

ColourTurn 2018

An Interdisciplinary and International Journal



## VII. Colour in Culture and Society

### Radiant Things for Gods and Men: Lightness and Darkness in Mesopotamian Language and Thought

*Shiyanthi Thavapalan*

#### Abstract

The terminology for brightness – characterising light-emission (dazzling, shining, glowing), reflectivity (shiny, lustrous, matt), surface illumination (well- or poorly-lit), space illumination (brilliant, dim), transparency (transparent, translucent) – constitutes an important, yet poorly studied aspect of ancient Near Eastern colour vocabularies. This is because in most modern European languages, as in English, the meaning of colour words focuses primarily on hue (e.g. red, blue). However, research conducted since the late twentieth century has demonstrated that different speech communities divide colour space differently. Many incorporate non-chromatic aspects like luminosity, transparency, the contrast between wetness/desiccation, patterns and even psycho-emotional values into the concept **COLOUR**. Moreover, it seems that certain basic hue categories that are so familiar to us, **YELLOW**, **GREEN** and **BLUE** for instance, are neither universal nor ancient. Drawing on written sources from the late Bronze and early Iron Ages, this article provides an overview of the Akkadian vocabulary for brightness. Many of the colour words in this language describe the behaviour of light – as it interacts with various surfaces and when it reaches the eye. Realising that the origins of colours in ancient Mesopotamia are found in the idea of brightness is essential, it is argued here, for understanding religious thought and also for appreciating for colour as an aesthetic and rhetorical feature of the literature, art and architecture produced by this culture.



**Dr. Shiyanthi Thavapalan**  
 Department of Egyptology and  
 Assyriology  
 Brown University, United States  
*shiyanthi\_thavapalan[at]brown.edu*

## Language, thought and cuneiform mentalities: colour in Akkadian

Akkadian is an east Semitic language that was spoken by the ancient Babylonians and Assyrians in what is modern Iraq and

its periphery. Texts written in this language first appear around 2350 BCE and continue until the first century AD. As a spoken language, Akkadian probably died sometime around the mid-first millennium BCE. It is one of the many languages in this region that was written in cuneiform script. Cuneiform writing is preserved on clay tablets as well as on surfaces made of stone, metal and other materials.

In many of the languages of the ancient Near East that were spoken in the Bronze and Iron Ages, there is no abstract word for ‘colour’<sup>1</sup>. In Akkadian, it is not possible to ask ‘what colour is X-substance or Y-object?’. Neither is there a grapheme, such as a determinative, to mark **COLOUR**<sup>2</sup> as a distinctive cognitive category<sup>3</sup>. What is also missing are Akkadian treatises that explain how speakers of this language understood the nature of colour and its significance in their society. Did they consider it an immutable part of colourful substances like stones and metals? Did they think it could vary when subjected to certain forces like heat or light? Were some colours more important than others? Such questions are neither asked nor answered explicitly in the extant Akkadian written documents.

<sup>1</sup> This is not to say that these languages did not have words for designating individual colours or words that could be translated as ‘colour(ed).’

<sup>2</sup> This article makes use of a set of signs and conventions for colour semantics partly established in Biggam 2012: **BOLD CAPITALS**: e.g. **RED**, indicates the concept, as opposed to the form of a word used in a particular speech community. **CAPITALS**: e.g. **GE**, indicates colour words in the Sumerian language. *Italics*: e.g. *sāmu*, indicates colour words in the Akkadian language. **-(hyphen)**: e.g. yellow-green, indicates an equal mixture of both hues. **/(slash)**: e.g. yellow/green, indicates the range of colours that may be denoted by either hue (in this case, shades of yellows, greens as well as a mixture of both). **+(plus)**: e.g. red + shiny, indicates a colour category in which both features are combined and inseparable, but that do not form a macro-category.

<sup>3</sup> But other categories such as ‘wood and wooden objects,’ ‘stone and stone objects,’ ‘birds’ and ‘places’ are distinguished by determinatives that are placed either before or after the term.

This apparent lack of interest in defining the nature of **COLOUR** coupled with the absence of a lexical expression for it has led to the general assumption that colour was not a meaningful concept in the cuneiform world and that, perhaps consequently, Akkadian has a rudimentary and indefinite colour vocabulary<sup>4</sup>. Further support for this view has been lent by ethnographic studies conducted on the colour languages of premodern societies in the twentieth century and the publication of Brent Berlin and Paul Kay's influential *Basic Color Terms* in 1969. The thesis of this seminal work, which has influenced the course of colour research for the last half century, was that all languages acquire terms for more or less the same number of 'basic' colours in a fixed, 7-stage evolutionary sequence.

STAGE I	STAGE II	STAGE III	STAGE IV	STAGE V	STAGE VI	STAGE VII
<b>BLACK</b> and <b>WHITE</b>	+ <b>RED</b>	+ <b>GREEN</b> or <b>YELLOW</b>	+ <b>YELLOW</b> or <b>GREEN</b>	+ <b>BLUE</b>	+ <b>BROWN</b>	+ <b>PURPLE</b> and/or <b>PINK</b> and/or <b>ORANGE</b> and/or <b>GREY</b>

Table 1. The sequence of color category acquisition (1969)

Although Berlin and Kay's study set out to explain colour semantics in present-day spoken languages, their model for colour naming has been adopted for investigations of 'dead' ancient languages as well. To the historians of the ancient world, three aspects of the Berlin and Kay hypothesis are of particular significance.

- First is the prioritisation of abstraction as a means for determining which colours were important in a particular society.

<sup>4</sup> E.g. Benno Landsberger, 'Über Farben im Sumerisch-Akkadischen,' *Journal of Cuneiform Studies* 21 (1967): 139–173; Samantha Foulger, 'Die Grundfarben im Sumerischen,' (MA Thesis, University of Bern, 2006).

This has led to the misconception that Akkadian has just four primary colour words and that these were white (*peṣû*), black (*ṣalmu*), red (*sāmu*) and yellow-green (*arqu*)<sup>5</sup>. What is also misleading is the supposition that colour words that take their meaning from concrete substances, like lapis lazuli and silver, were secondary on the level of language and were therefore less important. But as Warburton and others have demonstrated, the movement of gemstones, metals, pigments, dyes, glass and faience and also the exchange of ideas about these substances were key to the process of abstraction in colour language<sup>6</sup>.

- Second, Berlin and Kay also suggested that the number of *Basic Color Terms* (BCTs) in a language correlates to the cultural and technological development of that society. Having only four BCTs positions Akkadian at Stage IIIa/b of the universal evolutionary model. In Berlin and Kay's view, languages at Stage III and lower were 'spoken by people with small populations and limited technology, located in isolated areas.'<sup>7</sup>

This is hardly a credible portrait of Mesopotamia in the second and first millennia BCE. On the contrary, the development of the Akkadian colour terminology was very clearly influenced by technologies and artistic traditions that sought to produce and manipulate the visual qualities of colourful substances in the physical world. Painting, metallurgy, glazing, glass-making/-working and dyeing are but a few

---

<sup>5</sup> Landsberger's *Grundfarben* in Landsberger, 'Über Farben'.

<sup>6</sup> David A. Warburton, 'The Theoretical Implications of Ancient Egyptian Colour Vocabulary for Anthropological and Cognitive Theory,' *Lingua Aegyptia* 16 (2008): 213–259; David A. Warburton, 'Basic Color Term Evolution in the Light of Ancient Evidence from the Near East,' in *Anthropology of Color. Interdisciplinary Multilevel Modeling*, ed. Robert E. MacLaury, Galina V. Paramei, and Don Dedrick (Amsterdam and Philadelphia: John Benjamins Publishing Co., 2010), 229–246; David A. Warburton, 'Colourful Meaning: Terminology, Abstraction and the Near Eastern Bronze Age,' in *Excavating the Mind: Cross-Sections Through Culture, Cognition and Materiality*, ed. Helle J. Jensen, Mads Jessen, and Niels Johannsen (Aarhus: Aarhus University Press, 2012), 183–208; Shiyanthi Thavapalan, 'The Meaning of Color in Ancient Mesopotamia,' (PhD diss., Yale University, 2017).

<sup>7</sup> Brent Berlin and Paul Kay, *Basic Color Terms: Their Universality and Evolution* (Berkeley and Los Angeles: University of California Press, 1969), 16.

examples of efforts at ‘practicing colour’ that in turn lent meaning and value to colour words, both abstract and concrete.

- A third feature of the Berlin and Kay model that has consequences for ancient historians is their highly Anglocentric understanding of colour. What Berlin and Kay call ‘colour’ words are essentially terms for hues (e.g. red, blue).

Within the context of modern English, the concept **COLOUR** can be defined in terms of hue, tone and value. Colour words in English and other modern European languages refer almost exclusively to hue, while other qualities are indicated through the use of adjectives: e.g. pale blue, dark red, bright white. But as ethnolinguists have pointed out, such a characterisation is not appropriate for many of the world’s spoken and dead languages. Other colour systems embrace features like edibility, glossiness, fluctuation or surface texture – criteria that are irrelevant for defining English, French or German colour words, for instance. The earliest investigations in colour semantics were driven toward finding word-to-word correspondences between ancient terminology and English. The result was a clear failure, which led to the question of whether or not perception and colour naming among our ancestors differs from what it is today. For a long time, it was thought that the speakers of ancient languages without abstract words for **BLUE** or **YELLOW**, for instance, were insensitive<sup>8</sup> to these hues. The majority of Akkadian colour words describe the behaviour of

---

<sup>8</sup> Either that they were colour blind or that they did not pay attention to them. Take, for instance, this evaluation of the colour awareness of Semitic language-speakers by a nineteenth century Assyriologist Franz J. Delitzsch (1850-1922): ‘They certainly knew of the “blue” colour of the sky, but it is also true to say, that they took no further interest in the matter: their language could not provide them with any expression for it. The Semite’s perception of the upper blue half of the spectral colours never developed, and so he never felt at home with it. White and black, red and yellow, or even green are listed by them as “sky colours” but “blue” never figures in this variety of random naming. Only very occasionally, an indirect use has been noted.’ See Franz J. Delitzsch, ‘Der Talmud und die Farben,’ *Nord und Süd* 5 (1878): 254–267, 263. Writing some seventy years later, Landsberger spoke of ‘*Blaublindheit*’ and ‘*Gelbblindheit*’ among speakers of Akkadian and ancient Hebrew in the very first page of his seminal essay. See Landsberger, ‘Über Farben,’ 139.

light as it interacts with various surfaces and when it reaches the eye<sup>9</sup>. And yet, because of our culturally skewed understanding of **COLOUR**, words that characterise light-emission (e.g. dazzling, shining, dark), reflectivity (e.g. shiny, matt), surface illumination (e.g. well- or poorly-lit) and space illumination (e.g. brilliant, dim) are poorly studied. Many aspects of Berlin and Kay's experimental methodology, theoretical framework and conclusions have been challenged since the initial 1967 publication. But one thing most post-Berlin and Kay colour studies acknowledge is that while the individual particularities of languages are a fact, there also seem to be certain universal trends in the development of colour terminology across diverse speech communities<sup>10</sup>.

### **Brightness as an aspect of colour**

Brightness has long been recognised as an important and old property of colour in many societies. The man who initiated the study of ancient colour semantics, William E. Gladstone (1809-1898), realised that the language of colour in the *Iliad* and *Odyssey* has more to do with darkness and lightness than with distinctive hues<sup>11</sup>. Much of Gladstone's work, which probed the relationship between colour cognition and colour naming, was influenced by the experiments on vision conducted by a contemporary of his, the German ophthalmologist Hugo Friedrich Magnus (1842-1907). Magnus had proposed that human beings' ability to perceive colour developed gradually – what was initially a sensitivity to luminosity evolved into the capacity to distinguish between hues of various levels of intensity<sup>12</sup>. Utterly

---

<sup>9</sup> Thavapalan, 'The Meaning of Color in Ancient Mesopotamia'.

<sup>10</sup> Paul Kay and Chad K. McDaniel, 'The Linguistic Significance of the Meanings of Basic Color Terms,' *Language* 54 (1978): 610–646; Barbara Saunders, 'Revisiting Basic Color Terms,' *Journal of the Royal Anthropological Institute* 6 (2000): 81–99; Don Dedrick, 'Colour Language, Thought and Culture,' in *The Routledge Handbook of Language and Culture*, ed. Farzad Sharifian (New York: Routledge, 2015), 270–293.

<sup>11</sup> William E. Gladstone, *Studies on Homer and the Homeric Age. 3 Volumes* (Oxford: Oxford University Press, 1858); William E. Gladstone, 'The Color-Sense,' *Nineteenth Century* 2 (1877): 366–388.

<sup>12</sup> The four stages presented in *Die geschichtliche Entwicklung des Farbesinnes* (1877) are as follows: **Stage 1**: highly intense or luminous colors (*lichtstarke Farben*). **Stage 2**: distinction between **RED** and **YELLOW**. **Stage 3**: medium intensity colors

convinced by Magnus's evolutionary model for vision development in human beings, Gladstone wrote 'The Colour-Sense' in 1877. There, he applied Magnus' typology for modelling vision capacity to his research on the ancient Greek colour lexicon to arrive at the conclusions that Homer only recognised **LIGHT**, **DARK**, **RED** and perhaps **ORANGE** as colour categories. The concept of brightness, according to him, was key to understanding ancient ideas about colours: 'I find that the more we treat, as a general rule, what are apparently his words of colour as quantitative expressions of light or its opposite, the nearer do we come to the establishment of harmony and coherence in his terminology<sup>13</sup>.' Although Gladstone's work is often cited as misguided expressions of nineteenth century biological determinism in scholarship today, his ideas may also be seen as the precursor to linguistic relativism<sup>14</sup>.

The primacy of brightness as a feature of early colour systems was also recognised in parallel fields of philological inquiry. In his 1899 study of Old English colour terminology, William E. Mead drew attention to the variety of terms describing lightness and darkness that existed in Anglo Saxon poetry<sup>15</sup>. 'When we take out these two groups of words,' he observed, 'we have comparatively little color left. We may not very inaptly describe Old English religious poetry as a series of studies in black and white, or, rather, darkness and light, the darkness applying to hell and devils, and the light, to heaven and angels and saints<sup>16</sup>.' In the end, Mead chose to distinguish such terms, which

---

(*Farben mittlerer Lichtstärke*) such as shades of green. **Stage 4:** low intensity colors (*Farben geringer Lichtstärke*) such as blues and violets, were perceived.

<sup>13</sup> Gladstone, 'The Color-Sense,' 370. His study of the word *phorphureos*, generally understood as 'violet', led him to the following conclusion: 'Upon examining this remarkable phrase in its several applications, I think it is clear— (a) That in many cases the idea to be conveyed is undeniably that of darkness. (b) That in no one case can we positively affirm it to be a colour-epithet, as contradistinguished from a light-epithet'. See William E. Gladstone, 'The Color-Sense,' 374.

<sup>14</sup> Nancy P. Hickerson, 'Gladstone's Ethnolinguistics: the Language of Experience in the Nineteenth Century,' *Journal of Anthropological Research* 39 (1983): 26–41.

<sup>15</sup> He counted over 800 instances where words for light or brightness were used and 448 instances when words for darkness was used. See William E. Mead, 'Color in Old English Poetry,' *Publications of the Modern Language Association of America* 14, no. 2 (1899): 169–206, 174 f.

<sup>16</sup> Mead, 'Color in Old English Poetry,' 175.

according to him are ‘in the strictest sense colorless’, from what he called ‘genuine color words.’ This led to discussions about how colour should be defined in the context of Old English, what exactly Mead meant by ‘brightness’ and if he was justified in differentiating the two terms on the level of language. Decades later, L.D. Lerner continued Mead’s line of inquiry to conclude that, ‘[a] study of Anglo-Saxon color words in their contexts will show, I think, that the authors were much more interested in brightness than we are<sup>17</sup>.’ Lerner rightly observed that this explains why so many Old English colour words cannot be adequately translated with modern terms. *Brun*, used to describe metal flashing in the sunlight, is not ‘brown’, although the two words are etymologically connected. Subsequent studies have suggested that colour terms gradually shifted from brightness to almost exclusively hue concepts between the Old (ca. 600-1150) and Middle English periods (ca. 1150-1500)<sup>18</sup>.

### **Brightness in Akkadian**

Seeking the meaning of **BRIGHTNESS** in Mesopotamia involves assembling the lexicon of indigenous terms used to talk about this concept. Only then are we in a position to understand the artefacts and value systems produced by this culture. An examination of Akkadian colour words reveals that they describe varying levels of brightness, hue and saturation. As a whole, we may break down the colour system in the following manner<sup>19</sup>.

---

<sup>17</sup> Laurence D. Lerner, ‘Colour Words in Anglo-Saxon,’ *The Modern Language Review* 46 (1951): 246–249, 247.

<sup>18</sup> According to Casson, ‘[h]ue was only minimally conceptualised in Old English, and did not become salient in conceptualisations of color until the Middle English period (ca.1150-1500). The set of Old English terms that evolved into English basic color terms followed the same pattern: they were predominantly brightness terms in the Old English period and almost entirely hue terms in the Middle English period.’ See Ronald W. Casson, ‘Color Shift: Evolution of English Color Terms from Brightness to Hue,’ in *Color Categories in Thought and Language*, ed. Clyde L. Hardin and Luisa Maffi (Cambridge: Cambridge University Press, 1997), 224–239, 224.

<sup>19</sup> This typology has been adapted from Robert E. MacLaury et al., ‘From Brightness to Hue: An Explanatory Model of Color-Category Evolution’, *Current Anthropology* 33 (1992): 137–186; Ronald W. Casson, ‘On Brightness and Color Categories: Additional Data,’ *Current Anthropology* 33 (1992): 395–399 and Casson, ‘Color Shift: Evolution of English Color Terms from Brightness to Hue’.

**PURE-BRIGHTNESS** terms (Type 1): these refer exclusively to various kinds and degrees of lightness and darkness. In modern English, such terms generally function as adjectives, qualifying hues (e.g. dark red, dull green). In Akkadian, by contrast, lightness and darkness terms are verbal, stand-alone, abstract colours. According to Carol P. Biggam's analysis of **BRIGHTNESS** as a colour category and my own investigation of the Akkadian material, this larger concept describes several kinds of phenomena as light interacts with objects. In order to present precise and consistent translations of the ancient words, I propose to employ a set of standard terminology, given below (The Akkadian is given in italics)<sup>20</sup>:

- Light-emission: dazzling (*namru*) - shining (*ḥelû*) - glowing - dark (*eklu*)
- Reflectivity: shiny - lustrous (*ebbu*) - dull (*eklu*)
- Surface illumination: well-lit - poorly lit
- Space illumination: brilliant (*namru*) - dim (*eṭû*) - unlit
- Transparency: transparent - translucent (*ḥelû*)

**Brightness-dominated** terms (Type 2): these focus on specific hues but nonetheless primarily denote a level or kind of brightness. As with 'amber' or 'silver' in English, it is not always possible to distinguish semantically between brightness and hue with terms that fall into this category. Almost all of the colour terms that take their names from precious stones (e.g. *uqnû* 'lapis lazuli') and metals (e.g. *hurāṣu* 'gold') are Type 2 colour words.

**Hue-dominated** terms (Type 3): these tend to focus on hue and secondarily denote a level of brightness and/or saturation. Examples of this in Akkadian include *barmu* 'multicoloured+versicolored' and *pelû* 'light+orange/red'.

**Saturation-dominated** terms (Type 5): these describe the level of purity of the hue and they likewise indicate the nature of the hue and/or the level of brightness. For instance, *sāmu* is 'vivid+red' and *arqu* 'pale+yellow/green'.

---

<sup>20</sup> Adapted from Carol P. Biggam, *The Semantics of Colour: A Historical Approach* (Cambridge: Cambridge University Press, 2012).

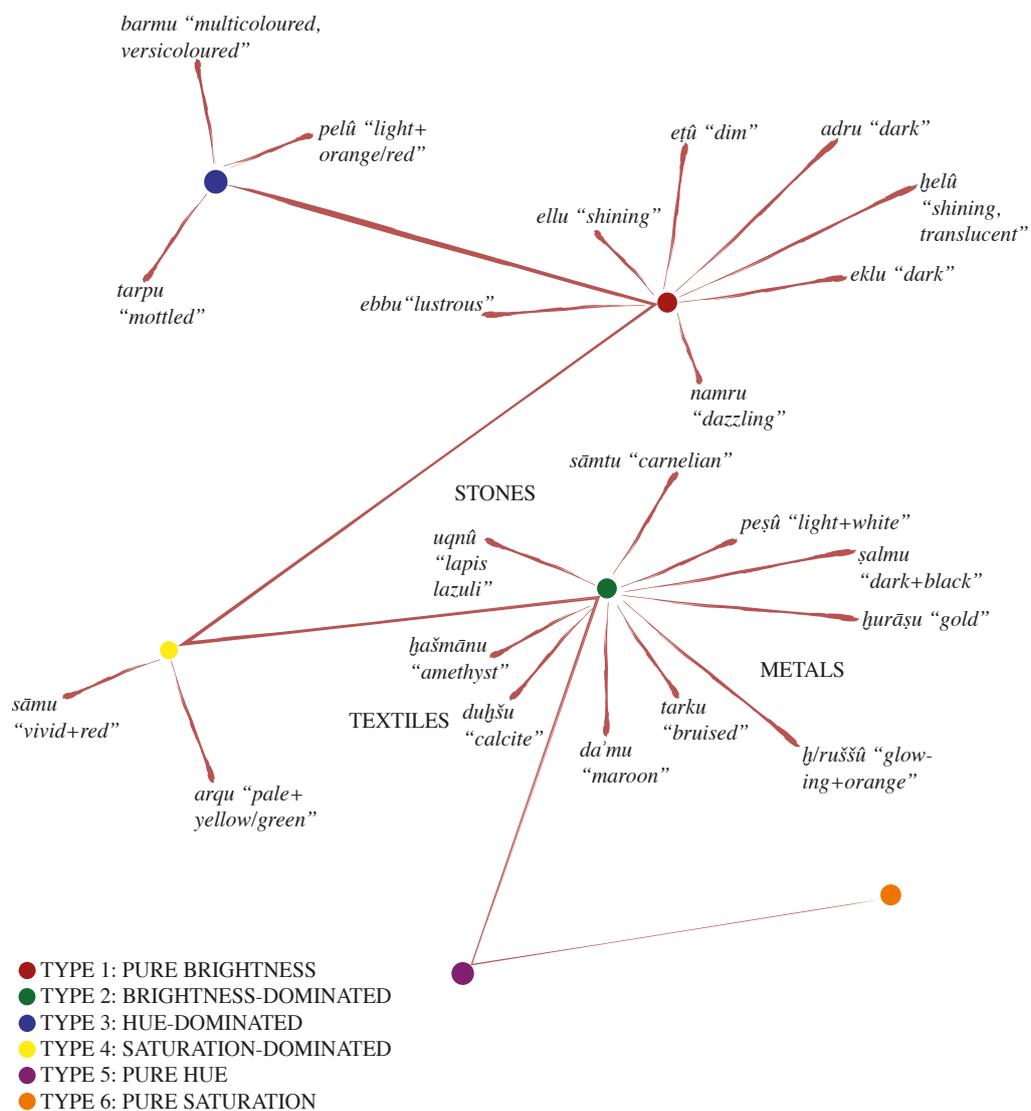


Figure 1. Typology of Akkadian colour terminology. Illustration by S. Thavapalan.

Two additional categories that fall into the typology are **pure-hue** (Type 4) and **pure-saturation** (Type 6) terms; however, I have not detected either in the Akkadian.

That so many of the Akkadian colour words are concerned with exploring the idea of brightness reveals just how important a cultural concept this was. Realising that the origins of colours in ancient Mesopotamia are found in the idea of brightness is essential, it is argued below, for understanding religious thought and also for appreciating colour as an aesthetic and rhetorical feature of the literature, art and architecture produced by this culture.

### The colours of divine brightness

If **BRIGHTNESS** was a part of **COLOUR**, then what meanings did Akkadian-speakers construct around this concept and how specifically did they achieve this visual effect in the objects they made and the spaces they built?

The role of light in Mesopotamian art and architecture has been studied most recently by Irene Winter<sup>21</sup> and Mary Shepperson<sup>22,23</sup>. Both have raised the point that lightness and darkness were actively and meaningfully used visual effects in objects and built environments.

---

<sup>21</sup> Irene J. Winter, 'Radiance as an Aesthetic Value in the Art of Mesopotamia,' in *The Integral Vision*, ed. Baidyanath N. Saraswati, Subhash C. Malik, and Michael Khanna (New Delhi: DK Printworld, 1994), 123–129; Irene J. Winter, 'The Aesthetic Value of Lapis Lazuli in Mesopotamia,' in *Cornaline et Pierres Précieuses: La Méditerranée de l'Antiquité à l'Islam*, ed. Annie Caubert (Paris: La documentation Française / Musée du Louvre, 1999), 43–58; Irene J. Winter, 'The Eyes Have It: Votive Statuary, Gilgamesh's Axe, and Cathected Viewing in the Ancient Near East,' in *Visuality Before and Beyond the Renaissance. Seeing as Others Saw*, ed. Robert S. Nelson (Cambridge: Cambridge University Press, 2000), 22–44.

<sup>22</sup> Mary Shepperson, 'The Rays of Šamaš: Light in Mesopotamian Architecture and Legal Practice,' *Iraq* 74 (2012): 51–64; Mary Shepperson, *Sunlight and Shade in the First Cities. A Sensory Archaeology of Early Iraq*, Mundus Orientis, vol. 1 (Göttingen and Briston: Vandenhoeck & Ruprecht, 2017).

<sup>23</sup> See also Martina Zanon, 'The Symbolism of Colours in Mesopotamia and the Importance of Light,' in *International Congress on the Archaeology of the Near East, London, 12-16 April 2010, the British Museum and UCL, London*, ed. Roger Matthews and John Curtis (Wiesbaden: Harrassowitz Verlag, 2012), 221–243.

Winter's work approaches radiance as an aesthetic property of artistic objects by virtue of it being a visual manifestation of the divine<sup>24</sup>:

To the extent that the 'works of art' we have preserved from Mesopotamia—highly invested buildings, sculpture, cult implements, royal insignia—were associated with or said to have been touched by the divine, it is only to be expected that they should be said to manifest qualities and properties appropriate to the divine. Primary among these qualities, I would argue, is the attribute of radiant light, which both reflects the inner nature of the work and affects those who view it. Radiance may therefore be said to be among the aesthetic properties of a work; and seems to function as a does the Western concept of 'beauty', both intrinsic to the work and triggering positive response.

Shepperson's examination of temple and palace architecture, primarily from the late third and second millennia BCE, distinguishes between the utilitarian and symbolic reasons for creating spaces that either promote or restrict the inflow of natural light. Both Winter and Shepperson draw attention to the complex nature of the semiotics of light and darkness in Mesopotamian thought<sup>25</sup>. The shadow of a god, for instance, could protect the king's army on the march towards the enemy and likewise, the shade of the temple ziggurat within the city provided relief from the hot sun. Lustrous and dark, the colour of lapis lazuli was associated with male virility. Thus, light is often but not always positive and darkness is not unambiguously negative.

Certainly, the concept of brightness was highly significant for Mesopotamian religious thought, in which the gods were conceptualised as numinous beings imbued with an active radiance that elicited a

<sup>24</sup> The importance of light in Mesopotamian religious thought had already been discussed. See Adolf L. Oppenheim, 'Akkadian Pul(u)ḫ (t)u and Melammu,' *Journal of the American Oriental Society* 63, no. 1 (1943): 31–34; Adolf L. Oppenheim, 'The Golden Garments of the Gods,' *Journal of Near Eastern Studies* 8 (1949): 172–193; Wolfram von Soden, 'Licht und Finsternis in der sumerischen und babylonisch-assyrischen Religion,' *Studium Generale* 13 (1960): 647–653 and Elena Cassin, *La splendeur divine: Introduction à l'étude de la mentalité mésopotamienne* (Paris: Mouton & Co., 1968).

<sup>25</sup> In doing so, they respond to older claims, such as the one made by von Soden in a short article on ideas about light and darkness in Babylonian and Assyrian religion: 'In der Grundkonzeption des Gegensatzpaares Licht und Finsternis unterschieden sich Sumerer Babylonier nicht von den Völkern ihrer näheren und weiteren Umwelt: das Licht ist der positive Wert, mit dem Leben und Heil verbunden ist, die Finsternis der negative, dem Tod, Todesangst und Unglück zugeordnet sind.' See von Soden, 'Licht und Finsternis,' 648.

sensation of awe in their human subjects. This ideology found varied expression in written and visual culture. Akkadian religious poetry is richly laden with language that emphasises both the visual (*namru* ‘dazzling’, ‘shining’) and psychological (*melammu*, *puluḫtu* ‘awe-inspiring radiance’) aspects of this divine brilliance<sup>26</sup>. In the beginning of the hymn to the sun god, a text that was copied and studied by Mesopotamian scholars from its conception in the second half of the second millennium BCE to the last stages of written Akkadian (ca. 1000-100 BCE), the associations are obvious:

Illuminator of all, the whole of heaven,  
Who makes light the d[arkness for humankind] above and below,  
Shamash, illuminator of all, the whole of heaven,  
Who makes light the dark[ness for humankind a]bove and below,  
Your radiance [spre]ads out like a net [above the whole world],  
You brighten the g[loo]m of the distant mountains<sup>27</sup>

But celestial brightness was attributed to other deities too in devotional and ritual poetry: Adad is ‘the one who makes lightning flash, who carries [torches?] and flame<sup>28</sup>,’ Anu is the ‘god of heaven, [lord of heaven], who releases daylight<sup>29</sup>’ and Ishtar is the ‘mighty daughter of the luminary of the night sky<sup>30</sup>.’ Brightness was not only a property of the gods in their celestial forms – as the Sun, Moon, stars and planets – but because they were considered loci for divine manifestation, temples, shrines and cult statues too are said to shine. In this passage from a hymn to the goddess Ishtar, her sanctuary in the city of Nippur is characterised as clothed in brilliance:

He (Enlil) ordained her Ebardurgarra as its sanctuary,  
‘Let the house be a shrine just like his dwelling!’  
The [...] of supremacy lies within it,  
High indeed is its head, it is the double of Ekur,

<sup>26</sup> Oppenheim, ‘Akkadian Pul(u)ḫ (t)u and Melammu’; Benjamin R. Foster, *Before the Muses: An Anthology of Akkadian Literature* (Bethesda: CDL Press, 2005), 31–32. For *melammu* and *puluḫtu*, see further below.

<sup>27</sup> Foster, *Before the Muses*, 627–628.

<sup>28</sup> In the prayer to Adad. See Foster, *Before the Muses*, 636.

<sup>29</sup> This description is from a Middle Babylonian bilingual prayer to Anu, the god of the sky. See Foster, *Before the Muses*, 640.

<sup>30</sup> From *Ishtar Queen of Heaven* iv 26; Foster, *Before the Muses*, 597.

Brilliant is its light, covering the whole inhabited world,  
Its radiance is found in the heart of the mountain<sup>31</sup>

King Tiglath-Pileser (r. 1114-1076 BCE) likens his Anu-Adad temple at the then-capital city Aššur to the shining stars in the night sky:

I planned (and) laboriously rebuilt (and) completed the pure temple, the holy shrine, their joyful abode, their happy dwelling which stands out like the stars of heaven (*ki-ma MUL AN-e šu-pu-ú*) and which represents the choicest skills of the building trade. Its interior I decorated like the interior of heaven (*ki-ma lib-be AN-e*). I decorated its walls as splendidly as the brilliance of rising stars (*ki-ma ša-ru-ur si-it MUL.MEŠ*). I raised its towers and its ziggurats to the sky and made fast its parapets with baked brick. I installed inside a conduit (suitable for the conduct) of the rites of their great divinity. I brought the gods Anu and Adad, the great gods, my lords, inside (and) set them on their exalted throne. (Thus) did I please their great divinity<sup>32</sup>.

Terms like ‘radiance’ (Sumerian ME.LÁM, ME.LÁM.ĤUŠ/ Akkadian *melammu*; SU.LIM/ *šulummatu*), ‘shining’ (MUL.MUL/ *nabātu*) and ‘lustrous’ (ZALAG/ *ebbu*) are regular elements of Babylonian temple names and their ceremonial epithets<sup>33</sup>.

Because of this intimate connection between brightness and the divine in Mesopotamian thought, the former could be a palpable force, an emanating power that evoked awe, dread or terror in those who encounter it<sup>34</sup>. A fine example of this transfiguration from visual phenomenon to psychological effect is the concept of *melammu*, whose semantic range ‘includes aspects of literal energy, splendour, efficacy, supernormal potency and majesty<sup>35</sup>.’ In written sources, *melammu*

<sup>31</sup> *Ishtar Queen of Heaven* col. iv 6–11; Foster, *Before the Muses*, 596.

<sup>32</sup> RIMA 1 A.0.87.1: vii 89–114; Albert K. Grayson. *Assyrian Rulers of the Early First Millennium BC I (1114-859 BC)*. RIMA I. (Toronto, Buffalo and London: University of Toronto Press, 1991): 28–29.

<sup>33</sup> Winter, ‘Radiance as an Aesthetic Value in the Art of Mesopotamia,’ 123–129, 124. For a study of the lexical and topographical lists of temple names, see Andrew R. George, *House Most High: The Temples of Ancient Mesopotamia*, *Mesopotamian Civilisations* 5 (Winona Lake: Eisenbrauns, 1993).

<sup>34</sup> Winter, ‘Radiance as an Aesthetic Value,’ 125–126.

<sup>35</sup> Winter, ‘Radiance as an Aesthetic Value,’ 126–127. Ataç has emphasised that *melammu* is a phenomenon as well as a quality: it brings about an epiphany in mortals, which transforms their ordinary faculties and imbues them with divine powers. See Mehmet-Ali Ataç, ‘The Melammu as Divine Epiphany and Usurped

is said to be a property of gods, divine and royal emblems, kings, weapons, monsters, demons, diseases and cultic paraphernalia in their most luminous state. The word is often explained as ‘luminosity’ or ‘splendour’ in modern Akkadian dictionaries<sup>36</sup>, but these translations fail to capture the idea that *melammu* is both a property and an active force – capable of protection and destruction – than a mere attribute. A king endowed with *melammu* may easily overwhelm his foe, but should the gods choose to withdraw their favour and take away his *melammu*, he loses his authority and aura<sup>37</sup>. Given that the logographic writing of *melammu* and the semantically related terms *puluhtu* and *namrirru* contain the element NÍ, meaning ‘self’ or ‘fear,’ Oppenheim and Cassin proposed that this collection of words all refer to the light-emitting or sparkling corporeal shape of gods, demons and kings. Or in more abstract terms, *melammu* and *puluhtu* described their vital life force or personality, with the implication of awe and terror<sup>38</sup>. In everyday practice of religious worship, the concept of divine radiance found visual expression through the shining and colourful metals (mainly gold, silver and their alloys), gemstones, dyed fabrics and polychromy with which cult statues and spaces were fashioned<sup>39</sup>. In this way, when applied to concrete substances, brightness suggested (ritual) purity, beauty and colour<sup>40</sup>. For the interior of temples, the traditional colour scheme of contrasting dark and light with simple whitewash and bitumen-coated mudbrick walls was maintained for

---

Entity,’ in *Ancient Near Eastern Art in Context: Studies in Honor of Irene Winter by Her Students*, ed. Jack Cheng and Marian Feldman (Leiden: Brill, 2007), 295–315.

<sup>36</sup> CAD M II: 9-10; AHw II: 643.

<sup>37</sup> Cassin, *La splendeur divine.*, 73–74; Beate Pongratz-Leisten, ‘Melammu,’ *The Encyclopedia of Ancient History* 1 (2012): 10–26, <https://doi.org/10.1002/9781444338386.wbeah24143>.

<sup>38</sup> Oppenheim, ‘Akkadian Pul(u)h (t)u and Melammu,’ 34n. 8; Cassin, *La splendeur divine*.

<sup>39</sup> Until recently, it was not known that stone votive statues made were painted; the colours of such sculpture is being studied in an on-going project directed by Astrid Nunn. See Astrid Nunn, ‘Farben und Farbigkeit Auf Mesopotamischen Statuetten,’ in *Kulturlandschaft Syrien: Zentrum und Peripherie: Festschrift für Jan-Waalke Meyer*. AOAT 371, ed. Jan-Waalke Meyer et al. (Muenster: Ugarit-Verlag, 2010), 427–448 and 659–669; Astrid Nunn et al., ‘Polychromy on Mesopotamian Stone Statues: Preliminary Report,’ *Studia Mesopotamica* 2 (2015): 187–206.

<sup>40</sup> Cassin, *La splendeur divine*; Winter, ‘Radiance as an Aesthetic Value’.

centuries. A decisive break with the materials chosen to capture this effect came with the late Assyrian and Babylonian kings, who made use of translucent white stones and blue-glazed brick instead, to reflect new innovations in architectural design and also the tremendous economic resources of the Empire<sup>41</sup>:

*ki-ma* IM.BABBAR ù ESIR <sup>na4</sup>ZA.GÌN ù <sup>na4</sup>GIŠ.NU<sub>x</sub>.GAL UNU É *ú-šal-biš*<sup>42</sup>

Instead of (a coating of) gypsum and bitumen, I dressed the socle of the temple with lapis lazuli(-coloured glaze) and alabaster.

*i-na* <sup>na4</sup>GIŠ.NU<sub>x</sub>.GAL *šá ki-ma* U<sub>4</sub> *-mi it-ta-na-an-bi-iṭ* ù KÙ.GI.ḪUŠ *ú-kin šú-bat-sa*<sup>43</sup>

I enhanced the base of her (Ishtar's) temple with alabaster that shines like sunlight and with red gold.

Temple paraphernalia, including the anthropomorphised statues of the gods, contemporary written sources inform us, were made of gold, silver, bronze and precious coloured gemstones. As the Assyrian kings explain, these substances are what imbued sacred images with their fitting attractiveness.

Ashurnasirpal II (r. 883-859 BCE), speaking of building activity in his new royal city Kalḫu:

DINGIR-*su-nu*  
 GAL-*tu ina* KÙ.GI.MEŠ *ḫu-še-e ina* NA<sub>4</sub>.MEŠ *eb-bi*  
*lu ú-šar-riḫ šu-ku-tu* KÙ.GI NÍG.GA  
 ḪI.A.MEŠ KUR-*ti ŠU-ia a-qi-su-nu-ti*  
 É *at-ma-ni* <sup>d</sup>MAŠ EN-*ia ina* KÙ.GI.MEŠ  
 NA<sub>4</sub>.ZA.GÌN *ú-šab-bi-it* IM.MEŠ-*ni ZABAR*  
*ina* ZAG-šú *u* GÙB-šú *ú-še-zi-iz*<sup>44</sup>

I made resplendent (the images of) their great divinity with red gold and lustrous stones. I gave them gold jewellery, diverse possessions which I had captured. I decorated the suite of the shrine of the god Ninurta, my lord, with gold and lapis lazuli. On his left and right, I stationed ... of bronze.

<sup>41</sup> Except for the Bīt Rēš complex at Uruk, which dates to the Hellenistic period, no new temples were built in the Neo-Babylonian period. (*RIA* 13 7/8 524).

<sup>42</sup> Nebuchadnezzar II r. 605-562 BCE; VAB 4 124: ii 48.

<sup>43</sup> Nabonidus r. 556-539 BCE; VAB 4 276: iv 9.

<sup>44</sup> RIMA I A.0.101.30: 65–71; Grayson, *Assyrian Rulers*, 291.

Esarhaddon (r. 680-669 BCE), of the temple at Babylon:

*mim-ma šum-šú*  
*ú-na-a-<sup>r</sup>ti<sup>1</sup>*  
*ḫi-ših-ti é-sag-[gíl]*  
*nab-nit KÙ.GI KÙ.BABBAR*  
*šá 50 MA.NA.TA.<sup>r</sup>AM<sup>1</sup>*  
*KI.LÁ-šú-<sup>r</sup>nu<sup>1</sup>*  
*<sup>r</sup>ina<sup>1</sup> ši-pir ni-kil-<sup>r</sup>ti<sup>1</sup>*  
*nak-liš ú-še-piš<sup>45</sup>*

I had artfully made with artful craftsmanship whatever paraphernalia were needed for Esagil, creations of gold (and) silver, whose weight is fifty minas each.

Inventories from temples provide a more tangible and precise picture of what ritual settings may have looked like and which materials were chosen to make cultic objects. The items dedicated by palace personnel to the temple of Nabû and Tašmetu in the seventh century BCE include (SAA 7 81)<sup>46</sup>:

One bowl of almond wood (and) silver	A cylinder seal of agate, its setting (?) of gold and seven stones, nine stones in between
One bowl of solid silver	Two gold earrings
One gold dress pin	One gold <i>sabûbu</i> -ornament, blown (?)
A gold <i>gubîbu</i> -ornament	One armband of small golden beads with a small gold disk in between
A gold falcon with obsidian, lapis lazuli (and) carnelian	One large eye-stone of agate without a setting
A <i>gišburru</i> -wand of obsidian (and) lapis lazuli	Two gold cows, two gold prayer bowls
A gold, daughter of the wind <sup>r</sup> inlaid with obsidian (and) lapis lazuli and a carnelian pomegranate in its midst	Two silver cows, two silver prayer bowls
A cylinder seal of serpentine, its setting (?) of gold	

Another record lists the temple treasures sent from Assyria to Elam, in what is now Iran (SAA 7 60):

<sup>45</sup> RINAP 4 105: vi 5-12.

<sup>46</sup> The text is from the city of Kalḫu dates to the month of Šebat (January-February) during the eponym year of Nabû-sagîbi (618 BCE).

An unknown quantity of rosettes made of gold alloy.	Three silver drinking cups
An unidentified silver object weighing fifteen minas	One silver sprinkler
An unknown quantity of silver wine jars	Four silver grates
One silver block	Two silver boxes
	One silver bowl on a stand
	One silver basket

Reddish gold was the preferred material for representations (*šalmu*)<sup>47</sup> of the gods, not because of its material composition but because its colour stood for the finest sort of divine light. Esarhaddon's (r. 680-669 BCE) accounts of his renovations at Aššur, the religious centre of Assyria, are valuable because of their detail and length and because colourful materials are explained as the concrete means of conveying abstract values associated with particular visual effects:

<sup>d</sup>EN GAŠAN-ia<sub>5</sub> <sup>d</sup>be-let-KÁ.DINGIR.RA.KI <sup>d</sup>é-a <sup>d</sup>DI.KU<sub>5</sub> DINGIR.MEŠ GAL.MEŠ *qé-reb é-šár-ra É za-ri-šú-nu ki-niš im-ma-al-du-ma iš-mu-ḥu gat-tu ina ša-ri-ri ru-uš-še nab-nit a-ra-al-li e-per šad-di-šú ú-šar-ri-ḥa nab-nit-sún ti-iq-ni MAḤ.MEŠ šu-kut-tu a-qar-tú ki-šad-su-un ú-taq-qin-ma ú-ma-al-la-a GABA-su-un mim-mu-u <sup>d</sup>EN GAL-u <sup>d</sup>AMAR.UTU ina lib-bi-šú ib-šu-u ub-la ka-bat-ta-šá šá šar-rat <sup>d</sup>NUMUN.DÙ-ti ša-al-me DINGIR-ti-šú-nu GAL-ti UGU šá U<sub>4</sub>-me pa-ni nak-liš ú-ba-áš-ši-mu ma-diš ú-šar-ri-ḥu bal-tú ú-sag-li-du ú-šá-an-bi-ṭu GIM <sup>d</sup>UTU-ši<sup>4849</sup>*

Bēl, Bēltiya, Bēlet-Bābili, Ea (and) Mandānu, the great gods, were truly created in Ešarra, the temple of their progenitor, and they grew magnificent in form. I made resplendent their features with red *šariru*-gold, the creation of Arallu, an ore from its mountain. I adorned their necks and covered their chests with splendid ornaments (and) precious jewellery, everything that the great lord, the god Marduk wished for (and) that the queen, the goddess Zarpanītu, desired. They (the craftsmen) fashioned images of their great divinity more skilfully than before (and) adorned them magnificently. They provided (them) with awe-inspiring grandeur (and) made (them) shine like the sun.

<sup>47</sup> For the meaning of this word, see Zainab Bahrani, *The Graven Image: Representation in Babylonia and Assyria*, Archaeology, Culture, and Society (Philadelphia: University of Pennsylvania Press, 2003); Frederik M. Fales, 'Art, Performativity, Mimesis, Narrative, Ideology, and Audience: Reflections on Assyrian Palace Reliefs in the Light of Recent Studies', *Kaskal* 6 (2009): 237–295.

<sup>48</sup> RINAP 4 48: rev. 87-90.

<sup>49</sup> Esarhaddon also boasts of using red gold from the same source to make the goddess Tašmētu's footstool (RINAP 4 48: rev. 91) and the colossal protective statues in the god Ashur's cella (RINAP 4 60: obv. 24).

While large quantities of gold, silver, bronze and their alloys were undoubtedly used, illusion and clever craftsmanship would have also provided solutions to the limitations of raw materials. Subject as they are to plunder and re-use, precious metal cult statues have not survived from ancient Iraq, but the extant archaeological evidence suggests that wooden or bitumen effigies were covered with gold ‘skins’ and that frequently, glass and faience inlays were used to mimic the appearance of rare stones<sup>50</sup>.

Beside red (including red gold), dark blue was an important colour of divine light, at least in the first millennium BCE. Administrative documents from the temple<sup>51</sup> that record the production of textiles for the divine statues and the working of precious metals, woods and stones for cultic paraphernalia, reveal that red gold, lapis lazuli, carnelian (and their imitations in glass), scarlet<sup>52</sup> and blue-purple<sup>53</sup> cloth were central materials. As Zawadzki has demonstrated for the city of Sippar (Tell Abu Habbah, 30 km SW of Baghdad) in the sixth

---

<sup>50</sup> Ancient techniques for gold ‘colouring’ may be divided broadly into two categories. Thinly hammered sheet-gold laid over wooden, stone, metal and ivory objects are attested in Mesopotamia from the earliest appearance of this metal, in the fourth millennium BCE. Alternatively, gold leaf may be attached to silver or copper by burnishing, although it is not clear when fire-gilding is first attested in the Near East. Cast gold objects are also known, although given the large quantity of metal required, it is very likely that only small objects for the temple or palace were produced in this manner. Surviving examples suggest that three-or four-piece wax or clay moulds were used for casting. See Peter R.S. Moorey, *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence* (Winona Lake: Eisenbrauns, 1999), 227, 228.

<sup>51</sup> The best documentation comes from the seventh and sixth centuries BCE.

<sup>52</sup> Akkadian SÍG *tabarru*, the reddish colour of which was achieved with madder and perhaps a mixture of madder and kermes. For red-dyed garments in the first millennium BCE, see Stefan Zawadzki, *Garments of the Gods. Studies on the Textile Industry and the Pantheon of Sippar According to the Texts from the Ebabbar Archive*, *Orbis Biblicus et Orientalis* 218 (Fribourg: Academic Press Fribourg, 2006); Stefan Zawadzki, *Garments of the Gods: Vol. 2. Texts*, *Orbis Biblicus et Orientalis* 260 (Fribourg: Academic Press Fribourg, 2013); Elizabeth Payne, ‘The Craftsmen of the Neo-Babylonian Period. A Study of the Textile and Metal Workers of the Eanna Temple,’ (PhD diss., Yale University, 2007); Shiyanthi Thavapalan, ‘Purple Garments in Akkadian Documents,’ *Journal of Near Eastern History* 3, no. 2 (2018): 163–190., <https://doi.org/10.1515/janeh-2017-0007>.

<sup>53</sup> Akkadian SÍG *takiltu*. For purple coloured textiles in the ancient Near East, see Thavapalan, ‘Purple Garments in Akkadian Documents.’

century BCE, the goddesses wore madder and kermes-dyed red *naḥlaptu*-cloaks and *kusītu*-mantels to which many hundreds of gold sequins were attached<sup>54</sup>. The movement of light from the oil lamps that lit the cellae would have lent additional sparkle and shimmer to ceremonial garments embellished in this manner. The patron goddess of Sippar was distinguished by an additional blue-purple *naḥlaptu*-cloak and other clothing that marked her position as queen of the pantheon in this city. Given that he is the sun god, it is not surprising that Shamash was an exception and wore exclusively white *šibtu*-style garments. During ceremonies for him, white was the most important colour and only small amounts of red wool was incorporated into his *lubāru*-garment<sup>55</sup>. Every morning, the gods were ritually purified, dressed in vibrantly coloured garments, adorned with insignia made of gold, silver and gemstones, and anointed with shimmering, perfumed oils. In this way, the luminous aspect of Mesopotamian gods was materialised, reinforced and celebrated daily.

Even as the statues of the gods were thus wrapped in an outer layer of colour and light – themselves perfect expressions of divine splendour – sunlight and firelight were instrumental for realising the brightness of these colours. From roughly the end of the third millennium BCE onwards, temples were generally positioned so that the main gateway was oriented south-east, so as to allow as much morning and afternoon sunlight to light up the temple façade<sup>56</sup> and to enter the main courtyard as possible. This was necessary to facilitate the rituals but also the scribal and craft activities taking place in the workshops situated around the courtyard. By contrast, the inner sanctum received only diffused, reflected light; sometimes, an ante-chamber that stood between the courtyard and cella functioned to further diminish the

---

<sup>54</sup> For gold, silver and glass embellishments attached onto textiles, see Oppenheim, ‘The Golden Garments of the Gods.’

<sup>55</sup> Translations of the texts from the Ebabbar temple at Sippar are given in Zawadzki, *Garments of the Gods*, (2006 and 2013). For a discussion of the garments and their colours, see Zawadzki, *Garments of the Gods*, 194–198.

<sup>56</sup> As Shepperson explains, the space around the temple gateways was changed from the comfortable space ‘into symbolic display space, where the power of the temple and the state which built it was made manifest through the interaction of architecture and light, and the expulsion of human social and economic activity.’ See Shepperson, *Sunlight and Shade in the First Cities*, 162.

amount of natural light entering the inner sanctum. So, the colours of divine light would only have been visible under the flickering, intermittent illumination of oil lamps and perhaps torches<sup>57</sup>. Passages like the following suggest that light was thought to ‘activate’ the radiance of these materials, endowing objects with an aura:

KÙ.GI SA<sub>5</sub> e-per šad-di-šú šá mám-ma la ip-ti-qu-šú ana ši-pir ni-kil-ti  
 NA<sub>4</sub>.MEŠ na-as-qu-ti  
 la ki-šit-ti U<sub>4</sub>-me šá ni-i-ba la i-šu-u nab-nit ħur-šá-a-ni šá <sup>a</sup>é-a a-na ši-pir  
 be-lu-ti ši-mat ME.LÁM ra-biš i-šim-šu-nu-ti  
 a-na áš-rat DINGIR.MEŠ GAL.MEŠ EN.[MEŠ-ia u] ti-iq-ni DINGIR-ti-šú-nu  
 ma-a’-diš uš-tar-si-ma ŠU.II-šú-nu KÙ.MEŠ ú-šam-li AGA ni-kil-tú si-mat  
 EN-u-ti  
 ša AN.ŠÁR LUGAL DINGIR.MEŠ EN-ia šá KÙ.GI ĤUŠ.A ù NA<sub>4</sub>.MEŠ ni-siq-ti  
 ú-še-piš-ma ú-ter áš-ru-uš-šú AGA šú-a-tú la-biš me-lam-mu  
 za-in bal-tu na-ši šá-lum-ma-tu ħi-it-lu-up nam-ri-ri <<ma-ħar>> AN.ŠÁR  
 EN GAL-e ma-diš im-ħur-ma i-ṭib ka-bat-ta-šú im-me-ru zi-mu-šú<sup>58</sup>

Red gold, an ore from its mountain that no one (before me) had cast into a work of art, (and) countless precious stones, that have not seen daylight, the creation of the mountains where the god Ea magnificently decreed their fate to be the radiance of royal artwork – for the shrines of the great gods, [my] lords, [and] for the ornamentation of their divinity, I had (the red gold and stones) prepared carefully and delivered to their (the artisan’s) pure hands. I had a skilfully (fashioned) crown, appropriate for the lordship of Ashur, king of the gods, my lord, made of (this) red gold and precious stones and I restored it. Ashur, the great lord, magnanimously accepted that crown, (which is) clothed in splendid radiance, adorned in dignity, bearing splendour, wrapped in brilliance, and his spirit was pleased, his countenance became bright.

While von Soden, Winter, Shepperson and others are correct to emphasise the old and enduring construction of brightness as an aspect of the divine in Mesopotamian religious thought and practice, we should not ignore other ideas about lightness and darkness that were being formulated. What follows is concerned with showing how lightness and darkness were incorporated into palatial art and

<sup>57</sup> In their paper ‘Neo-Assyrian Statues in Context’ given at the 2015 meeting of the Rencontre Assyriologique Internationale, Davide Nadali and Lorenzo Verderame addressed the issue of how statues were positioned in Assyrian temples. Found in D. Nadali, personal communication, May 3, 2018. This work has not yet appeared in print.

<sup>58</sup> RINAP 4 48: rev. 82-86.

architecture through polychromy, the visual impact of which was again curated through the controlled inflow of artificial, moving light that produced certain optical illusions.

### **The luminous colours of late Assyrian palaces**

The peoples of the ancient Near East had long-valued the shining colours of polished metals and stones and were especially fascinated with the way light interacted with these substances. Their earliest scientific endeavours sought to manipulate and imitate these phenomena through various pyrotechnologies: through metallurgical processes such as alloying to achieve specific hues in copper, silver and gold, by burnishing ceramics, by glazing, through faience and glass. These sparkling, shimmering materials were incorporated into the interiors of temples, as we have seen, but the most impressive exploitation of luminosity and colour are found in the imperial places. Neo-Assyrian palaces, built at Nimrud (ancient Kalḫu in northern Iraq), Khorsabad (ancient Dūr-Šarrukīn) and Nineveh in the ninth, eighth and seventh centuries BCE are a particularly suitable starting point for a study of the use of light and light-reflecting materials in the decorative program of royal architecture for several reasons. Large ground plans that were available for study until the Iraq War in 2003, together with extensive and well-documented assemblages of archaeological material give us a relatively good idea of the spatial organisation and the colourful decorative program employed. The counterpart to the physical data, contemporary historian inscriptions penned by royal scribes that memorialise the construction of these palaces tell us something of the visual and psychological impression such spaces would have had on an ancient audience<sup>59</sup>.

---

<sup>59</sup> Translations of the historical inscriptions of the late Assyrian kings are available in Albert K. Grayson, *Assyrian Rulers of the Early First Millennium BC I (1114-859 BC)*, Royal Inscriptions of Mesopotamia Assyrian Periods I (Toronto, Buffalo and London: University of Toronto Press, 1991) (= RIMA 1); Hayim Tadmor and Shigeo Yamada, *The Royal Inscriptions of Tiglath-Pileser III (744-727 BC) and Shalmaneser V (726-722 BC)*, Kings of Assyria, The Royal Inscriptions of the Neo-Assyrian Period 1 (Winona Lake: Eisenbrauns, 2011) (= RINAP 1); Albert K. Grayson and Jamie R. Novotny, *The Royal Inscriptions of Sennacherib, King of Assyria (704-681 BC)*, Part 1, The Royal Inscriptions of the Neo-Assyrian Period, 3/1 (Winona Lake: Eisenbrauns, 2012). (= RINAP 3/1); Albert K. Grayson and Jamie R. Novotny, *The Royal Inscriptions*

In their own words, the Neo-Assyrian kings celebrate their newly constructed palaces as gilded (*šamšiš*) spaces, splendidly decorated<sup>60</sup> for their lordly leisure (*ana multa'it bēlūtiya*)<sup>61</sup> and for the awe (*ana tabrāti*) of the people. Immense walls and gateways straddled by colossal stone sculpture and spacious suites and courtyards conveyed the sense of grandeur while a decorative program that made lavish use of carefully chosen shining, polychrome materials together with controlled lighting effects induced a sense of wonderment<sup>62</sup>. The element of repetition, exemplified not only by the painted sculptural scenes arranged along the walls but also the geometric designs on *fresco secco* positioned above them and along the cornices, added to sense of infinite vastness.

The best-preserved and consequently most familiar forms of late Assyrian architectural decoration are the stone wall reliefs positioned on the walls inside, in the various suites of the palaces, the glazed brick friezes and titles and the wall paintings. Standing at two to three meters

---

*of Sennacherib, King of Assyria (704-681 BC), Part 1, The Royal Inscriptions of the Neo-Assyrian Period, 3/2* (Winona Lake: Eisenbrauns, 2014) (= RINAP 3/2); Earl Leichty, *The Royal Inscriptions of Esarhaddon, King of Assyria (680-669 BC), The Royal Inscriptions of the Neo-Assyrian Period 4* (Winona Lake: Eisenbrauns, 2011) (= RINAP 4).

<sup>60</sup> The phrase used repeatedly by the Assyrian kings is 'to make fitting and proper' (*ussumu*, CAD A II: 328–329) and 'to make glorious' (*šurruḫu*, CAD Š II: 36–39).

<sup>61</sup> CAD M II: 192.

<sup>62</sup> Assyrian architectural decoration is a well-studied topic. For painted plaster decoration, see Pauline Albenda, *Ornamental Wall Painting in the Art of the Assyrian Empire*, Cuneiform Monographs 28 (Leiden: Brill, 2005); Yoko Tomabechi, 'Wall Paintings from the Northwest Palace at Nimrud,' *Archiv für Orientforschung* 33 (1986): 43–54. For the colossal sculpture and stone reliefs that covered the interior walls, see Julian Reade, *Assyrian Sculpture*, ed. British Museum (London: British Museum Press, 1983); Julian E. Reade, 'Assyrian Architectural Decoration: Techniques and Subject-Matter,' *Baghdader Mitteilungen* 10 (1979): 17–49; Julian E. Reade, 'Narrative Composition in Assyrian Sculpture,' *Baghdader Mitteilungen* 10 (1979): 52–110 and Julian E. Reade, 'Space, Scale, and Significance in Assyrian Art,' *Baghdader Mitteilungen* 11 (1980): 71–74. For the glazed-brick façades, see Julian E. Reade, 'A Glazed-Brick Panel from Nimrud,' *Iraq* 25, no. 1 (1963): 38–47; and Astrid Nunn, *Die Wandmalerei und der Glasierte Wandschmuck im Alten Orient* (Leiden: Brill, 1988). For polychromy of Assyrian art in general, see Samuel M. Paley, 'Creating A Virtual Reality Model of the North-West Palace,' in *New Light on Nimrud. Proceedings of the Nimrud Conference 11th-13th March 2002*, ed. John E. Curtis et al. (London: British School of Archaeology, 2008), 195–207.

in height, the orthostats were carved in translucent, greyish white gypseous alabaster commonly known as Mosul Marble<sup>63</sup>. The meagre traces of red, black, white and blue pigment still visible today led to the belief that colour was applied schematically, in solid patches, and only in order to highlight certain elements on the stone reliefs<sup>64</sup>. But recent analysis conducted using experimental photography has shown that polychromy on stone sculpture was more sophisticated and extensive than earlier estimations: Assyrian craftsmen painted in textures and patterns, layering and shading to exploit the natural properties of the stone<sup>65</sup>. Much of the original colouration has vanished because of natural decomposition and over-zealous cleaning after the artefacts were removed from the ground. In the space above the reliefs, about ten to fourteen feet above floor-level, the mudbrick walls were covered with plaster, which was painted with repetitive, ornamental designs<sup>66</sup>. Ceilings were likewise painted. Red, black, white, blue, green, orange, brown, yellow and pink paint has been detected, although as in the case of the orthostats, a much wider palette may have been used<sup>67</sup>. Bricks glazed like modern tiles on one side and bricks glazed along one edge provided polychromy outdoors. Within, terracotta glazed plaques and roundels were affixed to the walls with terracotta pegs, the heads of which were likewise glazed. While the painted and glazed elements have commanded most scholarly attention, again because of the state of the surviving archaeological record, colour in Assyrian palaces was a much larger phenomenon. Different patterned woods, metal fixtures and sculpture, furniture inlaid with glass and painted ivory and multi-coloured textiles were also part of the *Gesamtkunstwerk*.

---

<sup>63</sup> The use of the basalt is only attested at Dūr-Šarrukīn. See Reade, 'Assyrian Architectural Decoration,' 17.

<sup>64</sup> Reade, 'Assyrian Architectural Decoration,' 18.

<sup>65</sup> E.g. Giovanni Verri et al., 'Assyrian Colours: Pigments on a Neo-Assyrian Relief of a Parade Horse,' *British Museum Technical Research Bulletin* 3 (2009): 57–62; Shiyanthi Thavapalan, Jens Stenger, and Carol Snow, 'Color and Meaning in Ancient Mesopotamia: The Case of Egyptian Blue,' *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 106, no. 2 (2016): 198–214.

<sup>66</sup> Studied in Albenda, *Ornamental Wall Painting*.

<sup>67</sup> Reade, 'Assyrian Architectural Decoration,' 19, nos. 15–16.



Figure 2. MET 32.143.6. Example of a stone relief panel from the North-West Palace at Nimrud. These were positioned on the interior walls of the building and were once coloured although only remnants of the original paint survive. Metropolitan Museum of Art, Gift of John D. Rockefeller Jr. 1932.





Figures 3a, and 3b. MET 58.31.11 and MET 57.27.24a. Painted ivory inlays and façades made of glazed bricks such as this one with guilloche pattern were also polychrome architectural elements at the North-West Palace. Metropolitan Museum of Art, Rogers Fund 1957 and 1958.

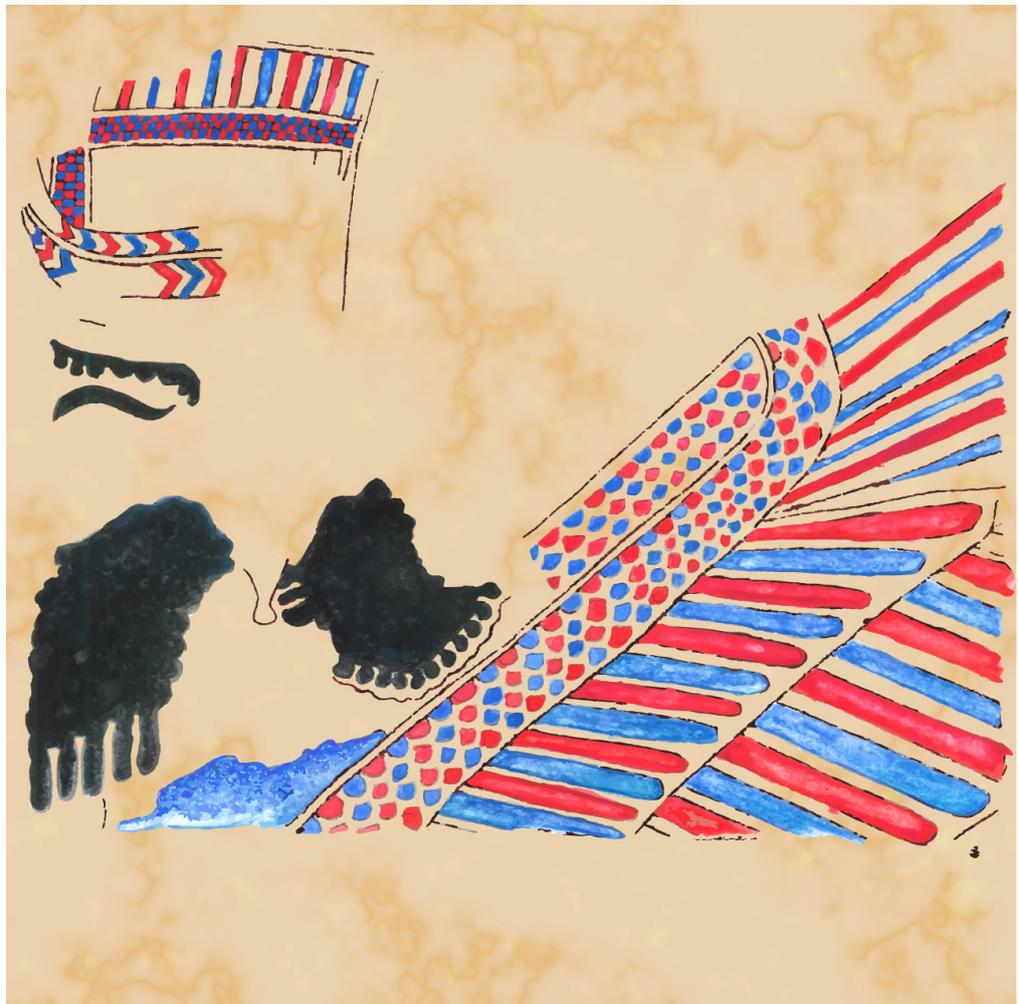


Figure 4. Blue and red design in representations of textiles from the palace at Tell Aḥmar (ninth century BCE). Illustration by S. Thavapalan.

If we turn our attention to the written sources that describe the use of colour in late Assyrian palaces, we begin to appreciate that what was important was not individual hues but rather their brilliance. One king proudly compares the polychrome friezes that spanned the corners of his state apartments to the bright arch of a rainbow:

*si-ḫi-ir-ti É.GAL šá-a-tu*  
*né-bé-ḫu pa-áš-qu šá<sup>na4</sup>ZÚ<sup>na4</sup>ZA.GÌN*  
*ú-še-piš-ma ú-šal-ma-a ki-li-liš*  
*se-el-lu mat-gi-qu GIM<sup>d</sup>TIR.AN.NA*  
*ú-šá-as-ḫi-ra gi-mir KÁ.MEŠ*  
*sik-kàt KÙ.BABBAR eb-bi u ZABAR nam-ri*  
*ú-rat-ta-a qé-reb-ša<sup>68</sup>*

All around the perimeter of that palace, I had the cornice and coping made of obsidian- and lapis lazuli(-coloured brick) and I encircled (them) around (it), like a wreath. I surrounded all the gates (with) an arch (and) vault, like a rainbow. I drove into them pegs of shining silver and bright bronze.

(Black) obsidian and (dark blue) lapis lazuli are the only two colours evoked in late Assyrian royal inscriptions<sup>69</sup>, despite the fact that craftsmen made plentiful use of yellow, red and white glaze in their actual designs<sup>70</sup>. The reference to obsidian and lapis lazuli should be understood then as a catch phrase, alluding to the overall shining effect of the glazed brick friezes, rather than a literal description. Why these two stones in particular? Perhaps because lustrous and dark-hued, they traversed the boundary between darkness and lightness; when highly polished, obsidian and lapis lazuli appear as if they produce radiance of their own, much like glazed surfaces when they catch and reflect light<sup>71</sup>. Other features that are said to light up the palace from

<sup>68</sup> Esarhaddon, r. 681-669 BCE; RINAP 4 2: v 42-48.

<sup>69</sup> Mentioned by Sennacherib (e.g. RINAP 3/1 15: vi 55), Esarhaddon (e.g. RINAP 4 1: vi 24), Ashurbanipal (e.g. RINAP 5 21: 32). The only exception is Tiglath-Pileser I's (r. 1114-1076 BCE) description of his palace at Nineveh, in which banded agate (<sup>na4</sup>*pappardilû*)-coloured and limestone (<sup>na4</sup>*parûtu*)-coloured glazed bricks are mentioned (A.0.87.10: 65-66 [RIMA 2 54]).

<sup>70</sup> At least two shades of blue, yellow and green are attested in addition to white, red and black. See Reade, 'Assyrian Architectural Decoration,' 20.

<sup>71</sup> Obsidian and lapis lazuli are traditional materials in the ancient Near East with

within include the polished wood of columns and the metal bands affixed to doors. In the following brief but telling description, we get an idea of the multisensory experience of being in an eighth century Assyrian palace:

*gišIG.MEŠ gišEREN gišŠUR.MÌN tu-a'-ma-te mu-na-aḥ-ḥi-ša e-ri-bi-ši-na 'e'-re-  
'si'-na i-ziq-qu lib-bu  
i-na me-sér za-ḥa-le-e ù <eš-ma-re-e> eb-bi ú-rak-kis-ma e-ma KÁ.MEŠ-ni  
ú-rat-ti<sup>72</sup>*

I attached bands of shining *zaḥalû*-silver and <*ešmarû*-silver> on double doors of cedar (and) cypress, which make those who enter (through) them prosperous, whose fragrance wafts (into the) heart, and I hung (them) wherever there were gates.

From the perspective of the Neo-Assyrian kings, the foremost aspect of colour to be appreciated in their palaces was its value as light. Darkness too had a place in this rhetoric. Of his ‘Palace Without Rival’ (*ēkal ša šānina lā išû*) at Nineveh, Sennacherib (r. 705–681 BCE) boasts of how he illuminated spaces that were once gloomy by introducing colours that caught and disperse light in a manner that enchanted those who entered:

*šu-lul ta-ra-a-ni ša qé-reb ba-rak-ka-a-ni  
e-tu-su-un ú-šaḥ-la-a U<sub>4</sub>-mì-iš uš-nam-mir  
sik-kàt kar-ri kas-pi ù URUDU  
qé-reb-šin ú-šal-me  
i-na SIG<sub>4</sub>.AL.ÛR.RA na<sup>4</sup>ZÚ na<sup>4</sup>ZA.GÌN  
us-si-ma se-el-lum né-bé-ḥi  
ù gi-mir pa-áš-qí-ši-in<sup>73</sup>*

I illuminated the dimness of the covered ceilings that (hang) over the corridors, I made (them) shine like daylight. I encircled their interiors (with) knobbed pegs of silver and copper. I fittingly adorned the arches, friezes and

---

a long history of use in Mesopotamia. Human beings have been using obsidian for ornamental purposes since the Paleolithic. See Theodora Moutsiou, *The Obsidian Evidence for the Scale of Social Life During the Palaeolithic*, British Archaeological Reports. International 2613 (Oxford: Archaeopress, 2014); Dark and lustrous were also carried associations of divine mystery and heroic maleness. See Winter, ‘The Aesthetic Value of Lapis Lazuli in Mesopotamia,’ 296.

<sup>72</sup> Tiglath-Pileser III r. 745–727 BCE; RINAP 1 47: rev. 28’–29’.

<sup>73</sup> Sennacherib r. 705–681 BCE; RINAP 3/1 17: vi 37–44.

all the copings with obsidian(-coloured) and lapis lazuli (-coloured) bricks.

Large-scale glazed brick friezes and painted orthostats are perhaps the two most original media of late Assyrian and Babylonian art, and these were invariably positioned with the special object of exploiting the effects of light. Unlike the temple, Assyrian and Babylonian palaces were oriented towards the shade. The main doorway to the throne room from the throne room courtyard typically faced the north or north-west.

With very little natural light entering the building through the courtyard, artificial light would have been the main source of illumination inside<sup>74</sup>. So, the painted reliefs and wall paintings inside would have been visible in the flickering light of lamps, torches and wheeled braziers. Russel supposed that during the day, shining surfaces like white plastered walls or even objects carried by servants or positioned near ventilation shafts, were used as mirrors to bring in more light<sup>75</sup>. Kings do not say what kind of special effects such lighting conditions would have produced so we are left to speculate based on the material evidence. Certainly, the absence of natural light would have provided opportunities to curate spaces and areas of courtly activity. In the Throne Room, for instance, the light entering through the doors, albeit deflected, would have highlighted the king sitting on his throne<sup>76</sup>. A subtler effect involves the repetitive and patterned use of certain colours in ornamental motifs, which hint that the Assyrians were experimenting with the idea of optical fusion. A good example of this is the contrasting of red and blue in textile design, shown here in the wall

---

<sup>74</sup> Kertai observed that given the lack of evidence for windows and light wells (if they existed, they would have been situated higher, below the roof) the inner rooms of Assyrian palaces would have been relatively dark. Doors and ventilation shafts would have admitted some light. See David Kertai, *The Architecture of Late Assyrian Royal Palaces* (Oxford: Oxford University Press, 2015), 189–190. It seems unlikely that Assyrian depended on lamps, movable braziers and torches as main source of light during the day. For darkness inside, see John M. Russell, ‘The Program of the Palace of Assurnasirpal II at Nimrud: Issues in the Research and Presentation of Assyrian Art,’ *American Journal of Archaeology*, 1998, 655–715 and Peter Miglus, ‘Architektur der Festhäuser in Assur und Uruk sowie des Aššur-Tempels in Kar-Tukultî-Ninurta,’ *Baghdader Mitteilungen* 24 (1993): 193–215, 197.

<sup>75</sup> Russell, ‘Program of the Palace,’ 671–672, n. 45.

<sup>76</sup> Kertai, *Architecture*, 190.

paintings from the palace at Tell Aḫmar (ancient Til-Barsip in Syria). The pervasive use of the blue-red cluster in artistic depictions of textiles coupled with the popularity of purple coloured garments in this period suggests that the Assyrians were conscious that distance and the angle of light can cause two or more colours placed near each other create the illusion of an altogether new colour.

Brightness, as an aesthetic feature of Assyrian palatial spaces, does not speak to divine manifestations of light but is rather about showcasing the king's mastership – not only over valuable, beautiful materials but also over the latest technologies that could transform common substances so that they themselves appear to become sources of colourful radiance that beguile the eye. Although some allowance is made for divine inspiration and the aid of specialists, it is to the ingenuity of the king that the beauty of new palaces is attributed:

*i-na uz-ni ni-kil-ti ḫa-sis-si pal-ke-e ša iš-ru-ka ABGAL DINGIR.MEŠ NUN  
<sup>d</sup>nu-dím-mud É.GAL <sup>giš</sup>EREN<sup>1</sup> [...ana mu-šab EN-ti-ia] ù É ḫi-it-la-an-ni  
 tam-šil É.GAL <sup>kur</sup>ḫa-at-ti a-na mul-ta-ù-ti-ia ina qé-reb <sup>urru</sup>kal-ḫi DÛ-uš<sup>77</sup>*

With the artful understanding (and) broad knowledge that the sage of the gods, the prince Nudimmud, granted to me, I built for my pleasure a palace of cedar, [... for my lordly residence] and also a columned hall, a replica of a palace of the land of Hatti (Syria-Palestine), in Kalḫu.

UR.MAḪ.ṚMEŠ<sup>1</sup> <sup>d</sup>ALAD.MEŠ <sup>d</sup>LAMMA.MEŠ ša bi-na-te ma-a<sup>1</sup>-diš nu-uk-ku-  
 lu ḫi-it-lu-pu ku-uz-bu né-re-bi ú-šá-aš-bit-ma a-na tab-ra-a-te ú-šá-az-zi-iz  
 KUN<sub>4</sub>.MEŠ IM.BABBAR <sup>na4</sup>pa-ru-Ṛti<sup>1</sup> i-na KI.TA-Ṛšú<sup>1</sup>-nu aš-li-ma ú-nam-me-  
 ra mu-šu-ú<sup>78</sup>

At the entrances, I set up (sculptures of) lions, *šēdu*, (and) *lamassu*, whose features are very skilfully wrought (and) which are clothed with luxurious charm, and I stationed (them there) as objects of wonder. I laid down threshold slabs of gypsum (and) alabaster at their feet and (thus) I brightened the exits.

*sik-kàt kar-ri KÙ.GI KÙ.BABBAR ù ZABAR a-na šuk-lil-ti-ši-in al-me-ši-na-  
 ti-ma ú-šá-an-bi-ṭa bu-un-ni-ši-in a-na šu-bat LUGAL-ti-ia at-ma-an šá-áš-  
 ši ni-siq-ti NA<sub>4</sub>.MEŠ ši-pir Ṛtam<sup>1</sup>-[le]-e ar-ma-a qé-red-ša<sup>79</sup>*

<sup>77</sup> Tiglath-Pileser III's r. 745–727 BCE; RINAP 1 47: rev. 17'–18'.

<sup>78</sup> RINAP 1 47: rev. 29'–30'.

<sup>79</sup> RINAP 1 47: rev. 32'–33'.

In order to perfect them (the palatial halls), I surrounded them (with) knobbed pegs of gold, silver and bronze and thus made their appearance bright. For my royal residence, I installed therein a shining chamber, inlaid with choice stones.

Renovating historically important spaces and building at new sites were mutually inclusive ways for the Neo-Assyrian kings to materialise, reinforce and celebrate their royal power. In their own inscriptions, these empire-builders of the ninth, eighth and seventh centuries characterise this transformation of the landscape in terms of a metaphor: what was once dark, gloomy and neglected becomes bright and beautiful.

### **Conclusion**

For the Mesopotamians, brightness was the most important aesthetic feature of certain natural substances like stones and metals and also the artistic objects fashioned from them. Winter has argued that traditionally, the relationship of brightness and beauty was intimately tied to the realm of the sacred because sources of light and their radiance were thought to be embodiments of the divine. I have tried to demonstrate here that we find other ideas about this concept developed in the context of Neo-Assyrian palaces, where polychromy – i.e. colour in its most material aspect – is employed as a vehicle for brightness. In vivid and often dramatic descriptions of their royal residences, Assyrian kings characterise the effect of painted alabaster sculpture, polished wooded doors and glazed brickwork murals, all of which were quickened with intermittent light of lamps and torches, as essentially one of light. Realised with the newest technologies – high-heat glazing, bronze casting and stone working, all on a monumental scale –, colour is articulated as a source of light that can be harnessed with human ingenuity.

## Abbreviated References

- AHw: Soden, Wolfram von. *Akkadisches Handwörterbuch*. 3 Volumes. Wiesbaden: Harrassowitz Verlag, 1959–1981
- CAD: Gelb, Ignace J. et al., eds. *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*. 21 Volumes. Chicago: The Oriental Institute of the University of Chicago, 1956–2010.
- RIMA 1: Grayson, Albert K. *Assyrian Rulers of the Early First Millennium BC I (1114–859 BC)*. Royal Inscriptions of Mesopotamia Assyrian Periods I. Toronto, Buffalo and London: University of Toronto Press, 1991.
- RINAP 3/1: Grayson, Albert K. and Jamie Novotny. *The Royal Inscriptions of Sennacherib, King of Assyria (704-681 BC), Part 1*. Royal Inscriptions of the Neo-Assyrian Period 3/1. Winona Lake: Eisenbrauns, 2012.
- RINAP 3/2: Grayson, Albert K. and Jamie Novotny. *The Royal Inscriptions of Sennacherib, King of Assyria (704-681 BC), Part 1*. Royal Inscriptions of the Neo-Assyrian Period 3/2. Winona Lake: Eisenbrauns, 2014.
- RINAP 4: Leichty, Earl. *The Royal Inscriptions of Esarhaddon, King of Assyria (680-669 BC)*. Royal Inscriptions of the Neo-Assyrian Period 4. Winona Lake: Eisenbrauns, 2011.
- RIA: Ebeling, Erich et al., eds. *Reallexikon der Assyriologie und vorderasiatischen Archäologie*. Berlin: De Gruyter, 1928–.
- VAB: Vorderasiatische Bibliothek. Leipzig, 1907–.

## References

- Albenda, Pauline. *Ornamental Wall Painting in the Art of the Assyrian Empire*. Cuneiform Monographs 28. Leiden: Brill, 2005.
- Ataç, Mehmet-Ali. ‘The Melammu as Divine Epiphany and Usurped Entity.’ In *Ancient Near Eastern Art in Context. Studies in Honor of Irene Winter by Her Students*, edited by Jack Cheng and Marian Feldman, 295–315. Leiden: Brill, 2007.
- Bahrani, Zainab. *The Graven Image: Representation in Babylonia and Assyria*. Archaeology, Culture, and Society. Philadelphia: University of Pennsylvania Press, 2003.
- Berlin, Brent, and Paul Kay. *Basic Color Terms: Their Universality and Evolution*. Berkeley and Los Angeles: University of California Press, 1969.
- Biggam, Carol P. *The Semantics of Colour: A Historical Approach*. Cambridge: Cambridge University Press, 2012.
- Cassin, Elena. *La splendeur divine: Introduction à l'étude de la mentalité Mésopotamienne*. Paris: Mouton & Co., 1968.
- Casson, Ronald W. ‘Color Shift: Evolution of English Color Terms from Brightness to Hue.’ In *Color Categories in Thought and Language*, edited by Clyde L. Hardin and Luisa Maffi, 224–239. Cambridge: Cambridge University Press, 1997.

- Casson, Ronald W. 'On Brightness and Color Categories: Additional Data.' *Current Anthropology* 33 (1992): 395–399.
- Dedrick, Don. 'Colour Language, Thought and Culture.' In *The Routledge Handbook of Language and Culture*, edited by Farzad Sharifian, 270–293. New York: Routledge, 2015.
- Delitzsch, Franz J. 'Der Talmud und die Farben.' *Nord und Süd* 5 (1878): 254–267.
- Fales, Frederik M. 'Art, Performativity, Mimesis, Narrative, Ideology, and Audience: Reflections on Assyrian Palace Reliefs in the Light of Recent Studies.' *Kaskal* 6 (2009): 237–295.
- Foster, Benjamin R. *Before the Muses: An Anthology of Akkadian Literature*. Bethesda: CDL Press, 2005.
- Foulger, Samantha. 'Die Grundfarben im Sumerischen.' MA Thesis, University of Bern, 2006.
- George, A. R. *House Most High: The Temples of Ancient Mesopotamia*. Mesopotamian Civilizations 5. Winona Lake: Eisenbrauns, 1993.
- Gladstone, William E. *Studies on Homer and the Homeric Age*. 3 Volumes. Oxford: Oxford University Press, 1858.
- Gladstone, William Ewart. 'The Color-Sense.' *Nineteenth Century* 2 (1877): 366–388.
- Grayson, Albert K. *Assyrian Rulers of the Early First Millennium BC I (1114-859 BC): Royal Inscriptions of Mesopotamia Assyrian Periods I*. Toronto, Buffalo and London: University of Toronto Press, 1991.
- Grayson, Albert K., and Jamie R. Novotny. *The Royal Inscriptions of Sennacherib, King of Assyria (704-681 BC), Part 1*. The Royal Inscriptions of the Neo-Assyrian Period, 3/1. Winona Lake: Eisenbrauns, 2012.
- Grayson, Albert K., and Jamie R. Novotny. *The Royal Inscriptions of Sennacherib, King of Assyria (704-681 BC), Part 1*. The Royal Inscriptions of the Neo-Assyrian Period, 3/2. Winona Lake: Eisenbrauns, 2014.
- Kay, Paul, and Chad K. McDaniel. 'The Linguistic Significance of the Meanings of Basic Color Terms.' *Language* 54 (1978): 610–646.
- Kertai, David. *The Architecture of Late Assyrian Royal Palaces*. Oxford: Oxford University Press, 2015.
- Landsberger, Benno. 'Über Farben im Sumerisch-Akkadischen.' *Journal of Cuneiform Studies* 21 (1967): 139–173.
- Leichty, Earl. *The Royal Inscriptions of Esarhaddon, King of Assyria (680-669 BC)*. The royal inscriptions of the neo-Assyrian Period 4. Winona Lake: Eisenbrauns, 2011.
- Lerner, Laurence D. 'Colour Words in Anglo-Saxon.' *The Modern Language Review* 46 (1951): 246–249.
- MacLaury, Robert E., Gordon W. Hewes, Paul R. Kinnear, J. B. Deregowski, William R. Merrifield, B. A. C. Saunders, James Stanlaw, Christina Toren, J. Van Brakel,

- and Roger W. Wescott. 'From Brightness to Hue: An Explanatory Model of Color-Category Evolution.' *Current Anthropology* 33 (1992): 137–186.
- Mead, William E. 'Color in Old English Poetry.' *Publications of the Modern Language Association of America* 14, Nr. 2 (1899): 169–206.
- Miglus, Peter. 'Architektur der Festhäuser in Assur und Uruk sowie des Aššur-Tempels in Kar-Tukultî-Ninurta.' *Baghdader Mitteilungen* 24 (1993): 193–215.
- Moorey, Peter Roger Stuart. *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence*. Winona Lake: Eisenbrauns, 1999.
- Moutsiou, Theodora. *The Obsidian Evidence for the Scale of Social Life During the Palaeolithic*. British Archaeological Reports: International 2613. Oxford: Archaeopress, 2014.
- Nunn, Astrid. *Die Wandmalerei und der glasierte Wandschmuck im Alten Orient*. Leiden: Brill, 1988.
- Nunn, Astrid. 'Farben und Farbigkeit auf mesopotamischen Statuetten.' In *Kulturlandschaft Syrien. Zentrum und Peripherie. Festschrift für Jan-Waalke Meyer*. AOAT 371, edited by Jan-Waalke Meyer, Jörg Becker, Ralph Hempelmann, and Ellen Rehm, 427–448 and 659–669. Muenster: Ugarit-Verlag, 2010.
- Nunn, Astrid, Barbara Jändl, and Rupert Gebhard. 'Polychromy on Mesopotamian Stone Statues: Preliminary Report.' *Studia Mesopotamica* 2 (2015): 187–206.
- Oppenheim, Adolf L. 'Akkadian pul(u)ḫ (t)u and melammu.' *Journal of the American Oriental Society* 63, Nr. 1 (1943): 31–34.
- Oppenheim, Adolf L. 'The Golden Garments of the Gods.' *Journal of Near Eastern Studies* 8 (1949): 172–193.
- Paley, Samuel M. 'Creating A Virtual Reality Model of the North-West Palace.' In *New Light on Nimrud. Proceedings of the Nimrud Conference 11th-13th March 2002*, edited by John E. Curtis, Henrietta McCall, Dominique Collon, and Lamia al-Gailani Werr, 195–207. London: British School of Archaeology, 2008.
- Pongratz-Leisten, Beate. 'Melammu' *The Encyclopedia of Ancient History* 1 (2012): 10–26. <https://doi.org/10.1002/9781444338386.wbeah24143>.
- Reade, Julian E. 'A Glazed-Brick Panel from Nimrud.' *Iraq* 25, Nr. 1 (1963): 38–47.
- Reade, Julian E. 'Assyrian Architectural Decoration. Techniques and Subject-matter.' *Baghdader Mitteilungen* 10 (1979): 17–49.
- Reade, Julian E. 'Narrative Composition in Assyrian Sculpture.' *Baghdader Mitteilungen* 10 (1979): 52–110.
- Reade, Julian E. 'Space, Scale, and Significance in Assyrian Art.' *Baghdader Mitteilungen* 11 (1980): 71–74.
- Reade, Julian E. *Assyrian Sculpture*. edited by British Museum. London: British Museum Press, 1983.
- Russell, John M. 'The Program of the Palace of Assurnasirpal II at Nimrud. Issues in the Research and Presentation of Assyrian Art.' *American Journal of Archaeology*, 1998, 655–715.

- Saunders, Barbara. 'Revisiting Basic Color Terms.' *Journal of the Royal Anthropological Institute* 6 (2000): 81–99.
- Shepperson, Mary. *Sunlight and Shade in the First Cities: A Sensory Archaeology of Early Iraq*. Mundus Orientis, volume 1. Göttingen and Briston: Vandenhoeck & Ruprecht, 2017.
- Shepperson, Mary. 'The Rays of Šamaš. Light in Mesopotamian Architecture and Legal Practice'. *Iraq* 74 (2012): 51–64.
- Soden, Wolfram von. 'Licht und Finsternis in der sumerischen und babylonisch-assyrischen Religion.' *Studium Generale* 13 (1960): 647–653.
- Tadmor, Hayim, and Shigeo Yamada. *The Royal Inscriptions of Tiglathpileser III (744-727 BC) and Shalmaneser V (726-722 BC), Kings of Assyria*. The Royal Inscriptions of the Neo-Assyrian Period 1. Winona Lake: Eisenbrauns, 2011.
- Thavapalan, Shiyanthi. 'Purple Garments in Akkadian Documents.' *Journal of Near Eastern History* 3, Nr. 2 (2018).163-190.
- Thavapalan, Shiyanthi. 'The Meaning of Color in Ancient Mesopotamia.' PhD diss., Yale University, 2017.
- Thavapalan, Shiyanthi, Jens Stenger, and Carol Snow. 'Color and Meaning in Ancient Mesopotamia: The Case of Egyptian Blue.' *Zeitschrift für Assyriologie und vorderasiatische Archäologie* 106, no. 2 (2016): 198–214.
- Tomabechi, Yoko. 'Wall paintings from the Northwest Palace at Nimrud.' *Archiv für Orientforschung* 33 (1986): 43–54.
- Verri, Giovanni, Paul Collins, Janet Ambers, Tracey Sweek, and St John Simpson. 'Assyrian Colours: Pigments on a Neo-Assyrian Relief of a Parade Horse'. *British Museum Technical Research Bulletin* 3 (2009): 57–62.
- Warburton, David A. 'Basic Color Term Evolution in the Light of Ancient Evidence from the Near East.' In *Anthropology of Color. Interdisciplinary Multilevel Modeling*, edited by Robert E. MacLaury, Galina V. Paramei, and Don Dedrick, 229–246. Amsterdam and Philadelphia: John Benjamins Publishing Co., 2010.
- Warburton, David A. 'Colourful Meaning: Terminology, Abstraction and the Near Eastern Bronze Age.' In *Excavating the Mind: Cross-sections Through Culture, Cognition and Materiality*, edited by Helle J. Jensen, Mads Jessen, and Niels Johannsen, 183–208. Aarhus: Aarhus University Press, 2012.
- Warburton, David A. 'The Theoretical Implications of Ancient Egyptian Colour Vocabulary for Anthropological and Cognitive Theory.' *Lingua Aegyptia* 16 (2008): 213–259.
- Winter, Irene J. 'Radiance as an Aesthetic Value in the Art of Mesopotamia.' In *The Integral Vision*, edited by Baidyanath N. Saraswati, Subhash C. Malik, and Michael Khanna, 123–129. New Delhi: DK Printworld, 1994.
- Winter, Irene J. 'The Aesthetic Value of Lapis Lazuli in Mesopotamia.' In *Cornaline et pierres précieuses. La Méditerranée de l'Antiquité à l'Islam*, edited by Annie Caubert, 43–58. Paris: La documentation Française / Musée du Louvre, 1999.
- Winter, Irene J. 'The Eyes Have it: Votive Statuary, Gilgamesh's Axe, and Cathected

Viewing in the Ancient Near East.’ In *Visuality Before and Beyond the Renaissance. Seeing as Others Saw*, edited by Robert S. Nelson, 22–44. Cambridge: Cambridge University Press, 2000.

Zanon, Martina. ‘The Symbolism of Colours in Mesopotamia and the Importance of Light.’ In *International Congress on the Archaeology of the Near East, London, 12-16 April 2010, the British Museum and UCL, London*, edited by Roger Matthews and John Curtis, 221–243. Wiesbaden: Harrassowitz Verlag, 2012.

Zawadzki, Stefan. *Garments of the Gods: Studies on the Textile Industry and the Pantheon of Sippar According to the Texts from the Ebabbar Archive*. Orbis Biblicus et Orientalis 218. Fribourg: Academic Press Fribourg, 2006.

Zawadzki, Stefan. *Garments of the Gods: Volume 2. Texts*. Orbis Biblicus et Orientalis 260. Fribourg: Academic Press Fribourg, 2013.