

Mari(ne) purple: western textile technology in Middle Bronze Age Syria

Elena Soriga

The cuneiform archives of Mari (18th century BC), in the Middle Euphrates region, shine light on the strong commercial links with Crete, Cyprus as well as the Semitic kingdoms of Yamkhad, Qatna, Ugarit, Byblos and Hazor. Minoan Kamares pottery was discovered in all these cities, providing material evidence of a blossoming overseas trade between communities in the Middle Bronze Age Syria, Canaan and Aegean.

Moreover, in spite of large-scale textile production within the kingdom, the texts of Mari record the importation of wool, textiles and fabrics from the above-mentioned western cities and from the island of Crete. The cuneiform tablets reveal a particular appreciation for “Mediterranean fashion” though they do not provide any indication of why. The discovery of an original western typology of loom weights in the Middle Bronze Age II levels of some Canaanite sites suggests that at the time of the Mari archives there was a sort of “textile technological *koinè*” based on the circulation of new techniques and unknown raw materials. Archaeomalacological remains prove that the first production of molluscan purple dye comes from some coastal sites in Crete and the Aegean Sea and dates back to the beginning of the 2nd millennium BC. Mediterranean purple may have been a determinant factor in the development of the cultural and commercial relations recorded in the archives of Mari. Such a hypothesis could be supported by a few texts from Mari where, for the first time, the word *tabarru* is recorded in its syllabic writing. This term occurs to denote a particular nuance of red wool that, since the middle of the 2nd millennium BC, is often quoted besides other denominations of purple. In this paper the term *tabarru* will be analysed and its early attestations

contextualised to the ecological framework and cultural horizon of Middle Bronze Age Syria.

Ex oriente purpura: outdated theories on the Near Eastern origin of marine purple dye

For a long time scholars connected purple dye with the ancient Near Eastern world and particularly to the Levantine and Canaanite cultures.¹ The textual sources of the 1st millennium BC provide much evidence confirming the existence of this link. In its blue and red shades, purple is often mentioned in the Old Testament among the luxury goods used as attributes of royal power by the great monarchs with whom the Children of Israel came into contact.² In Chronicles and Exodus, Yahweh himself requested textiles dyed with purple for the edification of his temple and the erection of the Holy Tabernacle.³ In certain Biblical passages the origin of purple-dye technology is located in the Levantine lands, mostly in the Canaanite, Phoenician and Philistine centres and in the areas controlled by the cities of Tyre and Hazor (see Fig. 10.4, below).⁴

Western literature too has contributed to the “Oriental” connotation of this prestigious dye. In his epics, Homer

1 According to the Old Testament (Genesis X, 19) the territory of the Canaanites extended from Sidon as far as Gaza.

2 Exodus XXV, 4–5; XXVI, 1; XXXVI, 35; 2Chronicles II, 6; Ezekiel XXIII, 4–7. See Zaccagnini 1973, 175.

3 Exodus XXV, 4–5 XXVI, 1; XXXVI, 35; 2Chronicles II, 6.

4 2Chronicles II, 6; Exodus XXXV, 35; XXXVIII, 23; Judges V, 30.

praises the skill of the Sidonian women, able in making fine polychrome (Gr. *pampoikila*) handiworks whereas according to other sources, Sidon is “renowned for its purple dye”.⁵ In later centuries, Roman poet Horace remarks on the superiority of Sidonian purple and the historian Strabo states that no ancient brand of purple is “more brilliant than the purple of Sidon”.⁶ Moreover, Greek and Roman authors reported on the myth of the god Heracles/Melqart who had fallen in love with the nymph Tyre and had made her a wonderful dress dyed with the pigment, accidentally discovered when his dog was munching a murex snail on the promenade in front of the city of Tyre.⁷ In its deep red hue, “Tyrian purple” was considered the most precious variety of purple in the Classical world and because of its superfine quality it was also defined “Imperial Purple”.⁸

The cuneiform texts of the 1st millennium BC strengthened the Biblical and Classical traditions that identify the countries bordering the Eastern Mediterranean Sea as the land of purple.

A Neo-Assyrian text records the booty conquered by the army of Tiglath-Pileser III in Syria and Palestine (733–732 BC). The tribute list includes: “polychrome cloths, linen garments, red-purple wool (Akk. *argamannu*), and blue purple wool (Akk. *takiltu*)” but also “living sheep whose wool is dyed with red purple and birds flying in the sky whose wings are dyed of blue purple”.⁹ No doubt this quote may be considered a hyperbole used to boast of the Assyrian Emperor’s mightiness and power, as he was able to assemble the most sumptuous, exotic and bizarre items from all of his dominions. Nevertheless, the text also shows that, at that time, purple technology was well developed in Canaan, because the dyes were the most important and characteristic tributes of this land.

Furthermore, philologists have found etymological links between some Levantine toponyms and several names provided by ancient textual documentation indicating marine purple dye. According to some scholars the coronym *Phoînîkē* “Phoenicia” and the related ethnicon *Phoînîx* “Phoenician” derived from one of the terms used in the

1st millennium BC to connote purple dye (Gr. *phoînîx*), whose Phoenicians were famous for trade.¹⁰ Analogously, the qualification of Canaan – in the 1st millennium BC the territory corresponding roughly to Phoenicia – as “Land of Purple” was based on the relation between the coronym and the Hurrian word *kinahhu*, in Akkadian texts from Nuzi a term designating a red colour/dye.¹¹

Current scientific research however rejects the traditional model according to which the discovery of purple was due to the inventiveness of the Phoenician or Canaanite societies. Purple is no longer considered a Levantine innovation or a typical commodity solely of the ancient Near East. The consistent archaeological discoveries of new texts and purple dye work areas, the introduction of modern methodologies and the increasing and widespread recourse to an interdisciplinary approach are all factors that revolutionized the studies regarding purple dye in antiquity.

Analyses of the shattered shell middens of the three Mediterranean gastropod species (*Hexaplex trunculus*, *Bolinus brandaris* and *Stramonita haemastoma*) of murex snails (Fig. 10.1) whose hypobranchial gland contain the pigment of purple (dibromoindigo) have allowed malacologists and archaeologists to declare that the most ancient production centres of purple dye were situated along the coast of the Aegean and not in the Levant.¹²

The first archaeological evidence of murex snail exploitation for dyeing came from the Early Bronze Age levels at Aegina in the Saronic Gulf.¹³ Apart from this case, the majority of sites in which crushed murex shells or purple-dye residues have been found are in Crete and belong to the Middle Bronze Age.¹⁴ The heaps of crushed murex found in the Anatolian city of Troy (18th century BC) date back to this same period, as do the heterogeneous materials from Pyrgos-Mavroraki (c. 19th century BC), on the southern

5 *Il.* VI, 288–292, where Hecuba selects from various cloths one to offer to thena and *Odyssey* XV, 399–401 where Eumaeus, the Odysseus’s swineherd, tells his own kidnapping and sale thanks to the complicity of his Phoenician nurse. Note that in Homer and the Bible (*Judges* X, 12) Sidon stands for Phoenicia in general and all inhabitants of Phoenicia were equally called Sidonians.

6 Hor., *Ep.* I, 10, 26–29; Str., *Geog.* XVI, 2, 23.

7 Poll., *Onom.* I, 45.

8 Str., *Geog.* XVI 2, 23; Hor., *Epod.* XII, 21: *muricius Tyrii iteratae vellera lanae*; Ov., *Met.* VI, 61–62 e 221–223; Plin., *HN* IX, 124–141.

9 Tadmor 1994, 69–70.

10 Speiser 1936; Albright 1942; 1961; Maisler 1946, 7–12; Cf. Astour 1965.

11 See Albright 1942; *contra* Moscati 1959.

12 *Stramonita* is not properly a murex since it belongs to the Family Thaidae. Another species within the same family able to produce purple-dye: the use of the Indo-Pacific *Thais savignyi* for dye have been noted for the archaeological sites of Haft Tepe in Iran and Khor Ile-Sud in Qatar, see Reese in this volume, Edens 1999 and Singer 2008, 24. Outside the Mediterranean world, other marine gastropod mollusc can also produce a similar substance: *Plicopurpura pansa* from the eastern Pacific, *Plicopurpura patula* from the Caribbean Sea and *Nucella lapillus* from the North Atlantic. See Michel and McGovern 1990.

13 Reese 1980, 81–82; Karali 1999; 2005; Ruscillo 2005; Carannante 2014.

14 For a recent synthesis about archaeomalacological data, see Karali 2005; Alberti 2006; Carannante 2014.



Fig. 10.1. Extraction of indigoid from murex molluscs. Top: the hypobranchial glands of *Hexaplex trunculus*. In the middle, left: a dyeing vat containing hypobranchial glands; right: direct painting of a wool fabric by coating murex gland. Below, left: the exposing to the air of the dyeing vat and the threads of wool contained in it and the turning of their colour from the yellow-greenish shades to the bluish one. Below, right: purple painted squares with different exposure to the air and sun; the yellow square shows the early stage of the change colour of every kind of marine purple, the red one the final stage of the purple from *Bolinus Brandaris* and the violet and blue squares show that of the dye from *Hexaplex trunculus* (photos: E. Soriga).

coast of Cyprus.¹⁵ This site preserved vestiges of industrial facilities devoted to luxury goods production, among which were perfumes and textiles. In the so-called “Textile Room” two vats with dibromoindigo residue and a spindle whorl containing a tangle of fibres dyed with marine purple were found.¹⁶ These findings demonstrate that marine purple-dye technology originated in certain circumscribed areas of the Aegean from the second half of the 3rd millennium BC, spread quickly along the Anatolian and Levantine coasts of the Eastern Mediterranean at the beginning of the 2nd millennium BC.

Concerning continental evidence of Near Eastern purple, the most ancient sources date back no earlier than the Late Bronze Age. Crushed murex heaps found at Minet el Beida, the ancient harbour of Ugarit, in modern Syria, were dated by archaeologists who conducted the excavations, to a period before the 16th century BC, but this early chronology is still a controversial issue among scholars.¹⁷ The first direct evidence of Near Eastern purple comes from a tomb of the Royal Cemetery of Qatna (16th–14th centuries BC), the modern Tell Mishrifeh in Syria, where the remains of a purple-dyed fabric were found.¹⁸ Six Canaanite storage jars or vat/basin fragments with dibromoindigo residue

15 Reese 2010, 124.

16 Lentini 2009, 153–171.

17 Reese 2010, 120.

18 James *et al.* 2009; Baccelli 2012.

and shattered *Hexaplex trunculus* shells –some with purple residues– were found in the Phoenician site of Sarepta (14th–12th centuries BC) in the Lebanon.¹⁹ Other murex shell heaps were found in one of the most important harbours of Hazor, the Canaanite site of Tell Akko, in the northern part of Israel, an area quoted in the Bible as being the original site of the tribes skilled and specialized in textiles coloured with purple and other precious dyes.²⁰ Before the 1st millennium BC the latest evidence of the Near Eastern purple-dye industry is in Cyprus, at the site of Hala Sultan Tekke (12th century BC).²¹

By then, several philologists neglected the aforesaid reconstructions and discounted them as folk etymologies.²² There is no doubt that the name *phoînix* indicates a shade of the red colour, since it derives from Mycenaean *po-ni-ki-jo*, an adjective pertaining to dyed fabrics in the Linear B texts, and it is related with the Gr. *phoinos* ‘a blood red colour’.²³ Nevertheless, many scholars refused to recognise marine purple as the dyestuff used to obtain this colour, proposing that the deep red colour was extracted from the roots of a plant, madder (*Rubia tinctorum*) rather than from sea snails.²⁴ In favour of these arguments, in the above-mentioned Mycenaean tablets, beside *po-ni-ki-jo*-cloths there is the attestation of coloured textiles qualified as *po-pu-re-ja/po-pu-re-jo*.²⁵ The adjective displays clear relations with the Gr. *porphyra* and the words used by modern languages to designate both colour and dye purple. Moreover its etymology, linked with the Greek verb *porphirô* “to seethe, to boil”, might be interpreted as a reference to the technical procedure for extracting the dyestuff from marine gastropods described by Classical

authors.²⁶ According to Pliny marine purple was obtained by soaking the crushed snails in water for a few days and heating up the resulting solution from which was continually skimmed a froth of organic residues.²⁷

With regard to the alleged link between the Land of Canaan and the colour/dye *kinabhu*, this latter term has been related to the Heb. *kē na’an*, attested to with the meaning of “merchant” as early as the 15th century BC and quoted eight times in the Old Testament.²⁸ This etymology does not rule out a secondary association between purple, a major commercial product around the middle of 2nd millennium BC, and the area of Canaan: “the land of the merchants, dealers in purple dye”. It would thus illustrate the basic importance of the trade in coloured fabrics. Nevertheless, the direct link between the place-name Canaan and *kinabhu*-purple dye continue to be a still questionable issue.²⁹

Cuneiform documentation corroborates the later chronology for Near Eastern purple: the texts in which purple textiles are quoted do not precede the second half of the 2nd millennium BC, when murex shells and dibromindigo residues appear at archaeological sites. Tablets in which purple is mentioned are the archives of Nuzi and Alalakh IV (last quarter of 15th century BC), El-Amarna (mid-14th

19 Reese 2010, 118–119; Karali 1999, 44; 2005.

20 According to the Bible, this is the territory where the tribes of Judah and Dan lived. The artisans Betsaleel and Oholiab came from here. Their skills in manufacturing blue purple, red purple, kermes and byssus, were requested in Israel, Exodus XXXV, 30–35; in Judges V, 30, Sisera’s mother soliloquy concerns also dyestuffs and coloured textiles.

21 Reese 1985; 2010, 125.

22 See Astour 1965.

23 The colours *phoînix* and *phoinos* were originally linked with the term *phonos* “murder”. But Astour (1965) proved that this term cannot be related to the Mycenaean colour *po-ni-ki-jo*. Nevertheless, both the names of the dyestuff and of the people who trade in it, could perhaps be related to the ancient phytonym of the date-palm tree (Gr. *phoinix*), unfailing plant in the Levantine shores. The colour of its fruits (Gr. *phoinikion*), when fresh, is crimson. See Soriga 2013.

24 Astour 1965, 349, n. 31; Murray and Warren 1976; Barber 1991, 232 n. 11, Nosch 2004; Soriga 2013.

25 Del Frio, Nosch and Rougemont 2010.

26 Also Boesken in this volume. Mesopotamian dyeing procedures do not appear so much different from those recorded in the Classical sources: from the half of the 2nd millennium BC, the Middle Assyrian and the Ugaritic texts used the causative form of the Akkadian verb *bašālu* “to boil, to keep boiling” (CAD B, 135) to mean “to dye” as well as his derivative adjective *bašlu* (CAD B, 140) “cooked, boiled” as a noun denoting the dyed fabric. See Bottéro 1957, 276. Thanks to P. Abrahami, scientific communication, SHAMO 2014, *Maison Archéologie et Ethnologie, René-Ginouvès*, Nanterre, 13 March 2014. Experimental archaeological texts proved however that at the boiling temperature the colouring agent of the dyestuff decays, see Ruscillo 2005.

27 Koren 2013; Ruscillo 2005; Longo 1998, 86. Homer’s metaphor of the *porphurea thalassa* “purple sea” probably refers to the dark colour of the rough sea, that seething of foam, reminiscent of the chemical processing in the making of the dye. Pliny, *HN* XXXV, 46 mentions *purpurae spuma* “purple foam”, used in order to produce a “forgery of the indigo”.

28 Moscati 1959; Ezekiel XVI, 29 and I XVII, 4; Zephaniah I, 11. See also Lemche 1991, 25–28.

29 Already in ancient times the place name was derived from an eponymous mythical ancestor. Astour 1965, 347 reports the name of Chna as mythical ancestor of the Phoenicians. More recently, an etymology in accordance with the meaning of the Semitic root *kn* ‘to be subdued’ likely referred to the morphology of the Levantine landscape has been proposed. Killebrew 2005, 139, n. 3.

century BC), Boğazköy (13th century BC) and Ugarit (13th century BC).

The terminology of purple dye: an early attestation of the word *tabarru*

In cuneiform texts purple is known as a colour and not as a raw material: the term is used not as a noun but as an adjective to describe dyed wool and coloured textiles. Syrian-Mesopotamian terminology is extensive because it reflects the wide chromatic spectrum that secretions produced by murex snails achieved during the processing of the dye. In contact with air and light, the base of molluscan purple changes colour. It turns from a colourless to a yellow-greenish tint, characteristic of very indigoid reduction, reaching then the blue-violet or magenta hues in accordance with the species and even the gender of the molluscs (Fig. 10.1).³⁰ Besides that, the use of different substances as reducing agents used in order to create alkaline conditions and solubilise the indigoids in water may affect the gradation of the colour.³¹ Furthermore, often ancient texts called “purple”, the colours whose hue is very similar to the shades of the dye extracted from sea snails, even when the dyestuffs derive from other natural resources and less expensive substitutes.³²

In his fundamental study of colours in cuneiform documentation, Benno Landsberger (1967) recognized as “purple” only a few terms linked with the two most quoted nuances of the dye that occur in 2nd and 1st millennia texts, namely blue purple and red purple. According to the scholar, the names for the different nuances of purple are composed by the ideogram SÍG.ZA.GÌN, where the logogram ZA.GÌN, preceded by the determinative for minerals NA₄, indicates

lapis lazuli stone.³³ Indeed the signs also form several names of colour, perhaps denominations for different hues of marine purple or, more likely, other colours obtained from alternative dyestuffs associated with genuine purple for their shining and fastness.³⁴ In the Ugarit texts the logogram SÍG.ZA.GÌN occurs followed by *uqnû* ‘lapis lazuli’ (Akk. *takiltu*), to denote blue purple wool, whereas before *phm* (Akk. *ḥašmānu*) it indicates red purple ones.³⁵ During the 1st Millennium BC, the ideogram ZA.GÌN was gradually dropped, leaving only the phonetic spellings.³⁶ In Neo-Assyrian texts, the term *ḥašmānu* is replaced by *argamannu* (SÍG.ZA.GÌN.SA₃), a denomination often mentioned besides the *takiltu* (SÍG.ZA.GÌN.MI) blue purple colour, which is used to denote the red-purple colour.³⁷ These terms are recognisable in the Hebrew *tekhelet* and *argaman*, translated in the Septuagint with the Greek terms *hyacinthos* and *porphyra* respectively.³⁸ But dyed textiles described with the logogram SÍG.ZA.GÌN = *šīpātu uqnû*, literally “lapis lazuli wool”, occur already in some Early Dynastic texts, and consequently they belong to a period in which purple technology was not yet known at least in the Near East.³⁹ It is likely that in this early period the term indicated deep violet-blue fabrics obtained with dyeing substances of vegetal origin.⁴⁰ In this geographical and historical context the most probable candidate is woad, extracted from the leaves of *Isatis tinctoria* (Syr. *qān ‘ā*, *q^e nā ‘ā*; Akk. *uqnātu*, *šammu qunātu*; Sum. *Ú.ZA.GÌN.NA*), an indigo-bearing

30 Nonetheless, other theories argue that the difference in colour could depend on the exposure to the solar light besides sexual dimorphism Longo 1998. See also Barber 1991, 229–230; Fales 1998; Haubrichs 2004; Koren 2013; Singer 2008, 23.

31 About chemical interactions of some matters quoted besides the name of purple and other dyestuffs in cuneiform documentation, I’m currently carrying out some tests in the Istituto di Chimica Biomolecolare of CNR, at Pozzuoli, Napoli. Thanks to Maria Letizia Ciavatta and Pietro Amodeo for their assistance and enthusiasm.

32 See Leichty 1979; Michel and McGovern 1990; Cardon 1999; Finkel *et al.* 1999. These dyestuffs could be used in falsification practices, in order to create a forgery without using expensive marine purple. More usually, cheap and precious substitutes were employed in processes of adulteration, in combination with a little quantity of genuine purple, eventually too concentrated or shoddy, in order to upgrade their quality or, eventually, to create new and original shades. The wide terminology used in the texts may reflect such different shade varieties.

33 Landsberger 1967, 147–149.

34 See Cassin 1968, 115–116. Other kinds of SÍG.ZA.GÌN colours in Ugarit texts are *ḥandalatu*, *ḥasertu* and *dupašši*, van Soldt 1990, 344; Singer 2008, 34, n. 33.

35 Literally the colour of the “glowing charcoal” and interpreted as a dark kind of red purple rather than a blue-green dye as indicated by the Akkadian corresponding *ḥašmānu* (CAD H, 142; AHw 334b) cf. Goetze 1956, 35; Singer 2008, 23; van Soldt 1990, 334.

36 Singer 2008.

37 Singer 2008, 34, n. 35 e n. 36: he translates it like “red purple”; *contra* CAD H 142 e AHw 334b that translate *ḥašmānu* as “blue-green” and “*bläulich*” respectively.

38 2Chronicles, 13–14; Ezekiel, XXVII, 7. The correspondant colours are named in Latin *pelagia* and *purpura*, see Singer 2008.

39 The designation “cloth of lapis lazuli-colour” appears in an Old Assyrian text (Kt 93/k 779, 8’: 2 TÚG *ḥu-sà-ru-um*) where ^{na4} za-gin “lapis lazuli” is read *ḥusārum*, Michel 2001, 344, n. 19. There is also the occurrence, even if isolated, of SÍG *uqniāti ta-ak-la-tim* in an Old Babylonian letter, cf. Singer 2008, 34, n. 30, who nevertheless states: “it’s very unlikely that these (two Middle Bronze Age texts) should refer to a purple-dyed fabric”. For the quotes of the term in the 3rd millennium BC, cf. Biggs 1966, 175.

40 Biggs 1966; Singer 2008; Cardon 1999.

plant native to Western Asia and widely used in antiquity.⁴¹ Only from the 2nd millennium BC, when marine purple technology spread throughout the Levant and Mesopotamia, did SÍG.ZA.GÌN (occasionally SÍG.ZA.GÌN.GE₆) become the standard term to designate blue purple colour, with the Akkadian reading *takiltu*.⁴² In Neo-Babylonian texts the correspondent logogram SÍG.ZA.GÌN.KUR.RA might suggest that *takiltu*-wool was coloured by using an exotic dyestuff coming from outside the borders of Mesopotamia.

Analogously, red purple is expressed by the logogram ^{sig} ZA.GÌN.SA₃, literally “wool dyed with (a substance of the same value?/colour?/sheen? as) lapis lazuli – but red”.⁴³ Its phonetic spelling is the Akkadian *argamannu*, the only term related by B. Landsberger to the genuine purple-dyestuff.⁴⁴ In the Assyriologist’s opinion other designations for reddish shades of purple have probably nothing to do with the dye produced from marine gastropods.⁴⁵ He excludes, for instance, the terms *kinahhu* and *tabarru*, traditionally considered names meaning hues of the red purple dye.⁴⁶

41 CAD U 194–195, sub *uqnātu* and *uqnû*; CAD Q 305, sub *qunātu* and 307 sub *qunû*; Landsberger 1967, 164 and 167; Oppenheim 1967; Fales 1998, 827, note 7; Finkel & Granger-Taylor in press. Nevertheless, according to F. Brunello (1968, 69), there were several other endemic plants with high contents of indigoids: *Polygonum tinctorium*, *Marsdenia tinctoria*, *Strobilanthes flaccidifolius*. Among indigo-bearing plants, *Indigofera tinctoria*, from which indigo is extracted, was traditionally for its Indian origin. Nevertheless, according to A. Lentini (2009, 169) several species of *Indigofera* (*I. tinctoria*, *I. argentea*, *I. spinosa* and *I. semitrijuga*), today endemic in Egypt and Sudan, were original plants from Near Eastern lands, Lentini 2009, 169. Recent excavations in the Palestinian area confirmed the use of *Indigofera* spp. since the end of the 2nd millennium BC, see Peyronel 2004, 74, n. 97.

42 Landsberger 1967, 147–149; Singer 2008, 23.

43 Cassin 1968, 115–116 maintains that red and blue purple cloths shared the quality of shininess and iridescence (Akk. *namru*) and that this feature was more remarkable for the ancients than the exact chromatic division (blue-violet or red) appreciated by modern scholars.

44 Landsberger 1967, 155; CAD A/II 253, sub *argamannu* “red purple wool” and “tribute”. In BM 62788 the *argamannu*-wool is written as ^{sig} SAG “wool for the chief” where the sign saĝ has the meaning “head, chief, master”.

45 Landsberger 1967.

46 In agreement with B. Landsberger, I. Singer (2008) excludes the terms *kinahhu* and *tabarru*: “... it may summarily be concluded that only the terms *argamannu*, *hašmānu* and *takiltu* are related to the purple-dye industry, whereas other designations for reddish and bluish shades have probably nothing to do with the dye produced from the marine snails”. He supports instead that *hašmānu* is a reddish and not a bluish colour and correlates it to marine purple.

The word *tabarru* (var. *tabar[u]*, *tawarri-wa*) is very controversial. Some Assyriologists agree with B. Landsberger, translating it simply as “red wool” in virtue of the logographic writing SÍG.ĤÉ.ME.DA/ SÍG.GAN.ME.DA.⁴⁷ Nevertheless, other scholars prefer to translate it as “red purple”.⁴⁸ According to the latter cited opinion, *tabarru* might indicate a dark hue of red purple, obtained by mixing genuine purple with madder, or other vegetable dyestuff.⁴⁹

A similar shade of purple is described in the 1st Century AD by Pliny who reports that Phoenician dyers manufactured dark purple cloths by using the technique known as *dibapha* “twice dyed” or otherwise *dibapha Tyria*.⁵⁰ Several times this practise is quoted in Exodus, where genuine purple is blended with kermes.⁵¹ Adulteration and imitation of the molluscan purple dyes, by mixing or replacing a certain amount of genuine purple with cheaper surrogates, was actually a common practice in the ancient Near East. The Papyrus Graecus Holmiensis and Papyrus Leidensis X, alchemical texts written in 3rd century AD Egypt, provide recipes for imitations of Royal Purple.⁵²

In Mesopotamia, thus far away from the Mediterranean shores, the Neo Babylonian tablet BM 62788, recently joined to BM 82978, supply direct practical instructions to dye wool in different shades of “purple”.⁵³ The dyeing of the wool was repeated two or three times, by soaking the fibres

47 AHW, 1298; CAD T 21, sub *tabarru*. Sometimes this logographic writing can be read as *tabribu* (SÍG.ĤÉ.ME.DA, TÚG.BAD) “a red dyed wool/cloth”, considered a genitival Akkadised form of the Hurrite *tabari-we* in Durand 1984, 428–429; Abrahami 2014, 294: “*tabarru* (*tawarriwe*) corresponds to a red-dyed wool”; Postgate 2014, 410 does not consider it purple since “the logogram (síg-)ĥè-me-da is not composed with the element za-gìn, and the best attested dyeing substance in Assyria, which is ‘madder’ is unequivocally a plant (not from shells)”.

48 Maisler 1946, 7–12; Astour 1965, 346–350, note 31: “... *tabarru*, the comprehensive Akkadian term for ‘purple, scarlet’ (probably a loan-word?)”; Reallexikon der Assyriologie Bd 3 Cpit Ae Geb, sub Färberstoffe, 27: “*tabarru* (Nuzi: *tawarwa*) ‘hell pupurn’”; Durand 1983, 428, n. 1. “*pourpre*” but see also for a different and more recent translation Durand 2009, 120–121.

49 Goetze 1956, 35; Oppenheim 1967: *tabarru ša hūrati*; Barber 1991, 230; Matošian and Vita 2014, 139 translate *tabarru* (alph. šmt; síg-ĥé-me-da/ta, sígsa5) as “carnelian red/red-brown purple”.

50 The chromatic result of this process was a purple *nigricans aspectu idemque suspectu refulgens* «black and yet rich in changing tints» as clotted blood, Pliny, *HN IX*, 124–141.

51 Exodus XXXV, 23; XXXVI, 8; XXXIX 2, 8 and 28.

52 See n. 32.

53 Leichty 1979; Finkel *et al.* 1999.

in hot water and different colouring agents. The *tabarru* colour was obtained by dipping the wool, previously dyed in a “blue light” colour (*urrīqu*), in a solution of water heated with alum and red dyestuffs, either *hūratu* “madder” (*Rubia tinctorum*) or *hathuru* or else *inzahurētu*.⁵⁴ In my opinion, the etymon of the term *urrīqu* relates not to a blue dye but rather to the evanescent yellow-greenish colour of the wool when it is impregnated with an indigo-bearing dyestuff.⁵⁵ This colour is only a transient stage because the fibre quickly turns to turquoise and then deep-blue hues when it is exposed to light and air, as it returns to the greenish ones whenever the fibre is again dipped in the indigo-vat (Fig. 10.1).⁵⁶ BM 62788 records the *urrīqu*-step also in the receipt for dye wool in *argamannu* colours, dipped in a solution with *kašû*, probably a direct dyestuff or, alternatively, with *hathuru* and alum.⁵⁷

The International correspondence of the Late Bronze Age records that *tabarru*-dye was a prestigious item exchanged as a diplomatic gift by the great courts of the Near East

54 Finkel *et al.* 1999, 65 translate *urrīqu* as “bleu moins foncé” because “obtenu par seulement trois trempages successifs dans une seule cuve”. The *urrīqu* (CAD U 242–243) is also a name of a yellow-greenish stone; it is related with the causative form of the verb *arāqu* “to cause to be green; to turn yellow” (CAD A 231) and with *urqu* (Ú.SAR) “vegetables”. See Michel and McGovern 1990.

55 The *urrīqu* (CAD U 242–243) is also a name of a yellow-greenish stone; it is related with the causative form of the verb *arāqu* “to cause to be green; to turn yellow” (CAD A 231), with the noun *arqu* (Ú.SAR) “vegetables” and the adjective *urqu/arqu* (SIG7) ‘yellow-green’ (CAD A 300–302 and U 239–240).

56 Laboratory tests undertaken at the Istituto di Chimica Biomolecolare, CNR of Pozzuoli, Napoli. See also Koren 2013.

57 The *hathuru* and *inzahurētu* are interpreted as dyestuffs able to bestow red colour to the wool because their relation with *hūratu* “madder”. The *hathuru*-dyewas used also to produce the *hašhūru*-dye “apple colour”, a red hue or a green hue, see Payne 2007, 134–136 and tab. 4.8. The term *inzahurētu* has been interpreted as a synonym for *hurhurātu* “crimson, scarlet, vermilion”, the colour obtained from the insects, van Soldt 1990, 346; Payne 2008, 187–188. In Nuzi texts the occurrence of *hurhurat[ū] ša tūlti* ‘red extracted by insects, worms’ indicates unequivocally the exploiting of kermes maggots since the middle of the 2nd millennium BC, see Fales 1998; Soriga 2013. In the 1st and 2nd millennia BC Near Ancient East, dried maggots of cochineals come from the Mediterranean shores where larvae of *Kermes vermilio* live, feeding on oaks moisture and nutrients. In ancient texts (Barber 1991, 231) nevertheless Armenia and Central Asia are often linked with kermes and crimson production. Therefore, most likely in Eastern Mesopotamia dyers used maggots of *kirmiz* (*Porphyrophora hamelii*), the Armenian cochineal. See Donbaz 1988.

and the Mediterranean. Among the El-Amarna texts, the inventory EA 14 iii 27, 30, 32 lists *tabarru*-textiles among the gifts sent by Pharaoh Amenhotep IV to the king of Babylon Burna Buriash II.⁵⁸ In the letter RS XX 151 a lady from Ugarit sends TAB-*ar-ra* wool to her queen.⁵⁹ The attestation of *tabarru* besides dyestuffs designated as purple by the sequence “lapis lazuli” suggests that it might have been a very valuable quality of red wool, no less precious than purple wool.⁶⁰ In the Nuzi texts too, *tabarru* wool is distributed in various amounts (one or two mina) with *kinahhu*, *šurathu* and *takiltu* and it is listed together with *uqnātu*-wool and sorted wool.⁶¹

Textual contextualisation suggests therefore that this precious red colour was a particular shade among the reddish ones of the purple. In fact, if *tabarru* had been an ordinary red wool it would be moreover not possible to understand the use of *tabarru* as a gloss (SÍG.SA₅ *tabari*) in a letter from Ugarit (RS XVII, 383, 32 ff.). In this missive, Takuhli(nu) of Ugarit delivered a gift of luxury cloths to the Egyptian governor in the Canaanite Aphek, a city also quoted in Egyptian Execration texts.⁶² The prestige of *tabarru*-wool might also be testified by the fact that it was delivered in a small quantity (10 shekels) compared to 100 shekels of SIG ZA.GIN “blue purple” wool.⁶³

Nonetheless, the terminology makes this identification a very complicated issue. Unlike *argamannu*, the word *tabarru* is not connoted as lapis lazuli and in lexical lists the sequence SÍG.ĤÉ.ME.DA is read both as *nabāsu* and *tabarru*.⁶⁴ Indeed, the logogram was translated as *nabāsu* “red-dye wool” until halfway through the 2nd millennium BC, when in Middle Babylonian texts the term *tabarru* appears.⁶⁵ Thus, it is possible that *nabāsu* and *tabarru* are not synonyms: probably the latter indicated a red dye obtained by exploiting a different natural source which

58 Moran 1992, 32.

59 Zaccagnini 1973, 181.

60 Textiles coloured in *sūntu* (SÍG.ZA.GÌN.SA₃) for *argamannu*, *šalittu* (SÍG.ZA.GÌN.MI), *inzurātu* (SÍG.ZA.GÌN.NA).

61 Abrahams 2014.

62 RS XVII, 383 = PRU IV, 223; Singer 2008: Huehnergard 1987, 206.

63 Singer 1983, 6–18.

64 SÍG.ĤÉ.ME.DA = na-ba-su, ta-LU-ri (mistake for *tabarri*) in Hh. XIX 78–78a; [SÍG.ĤÉ.ME.DA] = na-ba-su = *dar*-[x], *ta-bar*-[ru] Hg. C II 3f., in MSL 10 139; TÚG.BAD. [tab]-*ri-mu* = *ta-bar-ra*-[x] (preceduto dai sinonimi di *uqnātu*) Malku VI 185f.

65 CAD NI, sub *nabāsu*, 22: “From MB on, the log. ^{sig} ĤÉ.ME.DA has the reading *tabarru*”; AHw 697, sub *nabašu* “rote Wolle” ^{sig} gan-me-da = na-ba-su (= *tar*-[ru], *ta-bar*-[ru] MSL 8/2, 170, 1. But in AHw sub *tabarru* 4, this conclusion is less sure, cf. Landsberger 1967, 162; Fleming 1992, 172.

was not available until the Late Bronze Age.⁶⁶ It is not too far-fetched to think that, before the acquisition of marine purple by ancient Near Eastern communities, the ideogram SÍG.ĤÉ.ME.DA experienced a semantic drift analogous to the logogram SÍG.ZA.GÌN(.NA), indicating the blue dyes obtained with vegetal indigoids. In fact, only in the period in which archaeological and epigraphic evidence testifies to the presence of purple dye in the ancient Near East, the signs SÍG.ĤÉ.ME.DA start to be read as *tabarru*.

According to these arguments, the first syllabic writing of *tabarru* might give a date for the early introduction of purple technology into the continental ancient Near East or, at least, for the first circulation of textile items dyed with marine purple. As a matter of fact, the highest frequency of the word occurs in the Late Bronze Age texts, when purple technology was already widespread in the continental Near East as testified to by the archaeological and epigraphical sources. Nonetheless, the reading *tabarru* is attested for the first time already at the end of the 18th century BC, in a few texts from the royal archives of the city of Mari, on the rivers of the Middle Euphrates Valley. Here, the knowledge of a sophisticated and flowery dyeing technology is testified to by the references to a workshop in which polychrome textiles (È bi-ir-mi) were manufactured.⁶⁷

In the letter ARM XVIII 11, the King of Mari Zimri-Lim ordered Mukannišum, the official in charge of the palatine textile production, to send him coloured *nahlapātum*-textiles.⁶⁸ Among these, were *tabarru* and *ḥašmānu* cloths: 200 red/red purple? (*ša dabarim*) garments, 100 sea-green/red purple? (*ša ḥašmānim*) garments, 100 white (BABBAR.MEŠ) garments, 100 black (GE₆) and 100 apple-coloured (*širip ḥašhurim*) garments.⁶⁹ The term occurs in this text in its variant *ta-ba-r[u]*, */da-ba-r[u]*, but it is also present as *ta-ba-ru/tu-ba-ru* in a few texts from the same city, beside textiles, wool, dyes and mordants. Indeed, in the texts ARMT XXIII 145:3, 147:4, 148:3 alum is used to dye wraps of red wool.⁷⁰ Chemists know well that the dyeing process with colouring agents containing indigoids such as indigo, woad and marine purple does not require

mordants.⁷¹ But, if *tabarru*-purple was actually adulterated with a mixture of other red dyestuffs such as madder or kermes, it shall be easier to justify the presence of alum or other mordants beside purple in the texts.⁷² Some 1st millennium tablets from Sippar record for example *tabarru ša inzahurēti* “red wool dyed with the *inzahurētu* dye”.⁷³ This attestation could be a reference of the adulterated or counterfeit purple dye obtained dyeing *urrīqu* wool with the kermes.

The presence of *tabarru* dye in the Mari texts was noticed by O. Rouault, “un sens de ‘rouge pourpre’ lui avait été attribuée” and was successively discussed by J.-M. Durand, who considered the term a Hurrian loanword.⁷⁴ Syllabic writing of the term in the Mari texts is remarkable for several reasons. First of all, its early chronology (18th century BC) reopens the debate about the presence and circulation of marine purple in continental Near East already at the beginning of the 2nd millennium BC. Secondly, the recourse to the Hurrian terminology to designate a foreign imported technology from the Mediterranean is looks odd or at least unexpected. Finally, the ecological and cultural distance of Mari and the Euphrates Valley from the Mediterranean coast generates doubts regarding the natural origin of the dyestuff used to dye the wool in red purple colour.

As well as Nuzi (Yorghana Tepe, Iraq), the Hurrian city from which cuneiform texts show the most abundant textual evidence for purple in the Late Bronze Age, the city of Mari (Tell Hariri, Syria), is rather far from the coast, namely the place where murex could be gathered and processed for purple. Indeed, Mari and Nuzi are both ecological contexts alien to the exploitation of marine resources: both territories are characterised by the abundance of pastures, flocks and wool. Moreover, both had at their disposal a social component that, combined the tribal and seminomadic structure – typical to the Amorrite and Hurrite pastoral societies – with the bureaucracy of the other state institutions, made them two of the most thriving centres of textile production and commerce. Beside the textile industry, their favourable position in the centre of the main exchange and communication networks of that time consented them to reach wealth and to accumulate the economic surplus indispensable in order to convert it to luxury and positional goods. These prestige items both were exhibited by opulent

66 *Contra* Zawadzki 2006, 114, n. 340 reports that in BM 61504:10 *tabarru* is replaced by *nabāsu*.

67 Joannès 1984, 149–170.

68 Regarding to the *nahlapātu*-garment see Michel and Veenhof 2010, 226–228; Zawadzki 2006, 114–117.

69 Rouault 1977, 31; Joannès 1984, 153, n. 45; cf. CAD H 142, sub *ḥašmānu*: “a blue-green colour” with reference to the wool; CAD H 140, sub *ḥašḥūru*, “=urtū, apple-coloured wool, probably green or yellow”; see also *ḥenzūru* (Syr. *ḥazūrā* “apple”) coloured wool in the Nuzi texts, in association with *tabarru* and *kinahhu* red wool, CAD H 170, sub *ḥenzūru*.

70 Joannès 1984, 160–162.

71 R. Haubrich and P. Amodeo personal communications; cf. also Peyronel 2006.

72 In the texts from Ugarit the *qnum* (*qannā’ūma*) were “experts in purple work”, see Matoian and Vita 2014, 319: “the only mordant clearly attested to in Ugaritic texts is alum (alph. abn šrp; syll. na4 ka-bi, na4 *gabū*); documents reveal that it was abundantly traded”, Matoian and Vita 2014, 319.

73 Zawadzki 2006, 125.

74 Rouault 1977, 31; Durand 1983, 428–429; 2009, 120–121.



Fig. 10.2. Mari and the Eastern Mediterranean during the Middle Bronze Age.

urban élites as status symbols and exchanged as diplomatic gifts in international relations and assimilated as a new technology in their own manufacturing system. Mari tablets might thus testify that purple was among the imported prestige goods in Syria already in the Middle Bronze Age, a period of widespread diffusion of the technology along the Eastern Mediterranean coast as testified to by archaeomalacological data.

A meticulous analysis of the triangle of commercial and technological contacts between the Old Syrian kingdom and the surrounding communities on one hand and the Minoans and Aegean peoples on the other (Fig. 10.2), could confirm the interpretation of this first attestation of the colour *tabarru* as early evidence for the use of marine purple in the ancient Near East.

The Mari archives and the dawn of Internationalism

The international trade between Syro-Mesopotamian society and the communities inhabiting the coasts of the Eastern Mediterranean basin is a less well-known phenomenon for

the Middle Bronze Age (Fig. 10.2) than the long-distance commerce of the Late Bronze Age.⁷⁵ For a long time historians and archaeologists specialized in the economy of the beginning of the 2nd millennium BC have often confined their investigations to the trade in rare metals, especially copper. On the contrary, the study of the cuneiform documentation shows that, from the Middle Bronze Age, wool and textile technology played a role comparable to metals in acting as a catalyst of the international trade.⁷⁶

Several texts from the Mari archives refer, for instance, to the fact that, in spite of the massive amount of textile production within the city, wool, textiles and garments

75 Wiener 1987; Larsen 1987; Heltzer 1989; Astour 1995; Ilan 1995; Joannès 1996; Michel 1996; Burke 1999; Durand 1999; Maier 2000; Charpin and Ziegler 2003; Ziegler and Charpin 2004; van Koppen 2007. For the international trade in the Late Bronze Age, see Zaccagnini 1973.

76 Wiener 1987; Malamat 1998, 39; Burke 1999; Goshen et al. 2013.

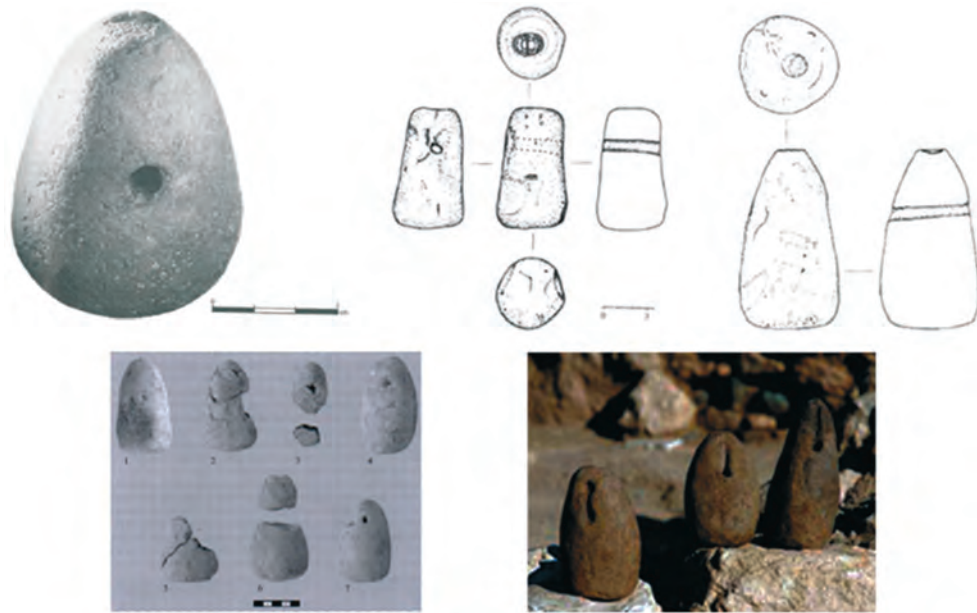


Fig. 10.3. MB II loom weights from Levant. Top, from left to right: loom weight with a scarab seal impression from Tel Nami (Marcus and Artzy 1995, 137, Fig. 1); loom weights with Hyksos and thumb-like impressions from Tell Taannek (Friend 1998, 34, Fig. 8 and 26, Fig. 6a). Bottom, from left to right: loom weights from the palace at Tel Kabri (Goshen et al. 2013, 49, Fig. 3.4); loom weights found in a metallurgic furnace (square 19,a) in Pyrgos Mavroraki, Cyprus (Belgiorno 2009, 72, Fig. 28).

were often purchased from far away.⁷⁷ Robes came from many different places in Mesopotamia but often from the Mediterranean seashores. Mari texts record textiles from Yamḥad (Akk. *yamḥādu*) and from Byblos (Akk. *gublāyu*) though it is not possible to ascertain from these *nisbes* whether the cloths were produced abroad and afterwards imported to Mari, rather than if the textiles were manufactured according to a local style.⁷⁸ Specific techniques and tools but also the recourse to different, unknown or typical local raw materials might make a difference among the final products, therefore contributing to the making of a proper fashion.⁷⁹ An Old Babylonian letter found in Hazor reports that the King of Mari required at least 20 different kinds of items of clothing from the city.⁸⁰ From certain letters we learn that King Zimri-Lim sent to Hammurabi of Babylon textiles (ARMT XXII 324, col. II,

8–9) and footwear (ARMT XXI 342: 5–6) as diplomatic gifts from the island of Crete (*kaptarum*, *kaptaritum*).⁸¹

Since Mari had a volume of textile production sufficient to satisfy internal demand as well as textiles from South Mesopotamia were profusely imported, what was so alluring with this “Mediterranean style”? Cuneiform documentation does not clarify the reason whereby Minoan robes enjoy such appreciation among the Syrian and Mesopotamian elites, although it is highly plausible that marine purple had played a leading role as a distinguishing mark of the Western textile industry. As B. Burke suggested in his brilliant work, the great *exploit* of the Minoan trade, more remarkable right at the beginning of the 2nd millennium BC, was due to the spread of purple dye products and to the transmission of the necessary “know-how” to produce them in the main commercial networks of the Eastern Mediterranean.⁸² The discovery of *Kamares* ware in the Middle Bronze II archaeological levels at Aleppo, Byblos, Ugarit, Hazor, Qatna and in the island of Cyprus, shows that the greatest part of the commercial partner of Mari had cultural contacts with the Aegean civilization (Fig. 10.4).⁸³

77 Malamat 1998, 38; Michel 2014.

78 Bottéro 1957, 126–127: textiles from Karkemish (MU.DU *Ap-la-ḥa-an-da*) and Yamḥad are recorded beside typical Mediterranean product as wine, honey and olive oil in the tablet ARMT VII, 238; Malamat 1998, 37–38.

79 Malamat 1998, 38; Vigo 2010, 291, 296 note 18 for Hittite *Inventory Texts* in Late Bronze Age; for the western exotic fashion of *lubulti birme u kitē* “multicoloured linen clothing”, see Oppenheim 1967.

80 Horowitz and Wasserman 2000; 2004, 344; Ziegler and Charpin 2004; Horowitz et al. 2006, 83–85.

81 Villard 1984, 528–529, num. 556: 28; Malamat 1998, 38; Cline 1994, 126–128; Guichard 1999.

82 Burke 1999.

83 Betancourt 1998; Minoan pottery has not been found in Mari but it is quoted in the Mari texts (ARMT XXV8, 3; 10, 6; 45, 2 e 4; 499, 21; 511, 8; 515, 8; 523, 12; 526, 4; 530, 2), cf. Malamat 1998, 38. In Egypt and at Ugarit several local

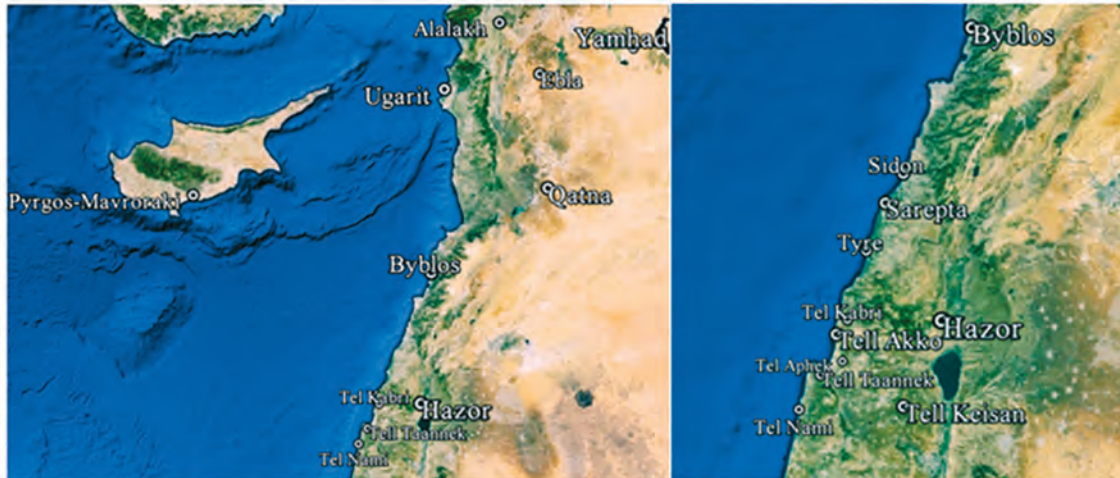


Fig 10.4. Hazor and the Levant in the Middle Bronze Age: main cities quoted in the Mari texts (left) and southern Canaanite sites (right) where archaeological and textual evidence testify to contacts with Minoan and Cypriote textile technology.

Moreover, in addition to the Minoan pottery, a cone-shaped typology of clay-fired loom weights, well known in Anatolia and often linked to Cypriote materials, start to become common in the coastal South Canaanite sites (Fig. 10.3).⁸⁴ Since wool and textiles from these cities are quoted in Mari texts, the Mediterranean fashion may have been appreciated for its making use of some exotic western elements, including the warp-weighted loom and marine purple dye.⁸⁵ This hypothesis seems confirmed by the fact

that the areas from which textiles and garments are imported will later become renowned centres of production of purple and coloured cloths. In the middle of the 2nd millennium BC Hazor (Fig. 10.4) was famous for the refinements of its textiles as testified by a little tablet found in the Canaanite city and a text found in el-Amarna.⁸⁶ Archaeological excavations in the nearby sites of Tell Akko (13th century BC) and Tell Keisan (11th century BC) brought to light crushed murex middens and dibromoindigo residues. At Tell Keisan a shell purple-dyed stripe was even found on the interior of a large vessel.⁸⁷ It is no coincidence that, during the 1st millennium BC, in the Bible Hazor is often linked to dyeing technology.⁸⁸

Moreover, at the site of Pyrgos-Mavroraki an actual industrial complex of the Middle Bronze Age was found. Its workshop was intended for the production of luxury goods such as perfumes and purple-dye cloth, with early evidence of the spinning of fibres already dyed with purple.⁸⁹ This discovery shows a different point of view about the trade between Cyprus and the Near East during the Middle Bronze Age (Fig. 10.4). Although in the Mari texts the island is quoted only with a reference to metals, purple-dye and the textile industry might already have been a prestigious and remunerative technology for import. Within the Levant, the purple industry of Cyprus was not only precocious but

imitations of Kamares Ware are known, cf. Wiener 1987; cf. Aubert 2013, 251 for Byblos.

- 84 This typology of weights is typical in Anatolia since the half of the 3rd millennium BC: it is in Troy II, Aphrodisia, Alaca Höyük, Alishar, Mersin, see Peyronel 2004, 207–208; Cheval 2008; Barber (1991, 301). Pyriform-shaped loom weights were found in the Middle Bronze Age II levels at Tel Taannek, Tel Nami and Tel Kabri (modern Israel) and Pyrgos-Mavroraki (Cyprus). Marcus and Artzy 1995; Friend 1998, 33–34; Goshen *et al.* 2013; Belgiorno 2009, 68, 71–72.
- 85 Friend 1998, 8: “As mentioned earlier, the traditional date for the introduction of the warp-weighted loom in the Levant is the Middle Bronze Age period”. Perhaps it is no coincidence that Aegean-type frescoes in the Levant were found in the Middle Bronze palaces of Qatna, Tel Kabri and Alalakh (Feldman 2007). In Qatna (Tell Mishrife, along the Middle Orontes River in Syria), archaeologists found the most ancient purple remains of the continental Near East. In the late 18th century BC, diplomatic and economic exchanges with Mari were encouraged through a cunning matrimonial policy between the royal courts. During the earlier 2nd millennium BC, Alalakh (Tell Atchana in the Amuq plain in present-day Turkey) was an important city belonging to the kingdom of Yamhad, centered in Halab (Aleppo). It is not known if the exotic *yamhādu* garments were imported in Mari from Halab rather than from Alalakh, but Šibtu, queen of Mari and “wife as deputy” of Zimri-Lim come from the territory of Yamhad. Tel Kabri, sited along the

coast of the northern Akko valley in Upper Galilee, served as primary link between Hazor inland and the coastal routes, showing strong ties to the island of Cyprus too.

86 EA 22, 41, Moran 1992, 53.

87 Reese 2010, 121.

88 See note 20.

89 This procedure (*top dyeing*) is still well illustrated by Homer (*Od.* IV, 133–136): sitting in front of Telemachus and Menelaus, Helen wields a golden distaff full of staples of *iodneφés* ‘violet’ wool in order to spin them.

also long-lasting, since textual and archaeological evidence testify to its development during the whole of the 2nd and 1st millennia BC and beyond, until Late Antiquity.⁹⁰

Recently M. Vigo proposed that precious linen connoted in the Hittite inventory texts as “Cypriote” (GADA^{URU} *Alašiya*) was instead produced from Egyptian flax and only subsequently brought to Cyprus to receive a special type of processing which transformed it into a luxury good.⁹¹ Archaeomalacological remains from the Late Bronze Age site of Hala Sultan Tekke (12th century BC) suggest that this special manufacturing was dyeing with marine purple. In the Old Testament (Ezekiel XXVII, 1–7), Alashiya (Heb. *‘iyyē(y) ‘ēlišāh*), the island of Cyprus is designated as the place of provenance of Phoenician purple.⁹² The text, dated to the beginning of the 6th century BC, is confirmed by archaeology, evidence for purple production in this period is attested at the Cypro-Archaic *Polis-Peristeries* sanctuary (Marion), on the north-western coast of the island.⁹³

Therefore, since the beginning of the 2nd millennium BC, purple-dye could have been known at Mari through its Amorite and Canaanite commercial partners living along the Mediterranean coast and the overseas trade with Crete, the Aegean lands and the island of Cyprus.⁹⁴ During the Middle Bronze Age, Aegean purple started to spread along the shores of the Eastern Mediterranean as testified to by crushed murex at Troy and in Cyprus. In the same period, epigraphic and archaeological sources confirm that the finished works, as cloths and finished products from Minoan and Cypriote workers, began to circulate in Levantine coastal cities beside metals and pottery. The Middle Bronze Age must be the period of the rising of what has been defined as the “Aegean/Syrian textile

koine” (Fig. 10.4).⁹⁵ Consequently, the early occurrences of *tabarru*-textiles in the archives of Mari can reflect this new cultural technological horizon.

Conclusions

The first attestation of *tabarru* coloured textiles is found in the texts of the royal archives of Mari, dating back to the end of the 18th century BC. Close relations between the Old Syrian kingdom and those Eastern Mediterranean cultures that were already familiar with purple technology, suggests that the term *tabarru* indicates a specific variety of the marine dye in use since the end of 2nd millennium BC. In the Middle Bronze Age, purple-dye might have been the catalyst of a strong economic network which trading textiles and metals, involved the Aegean, Anatolian, Cypriote, Egyptian and Syrian-Palestinian centres.⁹⁶

Nonetheless, the terminology of cuneiform texts is equivocal, since no difference is made between the colour of textiles and the dyes that produce it. Indeed, ambiguity is facilitated by the frequent recourse to figures of speech and to other linguistic expedients common in modern chromatic terminology; often colour terminology is linked with the name of plants, animals or minerals. Yet, beside the complexity to recognize the ancient phytonyms and zoonyms with the taxonomical species present at that time in the area, it is rather difficult to understand if these natural resources were actually used as raw materials in dye-making, rather than quoted only as terms of comparison.

The singling out of the raw materials used to produce these different colours is therefore a challenging issue, complicated in cuneiform texts by the fact that terms for colours are still uncertain. Moreover, 2nd millennium cuneiform texts do not explain the technical procedure used to obtain *tabarru* or the other nuances recognised by Assyriologists as varieties of purple; they do not specify natural resources used as raw materials to produce dyes and obtain specific hues of colour. Indeed, philologists have often tried to find a term for murex in cuneiform texts but with limited results.⁹⁷

Only Ugaritic literary texts were able to provide Semitic terminology for the molluscs; in the *Baal Cycle* (1.3 II, 2–3; III 1–2; IV 45–46) the goddess Anat beautifies herself with the purple of the murex “whose secretions cover a thousand acres in the sea”: *tpp. 'anhbm. d' alp. šd/z'u [h.bym]*.⁹⁸ In

90 *Vita Aureliani* XII, 1; *Vit. Claud.* XIV, 10; The discovery of purple-dye fabrics in Enkomi (1st century BC–1st century AD) strengthens coeval textual references; still in the 6th century AD, Isidore of Seville quoted the Cypriote purple as one of the best in antiquity, confirming the longevity of this technology.

91 KBo XVIII 175, obv.col. I 5; IBoT I 31; EA 33–40; Vigo 2010; Cf. also Goetze 1956; Singer 2008.

92 S. Moscati (1966, 108–110) studied this biblical passage towards the Phoenician commerce. Recently, the text was interpreted by M. Liverani (1991) as a grandiose description of the Phoenician trade of the 7th–6th centuries BC. See Vigo 2010. I. Herzog (1987, 41) has already pointed out the role of purple producer for the island of Cyprus.

93 As in the coastal site of Kommos, in Crete, here the production of purple-dye was associated to a shrine too, Reese 2000; Reese 2010, 125; see also the contribution of D. Reese in this volume.

94 See Altman 1996 and Astour 1995.

95 Barber 1991, 311–357.

96 In 19th century BC Anatolia, the Old Assyrian merchants of the *karum* of Kaneš bought silver and gold exchanging wool and tin, see Michel and Veenhof 2010, 214; Larsen 1987.

97 Albright 1961; Astour 1965; Fales 1998.

98 Smith and Pitard 2009, 145; Ribichini and Xella 1985, 23.

the *Aqhat Epic* (1.19 IV 42–43), Pagat *t'ad t'id(!)m bglp y[m]*, “reddled herself red with the shell (?) of the se[a]”.⁹⁹ According to S. Ribichini and P. Xella (1985), who edited a monograph on textile terminology in Ugarit, *anhb* and *glp* refer to the name of the two species of gasteropods from which purple is extracted.¹⁰⁰ The word *'anhbm* (*'anhibīma*) “murex” is linked with Akkadian *yānibu*, *nibu* “stone, shell” and with Arabic *nahaba* “to plunder, take booty”.¹⁰¹

A cuneiform text reports x MA.NA *ḥuruḥurātu ša ta-bar-ri-be* “10 minae of deep red of the *tabarru* kind”.¹⁰² Yet in another text from the same archives (AASOR XVI 77, 13) *ḥurḥurāti ša tūlti* is translated as “red dye extracted from maggots, kermes”.¹⁰³ It is possible that in the former text a genitive form of *tabarru* is used to specify the natural source used to obtain *ḥuruḥurātu*-dye and not only as a gloss. In the above-mentioned text from Ugarit XVII, 383, 32 there is a similar use of the genitive: SĪG.SA₅ *tabari*. If *tabarru* is a concrete and physical matter and not only a colour, could its name be connected with the sea, murex shells or with some step or technique linked to the production cycle of purple-dye?

The etymology of *tabarru* has not been investigated because the word is not considered Semitic by the greater part of Assyriologists.¹⁰⁴ The wide number of attestations of the term in the text from Nuzi and in the Middle Assyrian letters contributed to considering this term as a loanword from Hurrian.¹⁰⁵ J.-M. Durand argued that fluctuations *ta/da/tu* of the initial in the texts of Mari depends on the extra Semitic origin of the word: *tabarru* shall be an Akkadization of an original word **tabaru*. Its late form *tabarru* shall be the result of the assimilation of the Hurrian article according

to the process **tabar-ni>tabarri*.¹⁰⁶ In fact, **tabaru* could not subsist otherwise; indeed, in Akkadian writing, two short syllables cannot follow one another in the same word.

Nevertheless, recently in his Hurrian glossary, T. Richter asserted that *tabarru* is an original Akkadian term, subsequently borrowed by the Hurrian language.¹⁰⁷ Therefore, it would be possible to investigate Semitic etymology and to discuss the proposed form **tabaru*. Could the syllabic writing *ta-ba-ru* be read alternately as *tabarru* and **tabāru* in accordance with the behaviour of the noun *na-ba-su*, attested as both *nabassu* and *nabāsu*? The word **tabāru* could be linked to a possible *taprās* form of the Akkadian *ba'āru/bāru* ‘to fish, to catch’. The verb is used not only in hunting but also in military contexts: two meanings are related by the common use of a net or cage (*nabāru*), perhaps in the case of fishing a fish trap. This shall tally with what has been said by Classical sources about murex gathering and with the above-mentioned semantic link of the Ugaritic *'anhbm* with the Arabic *nahaba*. Unfortunately, the *taprās* form of the Akkadian *bāru* is never attested and while some texts report the syllabic writing *na-ba-as-si*, the proposed form **tabāru* is not backed up by textual evidence. At least for the moment, terminological investigation allows us to consider the term *tabarru* simply the denomination of a coloured textile.

Therefore, the historical, technological and economic background of the age of Mari texts allow us to believe that an early spread of purple-dye technology in the ancient Near East occurred already in the early of the 2nd millennium BC. In light of the current state of knowledge, it looks plausible that, thanks to the intense trade relations with the islands of Eastern Mediterranean Sea, the inhabitants of Syria and Palestine knew and appreciated Minoan and Cypriote cloths and started to acquire from them some elements of the Western textile technology. Nevertheless, it is not clear either whether *tabarru* was a particular hue of purple obtained by mixing genuine molluscan purple with other dyestuffs, rather than a forgery produced only from other natural resources. In both cases, these early attestations of *tabarru*-wool suggest that Syrian and Mesopotamian people, fascinated by the exotic colours of the garments worn by the strangers they were trading for copper and tin, started to elaborate techniques to imitate them by using the natural resources they have at their disposal. Nevertheless, only future archaeological discoveries will provide confirmation of the direct exploitation of murex snails or at least evidences of the circulation of marine purple in Syria since the beginning of the 2nd millennium BC.

99 Smith and Pitard 2009, 216.

100 Ribichini and Xella 1985, 22. In antiquity the diverse quality of the molluscs was well-known: according to the Aristotelian taxonomy, the gastropods are named *purpura* (*Hexaplex trunculus*) and *murex* (*Bolinus brandaris*). The blue purple shall be secreted only from *Hexaplex trunculus* whilst the red purple from *Bolinus brandaris*. A deeper hue of red purple was obtained instead from snails that live in coastal rocks, probably *Stramonita haemastoma*.

101 CAD I/J 322, sub *janibu*; Smith and Pitard 2009, 145 ascribe the semantic connection between these Semitic words to the voracious nature of the murex snails, known to be among the most ferocious predators, at least among the gastropods.

102 Donbaz 1988, 70.

103 Fales 1998; Abrahams 2014, 293.

104 Durand 1984, 428, note 1: “Tout indique dans ce vocable (structure, absence d'étymologie) une origine extrasémitique. Je proposerai donc de comprendre que le *tabarrum* (récent) représente l'akkadisation d'un terme hourrite pourvu de son article”; Durand 2009, 120, a) “emprunt par l'akkadien d'un terme hourrite”;

105 Goetze 1956, 34–35: “*tawarri* clearly a Hurrian word, is the source of Akk. *tabarru* ‘red dye, red purple’”.

106 The word **tabaru* should be confirmed by the writing ^{su} *ta-ba-ru* in M.5681, iii 29, a text that quotes commodities from the Qabra region “où une forte implantation hourrite peut être supposée”, Durand 2009, 121.

107 Richter 2012, 440–441.

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Abbreviations

AASOR	The Annual of the American Schools of Oriental Research
AbB	Altbabylonische Briefe in Umschrift und Übersetzung
AHw	W. von Soden, <i>Akkadisches Handwörterbuch</i> , Wiesbaden 1958–1981
ARM	Archives royales de Mari
ARMT	Archives royales de Mari (Transcription, traduction, commentaire), Paris
BAR	British Archaeological Report
CAD	The Assyrian Dictionary of the Oriental Institute of the University of Chicago, Chicago 1956
EA	Text from el-Amarna, according to J. A. Knudtzon, <i>Die El-Amarna-Tafeln</i> , Vorderasiatische Bibliothek 2, Leipzig 1915
IBoT	Istanbul Arkeoloji Müzelerinde Bulunan Boğazköy Tableteri, Istanbul
KBo	Keilschrifturkunden der Vorderasiatisch-ägyptischen Gesellschaft, Leipzig
MARI	Mari, Annales de Recherches interdisciplinaires
MSL	Materialien zum sumerischen Lexikon/Materials for the Sumerian Lexicon, Rome 1937
NABU	Nouvelles Assyriologiques Brèves et Utilitaires, Paris 1987 ff.

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