This PDF file of your paper in *Anatolian Interfaces* belongs to the publishers Oxbow Books and it is their copyright.

As author you are licenced to make up to 50 offprints from it, but beyond that you may not publish it on the World Wide Web or in any other form.

## An offprint from

# ANATOLIAN INTERFACES HITTITES, GREEKS AND THEIR NEIGHBOURS

Proceedings of an International Conference on Cross-Cultural Interaction, September 17–19, 2004, Emory University, Atlanta, GA

edited by

Billie Jean Collins, Mary R. Bachvarova and Ian C. Rutherford

© Oxbow Books 2008

ISBN 978-1-84217-270-4

### **CONTENTS**

,	previations ps	v vi viii
Intı	roduction	1
	PART 1	
	HISTORY, ARCHAEOLOGY AND THE MYCENAEAN-ANATOLIAN INTERFACE	
1.	Troy as a "Contested Periphery": Archaeological Perspectives on Cross-Cultural and Cross-Disciplinary Interactions Concerning Bronze Age Anatolia (Eric H. Cline)	11
2.	Purple-Dyers in Lazpa (Itamar Singer)	21
3.	Multiculturalism in the Mycenaean World (Stavroula Nikoloudis)	45
4.	Hittite Lesbos? (Hugh J. Mason)	57
	PART 2 SACRED INTERACTIONS	
5.	The Seer Mopsos as a Historical Figure (Norbert Oettinger)	63
	Setting up the Goddess of the Night Separately (Jared L. Miller)	67
7.	The Songs of the Zintuhis: Chorus and Ritual in Anatolia and Greece (Ian C. Rutherford)	73
	PART 3	
	IDENTITY AND LITERARY TRADITIONS	
8.	Homer at the Interface (Trevor Bryce)	85
9.	The Poet's Point of View and the Prehistory of the Iliad (Mary R. Bachvarova)	93
10.	Hittite Ethnicity? Constructions of Identity in Hittite Literature (Amir Gilan)	107

iv Contents

	PART 4	
	IDENTITY AND LANGUAGE CHANGE	
11.	Writing Systems and Identity (Annick Payne)	117
12.	Luwian Migration in Light of Linguistic Contacts (Ilya Yakubovitch)	123
13.	"Hermit Crabs," or New Wine in Old Bottles: Anatolian-Hellenic Connections	
	from Homer and Before to Antiochus I of Commagene and After (Calvert Watkins)	135
14.	Possessive Constructions in Anatolian, Hurrian and Urartian as Evidence	
	for Language Contact (Silvia Luraghi)	143
15.	Greek mólybdos as a Loanword from Lydian (H. Craig Melchert)	153
	PART 5	
	ANATOLIA AS INTERMEDIARY: THE FIRST MILLENNIUM	
16.	Kybele as Kubaba in a Lydo-Phrygian Context (Mark Munn)	159
17.	King Midas in Southeastern Anatolia (Maya Vassileva)	165
18.	The GALA and the Gallos (Patrick Taylor)	173
19.	Patterns of Elite Interaction: Animal-Headed Vessels in Anatolia in the Eighth and Seventh Centuries BC (Susanne Ebbinghaus)	181
20.	"A Feast of Music": The Greco-Lydian Musical Movement on the Assyrian Periphery (John Curtis Franklin)	191
Ger	neral Index	203

#### **PREFACE**

When Ian Rutherford and Mary Bachvarova first conceived the idea for a conference on cross-cultural interaction in Anatolia, they found a willing collaborator in Billie Jean Collins, who volunteered Emory University in Atlanta, Georgia as the location for the conference. Its purpose would be to bring together scholars who might not normally travel in the same academic circles to engage in a discussion about Anatolia's many cultural "interfaces." Cross-cultural interaction in ancient Anatolia between indigenous groups, such as the Hattians, Indo-Europeans, including Hittites and Greeks, and Near Eastern cultures, particularly the Hurrians, resulted in a unique environment in which Anatolian peoples interacted with, and reacted to, one another in different ways. These cultural interfaces occurred on many levels, including political, economic, religious, literary, architectural and iconographic. The rich and varied archives, inscriptions and archaeological remains of ancient Anatolia and the Aegean promised much material for study and discussion. After a year of planning, on September 17–19, 2004, an international body of scholars, more or less equally divided between Classicists and Anatolianists, met at Emory University. These Proceedings present the rich fruits of the discussion that took place over those three days in Atlanta.

Hosted and co-sponsored by the Department of Middle Eastern and South Asian Studies of Emory University, the conference, "Hittites, Greeks and Their Neighbors in Ancient Anatolia: An International Conference on Cross-Cultural Interaction" was made possible by the generous support of many sponsors. From within Emory, the sponsors include the Center for Humanistic Inquiry, the Department of Anthropology, the Department of Art History, the Department of Classics, the Department of Religion, the Graduate Division of Religion, the Graduate Program in Culture, History and Theory, the Graduate School of Arts and Sciences, the Institute for Comparative and International Studies, the Michael C. Carlos Museum, the Office of International Affairs, the Program in Classical Studies, the Program in Mediterranean Archaeology and the Program in Linguistics. Support from outside the University came from the American Schools of Oriental Research, the Georgia Middle East Studies Consortium, the Georgia Humanities Council, the Foundation for Biblical Archaeology and the Hightower Fund. The publication of these proceedings was made possible by a subvention from Emory College and the Emory Graduate School of Arts & Sciences. Thanks also go to Susanne Wilhelm of Archaeoplan for preparing the maps for the volume.

The conference "Hittites, Greeks and Their Neighbors" underscored how all our fields of study can benefit from a cross-cultural, cross-disciplinary approach. If, in publishing these proceedings, we draw attention to the importance of Anatolia in recovering the cultural heritage of the western world, then our efforts have been worthwhile. Many at the conference expressed the hope that it might be the beginning of a regular series of formal conversations on the topic, and one participant predicted that the conference would usher in a new era of cross-disciplinary cooperation. We certainly hope so.

#### **ABBREVIATIONS**

ABAW Abhandlungen der Bayrischen Akademie der Wissenschaften

AHw W. von Soden, Akkadisches Handwörterbuch. Wiesbaden, Harrassowitz, 1958–1981.

Alc. Alcaeus Anac. Anacreon

AOAT Alter Orient und Altes Testament

AP Anthologia Palatina

Euphorion, ap Ath. Euphorion, ap Athenaeus "Deipnosophistae"

Ar., Thesm. Aristophanes, Thesmophoriazusae

Archil. Archilochus

Arnobius, *Adv. nat.* Arnobius, *Adversus nationes* 

Ath. Athenaeus ca. circa

CAD The Assyrian Dictionary of the Oriental Institute of the University of Chicago. Chicago, The Oriental

Institute of the University of Chicago, 1956-

CAH Cambridge Ancient History

CANE Civilizations of the Ancient Near East. New York, Scribner's Sons, 1995

CDA J. Black, A. George, and N. Postgate, A Concise Dictionary of Akkadian. 2nd correctted printing.

Wiesbaden, Harrtassowitz, 2000.

CHD The Hittite Dictionary of the Oriental Institute of the University of Chicago, Chicago, The Oriental

Institute of the University of Chicago, 1980-

Clement of Alexandria, Clement of Alexandria, Protrepticus

Protrep.

CLL H. C. Melchert, Cuneiform Luvian Lexicon. Chapel Hill, N.C., self-published, 1993.

CLuw. Cuneiform Luwian

CNR Consiglio Nazionale delle Ricerche

CTH E. Laroche, Catalogue des textes hittites. Paris, Klincksieck, 1971. CTH suppl. E. Laroche, Premier supplement, RHA 30 (1972), 94–133.

Diog. Laert. Diogenes Laertius

DLL E. Laroche, Dictionnaire de la language louvite. Paris, Maisonneuve, 1959.

DLU G. del Olmo Lete and J. Sanmartín, Diccionario de la lengua ugarítica. Aula Orientalis Suppl. 7–8.

Barcelona, AUSA, 1996.

FGrH F. Jacoby, ed. Die Fragmente der griechischen Historiker, Berlin, Weidmann, and Leiden, Brill,

1923-.

Firmicus Maternus, De errore profanarum religionum

De. err. prof. rel.

fl. floruit fr. fragment Gr. Greek

HED J. Puhvel, Hittite Etymological Dictionary. Berlin, Mouton, 1984–

HEG J. Tischler, Hethitisches etymologisches Glossar. Innsbruck, Institut für Sprachwissenschaft der

Universität Innsbruck, 1977-

Hitt. Hittite

HLuw. Hieroglyphic Luwian

Homer, Il. Homer, Iliad Homer, Od. Homer, Odyssey

[Hom.], Marg. P.Oxy. Pseudo-Homer, Margites, Oxyrhynchus Papyrus

Abbreviations vii

HW J. Friedrich, Hethitisches Wörterbuch. Heidelberg, Carl Winter, 1952.

HW<sup>2</sup> J. Friedrich and A. Kammenhuber, Hethitisches Wörterbuch. 2. Auflage. Heidelberg, Carl

Winter Universitätsverlag, 1975-

Iamblichus, De Myst. Iamblichus, De mysteriis

IBoT Istanbul Arkeoloji Müzelerinde bulunan Bogazköy Tabletleri. Istanbul 1944, 1947, 1954, Ankara

1988.

IBS Innsbrucker Beiträge zur Sprachwissenschaft

IEG M. L. West, *Iambi et elegi graeci*. 2 vols. Oxford, Oxford University Press, 1991–1992.

Il. Comm. ad. II R. Janko, The Iliad: A Commentary, vol. IV: Books 13-16. Cambridge, Cambridge University

Press

KBo Keilschrifttexte aus Boghazköi. Berlin, Gebr. Mann, 1916-.

KUB Keilschrifturkunden aus Boghazköi. 60 volumes. Berlin, Akademie Verlag, 1921–1990

KN Knossos tablet
Lith. Lithuanian
Luw. Luwian
Lyc. Lycian
Lyd. Lydian

MesZL R. Borger, Mesopotamisches Zeichenlexikon. Münster, Ugarit-Verlag, 2003.

MHG Middle High German

MSL XIII B. Landsberger et al., Materialien zum sumerischen Lexikon, vol. 13. Rome, Pontifico Istituto

Biblico, 1971.

MY Mycenae tablet Myc. Mycenaean Myl. Mylesian

Nic. Dam. Nicolaus Damascenus
OBO Orbis Biblicus et Orientalis
OLA Orientalia Lovaniensia Analecta

Or. Oratio Pal. Palaic

PIHANS Publication de l'Institut Historique et Archéologique Néerlandais de Stamboul

[Plutarch], *De mus.* Pseudo-Plutarch, *De musica* 

Plutarch, Mor. Plutarch, Moralia

PMG D. Page, Poetae Melici Graeci, Oxford, Clarendon, 1962.

PN personal name

PRU 4 C. F.-A. Schaeffer, Le palais royal d'Ugarit IV. Paris, Imprimerie Nationale & Klincksieck, 1956.

PY Pylos tablet r. ruled

RHA Revue hittite et asianique

StBoT Studien zu den Boğazköy-Texten

Strabo, Geography Strabo, Geography

s.v. sub voce
Theoc. Theocritus
trans. translated by

Tragicorum Graecorum Fragmenta. Göttingen, Vandenhoeck & Ruprecht, 1971-.

Ugar. Ugaritic

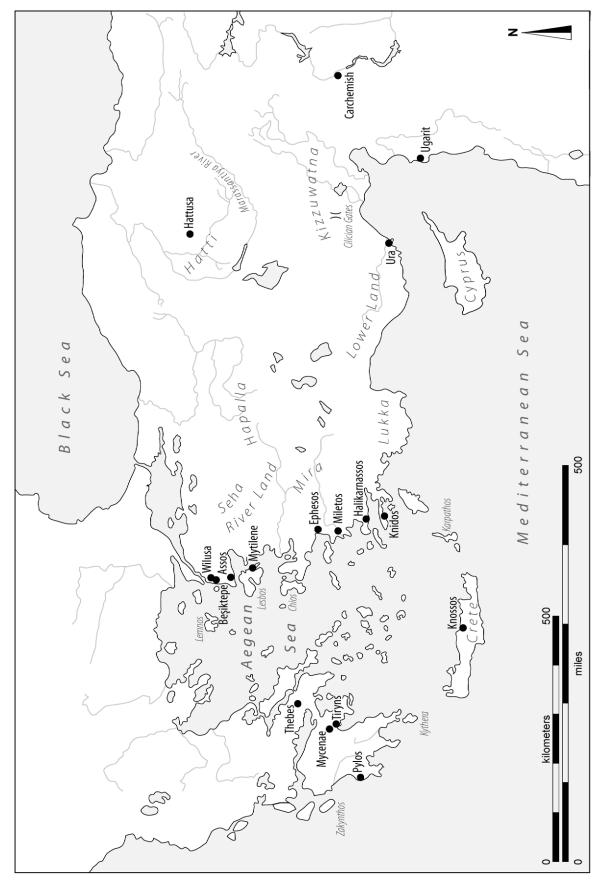
Ugaritica V J. Nougayrol et al., Ugaritica V. Paris, Geuthner, 1968.

UT-PASP University of Texas at Austin Program in Aegean Scripts and Prehistory

vel sim. vel similia "similar word"

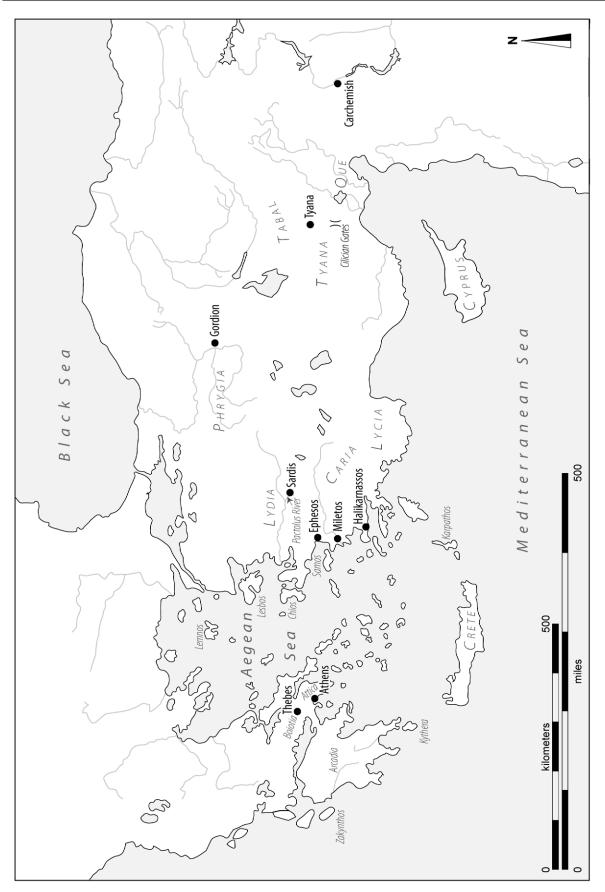
Verg. Virgil

WAW Writings from the Ancient World



Anatolia and the Aegean in the Late Bronze Age.

*Introduction* ix



Anatolia and the Aegean in the Iron Age

#### PURPLE-DYERS IN LAZPA

#### Itamar Singer

The organizers of this conference should be acclaimed for bringing together scholars dealing with a broad scope of subjects from both sides of the Aegean. It is increasingly recognized (though not in all scholarly circles, regrettably) that an interdisciplinary approach, with a fruitful cooperation between Hittitologists and Mycenologists, archaeologists and philologists, can yield important advances in our comprehension of the complex relationships between Anatolian and Aegean cultures.¹ This paper aims at introducing a previously unsuspected economic factor in the strained Hittite-Ahhiyawan contacts in western Anatolia and the offshore islands.

#### ŞĀRIPŪTU-MEN IN THE MANAPA-TARHUNTA LETTER

The Manapa-Tarhunta Letter (*CTH* 191) is a large one-column tablet, the reverse of which is uninscribed.<sup>2</sup> The main fragment, *KUB* 19.5 (VAT 7454 + Bo 2561), was augmented by Laroche (*CTH* suppl.) with the small join *KBo* 19.79 (1481/u), which was found in the dump of Temple I. Parts of the text were discussed in early studies (Forrer 1926, 90–91; Sommer 1932, 170, n. 1), but the first comprehensive treatment was presented by Houwink ten Cate (1983–84, 38–64), and this served as the basis for all subsequent studies.

The letter was sent by Manapa-Tarhunta, king of the Seha River Land, to his Lord, either Mursili II, or, more probably, Muwatalli II.<sup>3</sup> After a surprisingly short greeting, Manapa-Tarhunta presents his reasons (or perhaps pretexts) for failing to participate in a Hittite military expedition to the Land of Wilusa. This important historical reference has attracted the attention of most commentators, but will not be discussed in this paper.

The next paragraph takes up the rest of the obverse, some thirty partly preserved lines. Here we encounter the notorious troublemaker Piyamaradu and his son-in-law Atpa, the ruler of Millawata/Millawanda/Miletos. The two, who acted as the main proxies of Ahhiyawa in Anatolia, humiliated Manapa-Tarhunta by conducting an attack on the Land of Lazpa and carrying away some prisoners. This could indicate that the island of Lesbos belonged to the Seha River Land, situated on the opposite coast, in the valley of the Caicos, the Hermos, or both.

In Lazpa, two groups of ṢĀRIPŪTU -men were forced to "join up" and were brought by Piyamaradu's men before Atpa. One group consisted of Manapa-Tarhunta's ṢĀRIPŪTU and the other of His Majesty's (the Hittite king). The latter, or perhaps both groups, were headed by their chief, a man whose name ends with [...]ħuḥa. After their abduction, these persons appealed to Atpa, probably in Millawata, with the following significant words (ll. 15–18): "We are tributaries (arkammanalius) and we came o[ve]r the sea. Let us [render] our tribute (arkamman)! Šigauna may have committed a crime, but we have done nothing." Who the "criminal" Šigauna might be we do not know. It seems that Atpa was willing at first to set free the

 $\S\bar{A}RIP\bar{U}TU$ -men, but he was then persuaded by this  $\S$ igauna to take advantage of the golden opportunity presented by the Storm-god, and ultimately refused to let them go. At this stage Kupanta-Kurunta, probably the well-known king of Mira, intervened in the matter, and "the  $\S\bar{A}RIP\bar{U}TU$ -men of the gods who (belong) to His Majesty" (l. 27) were released. In the remaining text we only have the ends of lines, which do not provide a context.<sup>13</sup>

Various questions are raised by this intriguing episode, but all depend on the identity of the ṢĀRIPŪTU-men,<sup>14</sup> who are otherwise not attested in the Boğazköy tablets. They do appear, however, in the Ras Shamra tablets, and these may provide the right answer.

#### SĀRIPŪTU-MEN IN THE TEXTS FROM UGARIT

Ugaritica 5. 26 (RS 20.03) is a letter sent by the Hittite prince Šukur-Tešub to the king of Ugarit, Ammištamru II, in the mid-thirteenth century BC (Nougayrol 1968, 91–93). The prince had just been appointed as governor in Alalah and he appeals to his southern neighbor in an important matter: The ṢĀRIPŪTU-men of Panešta will be sent over the border to Ba'alat-rimi<sup>15</sup> in order to máš.da.a.ri ana epeši, rendered by Nougayrol (without commentary) as "to perform the regular offerings" ("pour faire les offrandes perpétuelles"). After completing their mission they should be sent back to the "mayor" (hazannu) of Šalmiya. They should be protected on their way through the mountains and should be provided for all their needs.

In his *editio princeps*, J. Nougayrol associated ṢĀRIPŪTU with the Semitic verb ṣarāpu, which has a wide range of meanings, all of them associated with the processing of some material through high temperatures: "to smelt and refine" metals, "to fire or bake" pottery, bricks or tablets, "to dye" textiles and leather, etc.<sup>16</sup> Nougrayrol opted for "smelters" ("fondeurs") and was followed by Houwink ten Cate.<sup>17</sup> A different interpretation, far more fruitful, was put forward by S. Lackenbacher in her recent anthology of Akkadian texts from Ugarit (2002, 95–96, with n. 276). Drawing from other texts, some still unpublished, she concluded that the ṢĀRIPŪTU were "purple-dyers." Another letter, already indicated by Nougayrol (1968, 93, n. 15), mentions the "ṢĀRIPŪTU of the king" (Lackenbacher 1989, 317–18; 2002, 97). Piha-ziti, a leading official from Carchemish (Singer 1999, 653, n. 142), complains that these had been subjected to custom duties in Ugarit. He threatens to file a complaint with "the king" (of Carchemish). Finally, in an unpublished letter from the Urtenu archive, the Hittite king is explicitly mentioned as sending wool to Ugarit *a-na ṣa-ra-pi*, "for dyeing" (Lackenbacher 2002, 96 n. 276).

Concerning the mission of the ṢĀRIPŪTU in Ugaritica 5. 26 (máš.da.a.ri ana epeši), Lackenbacher pointed to a strand of evidence in a lexical text from Boghazköy in which Sumerian máš.da.a.ri is equated with Akkadian *irbu* and Hittite *arkammaš*, "income" or "tribute." But, according to Lackenbacher, "to make/perform the tribute" does not provide a satisfactory sense in this text, and she therefore substituted a related Akkadian term, *argamannu*, which in later texts means "purple wool." In other words, what the ṢĀRIPŪTU-men were supposed to do in Ugarit is to dye their wool in purple, a well-known industry of the Levantine coast. From all the references cited above, it is obvious that representatives of the Hittite crown closely supervised the movements of these itinerant craftsmen and controlled their lucrative revenues.<sup>20</sup>

#### PURPLE IN THE ANCIENT NEAR EAST

Lackenbacher's ingenious solution opens new vistas in the interpretation of the Manapa-Tarhunta letter and its relevance to eastern Aegean economy and politics. However, this solution, concisely indicated in her lengthy footnote, needs some further consideration and bolstering in a broader context of what is presently known about the purple-dye industry and its terminology in the Near East and the Aegean.<sup>21</sup>

The meaning of argamannu may serve as a good point of departure. As first recognized by Albright (1933,

15), Luwian/Hittite arkamma(n)-<sup>22</sup> is etymologically related to Akkadian argamannu and its West Semitic cognates (Ugaritic 'argmn/irgmn, Hebrew 'argaman, Aramaic 'argwan, Arabic arjawan, etc.).<sup>23</sup> A vast literature has been dedicated to the problem of etymology, Semitic, Indo-European, or other, and to the circuitous question of what was the primary sense, "tribute" or "purple."<sup>24</sup> Either way, the semantic shift is easily comprehensible. Since the most conspicuous component of the Ugaritic tribute to Hatti (and of the Phoenician tribute to Assur) was purple-dyed fabrics, the two meanings became conflated. The difficult question remains whether this semantic shift had already occurred in the second millennium,<sup>25</sup> or only in the first.<sup>26</sup> With the new data from Ugarit adduced by Lackenbacher an early semantic shift seems preferable.

Akkadian argamannu was not the only Akkadian designation for purple-dyed fabrics. It is well known that the terminology for colors in cuneiform literature is notoriously complex. Landsberger's seminal study of Sumerian-Akkadian colors (1967) still serves as the best starting point. The Mesopotamian color palette consists of five basic colors—white (BABBAR=peṣû), black (GE,=ṣalmu), red (SA,=sāmu), yellow/green (SIG,  $(.SIG_a)=(w)arqu)$ , and multicolored  $(G\dot{U}N(.G\dot{U}N)=burrumu)$ . "Blue" is expressed only by comparison to the color of lapis lazuli (ZA.GÌN=uqnû). Hence, "blue wool" is simply designated as šīpātu uqnû or uqnâtu (SÍG. ZA.GÌN).<sup>27</sup> Blue fabrics are already mentioned in Early Dynastic times (Biggs 1966), long before the advent of the purple dye. With the invention of the new technology sometime during the second millennium BC (see below), SÍG.ZA.GÌN (occasionally SÍG.ZA.GÌN.GE<sub>2</sub>) became the standard designation for wool dyed "blue purple." At the same time, SÍG.ZA.GÌN, without additional specifications, continued to designate blue fabrics in general, including those tinted with other dyestuffs, of mineral or vegetal origin. For "red purple" the ideogram SÍG.ZA.GÌN.SA, was reserved. This chromatic division must be situated within the range of lightred to dark-blue, but the exact hue of each of the two designations is not easy to establish.<sup>28</sup> Another problem is the correspondence between the above logograms and their phonetic spellings. Without delving into the various problems involved, 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.<sup>29</sup> To these three terms for purple colors we must add a fourth, *sirpu*, which relates to the industrial process involving high temperatures. Although the verb sarāpu may denote the heating of various substances (see above), when sirpu is associated with dyed fabrics it usually denotes red or purple colors. The same root also generated the professional designation of the purple-dyers, SARIPŪTU.

There might be some scattered earlier attestations,<sup>30</sup> but the best evidence for second-millennium purple comes from Ugarit, which also supplied the first archaeological evidence for the industry in the Levant (see below).<sup>31</sup> The lexical correspondence between the Akkadian and the Ugaritic terms is notoriously difficult and controversial.<sup>32</sup> We follow here the conclusions reached by W. van Soldt in his 1990 study on "Fabrics and Dyes at Ugarit."

The two main categories are "blue (or violet) purple," SÍG(.ZA.GÌN) takiltu, which corresponds to Ugaritic iqnu (lit. the color of lapis lazuli), and "red purple," SÍG(.ZA.GÌN) ḫašmānu, corresponding to alphabetic pḥm (lit. the color of glowing charcoal).<sup>33</sup> As already mentioned, the generic term for "purple-dyed wool" is SÍG. ZA.GÌN, and in order to specify its color as either "blue" or "red" one had to add the specification takiltu or ḫašmānu, respectively. The ideogram ZA.GÌN was gradually dropped, leaving only the phonetic spellings.

These designations from Ugarit are matched with Neo-Assyrian takiltu and argamannu, and with Hebrew tekhelet and argaman. Clearly, the terms hasmanu and argamannu were interchangeable, both referring to "red purple" (SÍG ZA.GÌN SA<sub>5</sub>). It is regrettable that, relying on some late lexicographical equations, the main Akkadian dictionaries define ha/usmanu as "blue-green" (CAD  $hat{H}$ , 142) or "bläulich" (Ahw, 334b), and these translations have been followed by most Assyriologists and Hittitologists. The expression "hasmanu of the sea" in a fragmentary Akkadian text from Boghaköy does not help in solving the problem. Does it

refer to the color of the sea (whatever that is), or does it rather refer to the murex shells coming from the sea? Either way, it strikingly recalls Homer's *halipórphyros*, "purple of the sea." <sup>38</sup>

Ugarit supplies some valuable data on the prices of purple-dyed wools.<sup>39</sup> One talent (ca. 30 kilos) of red purple costed on the average four shekels of silver, and one talent of blue purple more than five silver shekels. A comparison with the prices of untreated wool shows that the dyeing process more than doubled its value. Although these prices are but a far cry from the exorbitant prices paid for Tyrian purple in Classical times,<sup>40</sup> they were a major source for the prosperity of Ugarit and other Levantine cities. Naturally, the great demand for the genuine substance generated cheaper imitations of inferior quality produced from plant and mineral sources (Blum 1998, 31 with notes 51–52).

The Ugaritic information on the textile production is quite limited.<sup>41</sup> The palace personnel (bnš mlk) included "shearers" (gzzm), "spinners" (ģzlm), "weavers" (mḥṣm; cf. Akk. mūḥṣṇu and uṣparu) and "fullers" or "dyers" (kbsm/kbśm). The last term may be the Ugaritic designation for the craftsmen involved in the purple-dye industry. A text published by Thureau-Dangin (1934) lists twenty-nine persons along with various quantities (from one to four hundred shekels) of purple-dyed wool (SíG.ZA.GìN), altogether two talents and six hundred shekels of wool (ca. 66 kilos). No further details are provided about these men, but we may perhaps see in them subcontractors allotted with small quantities of dyed wool for the production of fabrics and garments, either for themselves or for export. This could show that as in many other places around the world, dyeing was applied to the yarn before being woven ("dyed-in-the-wool"). Rather surprisingly, female workers are not mentioned in the Ugaritic texts, unlike other places where they constitute the main labor force in the textile industry.<sup>43</sup> Unless Ugarit was exceptional in this regard (which is hard to believe), one may assume that at least some of the men mentioned in the texts in relation with the production of fabrics were in fact the heads of households or guilds who managed the transactions, while the actual manufacture was performed by women.

Evidence for the consumption of purple-dyed fabrics at Ugarit is quite limited. There is no direct evidence on the apparel worn by the king and his family, but there are several references to the presentation of purple to deities (Ribichini and Xella 1985, 17). The most interesting is a letter of Takuhli(nu), governor of Ugarit, in which he implores his king to send him a large quantity of blue purple wool for a thanksgiving offering to the deity who saved his life.<sup>44</sup> He concludes his letter by exclaiming (rev. 43–46): "If my master does not send me blue purple wool, who else would give me blue purple wool?" Is this simply a figure of speech, or may it be conceived as an indication for a royal monopoly on the purple-dye industry? Ugarit must have exported large quantities of purple-dyed fabrics abroad, besides the annual tribute given to her Hittite overlords (see below), but the evidence for this is surprisingly meager.<sup>45</sup>

Perhaps the scarcity of evidence for purple exports from the Levant to Mesopotamia in the late-second millennium BC may partly be explained by the discovery of alternative supplies in the Persian/Arabian Gulf.<sup>46</sup> A French mission exploring the archaeology of Qatar discovered in the early 1980s clear evidence for a purple-dye industry on a small island in the Bay of Khor (Edens 1986; 1987; 1994; 1999). The site consists of small structures and a shell midden dominated by a single species of marine gastropod (*Thais savignyi*). The breakage pattern of the shells proves that the site was specialized in the production of purple-dye with techniques similar to those developed in the Mediterranean. The pottery assemblage dates the site to the thirteenth-twelfth centuries BC, contemporary to the late-Kassite materials of southern Mesopotamia and the islands of Failaka and Bahrain (Edens 1999, 80). Edens assumes that the purple technology, oriented towards provisioning elite consumption, was transferred from the Mediterranean to Kassite Babylonia and it was controlled by government officials. The logistic effort was worthwhile considering the high price of purple and especially its symbolic association with political power among the elite (Edens 1987; 1994).

#### PURPLE-DYE PRODUCTION AND CONSUMPTION THROUGH THE AGES

In view of the detailed descriptions, including recipes, of the production of some materials in cuneiform literature,<sup>47</sup> it is somewhat disappointing that not a single hint can be found in the ancient Near Eastern sources about the actual processing methods of the purple dye. For this we have to consult the Classical sources and the archaeological evidence. There is a vast literature on "purpurology," including scientific studies on the chemical processes involved.<sup>48</sup> Nevertheless, it might be worthwhile to provide the readers with a brief abstract on the technical background and on the later history of purple, including some bibliographical references.

According to legend, the discovery of purple dye is closely tied to the Phoenician coast. A late Greek tale recounts how the dog of Melqart-Herakles (or according to another version, the dog of Helen of Troy) started to chew on a murex shell and his mouth turned purple red.<sup>49</sup> The Tyrian hero disclosed his discovery to King Phoenix (brother of Kadmos and Europa) who decreed that the rulers of Phoenicia should wear this color as a royal symbol.

The first concrete descriptions on the methods of production of "Tyrian purple," later known as "Royal purple," are found in Aristotle (*Historia Animalium* 5.15.22–25), Pliny the Elder (*Historia Naturalis* 9.62.133) and Vitruvius (*De architectura* 7.13.1–3).<sup>50</sup> The purpura marine snails (or mollusks) live in shallow waters of warm seas around the world. Two main varieties are found along the Mediterranean coasts: *Murex trunculus*, which produces the red or violet purple, and *Murex brandaris*, which produces the blue purple.

The raw material of the purple-dye industry was produced from the secretion of a small bladder, the hypobranchial gland of the molluscs. The secreted fluid is yellowish, but in contact with air and light it undergoes a photochemical reaction and gradually turns into purple in various hues, from purple red or scarlet (*purpura*) to deep blue violet (*pelagia*).<sup>51</sup> The snails were collected by hand from the shallow seafloor or by lowering baited wicker baskets into the depths. Then, they were collected into metal or pottery tanks. The larger snails were broken open to extract the dye-producing gland, whereas the smaller ones were simply crushed. Salt was added and the mass was exposed to the sun for three days. Then it was slowly boiled for another week or so in a vat (which explains the association with the Semitic root *srp*). Eventually, the costly liquid was extracted and the wool yarn was dyed in it ("dyed-in-the-wool") before being woven. This resulted in an incomparably color-fast fabric, produced in a wide range of shades, from pale pink to dark violet and black purple. According to the traditional view, the end product was only transported in the form of dyed fabric, but one cannot entirely exclude the possibility that dye dissolved in an alkaline solution allowed transportation in the form of an soluble pigment to be redissolved at the point of destination (Lowe 2004, 47).

The shining iridescent quality of ancient purple explains the confusion in translating the terms used by the ancients to designate the different shades of scarlet, purple and crimson. Some were puzzled, for example, by Homer's striking array of figures employing the term "purple"—"purple sea," "purple blood," "purple rainbow" and even "purple death." Deviously, color terminology varies within the same language, not to mention through translation. We should better give up our modern notion of a "purple" hue and work instead with the ancient concept of a "purple" dyestuff and the technology for its production.

Usually, the only archaeological evidence for a purple-dye industry is the broken or crushed shells discarded in large quantities, sometimes in separate heaps for each kind of shell. A huge amount of snails was needed to dye a single piece of fabric.<sup>54</sup> Enormous mounds of discarded murex shells were located in the vicinity of Phoenician cities, disclosing the location of their industrial quarters (Reese 1987, 206 with notes 49–50).

One must consider carefully this evidence, since snails were also eaten and the empty shells were used for lime production, pottery temper and construction fill.<sup>55</sup> Beautiful shells were also used for decoration, especially in landlocked places, where they were considered a rarity.<sup>56</sup> A meticulous examination of the

shells in their archaeological context is therefore essential, and such information is often missing from excavation reports. A good clue to determine whether the shells belong to a purple-dye industry or are merely kitchen refuse is their location within the site. Since the industry was notorious for producing repulsive smells,<sup>57</sup> the installations were usually located at some distance from the habitation, taking into account the prevailing wind directions. In any case, contrary to other perishable goods, which seldom leave any archaeological trace,<sup>58</sup> a purple-dye industry may at least be suspected in murex-rich coastal areas, and a careful examination of discarded shells, rarely performed in the past, may prove its actual existence and extent.

The purple-dye industry of Ugarit was situated at the port of Minet el Beida, where Schaeffer found huge heaps of punctured and crushed murex shells and also pottery vessels stained with purple (1951, 188–89 with fig. 1). Other Late Bronze Age evidence, and much better recorded, comes from Sarepta, biblical Ṣarfat, an important Phoenician city situated between Tyre and Sidon, whose very name is probably derived from its purple-dye industry. Further south, purple-dyeing installations were excavated at Akko, Tel Keisan, Shikmona, Dor, and Tel Mor near Ashdod. Some of these sites also produced pottery vessels with traces of purple color inside them (Karmon and Spanier 1987, 149, fig. 2; 150, fig. 4; 155, fig. 9). Scattered evidence for purple-dyeing was also found in Cyprus.

The Phoenicians spread their skill throughout the Mediterranean, and, in fact, the search for new sources of murex may well have been one of the motives for their expansion.<sup>62</sup> With the Assyrian conquest of the Levant, purple tribute streamed in large quantities to the east and soon became one of the notorious symbols of imperial power.<sup>63</sup> Babylonians, Medes, Lydians, Phrygians and Jews<sup>64</sup> also indulged in the splendor of purple, but it reached its unrivalled apex under the Achaemenid emperors.<sup>65</sup>

In Greece there was first a fierce resistance to anything Persian or oriental and purple was boycotted for a long time. 66 According to legend, Alexander the Great refused to wear purple when he conquered and destroyed Tyre, and Darius of Persia exclaimed his astonishment over the Macedonian who only dressed in white. But eventually the Greeks adopted the Persian imperial insignia, which brought a new world-wide expansion of the prestigious color.

The Romans were among the last to adopt purple for status display, but it was in their times that it enjoyed its greatest vogue in antiquity.<sup>67</sup> First to wear a *toga picta* was Julius Caesar, and consequently, a strong Republican hostility developed to the excessive or even immoral elite display of purple (designated by Seneca as *color improbus*). But, despite repeated attempts to regulate the wearing of purple and restrict it to official and ecclesiastical uses, as the Empire aged, more and more influential groups were permitted to wear stripes or even entire garments of "Royal purple."<sup>68</sup>

Only under Diocletian, the highest quality Tyrian purple became reserved as a privilege of emperors, with the epithet Porphyrogenitus appended to their name. Its extraction and preparation became a royal monopoly and the manufacturing methods were closely guarded. Unauthorized possession of "Imperial purple" became a capital offense. With Constantine, purple was institutionalized by the Christian church and purple became an essential symbol in the sacerdotal vestments of both Oriental church patriarchs and Latin cardinals.

With the Turkish conquest of Constantinople in AD 1453, the purple-dyeing craft ceased to be practiced in the Mediterranean basin. Here and there purple-dyeing was continued on a small scale at various places in the world, as distant as Britain and Mexico (Jensen 1963, 117; Spanier 1987, 171), but the three-millennialong predominance of "the most long-lived status symbol of antiquity" (Reinhold 1970, 6) was gone forever.

Before we continue to the Aegean challenge to the Levantine origin of the purple-dye industry, it is well to note that the chromatic qualities of some marine snails were independently discovered in various parts of the world. For example, on the Pacific coast of Mexico, since ancient times, people used to rub the

*Plicopurpura pansa* snails on wet cotton mops and then return them to the sea.<sup>70</sup> This way multiple "milkings" of the snails could be obtained every couple of weeks. There has even been a recent revival of the method in Mexico to support a Japanese market for expensive kimonos, and the dye is also used to trim some Mexican basketware.

#### PURPLE IN THE AEGEAN

The ancient belief in the Levantine origins of purple-dyeing has been adopted, almost unanimously, in modern scholarship as well. Still, some nineteenth-century scholars had the right instinct to doubt this truism and to suggest the existence of a more universal practice of purple-dyeing. George Tyron (quoted in Herzog 1987, 39) wrote in his Manual of Conchology in 1880: "It is probable that all ancient peoples inhabiting sea-shores have become accidentally acquainted with this property common to so many molluscs at a very early date." So, in dealing with the origins of purple-dyeing, the question is less about who invented it, but rather who developed it into a large-scale industry with extensive exports abroad. The Levantine origin of the industry has seriously been challenged in recent years by discoveries in the Aegean, notably on Crete and adjacent islands.

Already at the beginning of the last century, large quantities of murex shells were found at a Middle Minoan site on the small island of Kouphonisi (ancient Leuke), southeast of Crete, and at Palaikastro in eastern Crete. In 1904, Bosanquet explicitly stated that "it is clear that the Minoan Cretans had anticipated the Phoenicians in the manufacture of purple-dye" and that "sponges as well as purple-juice were among the wares shipped from Crete to her markets in the East" (Bosanquet 1904, 321).

More conclusive evidence turned up recently in Crete, notably at Kommos,<sup>73</sup> and elsewhere in the Aegean, including the islands of Kythera (also known as Porphyroussa), Keos and Thera.<sup>74</sup> At Akrotiri, besides large quantities of shells,<sup>75</sup> a small ball of pigment was recently found and laboratory tests prove that it was produced from murex shells (Aloupi et al. 1990). Purple was also used in the magnificent wall paintings, as recently shown by Raman spectroscopy on samples taken from Xeste 3, a public building with evident religious character (Sotiropoulou et al. 2003).

In short, until other evidence turns up, we must get used to the idea that large-scale purple-dyeing started on Crete in the first half of the second millennium BC, and thence it spread to other areas under strong Minoan influence in the Aegean, and also to the Levant, to major port towns such as Ugarit and Byblos. To the growing list of Cretan export items, including itinerant artists, we should now add purple-dyed textiles, typical luxury objects of high value and very low bulk. These dyed textiles may have been traded in exchange for Anatolian and Near Eastern metals.

The archaeological evidence may be supplemented with some valuable, though scarce, philological data from the Linear B tablets. Already Ventris and Chadwick (1959: 321, 405) called attention to the adjective porphyrea (po-pu-re-ja) in the Knossos tablets, corresponding to Homer's porphyreos, "purple." The evidence has recently been reexamined by Palaima (1991, 289–91; 1997, 407–12). There are only four Mycenaean occurrences related to porphyra and all come from Knossos. One of them modifies a type of cloth (pu-kata-ri-ja). Another intriguing occurrence is unfortunately incomplete (KN X 976 + 8263). It has the adjectival forms po-pu-re-jo and wa-na-ka-te-ro "of the wanax," i.e., "royal," in proximity to each other. However, it is uncertain whether the two refer to a cloth. po-pu-re-jo could also refer in this context to "purple-dye workers" or to "a purple-dye workshop" (Palaima 1991, 291; 1997, 407). In any case, the attribute wanakteros, "royal," suggests that the purple-dyeing considerably enhanced the value of the fabrics, and it curiously recalls the millennium-later Roman designation "royal purple."

In his 1997 article dealing with the "royal" products, possessions and personnel in the Linear B tablets, Palaima draws an interesting parallel to the Hittite "ISTUKUL-men, specialist craftsmen who performed

services for royal and religious institutions in Hatti, and were rewarded with land grants (Beal 1988, 410). The Mycenaean "royal" specialists included the "potter" and certain cloth-working specialists, namely, the "fuller," the "cloth finisher," and the "purple-dye worker" (Palaima 1997, 412).

As for the etymology of *porphyra* (Latin *purpura*), various proposals have been put forward, but neither the Greek (Faure 1991, 311; cf. Blum 1998, 28), nor the Semitic (Astour 1965, 349–59) ones are sufficiently convincing. Therefore, an argument could be made for a Minoan (Linear A) source, especially since another dying substance, *pa-ra-ku* ("blue, bluish green"), seems to be of Minoan origin (Palaima 1991, 289).

From the eastern Aegean, the evidence is less adequate, but still meaningful. The most abundant evidence comes from Troy. Already Schliemann (1881, 318) reported that he found "a whole layer formed exclusively of cut or crushed murex-shells." In his chapter on the "Zoology of the Troad" (1881, 115) he explicitly states that the "Murex trunculus and Purpura haemastoma [found at Troy] have probably served for the manufacture of purple." To this archaeological evidence he appended the information from Aristotle (Historia Animalium 5.15.547) on the purple-dyeing industry that flourished near Sigeion on the coast of the Troad.

The American excavations produced more accurate information pertaining to periods VIf and VIg (Reese 1987, 205). According to Blegen (1937, 582), "several of the layers so clearly differentiated were composed almost wholly of crushed murex shells by the thousands, and these strata can be traced continuously some twenty or thirty meters northward into square J 6. There can be little doubt that the passage between the Sixth City wall and the large houses VI E, VI F, and VI G was treated as a repository for rubbish from a purple-factory. Indeed, the establishment may have occupied this open space itself, and it is possible that the diminutive 'wells' had some function in connection with the purple industry. Numerous stone grinders and pounders and fragments of worn millstones recovered here were doubtless used to crush the shells."

Fresh evidence for the purple-dyeing industry of Troy was found in the latest excavations, notably at the edge of the lower-city area (Korfmann 1997, 59; 1998, 9; 2001, 503). Some ten kilograms of crushed murex have been recovered in proximity to an installation that may have served for the boiling of the shells (1996, 59). They belong to the middle phase of Troy VI ("Troia VI-Mitte") dated to the Late Bronze Age.

Except for Troy, archaeological evidence for a purple-dyeing industry in western Anatolia is ephemeral.<sup>80</sup> Perhaps Miletos with its numerous Minoan-type discoid loomweights (Niemeier 1999a, 548) will fill the gap one day.<sup>81</sup>

The situation on the offshore islands is unfortunately even less clear. There is abundant evidence in Classical sources on purple-dyeing in most of the Aegean islands (for references see Reese 2000, 645), but very limited archaeological information has turned up so far proving Bronze Age industries. One must take into account, of course, that the northeastern islands have been barely explored, except for their large Early Bronze Age settlements. Recently, however, some new investigations have been launched into second-millennium strata, especially on Lemnos (at Hephaistia, Koukonisi and Poliochni), and these may provide some new information. So far, large quantities of *Murex brandaris* were found in the Early Bronze Age levels at Poliochni and in a Hellenistic industrial zone at Mytilene (Williams and Williams 1987, 11).

In anticipation of more archaeological evidence from early western Anatolia and the offshore islands, it may be of interest to underline the fame of the first-millennium purple-dye industries of Lydia, Phrygia, and the Greek cities of Ionia.<sup>84</sup> The appropriate juncture to begin with is Homer's *porphyreos* (Blum 1998, 68–71, with refs.). The only persons actually to wear purple robes are Agamemnon in the *Iliad*, and Odysseus and his son in the *Odyssey*. There are also other purple fabrics used on special occasions, such as the rugs in the tent of Achylles and the *peploi* enshrouding the urn of Hektor. It is important to note that Homer's royal women (Helen, Andromache, Arete) do not wear purple clothes, but only weave them. What kind of reality is reflected in Homer is of course a much-discussed question, but it is well to note that purple is associated with royalty and prestige, as in Near Eastern and Mycenaean prototypes (Blum 1998, 75).

The first "historical" Greek man attested to have worn purple attire is the poet Magnes from Smyrna in the seventh century BC, and it is perhaps not coincidental that he professed his art mainly at the court of Gyges king of Lydia (Blum 1998, 143). Perhaps he received his attire in Sardis, whose purple industry was known to have inspired the Greek cities of Ionia. King Kroisos dedicated purple coats and tunics to the Delphian Apollo. Xenophanes reports that the inhabitants of his native town of Colophon learned to wear purple garments from the Lydians, and similar statements were later made by Strabo and by Democritus of Ephesos (Blum 1998, 144). The Ionian fashion came to mainland Greece much later and to a lesser extent. For almost a century (490–420 BC), the use of the luxury color was interdicted in Greece as a result of nationalistic anti-Persian feelings, but after this interlude purple returned to its full vigor in Athens.

The first "historical" Greek woman associated with purple is – how appropriate – Sappho of Lesbos (Blum 1998, 86, 91) at the turn of the sixth century BC. The context is not without interest for our topic. She presented purple veils to her goddess Aphrodite, and this *doron* is considered by experts to be the first attestation of an *anathema*, a "dedication" to a deity.<sup>85</sup> The custom of dressing up Greek cult statues with purple garments became quite popular from the fourth century on, but the earliest examples again point towards the east, notably Lydia, as the source of influence. As mentioned above, this practice has deep roots in Near Eastern cult. Takuhlinu of Ugarit vows to present purple-dyed offerings to Apšukka of Irhanda (RS 17.383, 37–41) and the same purpose may have been served by the visit of the ṢĀ*RIPŪTU*-men in Ugarit and in Lazpa. But before we return to our point of departure from this detour after the origins of purple, let us first throw a glance on the Hittite evidence, which is regrettably quite limited.

#### PURPLE IN HATTI

The best point of departure is the yearly tribute sent by Ugarit to the Hittite court.<sup>86</sup> The original list was appended to the Suppiluliuma-Niqmaddu treaty and it was repeated, with slight emendations, in the Mursili-Niqmepa treaty. Besides the Akkadian versions, there is also an Ugaritic one and, as mentioned before, the terminological equation between the two languages has long been debated until its present resolution (van Soldt 1990, 341).

Besides a yearly tribute of five hundred shekels of gold, Ugarit was required to send golden cups, linen garments and purple-dyed wool to the Great King, to the queen, to the crown prince and to five other Hittite dignataries. The king received five hundred shekels of blue-purple wool (SÍG.ZA.GÌN [takiltu]) = iqnu)<sup>87</sup> and five hundred shekels of red-purple wool (SÍG.ZA.GÌN hašmānu = phm). All the others received only one hundred shekels of each. It should be emphasized that the present consisted of dyed wool and not of readymade garments. Therefore, it is not known whether the colored wool was used by its recipients for their own wardrobe, or whether it was presented as an offering to their gods, as in the above-mentioned case of Takuhlinu of Ugarit.<sup>88</sup>

In Hittite texts, dyed fabrics are mentioned in rituals, festivals, descriptions of cult images, and mostly in inventories, which have been studied by Goetze (1955; 1956), Košak (1982) and Siegelová (1986). These lists usually provide the weight of the catalogued objects, their color, and occasionally some indications about their place of origin. The Hittite color palette is unusually well understood, and, as pointed out by Landsberger (1967, 159), the Hittite names are not dependent on the Syro-Mesopotamian terminology. Hittite "blue" is antara-, but most occurrences refer to ZA.GìN, which, as already noted, is rather ambiguous. It may refer to "regular" blue, produced from some mineral or plant dye, or to the far more expensive "blue-purple," which is produced from marine snails (Schneckenpurpur). Except for rare cases in which this distinction may be fathomed from the context (see below), the texts leave us in the dark (or rather in the generic "blue"). Surprisingly, takiltu is not attested in the Boghazköy tablets, whereas argamma(n) means "tribute" (but see below). Only the third Akkadian designation for purple, hašmānu, is well attested. Its

Hittite reading is unknown, unless the term was borrowed from Akkadian. As mentioned above, the color of hašmānu has been intensely debated, but "red purple" is preferable, in my opionion, than the obscure "blue-green" (CAD) or "bläulich" (AHw).

The items made of hašmanu include "tunics" (hassinanu), "long gowns" (hassinanu), "waist bands" (hassinanu), "luxurious garments" (hassinanu), "diadems" (hassinanu), "Hurrian shirts" (hassinanu), and an "Ikkuwaniya garment" (hassinanu). In short, many accessories in the Hittite wardrobe were red-purple or at least were trimmed with purple hems. Perhaps some of the SÍG.ZA.GÌN items were blue-purple, but, as mentioned before, there is no way to tell which was tinted by marine dye and which by some cheaper substitute made of minerals or plants. There is one context, though, in which the former option is clearly preferable.

The price list in the Hittite Laws dedicates a separate paragraph to cloth and garments (§182; Hoffner 1997, 145–46). The prices range from thirty shekels of silver for a "fine garment" (TÚG.SIG) to one shekel for a "sackcloth" (TÚG.BÁR).<sup>94</sup> The second-most-expensive garment, with the price tag of twenty silver shekels, is TÚG.SÍG ZA.GÌN. I doubt that a simple "blue wool garment" (Hoffner 1997, 146) would justify this price, and therefore I prefer Goetze's (1955, 51) "blue purple-dyed garment." A comparison with prices at Ugarit and other Near Eastern lands (see Heltzer 1978, 38–50, 90–91) supports this conclusion: clothing items cost no more than a few shekels, unless they were made of expensive purple-dyed fabrics. Also, the fact that there are no other color designations in this price list may indicate that the author was referring to the quality of the material rather than its color.

Regarding the origin of purple, there is one explicit source besides the tribute lists from Ugarit. The Middle Hittite  $taknaz\ d\bar{a}$ - ("take from the earth") ritual of Tunnawiya provides the following significant passage on the source of different kinds of wool. 55 Unfortunately, a crucial piece is missing: "They brought white wool (SíG BABBAR) from Hurma; they brought [red wool (?) from ...]; they brought blu[e(-purple) wool] ([SíG ZA.]GìN) from Ura." Without delving into complicated issues of magical color symbolism, 6 the important information for our purposes is the origin of blue-purple in Ura, the well-known port on the Mediterranean coast (probably at Silifke). Does this mean that there was an independent dyeing industry on the Mediterranean coast of Anatolia, or is it simply an indication that Ura was the port of entry for purple-dyed fabrics produced elsewhere, or perhaps both? In any case, the marine location of SíG ZA.GìN lends strong support to the rendering "blue purple-dyed wool" (Otten 1967, 59) in this context.

The production and processing mode of the Hittite textile industry can only cursorily be perceived through some of the inventory texts. Bo 6489 (Siegelová 1986, 324–27) is a poorly preserved late text listing large quantities of wool (SIG) presented to various persons, some identified by their place of residence, others apparently managers of central storehouses of the kingdom (É.GAL tupp[aš, É Gazz]imara). The type of color of the wool is not defined, which could mean that these were allotments of unprocessed material collected in regional depots, perhaps in anticipation of further processing, dyeing and fitting. Another fragmentary list, with smaller allotments, has women's names only, perhaps the weavers who would turn the wool into fabric.

Much has been written about the symbolism of red, blue and purple as the colors of gods and kings throughout the ages. <sup>100</sup> Can we detect anything comparable in the status of these colors in the Hittite world? Before we delve into an intensive search for the putative prerogatives of the Hittite *purpurati*, I should add in passing that I did not investigate the premises on which the alleged exclusivity of purple raiment in other ancient Near Eastern societies rests. Such an enterprise would require an in-depth investigation of the entire cuneiform documentation, which is far beyond the scope of this study. Nevertheless, I would tentatively remark that even in my cursory browsing through the primary and secondary sources, I found ample evidence to the effect that red, blue and purple garments <sup>101</sup> were owned not only by gods, kings and conjurers fighting against demons, <sup>102</sup> but also by important officials and dignitaries, not necessarily of royal

descent.<sup>103</sup> In other words, purple clothing, like gold,<sup>104</sup> was definitely designated for elite consumption, but, as far as I can see, there was nothing in the ancient Near East even remotely resembling the strict imperial monopolies imposed on Tyrian purple in Late Roman and Byzantine times, neither in legislation nor in practice.<sup>105</sup> Although the association between color and social rank is certainly valid for oriental cultures as well, one should refrain from automatically replicating concepts and conducts from the Classical world to the ancient Near East. A completely different question is whether the lucrative purple industry and trade was closely supervised by the crown, as was the case with other strategic commodities.

In any case, I could not find any evidence for purple as a prerogative of Hittite kings and their families. The purple tribute from Ugarit, for example, is given not only to the king, the queen and the crown prince, but also to five leading state officials. One can argue, of course, that the entire higher echelons of the Hittite administration consisted of princes of various ranks, but this is hardly the point here. Anyone who could afford to buy these luxury items could do so, and I suppose that not only dignitaries of royal blood, but also wealthy merchants, diplomats and others had the necessary means. <sup>106</sup> This is quite a different situation than the one prevailing in Byzantium, where an unauthorized person could lose his head for wearing Imperial purple.

#### BACK TO LAZPA

Equipped with the diverse information about purple that we have gathered from various sources, we should now return to the mission of the ṢĀRIPŪTU -men in Lazpa. The Ugaritic parallels solved the question of their profession: they were itinerant purple-dyers in the service of the Hittite king and of the king of the Seha River Land. In fact, the parallel between the two cases, both of them in coastline provinces of the Hittite Empire, may go further than apparent at first sight.

Let us reconsider the highly significant plea of the abducted ṢĀRIPŪTU-men before Atpa: "We are arkammanaliuš and we came over the sea. Let us [perform¹07] our arkamman!" What exactly are they pleading? Do they simply state their status as tributaries, but then, tributaries to whom? And what kind of tribute were they bringing to Lazpa? Or might their explanation be more specific and accurate?

One has to admit that the clear references to <code>arkamma(n)</code> in Hittite texts are indeed to "tribute," and the few references to <code>arkammanali-</code> are probably to "tributaries" ("tributpflichtig"). Nevertheless, in view of the parallels from Ugarit, I would tentatively suggest that what we have here is actually a rare reference to the other meaning of the Kulturwort <code>argamman</code>, "purple-dyed wool," and that <code>arkammanalius</code> could simply be the Hittite reading of LÚ.MEŠ ṢĀRIPŪTU. It must have been in such concrete circumstances, the preparation and presentation of purple offerings, that the semantic shift from "purple" to "tribute" (or vice versa) developed. And, considering the strong Luwian connections, perhaps even origins of <code>arkamman,110</code> this incident in western Anatolia could very well span the transition from one meaning to the other.

If so, the plea of the ṢĀRIPŪTU-men before their capturers becomes more intelligible. They simply state their profession and mission, the preparation and/or presentation of purple in Lazpa. They further emphasize that, unlike the mysterious Šigauna who had "sinned" (waštaš), they were not involved in any way in this affair and should therefore be released. Manapa-Tarhunta, who is quoting their speech, must have received his information from these very purple-dyers who were eventually released.

This new interpretation of the Lazpa incident remains tentative until corroborated by further evidence. Even so, it makes more sense, in my opinion, than an undesignated expedition of tribute-bringers who carried their tribute to the distant Land of Lazpa. Their identification as purple-dyers opens new vistas in our understanding of the interface between the Hittite and the Mycenaean orbits in the eastern Aegean. In Classical antiquity this region was renowned for its purple-dye industry, and unsurprisingly, it turns out that this lucrative trade has much earlier origins. The actual remains of the purple-dye industry of Lesbos

and the opposite coast of western Anatolia in the late-second millennium BC have yet to be discovered, but in view of the clear evidence from Bronze Age Troy, this endeavor should not be impossible.

Regarding the origins of the purple-dyers who came "over the sea" to Lazpa, the ready answer should be somewhere on the western Anatolian coast.<sup>111</sup> Still, I would mention in passing another, more distant, possibility. The texts from Pylos provided the much-discussed reference to western Anatolian women from Miletos (*Mi-ra-ti-ja*), Knidos (*Ki-ni-di-ja*), Lemnos (*Ra-mi-ni-ja*), etc.<sup>112</sup> It is usually assumed that these womenworkers were slaves who were either purchased or abducted during razzias to the western Anatolian coasts and were then employed in the Aegean textile industry. Stimulating as this may seem, I do not think that the foreign women in Pylos had anything to do with the purple-dyers in our text. But of course, both episodes may be viewed in the general context of the intense Hittite-Ahhiyawan competition over territories, resources and markets in the Aegean realm.

Indeed, the question must be raised whether Lazpa was just another island among many, or does this incident relate to some special role this island played in the eastern Aegean orbit. Once again the text from Ugarit may serve as a springboard. The purple-dyers who cross over the border from Alalah to Ugarit are expected to perform their duty at Belet-remi, creatively rendered by Nougayrol as "Notre-Dame-de-Grâce." May we assume that the mission of the "purple-dyers of the gods of his Majesty" in the Manapa-Tarhunta letter (l. 27) had a similar purpose, the dedication of purple-dyed *anathemata* to some important deity of Lazpa? Fortunately, this assumption is supported not only by Sappho's purple veils dedicated to Aphrodite half a millennium later, but also by a contemporary Hittite text. In a well-known oracular inquiry, an ailing Hittite king (probably Hattusili III) consults the Deity of Ahhiyawa and the Deity of Lazpa. This unique reference shows that Lazpa, the only eastern Aegean island explicitly mentioned in the Hittite texts, was the abode of some important deity, perhaps an early hypostasis of Aphrodite. Incidentally, the same text also refers to oracular consultations at the other end of the Hittite Empire, at Aštata on the Middle Euphrates (*KUB* 5.6 I 6–13; Laroche 1980, 240). Here too, the name of the deity involved is not specified, but from other references we know that she must have been the goddess Ishara.

Whoever the Deity of Lazpa was in the Bronze Age, I wonder whether the visit of the purple-dyers on the island, with the postulated mission of presenting their offerings at the local shrine, was simply an act of piety initiated by the Hittite king and the king of the Seha River Land. Since, from time immemorial, religion and politics go hand in hand, I doubt it. It does not take too much imagination to attribute a political purpose to this visit, a statement of the Hittite claim on the off-shore islands, and on Lazpa in particular. This issue is ardently debated in *KUB* 26.91, an important letter in the Hittite-Ahhiyawan correspondence (Taracha 2001; Starke, forthcoming). Great, and also lesser, kings were in the habit of marking the limits of their authority by sending official expeditions, sometimes disguised under peaceful religious or cultural intents. If indeed such were the circumstances of the Lazpa incident, the result was a resounding fiasco for the Hittite king and his western vassal. He barely saved face by obtaining a negotiated release of his purple-dyers.

The "Lazpa incident," which apparently stirred up the entire western Anatolian milieu, provides a rare glimpse into yet another economic facet of the strained Hittite-Ahhiyawan relations. It was perhaps "the tip of a purple iceberg" in an intense competition over a lucrative and prestigious industry of the Aegean.<sup>116</sup>

#### **NOTES**

- 1 For recent surveys on "Homer and the East" see, e.g., Burkert (1991), Morris (1997), Watkins (1998).
- 2 Except for two lines incised deeply in the middle of the tablet at an angle of 60° to each other. I am grateful to Prof. Gernot Wilhelm, Director of the research program Hethitische Forschungen at the Akademie der Wissenschaften

- und der Literatur, Mainz, for permission to study the photographs of the tablet. Dr. Jared Miller kindly collated the text for me in 2004 and I had the occasion to examine the photographs in June 2005.
- 3 Sommer (1932, 33ff.) and Garstang and Gurney (1959, 95) hesitated between the two datings. For Mursili II, see Forrer (1926, 22), Stefanini (1964, 27), Cornelius (1973, 217–18). For Muwatalli II, see Heinhold-Krahmer (1977, 174, 221), Houwink ten Cate (1983–84, 50, 58–64), Singer (1983a, 210), Güterbock (1986, 37, n. 11), Freu (1990, 25; 1998, 103), Starke (1997, 453), Bryce (1998, 246; 2003, 70), Taracha (2001, 419).
- 4 In my opinion, the formulation implies a direct connection between Manapa-Tarhunta's humiliation and the attack on Lazpa, but cf. Houwink ten Cate (1983–84, 50; but cf. p. 55 n. 48), who assumes that the humiliation refers to a military defeat of the past.
- 5 The identification of Lazpa with Lesbos, first suggested by Forrer, is now universally accepted. For the conflict between Hatti and Ahhiyawa over the northeastern Aegean islands, see Taracha 2001 (with earlier literature) and Starke (forthcoming). As noted by Houwink ten Cate (1983–84, 55, n. 48), according to Homeric tradition, Lesbos was the furthest outpost of the Trojans and it was assailed by the Greeks who took human spoils (*Il.* 9.270–276, 663–665).
- 6 For the choice between the Caicos (Bakir) or the Hermos (Gediz) valleys as the Seha River Land, see Starke (1997, 451), Hawkins (1998, 23–24), Niemeier (1999b, 143), Bryce (2003, 38–39).
- 7 For anda handai-, see Sommer (1932, 348–49; "mit jemandem paktieren," "sich jemandem anschliessen"); Garstang and Gurney (1959, 95; "make common cause with"); Houwink ten Cate (1983–84, 44–45; "join in"); HED 3, 100. I do not see any grounds for Houwink ten Cate's assumption (1983–84, 47) that the ṢĀRIPŪTU-men "joined in of their own accord and thus voluntarily." On the contrary, according to their own testimony, they did not share the guilt of Šigauna, Piyamaradu's proxy.
- 8 The reading and rendering of the logographic compound LÚ.AMA.A.TU LÚ.BANŠUR(?) is not clear. Houwink ten Cate's (1983–84, 40) literal translation "domestic and table man" is not very convincing. The first component, LÚ.AMA.A.TU, corresponds to Akkadian *illatu*, "band, (family) group, clan" (Friedrich 1926, 79, "Hausgenosse"). The second component lacks the GIŠ determinative and should probably be read differently, but I cannot suggest how.
- 9 Heinhold-Krahmer (1977, 222) suggested ħuḫa- "grandfather," but this appelative also appears in personal names (Laroche 1966, 70); for the correspondence between Hittite/Luwian Ḥuḫḫas and Lydian Gyges, see Carruba (2003, 151). Another possible restoration could include the theophoric element [Kar]-ḫu-ḫa-aš (l. 14), a deity that is already attested in second-millennium cuneiform texts (Singer 2001, 638–39). A king named Maza-Karhuha appears in the Luwian hieroglyphic inscription inscribed on a silver bowl in the Ankara Museum (Hawkins 1997).
- 11 For the possible role of Šigauna in the affair, see Houwink ten Cate (1983–84, 53–54). Could he perhaps be the ruler of Lazpa who betrayed his Anatolian overlord and collaborated with Piyamaradu?
- 12 Lines 22–23: "The Storm-god [ga]ve (them) to you, (so) why should you [give] them back?" Houwink ten Cate (1983–84, 39–40, 49) read DU-ta[r, which he rendered as "a ty[pe of] Storm god." The sign after U is not clear. Jared Miller suggests a simple U-aš with a superfluous lower horizontal.
- 13 Houwink ten Cate (1983–84, 52) suggests that the remainder of the letter dealt with the fate of Manapa-Tarhunta's ṢARIPŪTU-men. Worth noting is LŪAD.KID-ta-ra-aš(-wa-aš-kán), "basket-weaver" (l. 33). For atkuppu, "a craftsman making objects of reeds," see CAD A/II, 494–95; sometimes these craftsmen prepared reed boats and reed containers coated with bitumen to make them watertight. The Hittite reading is unknown, but the suffix -tara is found in professional terms, such as LŪakuttara-, LŪweštara-, SALtaptara-. See further below on the method of collecting sea snails by lowering baited wicker baskets into the sea.
- 14 The word is variously spelled as ṢA-RI-PU-TI (l. 9), ṢÍ-RI-PU-TE (l. 12) and ṢÍ-RI-PU-TI (l. 14). Early renderings of the vocable include Forrer's "Metöken" (1926, 90) and Cornelius's "Feuerleute" (1973, 217). Sommer and other commentators have refrained from suggesting an exact translation; see, e.g., Heinhold-Krahmer (1977, 223), Starke (1997, 453; 2001, 346, "Handwerker"). The Akkadian dictionaries leave open the exact occupation of the ṣāripu-men: AHw 1085b: "eine Art von Hofleuten"; CAD/Ṣ, 111a: "a class of persons"; CDA, 334: "a kind of court personnel." See further below.
- 15 URUNIN-*ri-mi* is not otherwise attested (Belmonte Marín 2001, 51). Is this indeed the name of a town, or perhaps just the sanctuary of a goddess bearing the epithet.

- 16 AHw, 1083b–84b; CAD Ş, 102–3. When referring to fabrics, ṣe/irpu (from OB on) is usually defined as "red dyed wool (or fabric)"; see CAD Ş, 208–9; CDA, 336; AHw, 1092a; Cassin (1968, 115). Some references, however, show that it may also refer to dyed fabrics in general. For Ugaritic ṣrp, see DLU, 421; for abn ṣrp, "alum," see van Soldt (1990, 321–25). In Mari, NA, ṣirpum denotes an imitation of lapis lazuli (Guichard apud Durand 1997, 275).
- Who added that their occupational activities may have also included basket-weaving (Houwink ten Cate 1983–84, 45). He also suggested (1983–84, 50) that they were "workers of a relatively low social standing."
- 18 *KBo* 1.42 v 17–22 = MSL XIII, p. 143 (Izi Bogh. A, l. 317): e/irbu is rendered in the Akkadian dictionaries as "income" (*AHw*, 233; *CAD I*, 174; *CDA*, 76). The next entry (l. 318) equates máš.da.a.ri with Akk.  $i\check{s}$ - $di_{12}$ - $\mathring{h}u$ , "profit" (*CDA*, 133), but the Hittite equivalent is not sufficiently preserved ( $i\check{s}$ -x-x-x-a-u-wa-ar).
- 19 Lackenbacher does not indicate that the meaning "purple wool" for argamannu is attested (until now) only in first-millennium texts, whereas in Hattusa and Ugarit, Akkadian argamannu means "tribute" (AHw, 67; CAD A/2, 253). However, this apparent difficulty can now be overhauled in view of the new interpretation of the evidence from Ugarit and Hatti.
- 20 On mobile artisans in the ancient Near East who were highly valued palace dependants, see Zaccagnini (1983). Their intentional or forced flight into foreign territory prompted immediate search expeditions in order to bring them back, often bound and chained (1983, 247). The case of the ṢĀRIPŪTU-men seems to fall within the first, so-called redistributive category, of the mobility pattern in Zaccagnini's model.
- 21 For a recent summary on purple in the ancient Near East, see Fales (1992–93; 1998).
- 22 For which see Friedrich (1942, 483); HW, 30; HW<sup>2</sup>, 302-4; HED 1, 143-46; HEG I, 59-60; CLL, 28.
- 23 See, e.g., Rabin (1963, 116–18; with refs. to earlier literature on the subject).
- 24 For references, see Goetze (1968, 18); DLL, 31; DLU, 48-49; HED 1, 145-46; Mankowski (2000, 38-39).
- 25 E.g., Pardee (1974, 277-78) and Dijkstra (1989, 144).
- 26 E.g., Dietrich and Loretz (1964-66, 218-19), Sanmartín (1978, 455-56), van Soldt (1990, 344-45).
- 27 For details and references, see Borger, *MesZL*, p. 440 (no. 851). When the determinative is not indicated, as occasionally happens in peripheral Akkadian, there remains an ambiguity between the precious stone and the dyed wool.
- 28 The occasional confusion between blue and red purple in the texts has been appropriately explained by Cassin (1968, 115–16): the quality of shininess and iridescence (Akk. namru) shared by both fabrics was more eye-catching for the ancients than the exact chromatic divisions appreciated by us.
- 29 This includes *tabarru* (SÍG.HÉ.ME.DA), *ḥašḥūru* (SÍG.ḤAŠḤUR), *ruššu* (ḤUŠ.A), *ḥûratu* (GIŠ.ḤAB), *inzaḥurētu*, *kinaḥḥu*, etc., which are probably dyes produced from plants and insects (see, e.g., Oppenheim 1967, 242–43). Occasionally, some confusion was introduced in the terminology, which distinguished between purple dyes of marine origin and other dyestuffs.
- 30 The designation "cloth of lapis lazuli color" appears in an Old Assyrian text, (Kt 93/k 779, 8': 2 TÚG hu-sà-ru-um; Michel 2001, 344, n. 19), but it is very unlikely that this should refer to a purple-dyed fabric. The same applies to the isolated occurrence of SÍG uqniati ta-ak-la-tim in an Old Babylonian letter (Kraus 1964, 50–51, no. 60). On the other hand, takiltu in some Amarna tablets (e.g., in Tušratta's dowry list in EA 22) may already refer to blue-purple, although this cannot be proven.
- 31 For relatively recent studies on dyed fabrics in Ugarit, see Heltzer (1978, 38–41, 81–82), Ribichini and Xella (1985), van Soldt (1990).
- 32 See, *inter alia*, Goetze (1956, 34–35), Dietrich and Loretz (1964–66, 288–91), Landsberger (1967), Ribichini and Xella (1985, 32), van Soldt (1990), Knoppers (1993, 88).
- 33 Other, rarely attested, kinds of SÍG.ZA.GÌN are handalatu, hasertu and dupašši (RS 20.19: 9–10 = Ugaritica 5, 136, n. 1; van Soldt 1990, 344).
- 34 Translated in the Septuagint as *hyakinthos* and *porphyra*, respectively. For the color of biblical *tekhelet*, see Ziderman (1987; 2004).
- 35 Cf. Faist (2001, 71, n. 86, with refs.) for the reading of SÍG ZA.GÌN  $SA_{5}$  (in Middle Assyrian texts) as either argamannu or  $ha\ddot{s}m\bar{a}nu$ .
- 36 But cf. CDA, 111, which abstains from defining the color of ha/ušmānu. Landsberger (1967, 156–57) distinguished between a Mesopotamian and an Ugaritic meaning of ha/ušmānu, which is hardly a satisfactory solution.
- 37 KUB 4.90 i 9′, 16′: hašmani ša A.AB.BA. Note also the appearance of "slave girls [who manufacture(?)] hašmanu garments" in an Akkadian Gilgamesh fragment from Boghazköy (KUB 4.12 rev. 7; CAD H, 142).
- 38 Blum (1998, 31, with refs). It also recalls the Greek designation *alourges/alourgos*, "made of the sea," referring to purple-dyed fabrics (1998, 25–27).

- 39 Stieglitz (1979, 19), Ribichini and Xella (1985, 16), van Soldt (1990, 345).
- 40 Jensen (1963, 115). By the sixth century BC, purple dye was worth its weight in silver in Greece (*Athenaeus* 12.526). In Caesar's time Tyrian purple wool cost above one thousand denarii, and by the time of Diocletian it was literally worth its weight in gold (Stieglitz 1994, 46). Even though some of the prices indicated in classical sources may be exaggerated (Blum 1998, 24 with n. 18), there is no doubt that purple-dyed garments were among the most expensive luxury items of antiquity.
- 41 Ribichini and Xella (1985, 18), Heltzer (1982, 80–102, esp. n. 64 on pp. 97–98; 1999, 452). There may be some references to sea molluscs in literary texts, but the evidence is quite obscure and inconclusive (de Moor 1968; van Soldt 1990, 346).
- 42 The laconic formula has only *eli* (UGU), "on, on to, on behalf of," which is rendered by Thureau-Dangin as "due" ("dus"). He further suggests (p. 140) that these persons were artisans who were given the wool in order to dye it.
- 43 For the Aegean region, see Barber (1991; 1994; 1997). For Late Bronze Age Cyprus, see Smith (2002). For Mesopotamia, see Van De Mieroop (1989), Donbaz (1998, 183). For Latin America, see Brumfiel (1991), Uchitel (2002).
- 44 RS 17.383: 32–47 = PRU 4: 223. For Takuhlinu, the author of a letter sent to Aphek in Canaan, see Owen (1981), Singer (1983b, 6–18; 1999, 655). He sends to the Egyptian governor of Canaan a present consisting of 100 (shekels of) blue wool (SÍG ZA.GÌN) and ten (shekels of) red wool (SÍG.SA<sub>5</sub> tabari). The word tabari (preceded by a double Glossenkeil) is a gloss providing additional clarification for the color of the wool. For tabarru (SÍG.ḤÉ.ME.DA), see AHw, 1298.
- 45 For Ugarit's foreign trade, with occasional references to purple-dyed wool or fabrics, see Singer (1999, 653-78).
- 46 One may also mention in this connection the relatively small quantities of purple-dyed wool and fabric imported from the west in the Neo-Babylonian period (Oppenheim 1967, 246). Perhaps in this period, too, purple was produced for the Babylonian market in the Gulf, at some yet undiscovered site.
- 47 E.g., colored glass, for which see Oppenheim (1970).
- 48 For recent studies on the purple-dye industry in general (with refs. to the primary sources), see Jensen (1963), Forbes (1964, 114–22), Bruin (1966), Doumet (1980), Steirgerwald (1986), Spanier (1987), Ziderman (1990, 2004), Edmonds (2000). For a literary portrait of the history of purple (violet), see Finlay (2004, ch. 10).
- 49 Pollux, Onomasticon 1.45-49; Palaephatus, De incredibilibus, 62.
- 50 For the Classical sources on purple see, recently, Steigerwald (1986), Blum (1998), Longo (1998).
- 51 On the chemistry of the purple-dye industry, see McGovern and Michel (1984; 1985), Michel and McGovern (1987), Spanier and Karmon (1987), McGovern (1990b), Ballio (1998).
- 52 Blum (1998, 28–29). One of Homer's figurative phrases about purple was already explained by Pliny (*Historia Naturalis* 9.124–141): "Its highest glory consists in the color of congealed blood, blackish at first glance when held up to the light; this is the origin of Homer's phrase, 'blood of purple hue'." On the image of "purple blood," cf. Longo (1998).
- 53 Blum (1998, 31), Ziderman (2004, 40-41).
- 54 For the various figures suggested, see Burke (1999, 81, with n. 42).
- 55 Reese (1979–1980). Purple snails are still considered as a culinary delicacy in some parts of the Adriatic. Since the shell is cooked whole and the snail is removed without breaking it, a deposit of broken or crushed shells usually indicates a dyeing site (Ziderman 1990, 100).
- Various Mediterranean shells were found at Mesopotamian sites, and these were probably used as personal ornaments or for ritual purposes (Oppenheim 1963; Aynard 1966; Moorey 1994, 131, 137–38).
- 57 Tyre became notorious for its smell, as noted by Strabo (*Geog.* 16.2.23, *cap.* 575): "Tyre purple has proved itself by far the most beautiful of all.... But the great number of dye-works makes the city unpleasant to live in. Yet, it makes the city rich through the superior skill of its inhabitants."
- 58 For trade in perishable goods see, recently, Palmer (2003). The accumulation of remarkably rich data on organic goods from the Uluburun shipwreck are of course a rare exception to the rule. Incidentally, in early descriptions of this unique discovery it was erroneously reported that the ship carried murex shells or even murex dye. The confusion resulted from the discovery of murex opercula trapped between copper ingots on the Uluburun ship (Pulak 2001, 32–33). This horn or shell-like plate, which is attached to the foot of the gastropod, was probably used for the production of medicines or incense, but has no connection to the purple-dye industry.
- 59 For the history of the city, see Pritchard (1972); for its purple-dye industry, see Pritchard (1978, 126–27), Reese (1987, 206).

- 60 In Pharaonic Egypt, dyed textiles were quite rare, probably because linen, the most common Egyptian textile, is difficult to dye (Germer 1992, 95–96; Nicholson and Shaw 2000, 278). Some of the dyed fabrics and garments discovered in Egypt were probably imported from the Aegean and the Levant (Barber 1991, 224, 351; Burke 1999, 78–79). On the Hellenistic dyeing traditions in Egypt, see Brunello (1973, passim).
- 61 In Late Bronze Age Hala Sultan Tekke (Reese 1987, 205) and in Iron Age Polis-Peristeries (Smith 1997, 90–91; Reese 2000, 645).
- 62 Ziderman (1990, 98), Faure (1991, 312). For the Phoenician and Punic purple-dye industry, see Acquaro (1998, with refs.). For purple-dye production in the western Mediterranean and the Atlantic, see Lowe (2004, with refs.). For the naval trade of Tyre as reflected in Ezek 27, see Liverani (1991), Diakonoff (1992); the reference to "the islands of Elisha" as the origin of *tekhelet w'rgmn* garments (Ezek 27:7) is generally related to Alasia/Cyprus, but cf. Diakonoff (1992, 176), who pleads for the identification of Elisha with Carthage and its dependencies in Sicily and Sardinia.
- 63 For purple-dyed fabrics and trimmings entering Assyria from the west, both as booty and as tribute, see Oppenheim (1967, 246–48), Edens (1987, 286–88), Elat (1991), Moorey (1994, 138). It should be noted, however, that *takiltu* and *argamannu* were captured by the Assyrians in large quantities not only in western lands, but also in Babylonia, Urartu, and elsewhere. This should probably represent accumulation of these luxury items by import or capture rather than a local production of purple-dyed fabrics.
- 64 The origin and dating of the biblical sources relating to the use *tekhelet* and *argaman* in the decoration of the tabernacle (Exod 26:1, 31, 36; 27:16; 36:8), in the ceremonial apparel of the high priest (Exod 28: 5–8; 39: 1–5), and in the *tallit* garment (Num 15:38–40), which later became the Jewish prayer shawl, cannot be discussed here (see Danker 1992). The later prophets castigated the use of purple as a foreign symbol of tyranny and sin (Jer 10:9; Ezek 23:6; 27:24), as did the early Christians. On Hebrew and Jewish "purpurology" throughout the ages, see Herzog (1987; reviewed by McGovern 1990a).
- 65 For a post-Assyrian tribute list specifying large amounts of *takiltu* and *argamannu*, see Wiseman (1967). Cf. also Weisberg (1982) for Neo-Babylonian disbursements of colored wool from the temple. For Achaemenid imports of purple-dyed wool from the West, see Elat (1991, 34–35).
- 66 On purple in Greece, see Blum (1998).
- 67 For Roman purple, see Bessone (1998).
- 68 The earliest use of the term is attributed to Cicero (for refs. see Reinhold 1970, 8, n. 2). In the fourth century AD, the term "Imperial purple" was introduced.
- 69 For Late Roman and Byzantine purple, see Bridgeman (1987), Carile (1998).
- 70 Michel-Morfín and Chavez (2000); Michel-Morfín, Chavez, and Landa (2000). According to various accounts, the children at Tyre and Sidon were still using the same method in recent times (see, e.g., Schaeffer 1951, 189, n. 1).
- 71 Herzog (1987, 39–42), Blum (1998, 42 with further refs.) The thorny problem of the origin of the Greek name of Phoenicia (*Phoinikê*) cannot be discussed here (see Speiser 1936, 123; Astour 1965, 348). In any case, the meaning of Greek *phoinix* is "red" (Blum 1998, 32–35), not purple, and is therefore unrelated to our topic. The same applies to the term *kinaḥḥu*, of Hurrian origin, from which the name of Canaan (*Kinaḥḥi*) is probably derived.
- 72 Reese (1987), Karali-Yannacopoulou (1989), Faure (1991), Stieglitz (1994).
- 73 For the Middle Minoan evidence from Kommos on the southern coast, see Ruscillo (1998, 392), Burke (1999, 81). Maria C. Shaw reported on the Aegeanet ("murex," May 13, 1999) that she had "excavated part of what seems to be an installation for extracting purple in a MM IIB context at Kommos.... In the area involved [she] found crushed murex and some channels carved in the ground filled with murex shells."
- 74 For the Bronze Age evidence, see Reese (1987); for the Iron Age and later evidence, see Reese (2000).
- 75 Murex shells are particularly abundant at Akrotiri, but the excavators justly warn of the temptation to identify a purple-dye production wherever one finds a larger concentration of shells, pointing out that shellfish are still an important part of the local diet (Karali-Yannacopoulou 1990, 413–14). Industrial installations have not been found as yet, but then, because of the noxious odor, these would have been situated far from the inhabited area of Akrotiri and may still turn up in the future.
- 76 This would then be an opposite perspective to the one suggested by Morris (1992, 162), namely, that the rich murex deposits might have been one of the things that attracted Levantines to eastern Crete, where they founded cities named "Phoinix."
- 77 Palmer (2003, 134). For the Aegean textile industry see, e.g., Killen (1964), Wiener (1987), and the papers on Aegean craftsmanship assembled in Laffineur and Betancourt (1997).

- 78 As recently suggested by Burke (1999, 82). For the metal trade and the Minoan/Mycenaean presence in the southeastern Aegean, see references cited in Niemeier (1999b, 148–49).
- 79 For the Greek evidence on porphyra, see Blum (1998, 28).
- 80 A large mound of *murex trunculus* shells and rectangular brick tanks have been discovered near the Early Roman-Byzantine site of Aperlae in Lycia (Reese 2000, 645). Other concentrations of murex shells are known from the Classical sites of Pergamon, Didyma, Aphrodisias and other sites, but most of these were food debris rather than the refuse of dye extraction (for references, see De Cupere 2001, 16–17). Note also Aristotle's witness (*Historia Animalium* 5.15.547) that the sea shores of Sigeion, Lekton and Caria were rich in purple shells.
- 81 Meanwhile, however, as Wolf-Dietrich Niemeyer informed me (28 May 2004), a lot of purple shells were found in the Minoan and Mycenaean levels at Miletos, but no other evidence as yet for the purple-dye industry.
- 82 Yasur-Landau and Guzowska (2003); see also the papers of M. Cultraro, and E. Greco and S. Privitera at the 10th International Aegean Conference of the Italian School of Archaeology in Athens, 14–18 April 2004, entitled *Emporia, Aegeans in Central and Eastern Mediterranean*.
- 83 Information courtesy of Massimo Cultraro, who is working on the Italian finds from Poliochni.
- 84 Forbes (1964, 119), Reinhold (1970, 22–25), Blum (1998, 45–48) For a large quantity of blue wool from Ionia (4 1/2 MA.NA SÍG ZA.GÌN.KUR.[RA] šá KUR *Iamanu*) figuring in a Neo-Babylonian text, see Weisberg (1982, 220; YOS 17253: 1–2).
- Note also the embroidered Sidonian garments presented by the Trojan women to Athena (*Il.* 6.86-98, 288-310) and the purple garments dedicated to Artemis Brauronia by women after childbirth (Blum 1998, 87-88).
- 86 Beckman (1996, 152-54), Singer (1999, 635 with biblio., refs. in n. 96; 698).
- 87 One version provides the full designation SÍG.ZA.GÌN *takiltu*, whereas another has only SÍG.ZA.GÌN (van Soldt 1990, 335).
- 88 In the preserved descriptions of the ceremonial dress worn by the Hittite king on festive occasions, I could not find any reference to purple-dyed garments. See Goetze (1947; 1955, 50ff.), Singer (1983c, 58). For colored garments mentioned in other contexts, see Siegelová (1986, 77–79).
- 89 On Hittite colors see also Košak (1982, 201), Siegelová (1986, 313), Haas (2003, 638-49).
- 90 A similar situation exists in the Greek usage of *porphyreos*, which denotes not only "sea purple" (Homer's *halipórphyros*), but also various imitations thereof (Blum 1998, 31–32).
- 91 It is quite often spelled <code>haš-man</code>, and this can hardly be an omission of the final <code>-nu</code>. I wonder whether this (Hittitized?) spelling came about following the model of the <code>-n</code> stem <code>argamman</code>.
- 92 Following Goetze (1956, 34-35) and Košak (1982, 201)
- 93 Followed by Siegelová (1986, 78–79) and others. Note, e.g., the first entry in the inventory *IBoT* 1.31 (Goetze 1956; Košak 1982: 4–10), which juxtaposes "blue wool" (SÍG ZA.GÌN), "red wool" (SÍG SA<sub>5</sub>) and SÍG *ḫašmanu*. This implies that *hašmanu* was clearly distinguished from both blue and red.
- 94 I wonder what TOG happušandaš, which opens the list, might be. It is a participle in gen. sg. of happuš-, "reclaim, resume, make up for," but a "reclaimed, previously used" garment (HED 3, 134) would hardly justify the high price of twelve silver shekels. Could it rather refer to a "double-dyed" garment, similar to the highly praised Tyrian dibapha of the Classical world?
- 95 KUB 9.34 I 3'-7' (with dupls.); Hutter (1988, 24), Haas (2003, 650, n. 241).
- 96 For which see now Haas (2003, 657-62)
- 97 Cf. Beckman (1988, 5 with notes 18-23).
- 98 The largest preserved quantity is 78 MA(.NA) in l. 2'.
- 99 KBo 18.199(+)KBo 2.22; Košak (1982, 157–59), Siegelová (1986, 310–12). The descriptive designations ašara and gaši(š) could refer to the fair color of unprocessed wool; HED 4, 119–20 suggests "bright white" and "off white, grey," respectively.
- 100 For Mesopotamia, see, e.g., Cassin (1968, 103-19), Waetzoldt (1972, 50-51), Edens (1987, 258-389).
- 101 Actually, the use of purple wool is usually not for the entire garment, but only for a hem or trimming (sūnu) attached to the bottom of the garment, for which see Dalley (1980, 72–73), Donbaz (1991, 78–79).
- 102 For the "red wrap of *puluḥtu*" worn by the conjurer-priest for his fight against demons, see Oppenheim (1943, 33).
- For some references to colored garments in "private" contexts, see Edens (1987, 296–99). Cf. also van Soldt (1997, 97–98), for belts of red wool given to messengers in a Middle Babylonian administrative text, and Donbaz (1991, 75–76), for blue-purple hems given to a certain Tukulti-Ninurta (who can hardly be the Assyrian king). Note also Ezekiel's description of Assyrian dignitaries wearing *tekhelet* garments (Ezek 23:6). Even the Achaemenid rulers,

- renowned for their extravagant purple apparel (see Xenophon's description of the royal dress of Cyrus in *Cyropaedia* 8.2.8, 8.3.13), distributed purple robes to their functionaries and to allied monarchs, a tradition also reflected in Fsth 8:15
- 104 For the parallel restriction of golden garments to the wardrobe of gods and kings, see Oppenheim (1949). Isolated exceptions are admitted though (1949, 191, n. 31).
- 105 Reinhold (1970, 8) reached the same conclusion: "purple was valued and displayed in many societies as a symbol of economic capability, social status, and official rank (both political and sacerdotal)—but it was never in antiquity, as a color, sequestered and reserved as an exclusive prerogative of noble or royal status."
- 106 It might be well to recall in this connection Palmer's pointed statement, still valid nowadays, that "connoisseurship of imported exotic wines, perfumes and textiles was the mark of the true aristocrat" (Palmer 2003, 134).
- 107 Houwink ten Cate (1983–84, 39–40) restores the verb [pid-da-u]-e-ni, "let us render (our tribute)," but in view of the clear parallel with máš.da.a.ri ana epeši at Ugarit, I would rather opt for a verb expressing performance, such as [iyau]eni, or [eššau]eni.
- 108 Note, however, the association with "cloth, garment" in a Middle Hittite text, unfortunately in fragmentary context: KBo 3.23 rev. 2: ma-a-an TÚG.ḤI.A ar-ga-ma[-.
- 109 Hatt. iii 51': na-at-za ar-kam-ma-na-al-li-uš [iyanun], "and [made] them tributaries"; KUB 19.8 iii 24: na-aš-za ar-kam-ma-na-li-uš [... (Riemschneider 1962, 117). Both references (in acc. pl.) are dated to Hattusili III. Note also the Luwian denominative arkammanalla- "make tribute-bearing" (Melchert CLL, 28).
- 110 HW 30; Starke 1990, 260–62; CLL, 28. For other etymological assessments, see HW<sup>2</sup>, 303; HED 1, 145–46. For the postulated connection with Greek argemone, "agrimony, wild poppy," see Rabin (1963, 117); HED 1, 145.
- 111 Houwink ten Cate (1983-84, 46) assumes that they came from the Seha River Land.
- 112 See Chadwick (1988), Parker (1999, 499), and the contribution of S. Nikoloudis in this volume.
- 113 *KUB* 5.6 + *KUB* 18.54 ii 57′-65′; Sommer (1937, 282-83, 289-91), Houwink ten Cate (1983-84, 44 with n. 26, 53), Taracha (2001, 420-21).
- For Aphrodite's oriental origins, see Burkert (1977, 238). If we take at face value Piyamaradu's quotation in the letter, namely that a storm-god gave the ṢĀRIPŪTU-men to Atpa (l. 22), the Deity of Lazpa could be a storm-god-like deity, perhaps Zeus (Freu 1990, 21). However, this could simply be a common expression without any relevance to the actual deity of Lazpa.
- 115 E.g., KUB 14.4 iv 10-23; Laroche (1966); Singer (2002, 73-75, no. 17).
- For a possible Hittite embargo on Ahhiyawan trade (which could explain the scarcity of Mycenaean objects in Anatolia), see Cline (1991); cf. also Yakar (1976, 126–27). For a concealed reference to the prestigious purple-dye trade in the Argonaut Myth, see Silver (1991, with updates on the Internet). Silver claims that "the 'golden fleece' signifies wool or cloth of woolen garments that are dyed with murex-purple and then exchanged for gold." He finds support in Simonides (sixth-fifth century Bc), an interpreter of Euripides's *Medea*, who in his *Hymn to Poseidon* stated that the "golden fleece" was dyed with sea purple. In view of this and similar evidence, he maintains that "it is possible to entertain the hypothesis that the underlying meaning of the Argonaut myth is that the *Argo* arrived in Kolchis with a cargo of purple-dyed cloth and returned to Iolkos with their price in gold."

#### REFERENCES

Acquaro, E. (1998) I Fenici, Cartagine e l'archeologia della porpora. In Longo (ed.), 99-110.

Albright, W. F. (1933) More Light on the Canaanite Epic of Aleyan Baal and Mot. Bulletin of the American Schools of Oriental Research 50, 13–20.

Aloupi, E., et al. (1990) Analysis of a Purple Material found at Akrotiri. In D. A. Hardy, et al. (eds.) *Thera and the Aegean World III*, Vol. 1, 488–90. London, The Thera Foundation.

Astour, M. C. (1965) The Origin of the Terms "Canaan," "Phoenician," and "Purple." *Journal of Near Eastern Studies* 24, 346–50.

Aynard, J. M. (1966) Coquillages Mésopotamiens. Syria 43, 21–37.

Baker, J. T. (1974) Tyrian Purple: An Ancient Dye, a Modern Problem. Endeavour 32, 11–17.

Ballio, A. (1998) Chimica della porpora: una sintesi che inizia nel mare e si completa sulla terra. In Longo (ed.), 41–52.

Barber, E. J. (1991) *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages, with Special Reference to the Aegean.* Princeton, Princeton University.

\_\_\_ (1994) Women's Work: The First 20,000 Years, Women, Cloth, and Society in Early Times. New York, Norton.

\_\_\_(1997) Minoan Women and the Challenge of Weaving for Home, Trade, and Shrine. In R. Laffineur and P. Betancourt (eds.) TEXNH. Craftsmen, Craftswomen and Crafsmanship in the Aegean Bronze Age, 515–19. Aegaeum 16. Liège, Universitè de Liège and University of Texas at Austin.

Beal, R. H. (1988) The GIŠTUKUL-Institution in Second Millennium Hatti. Altorientalische Forschungen 15, 269–305.

Beckman, G. (1988) Herding and Herdsmen in Hittite Culture. In E. Neu and Ch. Rüster (eds.) *Documentum Asiae Minoris Antiquae. Festschrift für Heinrich Otten zum 75. Geburtstag*, 33–44. Wiesbaden, Harrassowitz.

Belmonte Marín, J. A. (2001) Die Orts- und Gewässernamen der Texte aus Syrien im 2. Jt. v. Chr. Wiesbaden, Reichert.

Bessone, L. (1998) La porpora a Roma. In Longo, ed., 149-202.

Biggs, R. (1966) Le lapis lazuli dans les textes sumèriens archaiques. Revue d'Assyriologie 60, 175–76.

Blegen, C. W. (1937) Excavations at Troy, 1937. American Journal of Archaeology 41, 553-97.

Blum, H. (1998) Purpur als Statussymbol in der griechischen Welt. Bonn, Habelt.

Bosanquet, R. C. (1904) Some "Late Minoan" Vases found in Greece. Journal of Hellenic Society 24, 317-29.

Bridgeman, J. (1987) Purple Dye in Late Antiquity and Byzantium. In Spanier, ed., 159-65.

Bruin, F. (1966) Royal Purple and the Dye Industries of the Mycenaeans and Phoenicians. In M. Mollat (ed.) Sociétés et compagnies de commerce en orient et dans l'Océan Indien (Actes du huitième colloque international d'histoire maritime, Beyrouth 5–10 Septembre, 1966), 73–90. Paris, S.E.V.P.E.N.

Brumfiel, E. M. (1991) Weaving and Cooking: Women's Production in Aztec Mexico. In J. M. Gero and M. W. Conkey (eds.) *Engendering Archaeology: Women and Prehistory*, 224–51. Oxford, Blackwell.

Brunello, F. (1973) The Art of Dyeing in the History of Mankind. Vicenza, Neri Pozza.

Bryce, T. (1998) The Kingdom of the Hittites. Oxford, Oxford University.

\_\_\_ (2003) History. In H. C. Melchert (ed.) The Luwians, 27–127. Leiden, Brill.

Burke, B. (1999) Purple and Aegean Textile Trade in the Early Second Millennium B.C. In P. P. Betancourt, et al. (eds.) Meletemata. Studies in Aegean Archaeology Presented to Malcolm H. Wiener as he Enters his 65th Year, 75–82. Aegaeum 20. Liège and Austin, Universitè de Liège and University of Texas at Austin.

Burkert, W. (1977) Griechische Religion der archaischen und klassischen Epoche. Stuttgart, Kohlhammer.

\_\_\_ (1991) Homerstudien und Orient. In J. Latacz (ed.) Zweihundert Jahre Homer-Forschung, Rückblick und Ausblick, 155–81. Stuttgart, Teubner.

Carile, A. (1998) Produzione e usi della porpora nell'impero bizantino. In Longo, ed., 243-75.

Carruba, O. (2003) La Lidia fra II e I millennio. In M. Giorgieri et al. (eds.) *Licia e Lidia prima dell'Ellenizzazione*, 145–69. Roma, Consiglio Nazionale delle Ricerche.

Cassin, E. (1968) La splendeur divine. Paris, Mouton.

Chadwick, J. (1988) The Women of Pylos. In J.-P. Olivier and T. G. Palaima (eds.) *Texts, Tablets and Scribes: Studies in Mycenaean Epigraphy and Economy*, 43–95. Minos Supplement 10. Salamanca, Universidad de Salamanca.

Cline, E.H. (1991) A Possible Hittite Embargo against the Mycenaeans. Historia 40, 1–9.

Cornelius, F. (1973) Geschichte der Hethiter. Darmstadt, Wissenschaftliche Buchgesellschaft.

Dalley, S. (1980) Old Babylonian Dowries. Iraq 42, 53-74.

Danker, F. W. (1992) Purple. In Anchor Bible Dictionary, Vol. 5, 557-61. New York, Doubleday.

De Cupere, B. (2001) Animals at Ancient Sagalassos. Evidence of the Faunal Remains. Turnhout, Brepols.

Diakonoff, I. M. (1992) The Naval Power and Trade of Tyre. Israel Exploration Journal 42, 168-93.

Dietrich, M., and Loretz, O. (1964-66) Der Vertrag zwischen Šuppiluliuma und Niqmandu. Welt des Orients 3, 206-45.

Dijkstra, M. (1989) Marginalia to the Ugarit Letters in KTU (II). Ugarit-Forschungen 21, 141-52.

Donbaz, V. (1991) The Date of the Eponym Nabû-bela-usur. In D. Charpin and F. Joannès (eds.) Marchands, diplomates et empereurs. Études sur la civilisation Mésopotamienne offertes à Paul Garelli, 73–80. Paris, Cerf.

\_\_\_ (1998) Assur Collections Housed in Istanbul, General Outlines. In S. Alp and A. Süel (eds.) Acts of the IIIrd International Congress of Hittitology, 177–88. Ankara, Uyum Ajans.

Doumet, J. (1980) A Study on the Ancient Purple Colour. Beirut, Imprimerie Catholique.

Durand, J.-M. (1997) Les documents épistolaires du palais de Mari. Tome I. Paris, Cerf.

Edens, C. (1986) Bahrain and the Arabian Gulf during the Second Millennium B.C.: Urban Crisis and Colonialism. In H. A. al–Khalifa and M. Rice (eds.) Bahrain through the Ages: The Archaeology, 195–216. London, KPI.

\_\_ (1987) A Late Second Millennium B.C. Purple Dye Industry in Qatar (Arabian Gulf): Archaeological and Historical Interpretations. Ph.D. diss., Boston, MA, Harvard University.

- \_\_\_(1994) On the Complexity of Complex Societies: Structure, Power and Legitimation in Kassite Babylonia. In G. Stein and M. Rothman (eds.) *Chiefdoms and Early States in the Near East: the Organizational Systematics of Complexity*, 209–33. Madison, WI, Prehistory Press.
- \_\_\_ (1999) Khor Ile-Sud, Qatar: The Archaeology of Late Bronze Age Purple-Dye Production in the Arabian Gulf. *Iraq* 61, 71–88.
- Edmonds, J. (2000) The Mystery of Imperial Purple Dye. Little Chalfont, John Edmonds Publisher.
- Elat, M. (1991) Phoenician Overland Trade within the Mesopotamian Empires. In M. Cogan and I. Eph'al (eds.) *Ah, Assyria... Studies in Assyrian History and Ancient Near Eastern Historiography Presented to Hayim Tadmor*, 21–35. Jerusalem, Magnes.
- Faist, B. (2001) Der Fernhandel des assyrischen Reiches zwischen dem 14. und 11. Jh. v. Chr. AOAT 265. Münster, Ugarit-Verlag.
- Fales, F. M. (1992–93) La porpora nel Vicino Oriente. In F. M. Fales, O. Longo, and F. Ghiretti (eds.) La porpora degli antichi e la sua riscoperta ad opera di Bartolomeo Bizio, 826–41. Atti dell'Istituto Veneto di Scienze, Lettere ed Arti, Classe di scienze morali, lettere ed arti 151.
- \_\_\_ (1998) Archeologia della porpora nel Vicino Oriente antico. In Longo, ed., 91–98.
- Faure, P. (1991) La pourpre, invention égéenne. In R. Laffineur and L. Basch (eds.) *Thalassa. L'Egée préhistorique et la mer*, 311–13. Aegaeum 7. Liège, Universitè de Liège.
- Finlay, V. (2004) Color: A Natural History of the Palette. New York, Random House.
- Forbes, R. J. (1964) Dyes and Dyeing. Pp. 98-142 in Studies in Ancient Technology, Vol. 4. Leiden, Brill.
- Forrer, E. (1926) Forschungen I.1. Berlin, Selbstverlag.
- Freu, J. (1990) KUB XIX 5 + KBo XIX 79: le pays du fleuve Seha, le Wilusa et Lazpa. *Centre de recherches comparatives sur les langues de la Mediterranée ancienne* 11, 15–28.
- Friedrich, J. (1926) Staatsverträge des Hatti-Reiches in hethitischer Sprache I. Leipzig, Hinrichs.
- \_\_\_ (1942) Hethitisch-Ugaritisches. Zeitschrift der deutschen Morgenländischen Gesellschaft 96, 471–84.
- Garstang, J., and Gurney, O. R. (1959) *The Geography of the Hittite Empire*. London, British Institute of Archaeology at Ankara.
- Germer, R. (1992) Die Textilfärberei und die Verwendung gefärbter Textilien im Alten Ägypten. Wiesbaden, Harrassowitz.
- Goetze, A. (1947) The Priestly Dress of the Hittite King. Journal of Cuneiform Studies 1, 176-85.
- \_\_\_ (1955) Hittite Dress. In Corolla Linguistica (Festschrift Ferdinand Sommer), 48–62. Wiesbaden, Harrassowitz.
- \_\_\_ (1956) The Inventory IBoT I 31. Journal of Cuneiform Studies 13, 32–38.
- \_\_\_ (1968) Review of J. Friedrich, Hethitisches Wörterbuch. 3. Ergänzungsheft. Journal of Cuneiform Studies 22, 16–24.
- Haas, V. (2003) Materia Magica et Medica Hethitica: Ein Beitrag zur Heilkunde im Alten Orient. Berlin, De Gruyter.
- Hawkins, J. D. (1997) A Hieroglyphic Luwian Inscription on a Silver Bowl in the Museum of Anatolian Civilizations, Ankara. *Anadolu Medeniyetleri Müzesi, 1996 Yilliği.* Ankara.
- \_\_\_ (1998) Tarkasnawa King of Mira. "Tarkondemos," Boğazköy Sealings and Karabel. Anatolian Studies 48, 1-31.
- Heinhold-Krahmer, S. (1977) Arzawa. Untersuchung zu seiner Geschichte nach den hethitischen Quellen. Heidelberg, Carl Winter.
- Heltzer, M. (1978) Goods, Prices and the Organization of Trade in Ugarit. Wiesbaden, Reichert.
- \_\_\_ (1982) The Internal Organization of the Kingdom of Ugarit. Wiesbaden, Reichert.
- \_\_\_ (1999) The Economy of Ugarit. In W. G. E. Watson and N. Wyatt (eds.) *Handbook of Ugaritic Studies*, 423–54. Leiden, Brill
- Herzog, I. (1987) Hebrew Porphyrology. In Spanier (ed.), 17–145.
- Houwink ten Cate, P. H. J. (1983–84) Sidelights on the Aḥḥiyawa Question from Hittite Vassal and Royal Correspondence. Jaarbericht Ex Oriente Lux 28, 33–79.
- Hutter, M. (1988) Behexung, Entsühnung und Heilung. Göttingen, Vandenhoeck and Ruprecht.
- Jensen, L. B. (1963) Royal Purple of Tyre. Journal of Near Eastern Studies 22, 104-18.
- Karali-Yannacopoulou, L. (1989) Purpura: A Valuable Ancient Dye. Greek Anthropological Annals 1989, 92–96.
- \_\_\_ (1990) Sea Shells, Land Snails and other Marine Remains from Akrotiri. In D. A. Hardy, et al. (eds.) *Thera and the Aegean World III*, Vol. II, 410–15. London, The Thera Foundation.
- Karmon, N., and Spanier, E. (1987) Archaeological Evidence of the Purple Dye Industry from Israel. In Spanier, ed. 1987, 147–58.
- Knoppers, G. N. (1993) Treaty, Tribute List, or Diplomatic Letter: KTU 3.1 Reexamined. *Bulletin of the American Schools of Oriental Research* 289, 81–94.
- Korfmann, M. (1997) Troia-Ausgrabungen 1996. Studia Troica 7, 1–71.

- \_\_\_ (1998) Troia-Ausgrabungen 1997. Studia Troica 8, 1–70.
- \_\_\_ (2001) Troy (Troia) in A. M. Greaves and B. Helwing, Archaeology in Turkey, The Stone, Bronze, and Iron Ages, 1997–1999. *American Journal of Archaeology* 105, 463–511.
- Košak, S. (1982) Hittite Inventory Texts (CTH 241-250), Heidelberg, Carl Winter.
- Krauss, F. R. (1964) Altbabylonische Briefe I: Briefe aus dem British Museum (CT 43 und 44). Leiden, Brill.
- Lackenbacher, S. (1989) Trois lettres d'Ugarit. In H. Behrens, D. Loding, M. T. Roth (eds.) dumu-é-dub-ba-a. Studies in Honor of Åke W. Sjöberg, 317–20. Philadelphia, Samuel Noah Kramer Fund.
- \_\_\_ (2002) Textes akkadiens d'Ugarit. Textes provenant des vingt-cinq premières campagnes. Paris, Cerf.
- Landsberger, B. (1967) Über Farben im Sumerisch-Akkadischen. Journal of Cuneiform Studies 21, 139-73.
- Laroche, E. (1966) Les noms des Hittites. Paris, Klincksieck.
- \_\_\_(1980) Emar, étape entre Babylone et le Hatti. In J. C. Margueron (ed.) Le Moyen Euphrate, 235–44. Leiden, Brill.
- Liverani, M. (1991) The Trade Network of Tyre According to Ezek. 27. In M. Cogan and I. Eph'al (eds.) Ah, Assyria... Studies in Assyrian History and Ancient Near Eastern Historiography Presented to Hayim Tadmor, 65–79. Jerusalem, Magnes.
- Longo, O. (1992–93) La porpora nell'antichità greco-romana. Conoscenze zoologiche e pratiche di tintura. In F. M. Fales, O. Longo, and F. Ghiretti (eds.) *La porpora degli antichi e la sua riscoperta ad opera di Bartolomeo Bizio*, 843–67. Atti dell'Istituto Veneto di Scienze, Lettere ed Arti, Classe di scienze morali, lettere ed arti 151.
- \_\_\_ (1998) Porpora e sangue. Da Omero a Shakespeare. In Longo, ed., 125–31.
- Longo, O. ed. (1998) *La porpora. Realtà e immaginario di un colore simbolico (Atti del convegno di studio, Venezia 1996)*. Venezia, Istituto Veneto di Scienze, Lettere ed Arti.
- Lowe, B. (2004) The Industrial Exploitation of Murex: Purple Dye Production in the Western Mediterranean. In L. Cleland and K. Stears (eds.) *Colour in the Ancient Mediterranean World*, 46–48. BAR International Series 1267. Oxford, John and Erica Hedges.
- Mankowski, P. V. (2000) Akkadian Loanwords in Biblical Hebrew. Winona Lake, Eisenbrauns.
- McGovern, P. E., (1990a) Review of Spanier 1987. Isis 81, 563-65.
- \_\_\_(1990b) Royal Purple Dye: The Chemical Reconstruction of the Ancient Mediterranean Industry. *Accounts of Chemical Research* 23, 152–58.
- McGovern, P. E., and Michel, R. H. (1984) Royal Purple and the Pre-Phoenician Dye Industry of Lebanon. MASCA Journal
- \_\_\_ (1985) Royal Purple Dye: Tracing Chemical Origins of the Industry. *Analytical Chemistry* 57, 1515–22.
- (1988) Has Authentic *Tekelet* Been Identified? (Including Responses). Bulletin of the American Schools of Oriental Research 269, 81–90.
- Michel, C. (2001) Le lapis-lazuli des Assyriens au début du IIe millénaire av. J.-C. In W. H. van Soldt et al. (eds.) *Veenhof Anniversary Volume*, 341–59. Leiden, Nederlands Instituut voor het Nabije Oosten.
- Michel, R. H., and McGovern, P. E. (1987) The Chemical Processing of Royal Purple Dye: Ancient Descriptions as Elucidated by Modern Science. *Archaeometry* 1, 135–43.
- Michel-Morfín, J. E., and Chávez, E. A. (2000) Effect of Repetitive Dye Extraction over Yield and Survival Rate of the Purple snail Plicopurpura Pansa (Gould, 1853). *Journal of Shellfish Research* 19, 913–17.
- Michel-Morfín, J. E., Chávez, E. A., and Landa, V. (2000) Population Parameters and Dye Yield of the Purple Snail Plicopurpura Pansa (Gould, 1853) of West Central Mexico. *Journal of Shellfish Research* 19, 919–25.
- De Moor, J. C. (1968) Murices in Ugaritic Mythology. Orientalia 37, 212–15.
- Moorey, P. R. S. (1994) Ancient Mesopotamian Materials. Oxford, Clarendon.
- Morris, S. P. (1992) Daidalos and the Origins of Greek Art. Princeton, Princeton University.
- \_\_\_ (1997) Homer and the Near East. In I. Morris and B. Powell (eds.) A New Companion to Homer, 599–623. Leiden, Brill.
- Nicholson, P. T. and Shaw, I. (2000) Ancient Egyptian Materials and Technology. Cambridge, Cambridge University.
- Niemeier, B., and W.-D. Niemeier (1999a) The Minoans of Miletus. In P. P. Betancourt, et al. (eds.) *Meletemata. Studies in Aegean Archaeology Presented to Malcolm H. Wiener as he Enters his 65th Year (Aegaeum 20)*, 543–54 and pls. cxvii–cxx. Liège and Austin, Université de Liège and University of Texas at Austin.
- Niemeier, W.-D. (1999b) Mycenaeans and Hittites in War in Western Asia Minor. In R. Laffineur (ed.) *Polemos. Le contexte* guerrier en Égée à l'Âge du Bronze, 141–55 and pl. xv. Liège, Université de Liège.
- Nougayrol, J. (1968) Textes Suméro-Accadiens des archives et bibliothèques privées d'Ugarit. Ugaritica 5, 1-446.
- Oppenheim, A. L. (1943) Akkadian pul(u)h(t)u and melammu. Journal of the American Oriental Society 63, 31–34.
- \_\_\_ (1949) The Golden Garments of the Gods. Journal of Near Eastern Studies 8, 172–93.

- \_\_\_ (1963) Mesopotamian Conchology. *Orientalia* 32, 401–12.
- \_\_\_ (1967) Essay on Overland Trade in the First Millennium B.C. Journal of Cuneiform Studies 21, 263-54.
- \_\_ (1970) Glass and Glassmaking in Ancient Mesopotamia. Corning, NY, Corning Museum of Glass.
- Otten, H. (1967) Ein hethitischer Vertrag aus dem 15./14. Jahrhundert v. Chr. Istanbuler Mitteilungen 17, 55-62.
- Owen, D. I. (1981) An Akkadian Letter from Ugarit at Tel Aphek. Tel Aviv 8, 1-17.
- Palaima, T.G. (1991) Maritime Matters in the Linear B Tablets. In R. Laffineur and L. Basch (eds.) *Thalassa. L'Egée préhistorique et la mer*, 273–310. Aegaeum 7. Liège, Université de Liège.
- \_\_\_(1997) Potter and Fuller: The Royal Craftsmen. In R. Laffineur and P. Betancourt (eds.) TEXNH. Craftsmen, Craftswomen and Crafsmanship in the Aegean Bronze Age, 407–12. Aegaeum 16. Liège, Universitè de Liège and University of Texas at Austin.
- Palmer, R. (2003) Trade in Wine, Perfumed Oil and Foodstuffs: The Linear B Evidence and Beyond. In N. C. Stampolidis and V. Karageorghis (eds.) Sea Routes... Interconnections in the Mediterranean 16th-6th c. BC, 125–40. Athens, Leventis Foundation.
- Pardee, D. (1974) The Ugaritic Text 147(90). Ugarit-Forschungen 6, 275-82.
- Parker, V. (1999) Die Aktivitäten der Mykenäer in der Ostägäis im Lichte der Linear B Tafeln. In S. Deger-Jalkotzy, et al. (eds.) Floreant Studia Mycenaea, Band II, 495–502. Wien, Österreichische Akademie der Wissenschaften.
- Pulak, C. (2001) The Cargo of the Uluburun Ship and Evidence for Trade with the Aegean and Beyond. In L. Bonfante and V. Karageorghis (eds.) *Italy and Cyprus in Antiquity:* 1500–450 BC, 13–60. Nicosia, Costakis and Leto Severis Foundation.
- Pritchard, J. B. (1972) Sarepta in History and Tradition. In J. Reumann (ed.) *Understanding the Sacred Text; Essays in honor of Morton S. Enslin on the Hebrew Bible and Christian Beginnings*, 101–14. Valley Forge, Judson Press.
- \_\_\_ (1978) Recovering Sarepta, a Phoenician City. Princeton, Princeton University.
- Rabin, C. (1963) Hittite Words in Hebrew. Orientalia 32, 113-39.
- Reese, D. S. (1979–80) Industrial Exploitation of Murex Shells: Purple-Dye and Lime Production at Sidi Khrebish, Benghazi (Berenice). *Society for Lybian Studies Annual Report* 11, 79–83.
- \_\_\_ (1987) Palaikastro Shells and Bronze Age Purple-Dye Production in the Mediterranean Basin. *Annual of the British School of Archaeology at Athens* 82, 201–6.
- \_\_\_ (2000) Iron Age Shell Purple-Dye Production in the Aegean. In J. W. Shaw and M. C. Shaw, Kommos IV. The Greek Sanctuary, Part 1, 643–46. Princeton, Princeton University.
- Reinhold, M. (1970) History of Purple as a Status Symbol in Antiquity. Bruxelles, Latomus.
- Ribichini, S., and Xella, P. (1985) La terminologia dei tessili nei testi di Ugarit. Roma, Consiglio Nazionale di Ricerche.
- Riemschneider, K. K. (1962) Hethitische Fragmente historischen Inhalts aus der Zeit Hattušilis III. *Journal of Cuneiform Studies* 16, 110–21.
- Ruscillo, D. (1998) Working Double Tides: The Marine Molluscs from Kommos, Crete. *American Journal of Archaeology* 102, 392.
- Sanmartín, J. (1978) Riš argmn in den Ug. Ritualen. Ugarit-Forschungen 10, 455-56.
- Schaeffer, C. F.-A. (1951) Une industrie d'Ugarit: La pourpre. Annales Archéologiques de Syrie 1, 188-92.
- Schliemann, H. (1881) Ilios: The City and Country of the Trojans. London, Harper and Bros.
- Siegelová, J. (1986) Hethitische Verwaltungspraxis im Lichte der Wirtschafts- und Inventardokumente. Prague, Národní Muzeum v Praze.
- Silver, M. (1991) The Commodity Composition of Trade in the Argonaut Myth. In M. Silver (ed.) *Ancient Economy in Mythology: East and West*, 241–82. Savage, MD, Rowman and Littlefield.
- Singer, I. (1983a) Western Anatolia in the Thirteenth Century B.C. according to the Hittite Sources. *Anatolian Studies* 33, 205–17.
- \_\_ (1983b) Takuhlinu and Haya: Two Governors in the Ugarit Letter from Tel Aphek. Tel Aviv 10, 3–25.
- \_\_\_ (1983c) *The Hittite KI.LAM Festival.* Wiesbaden, Harrassowitz.
- \_\_\_ (1999) A Political History of Ugarit. In W. G. E. Watson and N. Wyatt (eds.) *Handbook of Ugaritic Studies*, 603–733. Leiden, Brill.
- \_\_\_ (2001) The Treaties between Karkamis and Hatti. In G. Wilhelm (ed.), Akten des IV. Internationalen Kongresses für Hethitologie, 635–41. Wiesbaden, Harrassowitz.
- \_\_\_ (2002) Hittite Prayers. Atlanta, Society of Biblical Literature.
- Smith, J. S. (1997) Preliminary Comments on a Rural Cypro-Archaic Sanctuary in Polis-Peristeries. *Bulletin of the American Schools of Oriental Research* 308, 77–98.
- \_\_\_ (2002) Changes in the Workplace: Women and Textile Production on Late Bronze Age Cyprus. In D. Bolger and N.

- Serwint (eds.) Engendering Aphrodite. Women and Society in Ancient Cyprus, 281–312. Boston, American Schools of Oriental Research.
- Sommer, F. (1932) Die Ahhijavā-Urkunden. München, Gerstenberg.
- Sotiropoulou, S., Andrikopoulos, K., and Chryssikopoulou, E. (2003) The Use of Tyrian Purple in the Wall Paintings of Thera. 4th Symposium of Archaeometry (Athens, May 28–31, 2003). Hellenic Society of Archaeometry (http://www.archaeometry.gr/eae/HSA.htm).
- Spanier, E., and Karmon, N. (1987) Muricid Snails and the Ancient Dye Industries. In Spanier, ed. 1987, 179–92.
- Spanier, E., ed. (1987) The Royal Purple and the Biblical *Tekhelet*. *The Study of Chief Rabbi Dr. Isaac Herzog on the Dye Industries in Ancient Israel and Recent Scientific Contributions*. Jerusalem, Keter.
- Speiser, E. A. (1936) The Name Phoinikes. Language 12, 121–26.
- Starke, F. (1997) Troia im Kontext des historisch-politischen und sprachlichen Umfeldes Kleinasiens im 2. Jahrtausend. *Studia Troica* 7, 448–55.
- \_\_\_\_(2001) Sēḫa. Der Neue Pauly. Enzyklopädie der Antike, Band II, 345–47.
- \_\_\_ (forthcoming) Wilusa im Lichte der schriftlichen überlieferung des 2. Jt. v. Chr.
- Stefanini, R. (1964) KUB XXI 33 (Bo 487): Mursili's Sins. Journal of the American Oriental Society 84, 22-30.
- Steigerwald, G. (1986) Die antike Purpurfärberei nach dem Bericht Plinius' des Älteren in seiner "Naturalis Historia." Traditio 42, 1–57.
- Stieglietz, R. R. (1979) Commodity Prices at Ugarit. Journal of the American Oriental Society 99, 15-23.
- \_\_\_ (1994) The Minoan Origin of Tyrian Purple. *Biblical Archaeologist* 57, 46–54.
- Taracha, P. (2001) Mycenaeans, Ahhiyawa and Hittite Imperial Policy in the West: A Note on KUB 26.91. In Th. Richter, D. Prechel, J. Klinger (eds.) *Kulturgeschichten: Altorientalische Studien für Volkert Haas*, 417–22. Saarbrücken, Saarbrücker Druckerei.
- Thureau-Dangin, F. (1934) Un comptoir de laine pourpre á Ugarit d'après une tablette de Ras-Shamra. Syria 15, 137–46.
- Uchitel, A. (2002) Women at Work: Weavers of Lagash and Spinners of San Luis Gonzaga. In S. Parpola and R. M. Whiting (eds.) *Sex and Gender in the Ancient Near East*, Part II, 621–31. Helsinki.
- Van De Mieroop, M. (1989) Women in the Economy of Sumer. In B. S. Lesko (ed.) *Women's Earliest Records from Ancient Egypt and Western Asia*, 53–69. Atlanta, Scholars Press.
- Van Soldt, W. H., (1990) Fabrics and Dyes at Ugarit. Ugarit-Forschungen 22, 321-57.
- \_\_\_ (1997) Kassite Textiles for Enlil-Nērāru's Messenger. Altorientalische Forschungen 24, 97–104.
- Ventris, M. and Chadwick, J. (1959) Documents in Mycenaean Greek. Cambridge, Cambridge University.
- Waetzoldt, H. (1972) *Untersuchungen zur neusumerischen Textilindustrie*. Roma, Centro per le antiquità e la storia dell'arte del Vicino Oriente.
- Watkins, C. (1998) Homer and Hittite Revisited. In P. Knox and C. Foss (eds.) *Style and Tradition. Studies in Honor of Wendell Clausen*, 201–11. Stuttgart, Teubner.
- Weisberg, D. B. (1982) Wool and Linen Material in Texts from the Time of Nebuchadnezzar. Eretz-Israel 16, 218-26.
- Wiener, M. H. (1987) Trade and Rule in Palatial Crete. In R. Hägg and N. Marinatos (eds.) *The Function of the Minoan Palaces*, 261–68. Stockholm, Svenska Institutet i Athen.
- Williams, C. and Williams, H. (1987) Excavations at Mytilene, 1987. Canadian Mediterranean Institute Bulletin 1987, 10–
- Wiseman, D. J. (1967) A Late Babylonian Tribute List? *Bulletin of the School of Oriental and African Studies* 30, 495–504. Yakar, J. (1976) Hittite Involvement in Western Anatolia. *Anatolian Studies* 26, 117–28.
- Yasur-Landau, A., and Guzowska, M. (2003) Before the Aeolians. Prolegomena to the Study of Interactions with the North-East Aegean Islands in the 13th and 12th Centuries BC. In N. Kyparissi-Apostolika and M. Papakonstantinou (eds.) *The 2nd International Interdisciplinary Colloquium "The Periphery of the Mycenaean World" (Lamia 26-30 Sept. 1999)*, 471–86. Athens, Ministry of Culture and the 14th Ephorate of Prehistoric and Classical Antiquities.
- Zaccagnini, C. (1983) Patterns of Mobility among Ancient Near Eastern Craftsmen. *Journal of Near Eastern Studies* 42, 245–64.
- Ziderman, I. I. (1987) First Identification of Authentic Tekelet. Bulletin of the American Schools of Oriental Research 265, 25–33.
- \_\_\_ (1990) Seashells and Ancient Purple Dyeing. Biblical Archaeologist 1990, 98–101.
- \_\_ (2004) Purple Dyeing in the Mediterranean World: Characteristics of Biblical Tekhelet. In L. Cleland and K. Stears (eds.) Colour in the Ancient Mediterranean World, 40–45. BAR International Series 1267. Oxford, John and Erica Hedges.