	Percentage
Dark	1161	73.57
Light	411	26.04
Unknown	6	0.38
Total	1578	99.99

Figure 16. Dark and light toned beads from the Lankhills Cemetery.

Worn/Unworn	Number of Beads	Percentage	
Worn	536		33.96
Dark	451	28.58	
Light	85	5.38	
Unworn	1042		66.03
Dark	710	44.99	
Light	326	20.65	
Unknown	6	0.38	
Grand Total	1578	99.98	99.99

Figure 17. Dark and light toned beads from Lankhills divided by worn and unworn groups.

Colour Combinations per Grave

The combinations of colours presented in graves at Lankhills are very complex with a high proportion of multi-coloured grave goods. Of these, eight colours were the most complex, which occurred once as well as eight occurrences of four or more colour combinations.

Grave	Black	Blue	Colourless	White	Red	Yellow	Green	Purple	Pink	Orange	Silver	Gold	Unknown	Multi	Brown	Grey	Combination	Total
40	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Blue Yellow	2
63	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Red	1
100	N	Y	N	N	N	Y	Y	N	N	N	N	Y	N	N	N	N	Blue Yellow Green Gold	4
110	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Blue Red	2
117	N	Y	N	N	N	N	Y	N	N	Y	N	N	N	N	N	N	Blue Green Orange	3
183	N	Y	N	N	N	Y	Y	N	N	Y	N	N	Y	N	N	N	Blue Yellow Green Orange	5
188	N	Y	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	Blue Yellow Green	3
199	N	Y	N	N	Y	Y	Y	N	N	N	N	Y	N	N	N	N	Blue Red Yellow Green Gold	5
250	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Green	1
323	N	Y	N	N	N	Y	Y	N	N	Y	N	Y	N	Y	N	N	Blue Yellow Green Orange Gold Multi	6
326	N	Y	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Blue Green	2
333	Y	Y	N	N	N	N	Y	N	N	N	N	Y	N	N	N	N	Black Blue Green Gold	4
336	N	Y	N	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y	Y	Blue Yellow Green Orange Silver Multi Brown Grey	8
337	N	Y	N	N	N	Y	Y	N	N	Y	N	N	N	N	N	N	Blue Yellow Green Orange	4
351	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Black Green	2
438	N	N	N	N	N	N	Y	N	N	Y	N	N	N	N	N	N	Green Orange	2
450	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	N	Green Brown	2
920	N	Y	N	N	Y	Y	Y	N	Y	Y	N	N	N	Y	N	N	Blue Red Yellow Green, Pink Multi	6
985	N	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	N	Y	N	Blue Colourless White Green Brown	6
1071	N	Y	N	N	N	Y	N	N	N	Y	N	N	N	N	N	N	Blue Yellow Orange	3

Figure 18. Colour combinations of beads and associated grave goods from Lankhills.

Discussion

Beads in Living Context

The high density of blue and green beads in the living context is symptomatic of varying factors. Glass produced without the addition of colouring pigments or chemicals elicits a light green blue tone, referred to as natural green blue or NGB and so without any adulteration falls in to the green/blue category. However, this is only a partial and perhaps not wholly persuasive argument because within the living context only five beads were catalogued as NGB. A far higher proportion of beads were of darker toned hues, such as cobalt blue or bottle green. In Roman Britain recycled bottle glass was used frequently for both new vessels and decorative items, and this is likely to be a significant factor in the levels of green and blue beads present in this group.

The final significant consideration in the prevalence of blue in the living sample is the large number of blue glass or turquoise gadroon/melon beads present. Melon beads commonly, made of turquoise faience-style material, but also found in black and dark blue glass, are by far the most numerous bead type in the living sample. The appearance of these melon beads within military contexts has raised the possibility of their use on horse harnesses. However, their purpose is complicated by their discovery across very different contexts including civilian settlements and burials.³¹ The glass working centre of Basinghall Street where melon beads of different sizes indicates use by both humans and equines exemplifies this.³² Turquoise was categorised as blue and so contributes in a large degree to the ratios under discussion. It is interesting to note however that they appear rarely in the burial contexts and when they do are only represented in dark blue or black glass.

It appears then that blue and green beads would have been most commonly worn and seen by the people of Roman London and they are colours associated with sky and vegetation. Turquoise and NGB are also light colours that would have been bright and easy to notice against skin and textiles. The levels of light and dark colours in the sample shows a preference for the former. However, eleven black beads were also recorded from the living context in a chronological distribution which indicates that they were in circulation

throughout the first to fifth centuries, and it is understood that jet and shale items became particularly fashionable in the third to fourth centuries.³³ Jet was believed to possess magical attributes due the curious electrostatic properties it exhibited and it became associated with female medicinal treatments. Beyond the fashionable and superstitious properties of jet, however, the colour black itself is one which produces contrasts. In Iron Age traditions, amber and jet are considered symbolic of life and death, with the warm light-infused colour of amber representing life and jet emblematic of death.³⁴ This characterisation may have continued in later periods with, black glass, shale or jet used to contrast with other colours and so form a strong visual symbol.

There are very few warm-toned colours present in the living context data. Yellow appears only once, orange three times and red not at all. The orange group contains amber and the aforementioned warm and life-giving associations it imbues; however, it appears to be rare. Amber only appears once in the living context, within a ditch containing two human and one canine skeletons. As such, this bead cannot be free of ritual implications. There are no red beads in the assemblage, a colour connected heavily to blood and religious practices. It is possible that red was not as widely displayed in the living sphere in bead form, although within enamelling it is known.

The Eastern Cemetery of Roman London Data

Colour Patterns Across the Site

The date range analysis of the Eastern cemetery indicates a high proportion of beads in the 251-300 AD bracket, with slightly lower but still high levels between 301-400 AD. The limited range of colours at the Eastern cemetery is perhaps most striking, especially when contrasted with the living data. Only seven colours are represented at the Eastern Cemetery, as opposed to twelve from the living range. Across the site as a whole, blue was the most frequent colour of bead, yet surprisingly black was almost equivalent, which is notable when compared to the number of black beads in the living sample. Also, white beads outnumbered green, which are very frequent in the living data. The combination of relatively high numbers of black and white beads produces obvious symbolic associations with night and day, or life and death. The darkness of the ground, coffin or tomb also contributes to these connections and when placed in combination, the contrasting of white and black produces a dualism and a visually striking appearance for mourners. There is also a significant number of gold beads, which implies a degree of opulence and wealth as well as symbolism with sunlight.

Colour Patterns Relative to Sex

When studying the relationship between colour and sex at the Eastern Cemetery there exists a distinct contrast between those colours provided for women and those for men. Female graves have a high proportion of blue beads, which is perhaps unremarkable when considering the high degree of blue beads present across all of the data sets. Black beads were included in the female sample, however these formed only a small ratio when contrasted with the male group. Unlike the male burials, female graves were provided with gold beads. It appears that women were generally provided with colours representing aspects of the living sphere, such as the sky and sun. In contrast to this, male burials produced a high proportion of black beads, approximately three times the number of blue. Colour variation in beads from male burials was limited and ultimately consisted of a colour triad of blue, black and white. White is significant here as it does not appear in the female sample and, as mentioned previously, when placed in contrast with black suggests an intentional aesthetic choice. Significantly, the unsexed graves show a similarly high proportion of blue and black beads, indicating that whatever trends were occurring within the sexed graves may be applicable across the site and not restricted to the limited sample under discussion.

The high levels of black, in the form of jet, in male burials requires further discussion. As previously mentioned, jet and shale are generally associated with women, to the extent that the discovery of a male skeleton from Catterick possessing shale jewellery, was determined to be a transvestite, possibly a castrated priest from the cult of Cybele.³⁵ In the Eastern Cemetery, five male skeletons possess jewellery (burials 206, 291, 452, 612, and 652). Of these, three contain shale goods, including shale bracelets, beads and two pendants, one representing a Medusa head. The problematic nature of associating gender with grave goods or determining a person's identity through gendered associations is manifest here. It is possible that the male burials with 'feminised' associated artefacts represent the burials of individuals who were in some way defined by what were considered female traits. However, what these 'feminised' characteristics may have consisted of and whether they were well defined or more ephemeral remains obscure. A logical extension of this approach could be the suggestion that the low numbers of adult females buried at the Eastern Cemetery resulted in high levels of males with feminine artefacts, and specifically that the absence of women in a society may facilitate a fluidity of gender in order fill these roles. Whilst these avenues of interpretation may be interesting, they rely on the premise that firstly artefacts are inherently gendered items, secondly that these gendered artefacts retain the same significance after death and finally that gender itself is a formalised construct. As such, these propositions appear problematic and unsatisfactory.

At the Eastern Cemetery jet was also found in several female graves and within the unsexed burials, suggesting that, at least in this context, the symbolic relevance of jet was one of human concern rather than gendered. It is possible that the symbolic connotations connecting the colour black with death may have been the primary motivation for the inclusion of jet in burials. This hypothesis appears to be supported by the presence of jet Medusa head pendants in both male and female burials. Medusa iconography is posited as representing the uncertainty of death which obviously represents a universal human concern rather than one specific to a particular gender.³⁶

Colour Patterns Relative to Age

When subdivided by age, the colour patterns evident in the Eastern Cemetery burial data prove enlightening. Significantly, the number of children provided with beads is fractional in relation to the dataset as a whole. However, within this group black is the most numerous, followed by blue, reflective of wider trends across the site. In contrast to this, young adults appear to be the best provisioned with beads. The low numbers of children and infants, yet high proportion of beads in young adult graves seems suggestive of a defined change in the burial customs afforded to individuals of this age. Interestingly, young adults are also the only group furnished with gold beads, which further contributes to the impression of a well-provided-for group of people. Gold is emblematic of wealth and opulence and symbolises the life-giving properties of the sun. It appears then that whilst following the general trend of the living sphere, with large numbers of blue beads, there is a degree of conscious action inherent in the high numbers of black and the presence of gold in the group. The adult group shows a similar pattern with high levels of blue and black but with the addition of white, which as mentioned previously, indicates a degree of definitive aesthetic action in order to accent darker colours. The mature adult group is in contrast poorly equipped and shows only a fractional percentage of green beads, indicating that the considerations afforded to the young adult and adult groups were not continued into later life.

Colour Patterns in Worn and Unworn Groups

Black and then blue form the most numerous colours among worn beads with the interesting addition of white. The presence of white in this combination would have produced a strong visual image, perhaps symbolic of life and death. The intentional display of white in the worn

category is emphasised by the very low levels of it in the unworn group, which instead exhibits increased quantities of green. The difference in the levels of black in both groups also suggests that black was specifically selected to be worn by the deceased during burial.

Dark and Light Colours in the Assemblage

Perhaps the most significant consideration of the Eastern Cemetery bead data is the proportion of dark to light beads present at the site. Ninety-one percent of beads were dark, and this vast disparity shows that conscious choices were very likely being made as to aesthetic elements of display featured during funeral rituals. When subdivided by worn and unworn types, dark colours significantly outweigh light in both spheres. The disparity in dark and light colours cannot be attributed to an accident or convenience alone and instead suggests that colour, its symbolic associations and visual attributes, were part of the wider sensory experience inherent in burial practices at the Eastern Cemetery.

Colour Symbolism in Beads from the Eastern Cemetery of Roman London

To summarise, it appears that the high level of dark beads present in the Eastern Cemetery of Roman London represents decisive action whereby black was considered appropriate for use in the funeral rituals for both men and women which extends beyond the gendered connotations of jet and shale discussed. There is a degree of continuity in colour use across the age ranges, however young adult and adult groups are provisioned with greater quantities of beads and in the former, gold. There appears to be a determined use of black within what is a limited colour palette indicating that mourners chose to use black in their mourning rituals as a distinctly sombre colour that resonated with death, whilst appreciating the contrasting light properties of white and gold.

The Lankhills Cemetery Data

Colour Patterns Across the Site

One of the most significant characteristics of the Lankhills data in comparison to both London datasets is the varied proportion of colours present. Lankhills was the only site to represent all thirteen colour categories. Blue and green beads were the most common, however high levels of yellow, orange and gold were also present. It is also interesting that there is a higher level of green in the group than blue, which has previously been most numerous at the other sites. These colours all represent what could be termed 'living' symbols, i.e. sun, vegetation and sky. The high percentage of orange in this sample is in part the result of amber and coral beads. Coral is a living organism and its presence in this sample further emphasises representations of the living world in the Lankhills data. There are also examples of tooth, carnelian, emerald, pearl and bone beads present in this data. Pliny was aware that the colours which decorated much of the Roman world were extracted from the earth and his disdain for many of these practices is evident in his writings.³⁷ How widespread this perspective was is difficult to estimate. However, it is interesting to consider that beads, symbolic of the living world and originally from the earth, would be placed back into the soil during burial, a symbolism paralleled in returning a once living body to the earth.

Colour Patterns Relative to Sex

Gender associations in the colour groupings at Lankhills are difficult to quantify because no confirmed males have been found in association with beads. However, it is possible to determine which beads were considered appropriate for female burials and these were overwhelmingly blue and green. As previously noted, blue is significant as being associated with the sky and so the living sphere, whereas green is associated with life and vegetation. It is perhaps an inescapable fact that blue and green were popular colours in the living world

due to the quantities of bottle glass available and this is also reflected to a point in the burial data, with high levels of blue at all sites and high levels of green at Lankhills. However, this also strengthens the importance of the other colour choices that were made and indicates a greater degree of selection than mere obtainability.

Colour Patterns Relative the Age

There exists a high proportion of children with grave goods at Lankhills; this is in direct contrast to the evidence from the Eastern cemetery where no infants were found with beads and only a small number of children. At Lankhills the largest number of beads were present in the child range and the infant group also contained a relatively high proportion. It is interesting to note that the living colours previously mentioned (yellow, gold and orange) only appear in infant, child and adolescent groups. This could be symbolic of the life-giving properties of the sun being especially relevant to those who were considered to have died early and who may still in part belong to the living world. In contrast, adults are only provided with green and blue beads. Interestingly there is only one black bead, which is in strong contrast to the evidence from the Eastern Cemetery and indicates that whatever collective decisions were made at sites, they were not necessarily applicable to wide areas and were to a degree localised and esoteric.

Colour Patterns in Worn and Unworn Groups

There appears to be little distinction between worn and unworn colours at Lankhills with similar quantities of colour types in each group, possibly with the distinction of one black bead being in the worn category, a tiny but possibly informative distinction, witnessed earlier at the Eastern cemetery. Worn beads parallel wider unworn trends in the data with blue, green and orange remaining popular.

Dark and Light Colours in the Assemblage

There is a correlation between dark and light beads at Lankhills; however, the numbers of dark beads are significantly higher. A pattern emerges when these are subdivided in to worn and unworn groups with a significant number of dark to light beads. Whilst this could be representative of the overall proportions of dark and light beads, it does serve to illustrate the display mourners would have witnessed—that worn ornaments were likely to have been dark whilst lighter articles may have accentuated this darkness.

Colour Symbolism in Beads from the Lankhills Cemetery

Overall, Lankhills represents a site of complex colour display and so too possible symbolism. Minimal amounts of black contrasts with the Eastern Cemetery data, indicating that the apparently universal association of black and death was not adhered to at Lankhills. Instead, there is a wealth of beads symbolising life, light and the natural world. Green and blue remain particularly common, paralleling what is known from the London sites. Gender distinctions within colour patterns are difficult to estimate at Lankhills due to the lack of known male burials with beads (an interesting feature in itself) however, blue and green beads were certainly considered suitable for female burials. Adolescents and children are given the greatest quantity of beads which may correlate with a wider superstitious belief that children were furnished with more grave goods in order to represent an unfulfilled life, or even a dowry in the case of females.³⁸ If so, this ideology does not seem to extend to the Eastern Cemetery with relation to beads. The quantities of colours expressed at Lankhills seem surprising when contrasted with evidence from the Eastern cemetery, which appears altogether subtler. However, if the children at Lankhills were provided with the largest density of colourful beads, in order to symbolise life, this may also explain the high quantities of dark beads in the Eastern Cemetery, which reflects a larger adult demographic.

Conclusions

The above research reveals the deliberate selection by mourners of certain colours to be displayed during burial ritual. The varying colours present in both the Eastern Cemetery of Roman London and the Lankhills Cemetery betray localised and, to an extent, independent choices, which are only partially reflective of wider trends in bead colours of the period. The sombre colour range of the Eastern Cemetery, indicative of the universality of death, is contrasted with the bright and varied colours of Lankhills, which appears to symbolise aspects of the living world to a far greater degree. These patterns are partly reflective of the individuals buried at the site, specifically children, but are also representative of localised symbolic colour relationships.

This research was conducted with the intention of highlighting the possibilities for the study of colour in the archaeology of literate societies. Colour, in combination with other sensory stimuli, can provide new avenues of interpretation through which to realise more fully the actions of past peoples. However, it is understood that this methodology should not generally be used in isolation and it should instead be applied within a composite research approach. The decision to use colour symbolism independently of other methods in this research was made predominately to highlight the scope for interpretive analysis that it affords. It is recognised that a broader understanding of the burials under discussion could have been achieved with a diversified approach, however it is hoped that this work merely serves as the basis for further discussion and investigation and illustrates the potential benefits of understanding colour within a sensory perspective.

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Biography

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