

# COLOUR AND CULTURAL MAINTENANCE IN ANCIENT BABYLONIA: CONTEXTUALIZING WOOL DYE RECIPE

BM 62788 + BM 82978

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**ABSTRACT** · This work explores the historical relationship between colour and cultural maintenance in ancient Babylonia by examining a fragmentary cuneiform tablet containing wool dyeing recipes from the mid first millennium BCE (BM 62788 + BM 82978). The present analysis is comprised of three sections. First, an introduction to colour maintenance and its relation to cultural identity in modern and ancient societies (§ 1). Second, a philological and technical overview of tablet BM 62788 + BM 82978 (§ 2). And finally, a return to the question of the historical context of colour maintenance that focuses on the Babylonian clothing ceremony known as *lubuštu* (§ 3). What follows seeks to move beyond a solely technological reconstruction of a Babylonian wool dye recipe, with the aim of demonstrating the text's importance to the cultural history of colour maintenance.

**KEYWORDS** · Assyriology, Cuneiform Studies, History of Science, History of Technology, Wool Dyeing, Colour Maintenance.

## 1. INTRODUCTION

**T**HIS work examines the cultural history of dyeing technology from the vantage point of a fragmentary Babylonian wool dyeing recipe from the mid first millennium BCE. In this study, the text under discussion, BM 62788 + BM 82978, serves as the starting point for constructing a social biography of colour, as expressed in two distinct types of textual documents from the Neo-Babylonian Period (ca. 626-529 BCE). The first of these sources is a single, fragmentary and unprovenanced cuneiform tablet containing a collection of recipes for dyeing wool in a variety of reds, blues, and purples (§ 2). The second (§ 3), a set of largely administrative sources that document the distribution of dyed garments for the clothing of the gods during a ceremony called *lubuštu*. Additionally, these contemporaneous administrative texts, which hail principally from the city of Sippar, document the receipt of goods and commodi-

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ties, including, importantly, the import of alum (*gabû*) and costly dyes by temple and state actors.

Within the present framework, the history of wool dyeing and coloured garments in ancient Babylonia is explored via cultural concepts of maintenance (§ 1). Colour, it is argued, is a key component of cultural identity that must be maintained through repetitive rituals of preservation, both sacred and profane. Collectively, the work that follows offers – much like the one-to-one mordant to dye ratio of the recipe in question – a bipartite production, evenly split between cultural history of colour and textual analysis of Babylonian dyeing recipes.

## 2. FROM BOLOGNA RED TO BABYLONIAN BLUE: COLOUR AS CULTURAL MAINTENANCE

The importance of colour in preserving local culture is just as ubiquitous today as it was in antiquity. Take for example the modern city of Bologna, long known by its epithet *La Rossa*. As any of its inhabitants will readily relate, the city's redness is owed to its clay-coloured structures and the "red" nature of its left-leaning citizens. Beyond these colloquial aetiologies, however, Bologna's redness is not defined by a single feature, but rather a set of signifiers that point to a perpetual and decidedly local process of cultural preservation. *La Rossa* must be kept red through active maintenance. Indeed, while from a certain distance the cityscape of *La Rossa* would suggest chromatic uniformity, a closer inspection reveals neither consistency nor standardization. Within the imagined spectrum of Medieval colourways that envelop the city's porticos, there is no singular "Bologna red".

In a work entitled "Bologna Sample" (1992), artist Angela Lorenz collected 179 different variations of "Bologna red", each codified in hand-painted watercolour swatches that represented an individual part of what Lorenz characterized as the city's "living color wheel".<sup>1</sup> (FIG. 1)

Today, thirty years later, Lorenz's visual catalogue of Bologna's colourways is an archaeological document, as the colours of the same streets have experienced subtle change, both visual and chemical.

<sup>1</sup> A signed copy of artist book "Bologna Sample" (1992) by Angela Lorenz may be found at the Rhode Island School of Design and accessed online: [https://digitalcommons.risd.edu/specialcollections\\_artistsbooks/145/](https://digitalcommons.risd.edu/specialcollections_artistsbooks/145/); the same artist produced a book that includes these color samples for *Gelatauro*, a gelateria found on via San Vitale in Bologna. I thank Aline S. O Kano for bringing this reference to my attention and Angela Lorenz, whose work inspired this section, for reading an early draft of this piece.

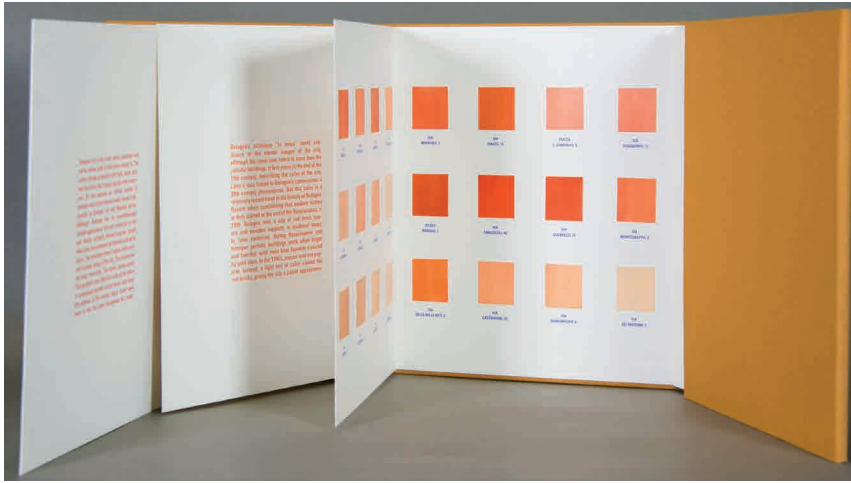


FIG. 1. The 179 watercolor © Lorenz, Angela, Bologna, Italy:  
Angela Lorenz, 1992.

Near one of the city's southern gates, we find a recent example of contemporary maintenance. The accompanying photograph (FIG. 2) provides a snapshot of maintenance in progress. Here, what would seem to be quotidian colour matching is in fact evidence of where technological change meets local preservation. The colour codes (from top to bottom) K007.004, K.007.005, K061.008, S062.008, C3037 are produced by Kerakoll, an eco-friendly acrylic-based concrete paint,<sup>1</sup> produced by a company that proclaims itself an “international leader in Greenbuilding”.<sup>2</sup> Bologna's reds, in this instance, signify not just local maintenance, but a case in which colour preservation meets global environmentalism.<sup>3</sup>

What, then, is “Bologna red” if not a single colour, nor even a standardized spectrum (*i.e.*, a closed system of colour options)? The city's colourway, it would seem, is the result of organic, unplanned decisions and a tradition of local preservation. These organic rituals of preservation are themselves subject to historical forces, including the modern ethical implications of environmental change, as reflected in the eco-friendly reds that line the city modern walls. Against this dynamic backdrop, Bologna's reds are best understood through their relationship to and fight

<sup>1</sup> <https://shop.kerakoll.com/product/k007-004/>.

<sup>2</sup> <https://www.kerakoll.com/en/>.

<sup>3</sup> “Environmentalism” is employed here in the broadest sense to suggest a tamer version of “ecocentric ethics”, which is at play in the selection and/or avoidance of harmful paint chemicals within a community; indeed, the collective effort to shift away from harmful chemicals in urban preservation is reflected in both local and global (*i.e.*, European state) levels. See MERCHANT 1990, pp. 57-68.



FIG. 2. Kerakoll samples on Bologna's city walls.  
Photograph by author taken April 2022.

against the passage of time. So long as the city remains part of a living culture, “Bologna red” will remain plastic. In effect, the colours of the city are ostensibly local – and perhaps today, environmentally determined – versions of an earlier “Bologna red”.

Echoes of colour maintenance and colour reproduction are equally accessible within the ruins of ancient world. Cultural notions of colour maintenance can be accessed through seemingly mundane fragments: a colour swatch painted temporarily on a dilapidated wall as we have seen, or, as we shall find below, within the fragmentary remains of an unprovenanced Babylonian recipe for dyeing wool. In what follows we shift our focus from the living colour wheel of Bologna's reds to the dead civilizations that codified and preserved Babylonian blues in the 6<sup>th</sup> century BCE.

### 3. REFRAMING BM 62788 + BM 82978: A BABYLONIAN RECIPE FOR DYEING WOOL (CA. 6<sup>TH</sup> BCE)

An unprovenanced cuneiform tablet – known by its British Museum catalogue number BM 62788+ – preserves a rare and underexamined example of Babylonian wool dyeing procedures attributed to the city

of Sippar and dated to the 6<sup>th</sup> century BCE.<sup>1</sup> This single column tablet measures 7 cm in length (at its longest preserved point), 6.6 cm wide, with a thickness of 1.8 cm. The obverse preserves four distinct sections separated by four single rulings and is in a poor state of preservation; the reverse is well preserved by comparison and contains nine discrete sections separated by rulings. Erle Leichty published a partial edition of the tablet in 1979, which remains the only published edition.<sup>2</sup> The discovery of a new fragment by British Museum curator Irving Finkel, BM 82978, postdates Leichty's edition and has facilitated the production of a fresh analysis of the text which is particularly productive for reconstructing the more legible reverse of the tablet (see FIG. 3).

The tablet has undergone several historical and philological analyses since Leichty's publication, including Matteo Martelli (a contributor to this volume) and Maddalena Rumor,<sup>3</sup> and, more recently, Shiyanthi Thavapalan,<sup>4</sup> another contributor to this volume, whose work on colour terminology has proved particularly fruitful in reconstructing the terms and materials enumerated in the table below.<sup>5</sup>

TAB. 1. Colour Terms and Materials Appearing in BM 62788 + BM 82978.

Akkadian Colour Terms	Materials Used (with possible identification)
<i>argamannu</i> : a rich purple	<i>ḥaṭḥūru</i> -dye + alum + "water of clay"; or <i>kasû</i> ("beet?" wr. GAZI <sup>sar</sup> ); yellowish green <i>urriqu</i> coloured can also be used as the starting point for <i>argamannu</i> in tandem with <i>ḥaṭḥūru</i> -dye (madder? woad?)
<i>ḥašmanu</i> : bluish green	<i>uqnātu</i> -wool + alum ( <i>gabû</i> ) + unidentified plant dye
<i>tabarru</i> : red	<i>ḥūratu</i> (madder) <sup>6</sup> or <i>ḥaṭḥūru</i> -dye (madder, woad?) or <i>inzahurētu</i> (possibly kermes) <sup>7</sup>

<sup>1</sup> Given that the tablet's date is approximate, I have adopted the dates provided by the British Museum [https://www.britishmuseum.org/collection/object/W\\_1882-0918-2757](https://www.britishmuseum.org/collection/object/W_1882-0918-2757).

<sup>2</sup> LEICHTY 1979.

<sup>3</sup> MARTELLI, RUMOR 2014, pp. 50-53.

<sup>4</sup> THAVAPALAN 2020, pp. 183-184 for an overview of the dyeing ingredients utilized in the recipe.

<sup>5</sup> We may also refer to Table 4.8 in PAYNE 2007, pp. 135-136, which documents the same ingredients as they appear in Neo-Babylonian texts from the Eanna Archive.

<sup>6</sup> STOL 1980-1983, pp. 534-535.

<sup>7</sup> A recent overview of possible Akkadian terms for kermes, see AUFRÈRE, JOHNSON, MARTELLI, BERETTA 2022, p. 69.

Akkadian Colour Terms	Materials Used (with possible identification)
<i>takiltu</i> : dark blue “lapis lazuli” <sup>1</sup>	<i>ḥaṭḥūru</i> (madder?) + <i>uqnātu</i> wool
<i>uqnātu</i> : blue “lapis lazuli” <sup>2</sup>	Ingredients remain fragmentary on the tablet obverse, however the recipe appears to indicate exposure to open air; woad has also been suggested as a translation for <i>uqnātu</i> <sup>3</sup>
<i>urrīqu</i> : yellowish green	Unknown ingredients

Tab. 1 indicates both the colour terms and corresponding ingredients mentioned in BM 62788+. Note that in all cases where alum is mentioned, it is utilized in a 1:1 ratio, *i.e.*, “weighed in equal parts”<sup>4</sup> with either virgin wool or wool that was previously dyed. This point is examined further below in comparison with contemporaneous administrative records. The recipes on the tablet indicate that certain colours can be combined by using and reusing several dye baths, *e.g.*, blue *uqnātu* wool with alum and a plant dye to achieve a bluish green called *ḥašmanu*. As explored in the discussion that ensues, the practice of double dyeing and/or re-dyeing garments may shed some light on the tablet’s connection to the well-documented *lubuštu* ceremony in Babylonia, which focused on maintaining the garments of the gods. Moreover, as indicated by the table’s second column, there are multiple ways of achieving a single colour using plant-based dyes, a phenomenon that has led to the interpretation espoused in The British Museum catalogue description of BM62788+, which characterizes the text as a set of wool dyeing recipes «given to produce blue and purple wool, cheap versions of foreign imports». Whether such conclusions can be made must follow from a close reading of the text.

Although the obverse of the tablet is highly damaged, what remains of it points to the use and reuse of dye baths, in an effort, we may assume, to enrich the colour of woollen garments that had lost their vibrancy; in obv. 12’-14’, we read for example:

**BM 62788+ obv.**

12’. [ŠUB ana ŠĀ] áš-šu ʿx<sup>1</sup> E<sub>11</sub>-ma sigZA.[GÌN].NA

13’. [A-MEŠ] ʿši<sup>1</sup>-pi šu-nu-ʿtú<sup>1</sup> re-e-ḥi SÍG-ḤI.A ana ʿŠĀ<sup>1</sup> ŠUB

14’. [a-na maḥ]-ʿri<sup>1</sup>-im-ma 1-[šú] 2-šú 3-šú DÙ<sup>ns</sup> ʿEN<sup>1</sup> 5 ʿši-pi ŠUB a-na lib-bi

<sup>1</sup> Written logographically sigZA.GÌN.KUR.RA.

<sup>2</sup> Written logographically sigZA.GÌN.(NA).

<sup>3</sup> THAVAPALAN 2020, pp. 319-320.

<sup>4</sup> Akkadian *malmališ tašaqal* (*mál-ma-liš LÁ*).

<sup>5</sup> In this context EN is to be read as the *adi*.

**Translation**

[you dip it] so that ... you pull it out: “lapis-lazuli” *uqnātu*-wool (wr. <sup>sig</sup>ZA. [GIN<sub>3</sub>].NA)

You dip the various wools into those liquids which were left over from the (previous) dye-mixture;<sup>1</sup> you will do this once, twice, thrice – until you dye it (the wool completely) ...

Lines obv. 13’-14’ provide instructions for reusing the same dye bath that produces the lapis *uqnātu* -wool of line obv. 12’, a practice of double-dyeing that would certainly have enriched the garment’s colour.<sup>2</sup> Varieties of blue wool, including *uqnātu* and the (presumably) darker blue called *takiltu*, were closely monitored by Neo-Babylonian temple economies, as attested by YOS 19, 74, a contract which preserves the disbursal of 6 minas of *takiltu*-coloured wool given to a weaver:

**Translation YOS 19, 74<sup>3</sup>**

Innin-šumu-ušur

Tāb-Uruk received 6 minas of “fresh” dark blue *takiltu*-wool from Nūrēa

Gimillu

Ipšaru.

He (\*Innin-šumu-ušur) bears the responsibility for entering this *takiltu*-wool, the 5 (sic?) minas, in the writing board of the Lady-of-Uruk.

(witness list follows)

The phrase *ša pî ruqqi*, “fresh from the cauldron” (translated simply as “fresh” above) is suggestive,<sup>4</sup> and provides contemporaneous evidence for a distinction likely made within Babylonia between fresh or newly dyed garments and older garments that may have been re-dyed or refinished.<sup>5</sup>

To avert discoloration, Babylonians used *gabû*, “alum” as their principal mordant.<sup>6</sup> We find alum used throughout the start of each recipe on

<sup>1</sup> In Akkadian *mû šîpi šunûtu rēhi*.

<sup>2</sup> See THAVAPALAN 2020, p. 318 for further discussion on double-dyeing in cuneiform sources, including the text under discussion.

<sup>3</sup> Translated (with minor modifications) by PAYNE 2007, pp. 132-133. Like other administrative tablets of this type, the text is meant as a pithy summary of a transaction to be entered into a larger writing board. The tablet contains a number of personal names, including Innin-šumu-ušur, who is charged with overseeing the delivery of *takiltu*-wool received by a Tāb-Uruk; as Payne notes, the names Nūrēa Gimillu, Ipšaru are not attested elsewhere.

<sup>4</sup> PAYNE 2007, p. 137, n. 245.

<sup>5</sup> ZAWADSKI 2006, see especially Table 30, pp. 158-160, which traces the allotment of garments both old, i.e., used (*labiru*) and new (*eššu*) provided for the gods, as represented in *tabû* texts.

<sup>6</sup> KOREN 2015, p. 200. A mordant is a fixative, and, as the Latin root *mordere* (“to bite”) suggests, mordants like alum allow for organic dyes to attach to – “bite” – the undyed fabric.

the more well-preserved reverse, which provides instructions for creating various shades of blues. Some are exceedingly rare and costly, but nevertheless attested in temple administrative documents from the period. The translation below includes the new fragment BM 82978; note the regular occurrence of “alum” (*gabû*) at the start of each section:

**BM 62788+BM 82978 Rev. Transliteration**

1'. [...] DU [...]

2'. [... *mál*]-<sup>1</sup>*ma*<sup>1</sup> -*liš* LÁ *ina* A-MEŠ *ina* IZI <sup>1</sup>ŠEG<sub>6</sub><sup>1</sup>[<sup>šal</sup>]

3'. [...] <sup>1</sup>BAR<sup>1</sup>(?) GAZ.GAZ ù <sup>sig</sup>ZA.GÌN

4'. [*mál-ma-liš* LÁ *ina* A]-MEŠ A NÍG.ÀR.RA *ina* IZI ŠEG<sub>6</sub><sup>šal</sup>

5'. [... E<sub>11</sub>] <sup>sig</sup>*ha-áš-ma-nu*

6'. [...] <sup>na4</sup><sup>1</sup>*gab*<sup>1</sup> -[*bu*]-ú *mál-ma-liš* LÁ *ina* A-MEŠ *ina* IZI <sup>1</sup>ŠEG<sub>6</sub><sup>1</sup>[<sup>šal</sup>]

7'. EN A-MEŠ IDIM *ha-at-hu-ri-tu*<sub>4</sub> RAD <sup>sig</sup>ZA.GÌN

8'. *mál-ma-liš* LÁ *ina* A-MEŠ *ina* IZI ŠEG<sub>6</sub><sup>šal</sup> E<sub>11</sub>-*ma* <sup>sig</sup>ZA.GÌN.KUR.RA

9'. GAZI<sup>sar</sup> *ana* A ŠUB *ina*!(BAD)<sup>1</sup> IZI ŠEG<sub>6</sub><sup>šal</sup> *ta-šá-hal* <sup>sig</sup>BABBAR *tal-qu*

10'. *a-na* ŠÀ ŠUB *ina* IZI ŠEG<sub>6</sub><sup>šal</sup> E<sub>11</sub>-*ma* <sup>sig</sup>*ar-ga-man-nu*

11'. <sup>sig</sup>BABBAR *tal-qu* u <sup>na4</sup>*ga-bu-ú* *mál-ma-liš* LÁ *ina* A-MEŠ *ina* IZI ŠEG<sub>6</sub><sup>šal</sup>

12'. EN A-MEŠ IDIM *ha-at-hu-ru-tú* SÚD u <sup>sig</sup>BABBAR *tal-qa šú-nu-tú*

13'. *mál-ma-liš* LÁ *ina* A-MEŠ u A šá <sup>1</sup>IM<sup>1</sup> *ina* IZI <sup>1</sup>ŠEG<sub>6</sub><sup>šal</sup> E<sub>11</sub>-*ma* <sup>sig</sup>*ar-ga-man-nu*

14'. SÍG-HI.A *ta-hal-la-aš* <sup>na4</sup>*gab-bu-ú* *mál-ma-liš* LÁ *ina* A-MEŠ

15'. *ina* IZI ŠEG<sub>6</sub><sup>šal</sup> EN A-MEŠ <sup>1</sup>IDIM<sup>1</sup> *lu-ú ha-<sup>1</sup>at<sup>1</sup>-hu-ri-tú*

16'. *lu-u in-za-hu-re-<sup>1</sup>ta<sup>1</sup> lu-u* <sup>sig</sup>TÚG<sup>u</sup> SÍG-HI.A *ši-na-tú*

17'. <sup>1</sup>*mál-ma-liš*<sup>1</sup> [LÁ *ina*] <sup>1</sup>A<sup>1</sup>-MEŠ A NÍG.ÀR.<RA> *ina* IZI ŠEG<sub>6</sub><sup>šal</sup> E<sub>11</sub>-*ma* <sup>sig</sup>*ta-bar-ru*

18'. [...]

**BM 62788+BM 82978 Rev. Translation**

rev. 1'

(broken)

rev 2'-5'

[you take natural wool and alum], you weigh in equal parts, you heat it in water over a fire, you crush the (...) and (along with) dark blue-*uqnātu* wool. You heat it over a fire with water and barley-gruel (wr. A NÍG.ÀR.RA)<sup>2</sup>

<sup>1</sup> What appears on the tablet as the sign BAR is to be read *ina*.

<sup>2</sup> For the translation “barley-gruel” (previously read A *šá har-ra*, translated as “water from an irrigation ditch”) see STOL 2021, p. 196.



[you pull it out]: *ḥašmanu*-colored wool

rev. 6'-8'

[you take natural wool] and alum and you weigh them in equal parts, you (then) heat it in water over a fire until the dye mixture has been exhausted,<sup>1</sup> you weigh pulverized *ḥathūru*<sup>2</sup> (and) lapis coloured *uqnātu*-wool in equal parts and heat it in water over a fire. You pull it out: dark blue-*takiltu* wool (<sup>sig</sup>ZA. GÌN.KUR.RA)

rev. 9'-10'

you place *kasû*-plant (GAZI<sup>sat</sup>) into the water and you boil them with fire, you sift (the mixture), you take natural (un-dyed) wool and you place it into the dye bath and heat it over fire. You pull it out: purple-*argamannu*

rev. 11'-13'

you take natural wool and alum and weigh them in equal parts, you heat it (the mixture) in water over a fire until the liquid mixture has been exhausted; the pulverized *ḥathuru*, and the natural wool, you weigh them in equal parts, you heat the mixture in regular water and "water of clay" and heat it over a fire. You pull it out: purple-*argamannu*

rev. 14'-17'

you comb out the various wools and you weigh them in equal parts with alum; you heat it over a fire in water with either *ḥathuru*, or *inzaḥurētu*, or *ḥūratu*(!);<sup>3</sup> these various wool(-dyeing ingredients) you weight them together in equal parts, you heat (the mixture) over a fire with water (or) "barley-gruel". You pull it out: red-*tabarru* colored wool

rev. 18'

(broken)

Instructions in BM 62788+ are pithy and do not provide metrological information, distinguishing the text from the earlier glass recipes, which preserve detailed measurements for volume and weight;<sup>4</sup> indeed, the shorthand nature of the wool dyeing instructions is more closely mir-

<sup>1</sup> TIL is the logogram used to mean finished, in this case, exhausted.

<sup>2</sup> A discussion of *ḥathuru* may be found in THAVAPALAN 2020, pp. 266-269.

<sup>3</sup> For *ḥūratu* in rev. 16', the signs read GIŠ-TÚG-U, or <sup>sig</sup>TÚG<sup>u</sup>, *taskarinnu*, for "boxwood"; I have read instead *ḥūratu* (<sup>sig</sup>HAB<sup>u</sup>), based on the regular co-occurrence of *ḥathuritu*, *inzaḥurētu*, and *ḥūratu* in administrative documents. It appears the scribe of BM 62788+ employed the sign TÚG "garment" rather than HAB; a fortuitous error, considering the subject of the recipe. There is, to my knowledge, little justification for reading <sup>sig</sup>TÚG<sup>u</sup> "boxwood" in this context.

<sup>4</sup> For the importance of fractional metrology in glassmaking recipes see ESCOBAR 2023 (forthcoming). See also Thavapalan in this volume.

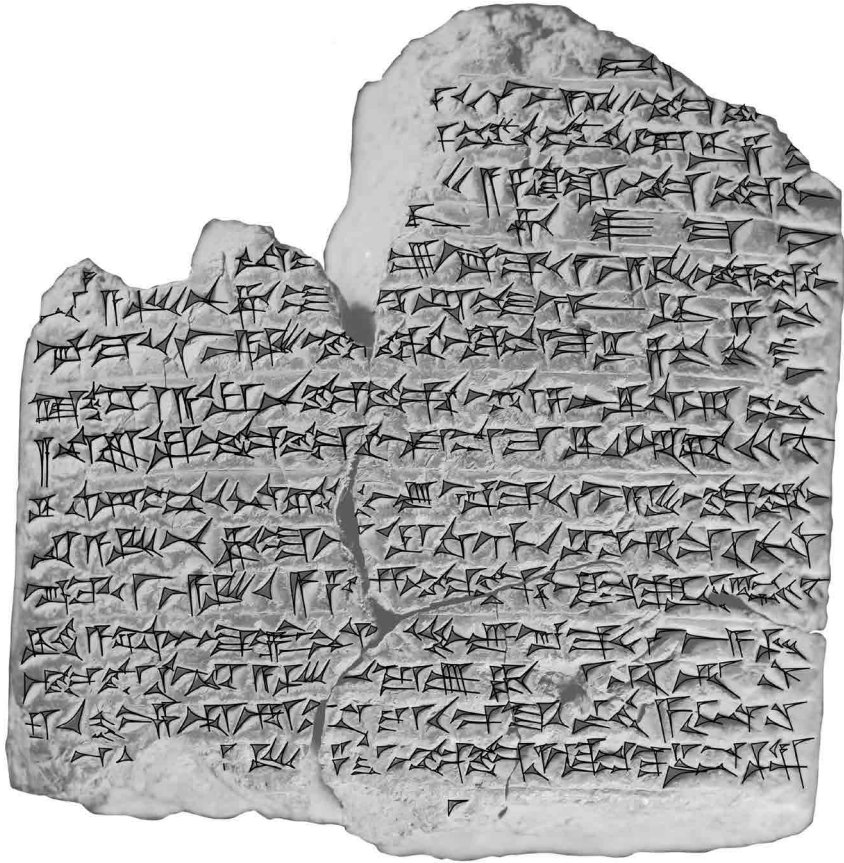


FIG. 3. Reverse of tablet BM 62788 +.  
Modified photograph and copy made by author.

rored in the Babylonian medical recipe tradition, in which quantities are rarely provide in exact quantities.<sup>1</sup>

Here, alum – the principle mordant used in these texts (Akk. <sup>na4</sup>gabû “alum”) – is simply «weighed in equal parts» (lit: «you weigh together», Akk. *malmališ tašaqqal*) with the un-dyed wools, as in rev. 14'-16. Although we are not told about the source of the dyes (their mineral, plant, geographical origin), we can deduce that the dye mixtures were

<sup>1</sup> As Irving Finkel has stated: «It is a well-known characteristic of Mesopotamian medical literature that recipes do not as a rule specify quantities; listing drug names usually will suffice for a professional practitioner who will have known through experience or instinct how much was needed in a particular case», FINKEL 2000, pp. 146-147.

crushed and pulverized.<sup>1</sup> The addition of a new fragment, BM 82978 provides clear evidence for a number of Akkadian terms for dyes that are elsewhere mentioned in the Eanna Archive,<sup>2</sup> these include: *ḥathuru* (unidentified), *inṣaḥurētu* (possibly derived from insects in the genus *Kermes*), and *ḥūratu* (likely “madder”).<sup>3</sup> The final legible section of the tablet, rev. 14'-17', indicates that when making red-*tabarru* wool, these three ingredients are interchangeable. A fascinating aspect of this section is the element of choice and the possibility of employing replacement ingredients, a key archetype of historical recipes.<sup>4</sup>

A perplexing and still unexplored element of the texts is the use of mineral rich, so-called “clay water”<sup>5</sup> and the newly identified use of “barley-groats” on the tablet’s reverse, both of which require further analysis and would lend themselves well to an experimental approach. While ingredient identification is certainly useful in our consideration of the technological aspects of the text, there is much more to say about the text’s historical context. Returning to our initial framework, how do we move further in contextualizing the recipe within the proposed framework of colour as cultural maintenance?

#### 4. MAINTAINING THE GARMENTS OF THE GODS

Tracing the occurrence of ingredients from our wool dye recipe in contemporaneous administrative documents provides a productive avenue for contextualization of a recipe that remains, at present, isolated from its local context. Administrative texts such as YOS VI 168, for example, provide reference to the trade of *takiltu* wool. The text is dated to the 7<sup>th</sup> day and 6<sup>th</sup> year of king Nabonidus (556-539 BCE), and includes a specific reference to the *takiltu* coloured wool:

Date: tašritu, 7<sup>th</sup> day, year 6 of Nabonidus, king of Babylon. 3 minas 10 shekels of the *takiltu*-dyed wool are the tithe of Nādin-aḫi, 5 minas of the *takiltu*-dyed wool and 40 minas of iron are the tithe of Šamaš-zēr-ibni.<sup>6</sup>

Recall that in rev. 6'-8' of BM 62788+, *takiltu* is produced by heating water with alum and *ḥathūru* dye. And indeed, YOS VI 168 accounts as well for the large-scale import of *inṣaḥurētu* and *ḥūratu* dye, in quantities as large as 233 minas 20 shekels and 120 minas respectively. Organic dyes and/or coloured wool garments regularly appear on the same admin-

<sup>1</sup> The verb *ḥašālu*, (GAZ.GAZ for *tahaššal*) as in rev. 3', indicates that these ingredients were all crushed, likely into a powder form dissolvable in water.

<sup>2</sup> See especially, PAYNE 2007, pp. 133-139.

<sup>3</sup> The identification of *ḥūratu* as “madder” can be found in STOL 1980-1983, pp. 534-535.

<sup>4</sup> An introduction to such recipes may be found in LEONG, RANKIN 2011.

<sup>5</sup> A-MEŠ IDIM, rev. 12'.

<sup>6</sup> See GRASLIN-THOMÉ 2016, p. 168.

istrative tablets. Moreover, it is not unusual to find dyes like *ḫathūru*, *inzaḫurētu*, and *ḫūratu*, shipped together with alum (*gabû*).

In one instance, Nbn 794, *inzaḫurētu* is imported into Sippar in equal quantities to alum.<sup>1</sup> However, in most cases, the proportion of *inzaḫurētu* to alum is 2:1.<sup>2</sup> Nbn 794 is particularly compatible with our wool-dye recipe because it explicitly groups *inzaḫurētu* dye, alum (*gabû*), and *takiltu*-coloured wool, as in our recipe tablet (BM 62788+ rev. 14'-17' above), providing evidence for the thesis, proposed by Stefan Zawadski, that wool garments were re-dyed.<sup>3</sup> Indeed, as intimated by the broken obverse sections BM 62788+, the text should be viewed as belonging to the family of administrative documents that recorded both production and the maintenance (i.e., re-dyeing) of garments. Still, the question remains as to why committing such a recipe to writing was of importance to a cuneiform scribe.

An answer may lie in a Babylonian ritual known as the *lubuštu* ceremony. Zawadski's two-volume *Garments of the Gods* has collected texts related to the textile industry at Sippar from the Ebabbar archive.<sup>4</sup> These documents testify to a rich industry of garment preparation for a clothing ceremony called *lubuštu*, during which the cult statues of the gods were freshly clothed with garments of the richest colours available, including *argamannu*, *hašhūru*, and *takiltu*.<sup>5</sup> The procession and clothing rituals could take place on a monthly or yearly basis, and was, without doubt, a regular part of scribal administration and urban culture. The ceremony was no small event. By Zawadski's estimate, 1100 sheep required sheering in order for the weavers to craft divine garments.<sup>6</sup>

Wool dyeing during the Neo-Babylonian period was a specialized trade sustained by complex local temple economies and long-distance trade. Dyed wool garments were important economically and could be used as a form of payment,<sup>7</sup> but dyed wool was also a product of high cultural value. Rich blue and purple garments were gifted to the gods

<sup>1</sup> See ZAWADSKI 2006, p. 45.

<sup>2</sup> See especially Table 2 in ZAWADSKI 2006, p. 45.

<sup>3</sup> ZAWADSKI 2006, p. 45 indicates that in addition to fresh wool, finished garments were also dyed and brought back to their original vibrancy.

<sup>4</sup> ZAWADSKI 2006.

<sup>5</sup> Indeed, the connection to colours mentioned in *lubuštu* ceremony texts and the wool dye recipe from Sippar has already been noted by Paul-Alan Beaulieu, see BEAULIEU 2003, p. 16.

<sup>6</sup> ZAWADSKI 2014, p. 443. Note that this number accounts for the production of new garments of sheep. Obviously, re-dyeing older garments would not have required fresh wool.

<sup>7</sup> Zawadski collected a number of Neo-Babylonian texts describing the bartering and payment of services using wool; see ZAWADSKI 2002.

and perpetually maintained, but not all gods received fresh garments. Indeed, the highest quality dyed garments were given to the city's patron god Shamash. Thus, dyed garments signified not just divine and elite identity, but also generated, by extension, a chromatic hierarchy among the gods of the city.

When translating ancient recipes like BM 62788+, the challenge of identifying colour terms is invariably met with the subjectivity of our own perception,<sup>1</sup> and what may seem an insurmountable epistemological gap between the pithy instructions provided on our recipe tablet, and the experiential knowledge of the expert dyers and launderers in ancient Babylonia.<sup>2</sup> Despite these methodological hurdles, however, it is clear that the network of experts in charge of the garment and dye industry were important actors within a temple economy.

Moreover, while Babylonian weavers, dyers, and launderers were indeed elite technicians, we should resist the intuition to imagine them as full-time guild members in the service of the temple institution. When clothing ceremonies like *lubuštu* were not in season, weavers would take on other craft or construction related trades; TCL 12, 94, for example, lists rations for work on the Takkīru canal, and includes a weaver named Innin-zēru-ušabši.<sup>3</sup> This example is rare, not because weavers rarely worked in other trades, but because scribal administrators were, by nature, pragmatic – rarely did they record a person's professional title unless it served some purpose for the task at hand. In most cases, ration lists and other administrative texts simply documented the person's family name (including the patronymic), and little else. We should expect, in other words, a society filled with jack-of-all trade figures like Innin-zēru-ušabši.

In sum, BM 62788+ provides demonstrable correspondences between administrative realities and procedural knowledge. This is in contrast to technical recipes like the earlier Neo-Assyrian glassmaking recipes from the 7<sup>th</sup> century BCE, which, as I have argued elsewhere, are to be read as technical rituals dedicated to Nabu, the god of scribal craft.<sup>4</sup> Here, in contrast, where technical terms are employed, they are terms that are neither rare nor exclusive to the wool dyeing procedures. In this way,

<sup>1</sup> In addition to Thavapalan's work, we may also look at the recent publication Rossi 2019.

<sup>2</sup> Recent studies on colour have attempted to reconstruct the semantic scope of such terms and will provide valuable data for reassessing texts like BM 62788+; for which see THAVAPALAN, STENGER, SNOW 2016.

<sup>3</sup> PAYNE 2007, 140.

<sup>4</sup> ESCOBAR 2019; for a recent examination of the interface of craft production, writing, and ritual, see BORRELLI, ESCOBAR 2022; on the correspondences between second millennium BCE glassmaking recipes and those from 7<sup>th</sup> century BCE Nineveh, see THAVAPALAN 2021.

the Sippar wool dye recipe, despite its lack of provenance, provides a compelling entryway into the interface of Babylonian craft, raw material administration, and ritual.

Well beyond the scope of administrative correspondences, we must also keep in mind that knowledge of dyes and coloured wools was, for much of its history, a pivotal ingredient of Babylonian ritual scholarship. Long after the decline of the Neo-Babylonian empire, coloured wools remained a powerful component in Akkadian medical and magical procedures. A Late Babylonian medical text lists rare stones, threaded together on a string of red wool and bound further in dark blue *takiltu*-coloured wool:

Jasper, *saḥḥû*-stone, carnelian, lapis lazuli, *ḥulāl-īnī*-stone, *muššar-īnī*-stone, blood stone, *agate*, *pendû*-stone, *kurgarrānu*-stone that contains silver and gold, *kapāšû*-stone that contains gold: 11 stones for *birratu*-disease of the eyes of the left hand. You thread (the stones) with red wool. You wrap (them) in dark blue *takiltu*-wool. You bind (them) on his left hand.<sup>1</sup>

Meanwhile, colours like purple *argamannu* were among the most expensive dyes documented, and travelled as far north as Harran, the site of the temple of the moon god *Šin*. During the reign of Nabonidus, the site attracted the attention of the king, who took it upon himself to restore the temple to its former glory. One of *Šin*'s great devotees, Adda-guppi, the mother of Nabonidus, was central to that restoration, and her literary autobiography (dated 574 BCE) preserves a fascinating section wherein Adda-guppi forgoes elite dress – for a period of 95 years no less – as a sign of pious affection for the god *Šin*; here purple *argamannu* symbolizes a colour that is antithetical to her ascetism:

**Ex I col. i, 21-28<sup>2</sup>**

To calm my god and my goddess, I refused to wear clothes of purple (*argamannu*) wool, a silver and gold ornament, a new garment, perfumes or good oil on my body. I was dressed in a torn garment and my outer garments were sack-cloth. I praised them. The praise of my city god and goddess was established in my heart and I guarded their watch. I did not leave out any of my good things, but carried them before them.

Adda-guppi's literary inscription provides a brief inventory of elite goods, status symbols, that included – in addition to purple (*argamannu*) wool – perfumed oils. Enriching coloured wool, renovating old garments,

<sup>1</sup> SpTU 2, 022 + (P348627) obv. i 8-11, translation Philippe Clancier, for which see <http://oracc.org/cams/gkab/P348627>. For this same passage, see SCHUSTER-BRANDIS 2008, pp. 247-264.

<sup>2</sup> For a translation of the text (with minor modifications), see HALTON, SVÄRD 2017, p. 170.

and maintaining the vibrancy of divine images, was of concern not only to scribes, but to rulers themselves. Although our wool dye recipe BM 62788+ does not explicitly concern ritual, its ingredients aid in situating the text squarely within a network of contemporaneous administrative practices that document a cultic garment industry dedicated to maintaining the garments of gods.

## 5. CONCLUSIONS

Well before the period of the mid first millennium explored above, we encounter an Old Babylonian (ca. 1800 BCE) literary text known as *Inana's Descent to the Underworld*. The story tells the voyage of Inana, the goddess of both love and warfare, whose ambitions to rule lead her to venture into the Netherworld. Her voyage to the underworld – in Sumerian *kur nu-gi<sub>4</sub>-a*, the “land of no return” – is a perilous, potentially one-way journey. As part of her contingency plan, the goddess leaves detailed instructions to her assistant Ninšibura concerning the maintenance of her cult statue. The passage reads:

32-36 On this day I will descend to the Underworld. When I have arrived in the Underworld, make a lament for me on the ruin mounds. Beat the drum for me in the sanctuary. Make the rounds of the houses of the gods for me.

37-40 Lacerate your eyes for me, lacerate your nose for me. In private, lacerate your buttocks for me. Like a pauper, clothe yourself in a single garment and all alone set your foot in the E-kur, the house of Enlil.

41-47 When you have entered the E-kur, the house of Enlil, lament before Enlil: “Father Enlil, don’t let anyone kill your daughter in the Underworld. Don’t let your precious metal be alloyed there with the dirt of the Underworld. Don’t let your precious lapis lazuli be split there with the mason’s stone. Don’t let your boxwood be chopped up there with the carpenter’s wood. Don’t let young lady Inana be killed in the Underworld”.<sup>1</sup>

In Mesopotamia, the gods were represented as statues attached to and residing in specific cities. Because the statues were gods, they needed to be fed, perfumed, and – as the *lubuštu* ceremony reminds us – clothed. Ensuring their perpetual presence of the gods required the maintenance of coloured garments for cult statues. Therefore, at stake in this passage is not just the ruin of raw materials (or their return to nature), but rather, the ruin, and even the potential *death* of a deity.

Contextualizing BM62788+ is especially challenging, not just because the text is unprovenanced, but because of a tendency to read recipes solely for their technological content without fully considering why such

<sup>1</sup> GEORGE 1985. A digital translation of the text, adapted here, may be found here: <https://etcs1.orinst.ox.ac.uk/section1/tr141.htm>.

instructions were codified in the first place. The British Museum catalogue description of BM62788+, which characterizes the text as a set of wool dyeing recipes “given to produce blue and purple wool, cheap versions of foreign imports”, is but an echo of a historiographical tendency to set aside such craft texts as curious outliers rather than important symbols of scribal communities.

In this work, I have attempted to highlight the importance of considering BM 62788+ within its broader intellectual context with the aim of moving beyond reading the text merely as a curious outlier, an incomplete Mesopotamian recipe for dyeing. Indeed, both the synchronic and diachronic cuneiform textual evidence for colour and garment maintenance points to a cultural and persistent practice of wrestling with the decay of the material world that is expressed holistically in Babylonian recipes, administrative texts, literature, scholarship, and ritual practice.

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