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**The Textile Industry in Byzantine and Early Islamic Egypt:
Continuity and Change**



Abstract

This thesis focuses on the Egyptian textile industry during the transition from Byzantine to Islamic rule (6th-11th centuries), in an effort to trace the changes that occurred. The innovative elements are, on one hand, the attempt to combine information from the primary written sources, both Greek and Arabic, and the material evidence, namely the textiles themselves, and, on the other hand the attempt to connect any changes with their social, political and economic background. The textiles of the Benaki Museum in Athens, which have been very little studied until now, form the core of this study, and are here related to the broader context of already published Late Antique and Early Islamic Egyptian textiles, both those collected and those scientifically excavated, in order to provide a solid basis for investigation, as representative as possible of the textile production in the transitional period.

During this period, most aspects of material culture, including monumental and domestic architecture, the arts of the book, epigraphy, numismatics, decorated ceramics, glass, metalwork, and stone- and wood-carving were transformed by the introduction of new techniques, forms and iconography from the lands newly conquered by Islam. At the same time, traditional Egyptian material culture, patronised by Christian elites and especially by the Coptic church since the fourth century, continued, and both influenced, and was influenced by, the emergent material culture of Islamic Egypt. By the tenth century, most aspects of material culture had developed a distinctly Egyptian character that can be clearly distinguished not just from that of the rest of the Islamic world, but also from that of Egypt before the Arab conquest.

In the first two centuries after the conquest, many materials, techniques and designs seem to have remained unchanged, and the same community continued to supply craftsmen, but, at the same time, significant innovations were set in motion, including the more extensive use of eastern designs and techniques, promoted by the Muslim elites, newly arrived from the east. In the 9th and 10th centuries, decisive changes, which always came hand in hand with social, economic, political and religious shifts, gradually transformed the industry and its products. The formation of an Egyptian ruling class, together with the increasing tendency towards political and financial independence of the country, promoted large investment of state officials and private entrepreneurs in the local textile industry, which resulted in the “industrialisation” of production and, therefore, in greater division of labour, and in the reformation of the country’s agricultural policy, towards massive flax cultivation and large scale import of silk. Also, the gradual conversion of the Egyptian population to

Islam and the prevalence of Arabic culture impelled the growing impact of Islamic art also on textiles, with a transformation of the iconography into abstract, repetitive and highly decorative designs, some directly inspired from Islamic palatial art, as well as an increasing popularity of inscribed textiles and of *tirāz* pieces, valued and mimicked by both Muslims and Christians.

Introduction

The historical background of the transitional period from Byzantine to Islamic rule, and the emerging pattern of continuities and changes in administration, economy and religion are given here. Also, the sources available for research on the subject are presented, and an overview and critique of the scholarship on the textile industry of the period is attempted. Finally, the purpose of the thesis and its methodology are explained.

Chapter 1. The textile industry from the 6th century to the Fāṭimids

The different stages of textile production, the types and sizes of workshops, the workers and their social status, the investors, the textile centres and the weaving implements are discussed here. In this chapter information derives mainly from the written sources, dating to both the Byzantine and Early Islamic periods, from which a pattern of both continuity and change emerges.

Chapter 2. The textile products: materials, technology, images and practices

The time frame of the continuities and changes in the materials, techniques, iconography, inscriptions and uses of textiles is discussed here, associated with the political, social and economic realities of the period, combining the information of the material evidence and the written sources.

Conclusions

Abbreviations

AS	Abegg-Stiftung Foundation, Riggisberg, Switzerland
BAV	Biblioteca Apostolica Vaticana
BM	British Museum, London
CMA	Cleveland Museum of Art
DM	David Museum, Copenhagen
DT	Deutsches Textilmuseum Krefeld
DOC	Dumbarton Oaks Collection
HM	Hermitage Museum
KAM	Krannert Art Museum, University of Illinois
KFM	Kaiser Friedrich Museum
KL	Kulturen, Lund
KM	Kelsey Museum
KN	Katoen Natie Art Collection, Antwerp
MAF	Museo Archaeologico di Firenze
MAHG	Musée d'art et d'histoire, Genève
MDA	Museum of Decorative Arts, Athens
MFAB	Museum of Fine Arts, Boston
MHTL	Musée Historique des Tissus, Lyon
MIAJ	Museum for Islamic Art, Jerusalem
MIC	Museum of Islamic Art, Cairo
MIK	Museum für Islamische Kunst, Berlin
MET	Metropolitan Museum of Art, New York
MMT	Musée de la Mode et du Textile
MNAD	Museo Nacional de Artes Decorativas, Madrid
MRAH	Musées Royaux d'Art et d'Histoire, Brussels
MTIB	Museu Tèxtil y d'Indumentària de Barcelona
NMS	National Museum Stokholm
PC	Pfister Collection
PMFA	Pushkin State Museum of Fine Arts, Moscow
RM	Rohss Museum
ROM	Royal Ontario Museum
TMW	Textile Museum, Washington D.C.
VAM	Victoria and Albert Museum, London

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Introduction

Historical background

During its long history, Egypt has been an exceptionally interesting crossroads of cultures, religions and artistic expressions. One of the major transformations in its history was gradually brought about after the Islamic conquest of the country (639-642), which was until then part of the Byzantine empire, albeit with its own distinct artistic and religious orientations. With the conquest by the armies of ‘Amr ibn al-‘Āṣ, Muslim rule was established, and, as Kennedy wrote, “seldom in history can so massive a political change have happened so swiftly and been so long lasting”.¹

However, these indeed long lasting changes in the religion, language and culture of the Egyptians, were not abrupt and immediately felt. Modern historiography has revealed a picture of striking continuity in many aspects of administration, finance and religious orientation during the first two centuries of Islamic rule, although, at the same time, small but significant changes, which steadily transformed the Egyptian political and social landscape were set in motion.

To begin with, there is no evidence of rupture in the infrastructure and finances of Egypt, an important indication of which is the continuation of the monetary economy.² The Arab settlers in Egypt were, until the 9th century, very few and mainly located in the newly found capital of Fustāt, while the conquered lands were left to the indigenous population and were not divided among the conquerors, although their crops were also used to provide for the Muslim heartland.³ Conversion to Islam was not systematic and it seems that until about the 9th century, the Muslim population of

¹ Hugh Kennedy, *The Great Arab Conquests: How the Spread of Islam Changed the World We Live in*, Da Capo Press Incorporated 2007, p. 165.

² Jairus Banaji, *Exploring the Economy of Late Antiquity: Selected Essays*, Cambridge University Press 2015, p. 211.

³ Petra Sijpesteijn, “The Arab Conquest of Egypt and the Beginning of Muslim Rule”, in *Egypt in the Byzantine World, 300-700*, Roger S. Bagnall ed., Cambridge 2007, p. 443; Kosei Morimoto, “Land Tenure in Egypt During the Early Islamic Period”, *Orient* vol. 11 (1975), p. 111-123; Chris Wickham, “The Power of Property: Land Tenure in Fāṭimid Egypt”, *Journal of the Economic and Social History of the Orient* vol. 62 (2019), p. 71-72.

Egypt was still very small,⁴ while the majority remained Christian until as late as the 14th century.⁵ Christian elites continued to play an important role in administration and in provincial communities, although supervised by Muslim authorities.⁶ However, already in the first years after the conquest, a parallel administrative system was established. The Byzantine local offices of the dukes and pagarchs were retained, but they were deprived of their military duties and were now accompanied by amīrs and their garrisons, who can be considered as the conquerors' supervisors of regional management. Also, local officials grew more and more integrated into the new political order, having close contacts with the government of Fustāṭ, and giving gradually way to a more centralised supervision of the Egyptian provinces.⁷ In administration, multilingual documents in Greek, Coptic and Arabic were introduced.⁸ Greek started to decline in everyday written communication,⁹ but Coptic enjoyed a period of widespread use in private letters and, for the first time, in documents

⁴ Mikhail S. A. Maged, *From Byzantine to Islamic Egypt : Religion, Identity and Politics after the Arab Conquest*, London, New York 2016, p. 64, 66, 71, 75-75; Sijpesteijn, "The Arab Conquest of Egypt", p. 455; Michael G. Morony, "The Age of Conversions: A Reassessment", in *Conversion and Continuity: Indigenous Christian Communities in Islamic Lands, Eighth to Eighteenth Century*, Michael Gervers and Ramzi Jibran Bikhazi eds., Toronto, Ont., Canada: Pontifical Institute of Mediaeval Studies 1990, p. 136. See also Richard W. Bulliet, *Conversion to Islam in the Medieval Period: An Essay in Quantitative History*, Cambridge, Massachusett, London England 1979, p. 92-103.

⁵ Jean-Claude Garcin, "L'arabisation de l'Égypte", *Revue de l'Occident musulman et de la Méditerranée*, vol. 43, (1987), Monde arabe: migrations et identités, p. 132; Yossef Rapoport, *Rural Economy and Tribal Society in Islamic Egypt: a Study of Al-Nābulus's "Villages of the Fayyūm"*, Turnhout, Belgium: Brepols 2018, p. 205-211 and 231-248, where he argues that the islamisation of the Fayyūm came through the transformation of Coptic peasantry into Muslim tribesmen with the adoption of Arab tribal identities in the course of the 12th and 13th centuries.

⁶ For the status of the Christian elites and the conversion policies during the first centuries after the Islamic conquest see Maged, *From Byzantine to Islamic Egypt*, chapters 3 and 4. See also Hugh Kennedy, "Egypt as a Province in the Islamic Caliphate (641-868)", in *The Cambridge History of Egypt*, Carl F. Petry ed., Cambridge 1998, p. 73 and Michael Collins Dunn, *The Struggle for 'Abbasid Egypt*, PhD dissertation, Georgetown University 1975, p. 153-157. Also Audrey Dridi, "Christians of Fustāṭ in the First Three Centuries of Islam: The Making of a New Society", in *A Cosmopolitan City: Muslims, Christians and Jews in Old Cairo*, Tasha Vorderstrasse and Tanya Treptow eds., Oriental Institute Museum Publications, The Oriental Institute of the University of Chicago 2015, p. 37. For a detailed analysis on the administration during the first century of Islamic rule see Sijpesteijn, *Shaping a Muslim state: The World of a Mid-Eighth-Century Egyptian Official*, Oxford 2013, p. 49-216.

⁷ Marie Legendre, "Neither Byzantine nor Islamic? The Duke of the Thebaid and the Formation of the Umayyad State", *Historical Research* vol. 89, no 243 (February 2016), p. 7-9. Retrieved from <https://doi-org.ezproxy-prd.bodleian.ox.ac.uk/10.1111/1468-2281.12113>.

⁸ See, for example, the bilingual (Greek and Arabic) communication between the governor of Egypt Qurra ibn Sharīk and the pagarch of Aphrodito in the beginning of the 8th century. Qurra's dossier of administrative documents also contains papyri in Arabic, Coptic and Greek: Tonio Sebastian Richter, "Language Choice in the Qurra Dossier", in *The Multilingual Experience in Egypt, from the Ptolemies to the Abbasids*, Arietta Papaconstantinou ed., Burlington 2010, p. 195-200.

⁹ Arietta Papaconstantinou, " 'They shall speak the Arabic Language and take pride in it': Reconsidering the Fate of Coptic after the Arab Conquest", *Le Muséon* vol. 120 (2007), p. 274.

addressed to the Arab local authorities at the bottom levels of administration,¹⁰ and continued to be in use at least until the 11th century.¹¹

It was in the 'Abbasid period (750-868), that these changes started being more profound and evident. The Arab-Muslim population increased considerably through conversion and immigration,¹² and also started settling in the countryside.¹³ Muslim land-holding elites appeared,¹⁴ and a well-functioning administration and taxing system, gradually dominated by Muslim officials and possibly based on the tradition and practices of the Persian agrarian administration was organised.¹⁵ The knowledge and use of the Arabic language spread throughout the country,¹⁶ starting from the administrative sector, where Greek documents almost stopped being produced by the end of the eighth century,¹⁷ and Coptic became scarcer after the mid-9th.¹⁸ What's more, as it will be shown in detail, the political situation and social changes in the Mediterranean and the East

¹⁰ Papaconstantinou, " 'They shall speak the Arabic Language' ", p. 274; Richter, "Language Choice in the Qurra Dossier", p. 216-217.

¹¹ *Roman Egypt: a History*, Roger Bagnall and Mona Haggag eds., Cambridge: Cambridge University Press 2021, p. 330. For a study in the use of the Coptic language after the conquest also in the ecclesiastical environment see Richter, "Greek, Coptic and the 'Language of the Hijra'", in *From Hellenism to Islam: Cultural and Linguistic Change in the Roman Near East*, Hannah M. Cotton, Robert G. Hoyland, Jonathan J. Price, David J. Wasserstein eds., Cambridge 2009, p. 417-434. Also, Papaconstantinou, "They shall speak the Arabic Language", p. 273-299, connects the abandonment of Coptic and the adoption of Arabic by the Church of Egypt to the change of the patriarchal seat to Fustāt;

¹² See p. i, footnote 4. For some patterns of immigration see Timothy Power, "The Red Sea Under the Caliphal Dynasties, c. 639-1171", *History Compass* vol. 16, issue 10 (2018). Retrieved from <https://doi.org/10.1111/hic3.12484>, p. 5; also chapter 2b. Techniques, p. 84-85.

¹³ Morimoto, "Land Tenure", p. 123-130; Sijpesteijn, "The Arab Conquest of Egypt", p. 452-453; *ibid.*, *Shaping a Muslim state*, p. 64. For the Arab tribes settling in Egypt see also Dunn, *The Struggle for 'Abbasid Egypt*, p. 191-200.

¹⁴ Morimoto, "Land Tenure", p. 130-133; Wickham, "The Power of Property", p. 71-72; Lorenzo Bondioli, *Peasants, Merchants and Caliphs: Capital and Empire in Fatimid Egypt*, PhD dissertation, Princeton University 2021, p. 52-65; Legendre, "Landowners, Caliphs and State Policy over Landholdings in the Egyptian Countryside: Theory and Practice", in *Authority and Control in the Countryside, From Antiquity to Islam in the Mediterranean and Near East (6th-10th Century)*, Alain Delattre, Marie Legendre and Petra Sijpesteijn eds., Brill 2019, p. 404-407.

¹⁵ Frantz-Murphy, "The Economics of State Formation in Early Islamic Egypt", in *From Al-Andalus to Khurasan: Documents from the Medieval Muslim World*, Petra Sijpesteijn ed., Brill 2006, p. 104-110. Also Dridi, "Christians of Fustāt", p. 37.

¹⁶ Sijpesteijn, "The Arab Conquest of Egypt", p. 454; Maged, *From Byzantine to Islamic Egypt*, chapter 5; Papaconstantinou, " 'They shall speak the Arabic Language' ", p. 295-298.

¹⁷ Bagnall and Haggag, *Roman Egypt*, p. 327-329. For an explanation of the social and financial circumstances that led to the replacement of Greek and Coptic by Arabic see Papaconstantinou, "Arabic: Language of Empire and Language of Egypt", in *Egypt and Empire: The Formation of Religious Identity after Rome*, O'Connell E. R. ed., Leuven: Peeters 2022, p. 293-309.

¹⁸ Papaconstantinou, " 'They shall speak the Arabic Language' ", p. 296.

allowed for new approaches and investments in the country's resources.¹⁹ Efforts to develop Egypt's economic potential to the favour of the country itself were manifested, starting from the period of the Ṭūlūnid dynasty (868-905)²⁰ and, especially during the Fāṭimid period (969-1171), and a vivid interest in international commerce was expressed, exploiting the central and now enhanced role of the country in the networks connecting the Mediterranean trade routes with those of the Indian Ocean.²¹ Furthermore, the growing arabisation of the country became evident in art, which started to be more and more influenced by Islamic palatial prototypes and aesthetics.

These transformations affected the realities of every day life in Egypt and all kinds of activities, including the textile industry, which has been, since prehistoric times, an important part of the country's commercial and artistic activity. The significance of this industry for the economy of Egypt, and also for many other pre-industrial economies,²² cannot be overemphasised. Many changes had occurred in the Egyptian textile industry during its long history up to the Byzantine period in terms of raw materials, technical equipment and production organisation. Materials previously unknown or only sporadically used were added, like wool, introduced during the reign of the Ptolemaic dynasty,²³ and cotton, introduced during the first centuries of Roman rule.²⁴ The type of looms also changed considerably, from the ground horizontal to the upright and the warp-weighted, and then to more sophisticated and technically improved versions of the horizontal, like the loom with multiple heddle rods.²⁵ The important role of the temples in textile production and

¹⁹ Gladys Frantz-Murphy, "A New Interpretation of the Economic History of Medieval Egypt: The Role of the Textile Industry 254-567/868-1171", *Journal of the Economic and Social History of the Orient* vol. 24, no 3 (October 1981), p. 274-297.

²⁰ Thierry Bianquis, "Autonomous Egypt from Ibn Ṭūlūn to Kāfūr, 868-969", in *The Cambridge History of Egypt*, p. 90.

²¹ For a survey on Egypt's involvement in the Mediterranean trade and the consequences for the country's agriculture see A. L. Udovitch, "International Trade and the Medieval Egyptian Countryside", in *Agriculture in Egypt, From Pharaonic to Modern Times*, Alan K. Bowman and Eugene Rogan eds., Oxford 1999, p. 267-285. Also Yaacov Lev, "At the Crossroads of Regional Settings: Egypt, 500-1000 CE, in *Egypt and the Eastern Mediterranean World: From Constantinople to Baghdad, 500-1000 CE*, J. Bruning, J. De Jong, and P. Sijpesteijn eds., Cambridge University Press 2022, p. 62-63.

²² It has to be remembered that even the Industrial Revolution in 18th century England was initiated in textile manufacture. For a survey and bibliography on the subject, see Bondioli, *Peasants, Merchants and Caliphs*, p. 161-162

²³ R.J. Forbes, *Studies in Ancient Technology*, Leiden Brill 1964, vol. 4, p. 14-15.

²⁴ Marijke van der Veen, *Consumption, Trade and Innovation: Exploring the Botanical Remains from the Roman and Islamic Ports at Quseir al-Qadim, Egypt*, *Journal of African Archaeology Monograph Series* 6, Africa Magna Verlag 2011, p. 89-90.

²⁵ H. Ling Roth, *Ancient Egyptian and Greek Looms*, Bedford 1978, p. 43-44; Diane Lee Carroll, *Looms and Textiles of the Copts: First Millennium Egyptian Textiles in the Carl Austin Rietz Collection of the California Academy of Sciences*, California Academy of Sciences 1988, p. 15-18, 24, 34-36.

their monopoly on certain types of fabrics, still evident during Ptolemaic times, diminished in the Roman period²⁶ and finally gave place to the monopolies of the Byzantine state.

As will be shown, after the Islamic conquest, the organisation and the products of the Egyptian textile industry follow a pattern of continuity and gradual change similar to that already observed in most other aspects of state organisation and every day life.

The sources: potentialities and limitations

The two main sources of information for the researcher of the textile industry of Egypt are the surviving textiles and the written sources, both documentary and literary.

The dry climate of the country and the extensive excavations on its soil from the 19th century onwards, have yielded a very large number of textile and documentary finds, unequal to any other place in the world. However, most of the surviving textiles were unearthed during the 19th and early 20th century, following methods and purposes that have little to do with scientific archaeological work. The majority of textiles found today in museums and collections were salvaged by or for art dealers and collectors of the previous centuries, who were mainly interested in fabrics, or parts of fabrics, with an intriguing decoration, while plainer, undecorated weaves, which constituted a large part of textile production and were widely used in every day life, did not attract their interest. Also, most of these textiles are cut off from their social and chronological background because the geographical area and the social environment in which they were found, and also their stratigraphy, remain unknown to us. Consequently, museum textiles provide only fragmentary evidence on the textile industry and are not representative of the textile production of any period. A partial exception to this are the historical *tirāz* pieces, which bear inscriptions with the date and place of their production.²⁷ However, even in this case, the lack of data about the area and the context in which these textiles were found, means that information about their distribution and usage in society is also largely missing and can only be hypothesised.

During the last decades, interest has been drawn to scientifically excavated textiles, in an attempt to understand the full picture of textile production in Egypt. Many such excavations regard cemeteries, and, by paying scientific attention to burial attire, help us form a better idea of the role of textiles in funerary customs. Moreover, their known archaeological context allows for a safer dating and social interpretation. Excavated textiles also often come from textile refuses and

²⁶ Muhammad Abdelaziz Marzouk, *History of Textile Industry in Alexandria 331 B.C.-1517 A.D.*, Alexandria University Press 1955, p. 19-21, 38

²⁷ See chapter 2d. Inscriptions, p. 124-125.

comprise undecorated, worn out fragments and scraps.²⁸ These can shed light to the types of fabrics used in every day life, which, being usually plainer, did not attract the collectors' interest and are not often found in museums and private collections. However, the majority of these finds regards the Roman and early Byzantine period,²⁹ while excavated textiles from the Early Islamic period are scarce.³⁰ Textiles from Naqlūn in the Fayyūm regard basically Christian cemeteries and date to a relatively late period, namely the 11th and mostly 12th century,³¹ while the textiles of the cemeteries of Iṣṭabl ʿAntar in Fuṣṭāṭ³² have not, to my knowledge, been systematically studied and contextualised.

Another major problem is that Egyptian textiles held in museums and private collections are, as a rule, categorised into two different groups, mostly according to their decoration: “Coptic”, thought to be products of the Christian Coptic community of Egypt and usually decorated with colourful woollen tapestries, and “Islamic”, usually decorated with silk **tapestry** bands and Arabic inscriptions. The first are given dates up to the 7th or 8th century, although some scholars, like Du Bourguet, have dated some of them considerably later into the 10th and 11th century.³³ The fact is

²⁸ Lisa Bender Jørgensen, “Textiles and Textile Trade in the First Millennium AD, Evidence from Egypt”, in *Trade in the Ancient Sahara and Beyond*, D. J. Mattingly, V. Leitch, C. N. Duckworth, A. Cuénod, M. Sterry, F. Cole eds., Cambridge University Press 2017, p. 231-232. For an appendix of the sites of the Eastern Desert of Egypt and the Red Sea Coast see *ibid.* p. 248-251.

²⁹ Textiles were scientifically excavated and studied in the last decades of the 20th and the beginning of the 21st century in the Western Deserts of Dākhleh and Khārga Oases (Kellis, el-Deir), in the Fayyūm (Karanis), in the Eastern Desert (Mons Claudianus), in the Red Sea sites of Berenike, Myos Hormos, Maximianon and Abu Shaʿar. See, for example the numerous publications by J.P. Wild, the proceedings of the conferences held by the “Textiles from the Nile Valley” research group, the collective work *Textiles in Situ. Their Find Spots in Egypt and Neighbouring Countries in the First Millenium*, Sabine Schrenk and Nettie K. Adams eds., Riggisberger Berichte 13, Riggisberg 2006.

³⁰ Alexandra D. Pleša, “Religious Belief in Burial: Funerary Dress and Practice at the Late Antique and Early Islamic Cemeteries at Matmar and Mostagedda, Egypt (Late Fourth–Early Ninth Centuries CE)”, *Ars Orientalis* vol. 47 (2017), p. 18–42 (refers to Christian cemeteries); Louise W. Mackie, “Textiles”, in George T. Scanlon and Władysław Kubiak, *Fuṣṭāṭ Expedition Final Report*, Winona Lake, Ind.: Published for the American Research Center in Egypt by Eisenbrauns 1986. American Research Center in Egypt Reports, v. 8, p. 81-97.

³¹ Włodzimierz Godlewski, “Naqlun: Excavations, 2000”, *Polish Archaeology in the Mediterranean* vol. 12 (2000), p.149-161; Barbara Czaja-Szewczak, “Burial Tunics from Naqlun”, *Polish Archaeology in the Mediterranean* vol. 14 (2002), p. 177-184; *ibid.*, “Naqlun 2003 From Scraps to Tunic”, *Polish Archaeology in the Mediterranean* vol. 15 (2003), p. 159-164; *ibid.*, “Textiles from Naqlun, 2004”, *Polish Archaeology in the Mediterranean* vol. 16 (2004), p. 203-210; Gisela Helmecke, “Textiles with Arabic Inscriptions Excavated in Naqlun 1999-2003”, *Polish Archaeology in the Mediterranean* vol. 16 (2004), p. 195-202.

³² Georgette Cornu, “Deux témoins du vêtement égyptien dans les premiers siècles de l’Islam”, *Annales Islamologiques* vol. 25 (1991), p. 89-102; Roland-Pierre Gayraud, Sophia Björnesjö, Paolo Gallo, Jean-Michel Mouton, François Paris, “Iṣṭabl ʿAntar (Fostat) 1994- Rapport de fouilles”, *Annales Islamologiques* vol. 29 (1995), p. 8; Roberta Cortopassi, Patricia Dal-Prà, and Sylvie Denoix, “Les tissus de Fuṣṭāt: restauration et étude des textiles d’une fondation musulmane à l’origine du Caire”, *Patrimoines: revue de l’Institut national du patrimoine* vol. 7 (2011), p. 82-89.

³³ Pierre du Bourguet and Musée National du Louvre, *Catalogue des étoffes coptes du Louvre*, Paris 1964.

that the so-called “Coptic” decoration with woollen tapestry, which developed in Late Antiquity, continued during the first centuries of Islamic rule and such textiles were consumed and manufactured by both Christians and Muslims and, accordingly, “Islamic” textiles with Arabic inscriptions were also used by Christians.³⁴ Therefore, the “Coptic”-“Islamic” distinction is misleading in terms of both dating, consumption and social implications. In order to overcome this distinction, any potential researcher has to study both groups, often found in different collections, and to reconsider the proposed dates and interpretations.

Regarding the written sources, the most important direct evidence for the textile industry of Egypt are the documentary papyri. They consist of a large corpus of private and public documents, dating from the Ptolemaic to the Islamic periods, discovered at many sites in Egypt, principally during the 19th and early 20th centuries. They include private letters, contracts, petitions and government officials’ correspondence written in Greek, Coptic and, after the 7th century, Arabic. They therefore offer a vivid insight into the society of Egypt from Hellenistic to Early Islamic times. Different aspects of the textile industry appear in these documents conveying information on almost all the stages of textile production: the processing of the raw materials, the dyes, the weaving, the trading of yarns or finished products, the people who were involved and the tools they used. Much of this material, and especially of the Arabic documents, remains unpublished, but promising papyrological projects and studies have recently been undertaken and are underway.³⁵ These will contribute to the accessibility and the interpretation of the papyri, adding new evidence that could, possibly, help to confirm or reject perceptions and hypotheses about textile production.

Another important source regarding the Islamic period, are the so-called Geniza documents, about 400,000 manuscript fragments found in the storage room of the Ben Ezra Synagogue in Fustāt, dating between the 10th and the 13th century. These include commercial and private correspondence, as well as marriage contracts accompanied by trousseau lists, which mention the garments that were part of the brides’ fortune or dowry. The trousseau lists regard mainly female attire and permit the reconstruction of the basic and most usual garments of the female wardrobe, revealing the materials and colours preferred, the value of pieces of clothing and the importance of

³⁴ See chapter 2c. Iconography, p. 99-100. and 2d. Inscriptions, p. 126-127.

³⁵ New documents keep coming to light through archaeological excavations, like the published Coptic ostraca from Thebes, many of which contain information on textile manufacture and trade (*Les ostraca coptes de la TT 29: Autour du moine Frangé*, A. Boud’hors et Ch. Heurtel eds., Brusells 2010). Also, the creation of electronic databases in the last two decades, like the Duke Databank of Documentary Papyri and the Arabic Papyrological Database have been an important step towards a wider accessibility of the papyrological material and have therefore offered a useful tool to the researchers. These databases can be freely accessed online through the website papyri.info and are still improving and expanding.

textiles in society. Through these lists the names for more than two dozen previously unknown types of garments have been revealed.³⁶ Therefore, the Geniza documents provide information not just on textile manufacture and trade, but also on the costume of the Egyptian middle class.

The evidence of all these documentary sources should be carefully treated. The fragmentary nature of the papyri and the lack of archaeological and historical context for most of the documents have to be taken into consideration.³⁷ We cannot always be sure whether a particular fact or action, mentioned once or twice, is an isolated and exceptional case or general practice, and whether sporadic occurrence in the papyri indicates rarity or is just the result of chance survival.

Terminology and its interpretation are also problematic as the different terms used in the documents are not clearly defined. The same term might be used with different meanings, while different terms might be used to refer to the same object or practice, so that the true meaning can only be established when it appears in an abundance of cases, or is known from other sources and can be comparatively examined. Another problem is one of regionality of survival, as the papyri do not represent the whole of Egypt but only certain parts of it. Most published papyri come from Oxyrhynchus, Aphrodito, Arsinoe, Hermopolis and Antinoe, while papyri from Alexandria, an important commercial and industrial centre, have not survived.

The Geniza documents have been far more systematically studied than any other documentary source and, for this reason, the majority of our evidence for the textile industry during the Islamic period is derived from them. Of course, it should be kept in mind that the Geniza material does not constitute a methodical archive but rather random documents, some of which were meant to be preserved and others to be thrown away, so that the information they contain is not consistent but fragmentary.³⁸ More importantly, these documents regard the Jewish communities of Egypt and certain practices or situations might not be representative of the general population.³⁹ Although it appears that the Jews were not marginalised as in other societies of medieval Europe,⁴⁰

³⁶ Yedida Stillman, "Textiles and Patterns Come to Life Through the Cairo Geniza" in *Islamische Textilkunst des Mittelalters: Aktuelle Probleme*, Muḥammad Salīm and Muḥammad ‘Abbās eds., Abegg-Stiftung Riggisberg 1997, p. 39. See also chapter 2e.Uses, p. 138.

³⁷ Sijpesteijn, "Arabic Papyri and Islamic Egypt" in *The Oxford Handbook of Papyrology*, R. S. Bagnall ed., Oxford 2011, p. 455.

³⁸ Jessica L. Goldberg, *Trade and Institutions in the Medieval Mediterranean : The Geniza Merchants and Their Business World*, Cambridge University Press 2012, p. 8-11.

³⁹ Goldberg, *Trade and Institutions*, p. 24-29 and 357.

⁴⁰ Mark Cohen, *Under Crescent and Cross: The Jews in the Middle Ages*, Princeton 1994, p. 22-29, 88-103, 111-120; S. D. Goitein, *A Mediterranean society: The Jewish Communities of the Arab World as Portrayed in the Documents of the Cairo Geniza*, Berkeley, Los Angeles, London 1967, vol. 1, p. 70-74. See also Goldberg, *Trade and Institutions*, p. 50-55.

but were embedded in Islamic society, shared social and cultural patterns and, especially in the case of trade, followed common practices and were often involved in commercial partnerships,⁴¹ the fact that they belonged to a religious minority undoubtedly had its toll. Jewish merchants had limited or no access to state management, leaving them with less opportunities to affect the framework in which they operated, and often limiting their professional ambitions.⁴² They seem to have been excluded or to have refrained from sectors of trade with political importance (like trade in slaves and military equipment), to have often followed less risky ventures, and to have refrained from investing in fixed capital enterprises, like the transport of merchandise, in an effort to keep their capital flexible and less visible from the government and public eyes, because of their more precarious position in society.⁴³ In any case, the Geniza documents remain a rich source of information, although the researcher has to bear in mind the possible distinctive characteristics of the Jewish community.

Overall, notwithstanding the problems, the documentary sources are a valuable tool and, when used with due care and caution, are direct and revealing in a way that can rarely be doubted. With the detailed study of more material, with the effort to integrate the evidence into the historical facts, the social realities and the material evidence of each period, always bearing in mind the limitations of the conclusions that can be drawn, the documentary evidence can provide important information on the textile production and consumption in Egypt throughout the period under discussion in this thesis.

Literature is another important source of information on the textile industry. Historians, geographers and scholars of the period under discussion, who overwhelmingly belong to the Muslim world, often describe Egypt and its textile industry in their works, referring to the places and the organisation of production, the products, the customs and the ceremonies involving textiles and clothing.

Accounts of the conquest, such as *Faḍā'il al-Miṣr*⁴⁴ and al-Balādhurī's *Futūḥ al-Buldān*,⁴⁵ dating to the 9th century, make some reference to the early acts of the conquerors regarding the

⁴¹ Goitein, *A Mediterranean Society*, vol. 2, p. 293-299. However, there were different notions of “partnership” in Jewish and Islamic law. See Goldberg, *Trade and Institutions*, p. 152.

⁴² Goldberg, *Trade and Institutions*, p. 54-55.

⁴³ *Ibid.*, p. 176-179.

⁴⁴ Umar ibn Muḥammad Al-Kindī, *Faḍā'il Miṣr*, 'Adawī Ibrāhīm Aḥmad and 'Umar 'Alī Muḥammad eds., Cairo, Beirut 1971.

⁴⁵ Al-Balādhurī Aḥmad ibn Yaḥyā, *Kitāb Futūḥ al-Buldān*, M. De Goeje. ed., Brill 1866, trans. Philip Hitti, *The Origins of the Islamic State*, New York 1916, vol. 1.

administration of the country, with implications for textile production and taxation in kind. Works of a geographical or historical nature, such as those of al-Ya‘qūbī⁴⁶ (9th c.), Ibn Ḥawqal,⁴⁷ al-Mas‘ūdī,⁴⁸ al-Muqaddasī,⁴⁹ al-Tha‘ālibī⁵⁰ (all 10th c.), Nāṣir-i Khusraw⁵¹ (11th c.), Yāqūt al-Ḥamawī⁵² (13th c., but often based on 10th century authorities), al-Maqrīzī⁵³ (14th c., but mostly writing about the Fāṭimid period), and also the anonymous geographical and cosmological treatise of the 11th century known as *The Book of Curiosities*,⁵⁴ provide evidence on the textile producing towns and villages and the *ṭirāz* institutions.⁵⁵

Important information is also found in the works of administrative nature, like that of Ibn Mammātī⁵⁶ (12th c.), who gives descriptions of the organisation of the *ṭirāz* factories, and these of al-Shayzarī⁵⁷ (12th c.) and Ibn al-Ukhuwwa⁵⁸ (14th c.) who wrote *ḥisba*-manuals, that is studies of legal regulations concerning manufacture, trade and public morality.⁵⁹ Indeed, as Serjeant puts it, almost anywhere in the immense field of Arabic and Persian literature the researcher may chance

⁴⁶ Ya‘qūbī Aḥmad ibn Abī Ya‘qūb, *Al-Buldān*, Ḍinnāwī, Muḥammad Amīn ed., Beirut 2002, trans. G. Wiet, *Les pays*, Cairo 1937.

⁴⁷ Ibn Ḥawqal Muḥammad, *Kitāb Ṣūrat al-arḍ*, Beirut 1964, trans. J.H. Kramers and G. Wiet, *Configuration de la terre*, Beirut, Paris 1964, vol. 1.

⁴⁸ Al-Mas‘ūdī, *Kitāb al-tanbīh wa’l ishrāf*, M. J. De Goeje ed., Brill 1894, trans. B. Carra de Vaux, *Le Livre de l’avertissement et de la revision*, Paris 1896.

⁴⁹ Al Muqaddasī Muḥammad ibn Aḥmad, *Aḥsan al-taqāsīm fī ma‘arif al-aqālīm*, M. J. De Goeje ed., Brill 1906, trans. B.A. Collins, *The Best Divisions for Knowledge of the Regions*, Reading 2001.

⁵⁰ Tha‘ālibī ‘Abd al-Malik ibn Muḥammad, *Laṭā’if al-ma‘ārif*, P. de Jong ed., Brill 1867, trans. C.E. Bosworth, *The Book of Curious and Entertaining Information, The Laṭā’if al-ma‘ārif of Tha‘ālibī*, Edinburgh 1968.

⁵¹ W. M. Thackston, *Nāṣer-e Khosraw’s Book of Travels (Safarnāma)*, New York 1986.

⁵² Yāqūt ibn ‘Abd Allāh al-Ḥamawī, *Al-A‘lām fī Kitāb Mu‘jam al-buldān li-Yāqūt al-Ḥamawī*, Beirut 1985.

⁵³ Maqrīzī Aḥmad ibn ‘Alī, *Kitāb al-Mawā‘iz wa al-i‘tibār bi-dhikr al-khiṭaṭ wa al-āthār*, Būlāq 1853, 2 vols, trans. U. Bouriant and P. Casanova, *Description topographique et historique de l’Égypte*, Paris 1900-1920.

⁵⁴ *An Eleventh-century Egyptian Guide to the Universe: The Book of Curiosities*, Y. Rappoport and E. Savage-Smith eds. and trans., Leiden, Boston 2014.

⁵⁵ For the *ṭirāz* institutions see chapter 1b. Weaving workshops and factories, p. 14-19.

⁵⁶ Ibn Mammātī, *Kitāb Qawānīn al Dawāwīn*, Cairo 1900-1901.

⁵⁷ Shayzarī ‘Abd al-Raḥmān ibn Naṣr, *The Book of the Islamic Market Inspector: Niḥāyat al-rutba fī ṭalab al-ḥisba*, trans. R.P. Buckley, Oxford 1999.

⁵⁸ Ibn al-Ukhuwwa Muḥammad ibn Muḥammad, *Ma‘ālim al-Qurba fī Aḥkām al-ḥisba*, R. Levy ed. and trans., London 1938.

⁵⁹ For a detailed study of *ḥisba* see Aḥmad Ghabin, *Ḥisba, Arts and Crafts in Islam*, Wiesbaden 2009.

upon observations on textiles scattered here and there.⁶⁰ An important piece of information on the weavers of Tinnīs and Damietta is also given in the *Chronicle of Michael the Syrian*, a Syrian patriarch of the 12th century, who incorporates in his work narratives of the Christian patriarch Dionysius, who visited the Delta in 815.⁶¹

However helpful these literary sources may be, the researcher should bear in mind that they also present particular problems. First of all, the evidence regarding the conquest and its aftermath comes from writers who lived and wrote centuries after it, so that their narratives might be affected by notions and practices that prevailed later in the political, legal and religious thought of the Islamic caliphate and do not correspond to the time of the conquest. Also, in most cases, the evidence regarding textiles is scattered amongst other information and narrative and has to be carefully identified and gathered. Geographers are sometimes selective, ignoring the industries of important cities, while dealing at length with less important villages. It is also true that the personal, dynastic and religious orientation of the writers might have affected their objectivity and could have led to selective or distorted descriptions. Furthermore, it is generally recognised that, quite often, the numbers presented by medieval writers should not necessarily be taken at face value, but can merely be used to convey a general idea about quantities and prices. Again, in this case, it is essential for the historians and researchers to integrate the information into the historical, social and economic realities of each period, so that the evidence of the written works can be better understood and verified.

What is also of utmost importance, and has not yet been systematically done, is a comparative study of the literary and documentary evidence that could help clarify debated subjects, as has already been done for certain historical events and practices of the administration.⁶² A characteristic example of the usefulness of the comparison between literary and documentary sources is the case of a tax in kind, namely clothes, that al-Balādhurī describes as having been imposed in the Early Islamic period on the inhabitants of Egypt.⁶³ The existence of this tax is

⁶⁰ R. B. Serjeant, "Material for a History of Islamic Textiles up to the Mongol Conquest", *Ars Islamica* vol. 9 (1942), p. 55-56.

⁶¹ *Chronique de Michel le Syrien, Patriarche Jacobite d'Antioche (1166-1199)*, trans. J.B. Chabot, vol. III, Paris 1905.

⁶² Sijpesteijn, "Arabic Papyri", p. 459.

⁶³ Al-Balādhurī, *Futūḥ al-Buldān*, p. 214-215, trans. Hitti, *The Origins of the Islamic State*, p. 338-339.

verified through documents that describe clothes requisitions for the Muslim government, like P. Lond. IV 1352.⁶⁴

Despite their fragmentary character, both documentary and literary sources are helpful to the present research because they provide the necessary basis of evidence for the organisation and function of the industry.

The current state of research: problems and perspectives

Egyptian textiles have been extensively studied,⁶⁵ with the emphasis recently given not only on their iconography, but also on their technical properties.⁶⁶ New methods like dye analysis, strontium isotope analysis and radiocarbon dating have provided new possibilities for dating and provenance. These perspectives promoted the view of textiles as archaeological objects, broadening the purely art historical approach, which was prevalent in the literature of the last century, and opened new areas of research on the social, financial and technical background of the industry. However there are still many questions that remain to be answered and many aspects that have not been thoroughly investigated.

Although extensive studies have been conducted on the textile evidence, most of them are based on pieces found in museums and collections. Most of these publications are catalogues, where the holdings of museums, collections or exhibitions are described, their iconography explained, dates of manufacture proposed and comparable textiles traced. Articles where a single textile of a museum or collection is analysed, also appear frequently. Undoubtedly, significant scientific work

⁶⁴ P.Lond IV 1352 (710), p. 26-27; H. I. Bell, "Translations of the Greek Aphrodito Papyri in the British Museum", *Der Islam* vol. 2 (1911), p. 280.

⁶⁵ For an overview of the literature see also Thelma Thomas, "Coptic and Byzantine textiles found in Egypt: Corpora, collections, and scholarly perspectives", in *Egypt in the Byzantine World*, p. 137-162.

⁶⁶ Louise Bellinger was among the first scholars to give prominence to the technical aspects of textile studies in the 50's, mainly through her publications in the *Textile Museum Workshop Notes* and her collaboration with Pfister on the textiles of Dura-Europos (Pfister and Louisa Bellinger, *The Excavations at Dura Europos: The Textiles*, Yale University Press 1945) and with Kühnel on the *ṭirāz* textiles of the Washington Museum (Ernst Kühnel and Louisa Bellinger, *Catalogue of Dated Ṭirāz Fabrics: Umayyad, 'Abbāsīd, Fāṭimid*, Washington, D.C.: The Textile Museum 1952). Among pioneer scholars are also John Peter Wild, G.M. Vogelsang-Eastwood and Daniël De Jonghe. See also the works on prehistoric European textiles, like, for example, Lise Bender Jørgensen and Karina Grømer, "The Archaeology of Textiles—Recent Advances and New Methods", *Portal: godišnjak Hrvatskoga restauratorskog zavoda* 3 (2012), p. 45-68.

has been done on many of these studies and new scholarly approaches have been introduced.⁶⁷ Nevertheless, as already mentioned, museum pieces are not representative of the total textile production and, therefore, the evidence they convey cannot be regarded as conclusive. Moreover, in most of these works, textiles are represented as isolated objects without any comparison with other forms of art and without a social context. Only in rare cases is there an effort to integrate them into the art historical environment of their period, and even more rarely, to their cultural and social background.⁶⁸

It is also observed that most scholars still choose to study either Coptic or Islamic textiles, perpetuating the distinction induced by collectors and museums. This results in separating simultaneously produced items and leads to a distortion of the picture of textile production during the first years of Islamic rule, creating a false impression of an abrupt change, the date and reasons of which cannot, in this way, be determined.

The majority of literature on scientifically excavated textiles regards either isolated examples or reports of the findings of a specific site,⁶⁹ without, most of the times, an effort to combine evidence from different sites, contextualise it and produce hypotheses of a more general character about production and consumption. Also, little work has been done to compare the evidence of the excavated with that of museum textiles.⁷⁰

Regarding the written sources, the only synthetic publications that deal with all aspects of textile production in Egypt are Eva Wipszycka's *L'industrie textile dans l'Egypte romaine*,⁷¹ and Kerstin Dross-Krüpe's *Wolle-Weber-Wirtschaft: Die Textilproduktion der römischen Kaiserzeit im*

⁶⁷ Some of the best examples of such catalogues are: Daniël De Jonghe, Daemen Sonja, Rassart-Debergh Marguerite, De Moor Antoine and Overlaet Bruno, *Ancient Tapestries of the R. Pfister Collection in the Vatican Library*, Città del Vaticano, Biblioteca Apostolica Vaticana 1999, and Sabine Schrenk, *Textilien des Mittelmeerraumes aus spätantiker bis frühislamischer Zeit*, Abegg-Stiftung 2004. On these catalogues, an emphasis is given accordingly on the weaving structure and the use of each piece, as opposed to the traditional catalogue organisation on an iconographic basis.

⁶⁸ An exception to this rule are the textiles presented in *Byzantium and Islam: Age of Transition, 7th-9th century*, Ratliff Brandie and Helen C. Evans eds., Metropolitan Museum of Art 2012. This exhibition catalogue, however does not deal exclusively with textiles, but uses them as examples of the artistic, religious and commercial transformations of the Late Antique world. Another exception are the interesting sociological approaches on the articles of the *Catalogue of the Textiles in the Dumbarton Oaks Byzantine Collection*, Gudrun Bühl and Elizabeth Dospěl Williams eds., Washington DC 2019, most of which, however, deal with the analysis of single pieces or specific types of textiles.

⁶⁹ See footnotes 28-30 p. vi.

⁷⁰ For example, Maribeth C. Clarke, Rachel P. Hiatt, Marvin C. J. Kuchar, Mary H. Farahnakian, "Indexing and Cataloging Textiles from the Fag el Gamous Cemetery in Fayum, Egypt to Determine Their Relationship With Known Coptic Textiles", *Clothing and Textiles Research Journal* vol. 21, no 3 (2003), p. 120-129.

⁷¹ Ewa Wipszycka, *L'industrie textile dans l'Egypte romaine*, Wrocław 1965.

Spiegel der papyrologischen Überlieferung.⁷² However important and methodical both of these works are, gathering, interpreting and classifying a large quantity of papyrological evidence, they refer only to the Roman period. Two important works on the history of the Early Islamic textile industry, Serjeant's "Material for a History of Islamic Textiles up to the Mongol Conquest",⁷³ and Lombard's *Les textiles dans le monde musulman VII-XIIe siècles*,⁷⁴ investigate, on the other hand, only the literary sources of the Islamic period. The imposed fragmentation into "Roman/Byzantine", and "Islamic" is also evident in this case. What is more, few attempts have been made to combine the material evidence with the evidence of the written sources, and these fragmentary attempts regard only the Roman and Byzantine period.⁷⁵

As a whole, apart from generic and short introductions to catalogues and art historical companions, there is not, to my knowledge, any synthetic publication dealing with all aspects of textile production, with the place of textiles in society, economy and everyday life, and, most important for the period under discussion, with the nature, the time frame, the reasons and the implications of the changes that occurred in the textile industry after the Islamic conquest.

Purpose of the thesis and methodology

The purpose of this thesis is to investigate the continuities and changes in the Egyptian textile industry after the Islamic conquest of 639-642. More specifically, it aims to trace the impact in textile production of the political, financial and social shifts that occurred under the Egyptian-centred dynasties of the Ṭūlūnids and Fāṭimids and to suggest a chronological and causal framework.

Textiles offer a fascinating insight not only into artistic tendencies, but also into every day life, and can convey interesting information about the changing society of Egypt during this transitional period, answering key questions of both an art-historical and historical nature: What

⁷² Kerstin Dross-Krüpe, *Wolle-Weber-Wirtschaft: Die Textilproduktion der römischen Kaiserzeit im Spiegel der papyrologischen Überlieferung*, Harrassowitz Verlag: Wiesbaden 2011.

⁷³ Serjeant, "Material", *Ars Islamica* vol. 9 (1942), p. 54-92; *ibid.*, vol. 10 (1943), p. 71-104; *ibid.*, vol. 11/12 (1946), p. 98-145; *ibid.*, vol. 13 (1948), p. 75-117; *ibid.*, vol. 15/16 (1951), p. 29-85.

⁷⁴ Maurice Lombard, *Les textiles dans le monde musulman VII-XIIe siècles*, Paris, La Haye, New York 1978.

⁷⁵ *Egyptian Textiles and Their Production: 'Word' and 'Object' (Hellenistic, Roman and Byzantine Periods)*, Maria Mossakowska-Gaubert ed., Lincoln, Nebraska 2020, Zea E- Books 86, 2020. Retrieved from <https://digitalcommons.unl.edu/zeabook/86>; Bernhard Palme and Zdiarsky Angelika, *Gewebte Geschichte: Stoffe Und Papyri Aus Dem Spätantiken Ägypten*, Wien, Phoibos Verlag 2012. The project "Texts and Textiles in Late Antique Egypt", funded by the Austrian Science Fund in <https://www.oeaw.ac.at/oeai/forschung/altertumswissenschaften/projekte-in-publikationsvorbereitung/texts-and-textiles-in-late-antique-egypt> is also a promising research on the field.

was the position of textile artisans in society, how were they integrated into the changing social, political and economic networks and how did these changes affect their products and the patterns of production? Was occupation in the industry gender-related? How was artisanal production interrelated and underpinned by other industry labourers and also by merchant activities? How do the changing political and economic landscapes of the 9th-10th centuries relate to shifts in the orientation and organisation of the textile industry? Did the preferences of the consumers change, when and why? Were these preferences affected by religious orientation? To what extent and when did textile iconography start incorporating Islamic prototypes and did this happen simultaneously with other forms of art? How were textiles used to propagate messages of power and dynastic glory? What was their social value and their role in the creation of cultural heritage and what does the evolution of their iconography reveal about the formation of an Egyptian identity?

Regarding the written sources, research on the papyri was done both by searching the databases available online (papyri.info and “The Arabic Papyrology Database”) and also by studying the secondary literature on the published documents. When possible, both Greek and Arabic documents have been studied in their original language.

In terms of material evidence, the thesis is based on the study of the Byzantine and Early Islamic textiles of the Benaki Museum collection in Athens, which is considered among the most important in the world and includes a significant quantity and a wide variety of fabrics. This collection was initiated by Antonis Benakis,⁷⁶ who, mostly between 1926 and 1935, collected about 2.500 “Coptic” and “Islamic” textiles, the latter dating to different periods, from Late Antiquity to the Ottomans. The textiles were bought mainly from Egypt and, specifically, from the area of Fusṭāṭ, and most of them originated from burial grounds,⁷⁷ although their exact provenance is unknown.

The problems encountered during studying the Benaki textiles were basically their large number, their division between Coptic and Islamic collections and the questions of survival and representativeness. Efforts to overcome these obstacles were made by grouping the textiles and choosing representative pieces for cataloguing. Research has been conducted in both the so-called “Islamic” and “Coptic” collections, so that the transition may be best observed, understood and

⁷⁶ For the personality, the collecting strategies and the cultural and social environment of Antonis Benakis see Anastasia Drandaki “A Taste for All Things Byzantine: Byzantium in the Collections of Antonis Benakis”, *Byzantine and Modern Greek Studies* vol. 46, no 2 (2022), p. 236-262 and A. Ballian, “Alexandria, Antonis Benakis and Greek collectors of Islamic art”, in A. Ballian and M. Moraitou, *Benaki Museum. A guide to the Museum of Islamic Art*, Athens 2006, p. 23–29.

⁷⁷ Mina Moraitou, “Early Islamic Textiles”, *Hali*, issue 156 (2008), p. 4.

illustrated. Also the comparison with pieces from other collections and, most importantly, with those from scientific excavations, was necessary so that the studied material would be as much representative of the Egyptian textile production as possible.

During numerous visits to the Benaki storage room, the textiles that fell into the period under discussion were observed and organised in groups of technically and iconographically similar pieces. Fragments representative of each group were then chosen for more detailed study and were photographed both with an analogue camera and with a digital microscope, the latter allowing for the identification of materials, direction of spin and thread count. The specific samples were chosen because they exemplified in a clearer way the characteristics of each group. Moreover, they were chosen with the aim to cover the whole range of materials, techniques and iconographic types encountered, and, also, with the aim to illustrate the continuities and the changes that occurred in the industry. At the same time, factors like the state of preservation, the completeness of the design and the existence of technical peculiarities have been taken into account. The representative fragments were registered in an Excel file, in order to create a collective and easily manageable database and were organised into groups according to their weaving structure and into subgroups according to their technical details (material, warp spinning, type of stitch, type of compound weave).

Nine groups have been created: the first three comprise linen plain weave textiles with woollen or silk tapestry decoration. They are, especially those with an S-spun linen warp, the largest and by far the most well represented in the collection, and are considered the most typical products of the Egyptian textile industry throughout its history. The next four groups consist of woollen tapestries, and the last two of more rare Egyptian textiles, embroideries and compound weaves in silk and wool. This categorisation contributed to a better understanding of the types of textiles that were produced in Egypt during the period in question and of the changes that occurred, which concerned not only the stylistic and iconographic approaches, but also the weaving process, the organisation and the resources of the industry.

The Catalogue consists of 122 pieces, ranging chronologically from the 5th-6th to the 12th century. The textiles which have been included were in all probability made in Egypt, although for some pieces there is not enough evidence for any definite answer.⁷⁸ They are arranged according to

⁷⁸ For discussions on the possibility of a Sasanian origin for certain textiles found in Egypt see, for example, R. Pfister, "Études textiles", *Revue des arts asiatiques* vol. 8, no 1 (1934), p. 77-92; R. Pfister, "Le rôle de l'Iran dans les textiles d'Antinoé", *Ars islamica* vol. 13-14 (1948), p. 46-74; more recently: Marielle Martiniani-Reber, "Témoignages textiles des relations entre Égypte et Proche-Orient (VIIe-IXe siècles)", *Antiquité Tardive* vol. 12 (2004), p. 113-119, also discussing the Byzantine imports and imitations.

the material and the spinning direction of their warp, because the materials and the structure of a textile are the most characteristic of its features. They are indicative of its manufacture process, its quality and value, they often determine its type and usage and they can also affect the style of its decoration.⁷⁹ The warp, more specifically, is the basic element of every fabric and the materials used for it not only tend to be indigenous to certain areas, and thus, revealing of the textile's origin, but are also suggestive of the looms used for the production of each piece.⁸⁰ Furthermore, it was observed during the process of analysis and categorisation that many pieces that share similar warps, also share similar iconographical and other technical characteristics, a conclusion which could possibly lead to the identification of workshops or specific manufacturing centres.

Of course, the purpose was not to create another museum catalogue. The Benaki textiles, many of them studied for the first time, are set into the broader picture of Egyptian textile production, being compared, as already mentioned, with published pieces from other collections and also with scientifically excavated fabrics. Therefore, their evidence is added to an already known corpus, in order to test established hypotheses regarding the Egyptian textile industry during the period in question. Also, an important contribution of this thesis is the combination of information from the written sources and the material evidence. This combination is innovative, as it brings together evidence that has rarely and only fragmentarily been correlated in the past. The information of the sources can often corroborate those presented by the textiles themselves, can help to answer questions and fill the gaps and, at the present state of research, is the only way to a better understanding of the industry. Also, a comparison of the documentary and literary sources has been made, where possible. Another crucial contribution of this thesis is the effort to integrate the textiles not only into their artistic, but also into their social and economic background, and to explain the changes that happened in the textile industry in relation to the changing political, social and religious realities in Egypt during this transitional period.

The thesis cannot, of course, claim to have overcome all obstacles, but having them in mind, it represents an attempt towards a broader, synthetic view of Late Antique and Early Islamic textiles from Egypt. It is hoped that it will form a helpful basis for future research.

⁷⁹ See also Catalogue, p. 1

⁸⁰ Daniël De Jonghe, Sonja Daemen, Marguerite Rassart-Debergh, Antoine De Moor and Bruno Overlaet, *Ancient Tapestries of the R. Pfister Collection in the Vatican Library*, Città del Vaticano, Biblioteca Apostolica Vaticana 1999, p. 2.

Notes to the reader

In this thesis the terms “Roman” and “Byzantine” have been used in order to define more precisely different chronological eras (the “Roman” period up to the 3rd century, and the “Byzantine” from the 4th to the 6th century), although modern scholarship has justifiably questioned this distinction. The dates mentioned are all AD, except when differently stated. The Latin numbers refer to the entries in the accompanying Catalogue of textiles. The terms in bold letters are explained in the Glossary. The transliteration of Arabic follows, in general, the Encyclopaedia of Islam 3 instructions (https://brill.com/fileasset/downloads_products/27684_EI3-Instructions-for-Authors.pdf), though publication titles have retained the form given by the publishers, and well established writings for town names have been preferred. The transliteration of Greek follows the Library of Congress tables (<https://www.loc.gov/catdir/cpsd/romanization/greek.pdf>)

1. The Egyptian textile industry from the 6th century to the Fāṭimids

Any research on the textile industry would be incomplete without the study of its infrastructure, which is closely interconnected with its products. The stages of preparation related to the raw materials, the spinning and dyeing, the state of the weavers and other workers, and the organisation of production, are all very important for our understanding of the textiles themselves. Due to the nature of this data, information can be derived almost exclusively, from the written sources. However, in cases where textiles can reveal relative evidence, as is, for example, the case of the centres of production and the weaving implements, these have also been taken into account.

1a. The preparatory stages: processing of the raw material, dyeing, spinning

Since flax, the primary fabric of the Egyptian textile industry, was cultivated in the country, agriculture and textile production were closely interwoven.⁸¹

The first stage of textile production was the gathering and processing of the raw material. Evidence for these procedures can be found in the papyri, but for the period after the conquest evidence is scarce, and comes mostly from the Geniza letters. In any case, no significant changes seem to have occurred in these stages of preparation throughout the period under discussion, although the considerable growth of flax production after the 9th century⁸² might have inflicted alterations in the organisation of labour. After the harvest, which took place during March or April, the flax plants were made into bundles.⁸³ Then, between April and November, they were processed.⁸⁴ They first had to be dried, then retted, that is soaked into water, turned repeatedly and dried again. After that, they were scutched, that is beaten in order to release the fibre from the wooden bark. Finally, they were hatched, or combed, so that the fibres could be disentangled and

⁸¹ Frantz-Murphy, “A New Interpretation”, p. 274.

⁸² For the prominence given to flax especially after the 9th century see chapter 2a. Materials, p. 74-76. See also Philip Mayerson, “The Role of Flax in Roman and Fāṭimid Egypt”, *Journal of Near Eastern Studies* vol. 56, no 3 (July 1997), p. 201-207 and especially 205-206.

⁸³ P.Vindob. K 3002= CPR IV 48 (625), p. 49-51; P.Cair.Arab. II 115 (9th c.), p. 151-152.

⁸⁴ Moshe Gil, “The Flax Trade in the Mediterranean in the Eleventh Century A.D. as Seen in Merchants’ Letters from the Cairo Geniza,” *Journal of Near Eastern Studies* vol. 63 (2004), p. 82-83.

cleaned.⁸⁵ These last processes were regarded as most responsible tasks that demanded special treatment, since they were particularly important for the final quality of the yarn. Therefore, in an undated Coptic letter, the writer warns the addressee to take special care during the beating of the flax.⁸⁶ In the Islamic period, merchants often appear to take responsibility for the scutching themselves,⁸⁷ and in two letters of merchants from the Geniza the addressees are advised to supervise the combing and not to buy flax that had already been hatched.⁸⁸ During this period, the merchants who bought and traded the flax and their associates, often supervised the processing and packing of the material and organised its shipping.⁸⁹

The second important material in the Egyptian textile industry of the period was wool. The indigenous sheep offered a medium quality wool, which was not extensively used in Egypt before the arrival of the Ptolemies, who are known to have imported a specific race of sheep.⁹⁰

Wool, once sheared from the sheep should be washed, in order to clean it of sweat, soil and other impurities. The cleaning was done in hot water with the addition of soapwort. After drying, wool was beaten to untangle it and achieve a more thorough cleaning, and, finally, it was carded.⁹¹

Textiles containing silk are attested in pre-Islamic Egypt from as early as the late 2nd Millennium B.C., but we do not know whether they were made in the country itself or were imported. It cannot be established with certainty whether silk was cultivated in Egypt before the Islamic conquest. Some silk is known to have been produced in the Fayyūm, after the 12th century, but it was of an inferior quality and, according to the Geniza letters, was sold for a significantly lower price than imported silk.⁹² Ibn al-Ukhuwwa mentions Egyptian silk and specifically states that it must not be mixed with Syrian and sold as such, apparently because of the quality difference.⁹³ In any case, although Egypt never became a significant producer of raw silk, the silk

⁸⁵ Anna Selander, "Textilien in den koptischen Alltagstexten" in *Gewebte Geschichte: Stoffe und Papyri aus dem spätantiken Ägypten*, B. Palme and A. Zdiarsky eds., Wien 2012, p. 127, no 44; Goitein, *Mediterranean Society*, vol. 1, p. 105.

⁸⁶ Selander, "Textilien", p. 46.

⁸⁷ Gil, "The Flax Trade", p. 84.

⁸⁸ Goitein, *Mediterranean Society*, vol. 1, p. 105.

⁸⁹ Goldberg, *Trade and Institutions*, p. 56.

⁹⁰ Forbes, *Ancient Technology*, vol. 4, p. 14; Lombard, *Les textiles*, p. 35; Carroll, *Looms and Textiles*, p. 22.

⁹¹ P.KellisCopt. 48, p. 266-271 (4th c.); CPR IV 90 (596), p. 87-88; Selander, "Textilien", p. 46-47.

⁹² Goitein, *Mediterranean Society*, vol. 1, p. 103.

⁹³ Ibn al-Ukhuwwa, *Ma 'ālim al-Qurba*, Arabic text p. 142, trans. p. 45.

weaving industry developed and flourished in the Islamic period, especially under Fāṭimid rule.⁹⁴ Most of the material used was imported,⁹⁵ often as cocoons,⁹⁶ from Spain, Ifrīqiya, Sicily and Iraq and to a much lesser extent from Syria and Palestine, probably because the Crusader states rather directed the raw silk of the region towards Europe.⁹⁷ Raw silk was unraveled,⁹⁸ spun when needed, and woven in Egypt.⁹⁹ It can be assumed that the countries which exported raw silk to Egypt did not have such a large and developed textile industry, and therefore it was more profitable for them to export part of their silk production, which they could not process themselves.

Cotton was not extensively used in Egypt until the end of the Fāṭimid period, and was scarcely cultivated in the country.¹⁰⁰ Most of the cotton fibres used in the Egyptian textile industry and most of all-cotton textiles must have been imported, mainly from India,¹⁰¹ like some fragments with Z-spun yarns excavated at Red Sea ports,¹⁰² and, mostly after the 10th century, from Palestine, Syria and Sicily.¹⁰³ The imports from Palestine are corroborated by the Geniza documents, where Egyptian merchants praise the quality of cotton from the coastal town of Ascalon.¹⁰⁴ An important

⁹⁴ See chapter 2a. Materials, p. 77-79.

⁹⁵ For a detailed presentation of the different origins of silk that were imported to Egypt see Sijpesteijn, “Request to Buy Coloured Silk”, in *Papyrologica Florentina*, vol. 34, Gedenkschrift Ulrike Horak, Firenze 2004, p. 260-261 and footnotes 38-40. Also, Gil, “References to Silk in Geniza Documents of the Eleventh Century A.D.”, *Journal of Near Eastern Studies* vol. 61, no. 1 (Jan. 2002), p. 31-38.

⁹⁶ A presentation of sericulture and a description of the production and processing of cocoons is found in Anna Muthesius, “The Byzantine Silk Industry: Lopez and Beyond”, *Journal of Medieval History* vol. 19 (1993), p. 18.

⁹⁷ Goitein, *Mediterranean Society*, vol. 1, p. 102-103.

⁹⁸ The core of the silkworm cocoon consists of a compact, continuous filament that does not need spinning, but has to be unraveled and reeled. This core is covered by layers of loose filament that needs spinning in order to form yarns.

⁹⁹ Lombard, *Les textiles*, p. 94; Goitein, *Mediterranean Society*, vol. 1, p. 101-104.

¹⁰⁰ Rudolf Pfister, “L’ introduction du coton en Égypte Musulmane”, *Revue des Arts Asiatiques* vol. 11 (1937), p. 171-172.

¹⁰¹ Ruth Barnes, *The Newberry Collection of Printed Textiles: Department of Eastern Art, Ashmolean Museum, Oxford*, vol. 1, Oxford 1992, p. 29-37.

¹⁰² J.P. Wild and F. Wild, “Textile Contrasts at Berenike”, in *The Eastern Desert of Egypt during the Greco-Roman Period: Archaeological Reports*, J.P. Brun, T. Faucher, B. Redon B, S. Sidebotham eds., Paris 2018. Retrieved from <http://books.openedition.org/cdf/5254>, para. 12.

¹⁰³ Orit Shamir, “Cotton Textiles from the Byzantine Period to the Medieval Period in Ancient Palestine”, *Revue d’ethnoécologie* 15 (2019), p. 3-4. For cotton from al-Shām, also used in the important paper industry of the area, see Zohar Amar, Azriel Gorski and Izhar Neumann, “The Paper and Textile Industry in the Land of Israel and Its Raw Materials in Light of an Analysis of the Cairo Genizah Documents”, in *From a Sacred Source: Genizah Studies in Honor of Professor Stefan C. Reif*, Benjamin M. Outhwaite and Siam Bhayro eds, Leiden: Brill 2011, p. 25, 31.

¹⁰⁴ Shamir, “Cotton Textiles”, p. 4.

source of cotton was also Nubia.¹⁰⁵ Contrary to Watson's theory that cotton was one of the crops widely introduced by the Arab conquerors,¹⁰⁶ the material was widely cultivated and traded in Nubia and North Africa before the conquest.¹⁰⁷ For example, cotton fibres found in the site of Qaṣr Ibrīm have been analysed and proven to be of a species indigenous to Africa, although they have not been attributed to a more specific location.¹⁰⁸ This means that cotton was also being imported into Egypt through local African networks, apart from the Indian Ocean routes.¹⁰⁹

At the same time, some cotton seems to have also been locally produced, at least in the Roman and Early Byzantine period. Such is the case of the Khārga and Dākhleh Oases, the papyri of which indicate local cultivation.¹¹⁰ In Kellis, specifically, cotton seeds, lint and loose cotton fibres have been found in houses and papyri discovered in the village attest to transactions including cotton.¹¹¹

The next stage of textile production was usually dyeing. With rare exceptions, the fibre was dyed before it was spun. Dyestuffs and recipes for textile dyeing are attested in the papyri.¹¹² Plants that produced dyestuffs, such as saffron, madder, henna, safflower and sesame were cultivated in Egypt, in the oases such as al-Fayyūm, al-Baḥrīyya and al-Dākhleh, while others, including kermes, curcuma and sumac, were imported from Armenia, India and Syria.¹¹³ Purple dye was also used, but in most cases the dyestuff did not come from murex and other marine molluscs, but from more

¹⁰⁵ Granger-Taylor, "Cotton and Silk in the Early Islamic World", in *Early Islamic Textiles*, Clive Rogers ed., Brighton 1983, p. 40.

¹⁰⁶ Andrew M. Watson, *Agricultural Innovation in the Early Islamic World: the Diffusion of Crops and Farming Techniques, 700-1100*, Cambridge University Press 1983.

¹⁰⁷ Anna Kelley, "By Land or by Sea: Tracing the Adoption of Cotton in the Economies of the Mediterranean", in *Transmitting and Circulating the Late Antique and Byzantine Worlds*, Mirela Ivanova and Hugh Jeffery eds., Brill 2019, p. 278.

¹⁰⁸ J. P. Wild and F. Wild, "Qaṣr Ibrim: New Perspectives on the Changing Textile Cultures of Lower Nubia", *Egypt in the First Millennium AD. Perspectives from New Fieldwork*, Elisabeth R. O'Connell ed., British Museum Publications on Egypt and Sudan 2, Louvain 2014, p. 75.

¹⁰⁹ Anna Kelley, "By Land or by Sea", p. 279.

¹¹⁰ Bagnall, "SB 6.9025, Cotton, and the Economy of the Small Oasis." *The Bulletin of the American Society of Papyrologists* vol. 45 (2008), p. 21–30.

¹¹¹ Rosanne Livingstone, "Household Furnishing Textiles (Soft Furnishings) from Kellis", in *The Oasis Papers* 9, p. 411-418.

¹¹² Ulrike Horak, "Antike Farbenpracht: Zwei Farblisten aus der Papyrussammlung der Österreichischen Nationalbibliothek", *Tyche* 13 (1998), p. 115-125. For the recipes see Ines Bogensperger and Helga Rösel-Mautendorfer, "Dyeing in texts and textiles: words expressing ancient technology", in *Egyptian Textiles and their Production*, p. 94-95.

¹¹³ Lombard, *Les textiles*, p. 167.

accessible sources, like grapes and herbs, or by mixing red and blue dye.¹¹⁴ The variety of dyestuffs available is corroborated by the existence of different qualities of the same dye, probably destined for customers with different budgets.¹¹⁵

After the conquest, the facilitation and expansion of the Indian Ocean trade contributed to the introduction of new dyestuffs into Egypt.¹¹⁶ In the pre-conquest period, red was usually obtained using madder, a colourant derived from the roots of the plant *Rubia Tinctorum*. However, after the 7th century, the presence of lac dye (*Kerria lacca*)- a colourant extracted from the resin of lac insects, indigenous to the tropical trees of India and Southeast Asia- is identified on a number of textiles.¹¹⁷ Pfister was the first to recognise the presence of lac dye on some post-conquest pieces,¹¹⁸ while recent studies confirm his analysis.¹¹⁹ Also, after the conquest, indigo, introduced from India, started being cultivated in the oases of Upper Egypt, the Fayyūm and the Delta, becoming, therefore, more easily accessible to the Egyptian dyers.¹²⁰ The import of dyes from the Indian subcontinent into Egypt is corroborated by letters from the Geniza, where Egyptian merchants appear to buy lac and other dyes from India.¹²¹

¹¹⁴ Robert Halleux, *Les alchimistes grecs, Tome 1: Papyrus de Leyde, Papyrus de Stockholm, Fragments de recettes*, Paris 1981, p. 43-44, 136, 137, 142, 151.

¹¹⁵ Bogensperger and Rösel-Mautendorfer, "Dyeing in Texts and Textiles", p. 92-93.

¹¹⁶ For the trade with India see K. N. Chaudhuri, *Trade and Civilisation in the Indian Ocean: An Economic History from the Rise of Islam to 1750*, Cambridge 1985, p. 34-46 and Goitein, "From the Mediterranean to India: Documents on the Trade to India, South Arabia, and East Africa from the Eleventh and Twelfth Centuries", *Speculum* vol. 29, no 2, Part 1 (1954), p.181-197.

¹¹⁷ Regina Hofmann-de Keijzer, Maarten R. Van Bommel, and Matthijs de Keijzer, "Coptic Textiles: Dyes, Dyeing Techniques and Dyestuff Analysis of Two Textile Fragments of the MAK Vienna", in *Methods of Dating Ancient Textiles of the 1st Millennium AD from Egypt and Neighbouring Countries. Proceedings of the 4th Meeting of the Study Group "Textiles of the Nile Valley", Antwerp, 16-17 April 2005*, Antoine De Moor, Cäcilia Fluck, and Susanne Martinssen-von Falck eds., Tiel: Lannoo 2007, p. 214-215.

¹¹⁸ Pfister, "Matériaux pour servir au classement des textiles Égyptiens postérieurs à la Conquête Arabe", *Revue des arts asiatiques* vol. 10, no 1 (1936), p. 73-85.

¹¹⁹ Jan Wouters, "Kleurstofanalyse van Koptisch textiel= Dye Analysis of Coptic Textiles", in *Koptisch textiel uit Vlaamse privé= Coptic Textiles from Flemish Private Collections*, Antoine De Moor ed., Zottegem 1993, p. 53-64.

¹²⁰ Omar Abdel-Kareem, "History of Dyes Used in Different Historical Periods of Egypt", *Research Journal of Textile and Apparel* vol. 16, no 4 (2012), p. 83.

¹²¹ Dominique Cardon, *Natural Dyes: Sources, Tradition, Technology and Science*, London: Archetype Publications Ltd 2007, p. 664; Shelomo Goitein, "From the Mediterranean to India: Documents on the Trade to India, South Arabia, and East Africa from the Eleventh and Twelfth Centuries", *Speculum* vol. 29, no 2, part 1 (1954), (p.181-197) p. 192-193 and 197;

Many colour hues are encountered in the papyri, apart from the basic, like honey, milk, onyx, cypress, lemon, rose-red and crab-red.¹²² It is, however in the Geniza documents, that we find an even more impressive abundance of textile colours, like cloud, apricot, peacock, chick-pea, pistachio, wine and wax,¹²³ indicating that colour was highly appreciated. According to the same documents, however, dyeing was not a cheap process, basically because of the high prices of the dyestuffs.¹²⁴ Of course the cost depended largely on the colouring matter as well as the material that would be dyed. The dyeing of linen, for example, is supposed to have been particularly difficult and, therefore, costly.¹²⁵

The next stage of textile production was the spinning of the fibres. During this stage, the short flax, wool or cotton fibres were twisted by hand in order to form long, continuous yarns. It appears that in Egypt, the most usual practice since Pharaonic times was rotating the fibres on the thigh with the help of a spindle¹²⁶ and that the Egyptians adopted the use of a distaff only during the Roman period.¹²⁷ The spun yarns could then be set in the looms in order to be woven into clothing.

After the weavers produced the fabrics, further processes usually followed, like the fulling, sprinkling and pressing in order to make them more dense, tight, and smooth.¹²⁸ Sometimes, bleaching and lustring were also applied, the latter in order to give a shiny appearance. Natron was widely used for the process of bleaching and it was found in abundance in the Wādī al-Naṭrūn in Egypt. The production of natron was an imperial monopoly until the beginning of the Islamic period and it was established again as a state monopoly in the 9th century by Ibn Ṭūlūn.¹²⁹

¹²² Harald Froschauer, "Farben und Farbbezeichnungen in Papyri und Textilien", in *Actes Du Huitième Congrès International D'études Coptes : Paris, 28 Juin-3 Juillet 2004*, Nathalie Bosson and Anne Boud'hors eds., Leuven, Dudley, MA: Peeters 2007, *Orientalia Lovaniensia Analecta* 163, p. 698-701.

¹²³ Goitein, *Mediterranean Society*, vol. 1, p. 107.

¹²⁴ *Ibid.*

¹²⁵ However, this belief has been recently reviewed, with the difference of linen dyeing being centred around the process and the obtained results rather than difficulty. See Bogensperger and Rösel-Mautendorfer, "Dyeing in Texts and Textiles", p. 91, footnote 4.

¹²⁶ G.M. Crowfoot, *Methods of Hand Spinning in Egypt and the Sudan*, Halifax:Bankfield Museum Notes Second Series, no. 12, 1931, p. 31-32, 36.

¹²⁷ Louisa Bellinger, "Craft Habits, Part II: Spinning and Fibers in Warp Yarns", Textile Museum, *Workshop Notes*, Paper No 20 (November 1959), p. 2-3.

¹²⁸ Goitein, *Mediterranean Society*, vol. 4, p. 178.

¹²⁹ Lombard, *Les textiles*, p. 168; Ibn Mammātī gives a detailed description of how natron was traded: Serjeant, "Material", *Ars Islamica* vol. 13, p. 116-117.

1b. Weaving workshops and factories

The organisation of textile manufacture in Byzantine and Early Islamic Egypt is a very interesting and much debated subject. There was certainly a variety in the size and type of the production units and in the objectives behind production, as in all economic activities. These factors defined not only the pattern of workmanship (namely whether the work was practised by men or women, the hours, the place and the conditions of working), but also the style and the quality of the products, being directly related to the implements available, the degree of expertise of the artisans and the destination of the produced textiles.

David Peacock's model for Roman pottery production could prove very useful for the classification of the Egyptian textile manufacture during our period, although the lines between the different modes are sometimes difficult to draw and there are also other or in-between cases. As Peacock himself acknowledged, "we are attempting to impose a conceptual framework upon a situation that, in practice may be almost infinitely variable, with many examples falling between rather than within the modes defined".¹³⁰

Peacock delineated seven modes of production (he also includes the "factory", which, however, is only appropriate for machine-powered, mass-production manufacture units that appeared after the Industrial Revolution), which can also be applied to the textile industry:¹³¹ 1) **Household production**, where weaving is considered another domestic task, practised by women in order to fulfil the household's needs. 2) **Household industry**, where textile making is a means of gaining profit, but still a part-time occupation, mainly practised by women, to supplement the family income. 3) **Individual workshops**, where weaving is the main source of income, practised mostly by men, who work on themselves, or with some assistants, possibly from within the same family. In this case products are intended for the market, and suitable premises and technical equipment is required. 4) **Nucleated workshops**, where individual workshops are grouped together possibly in areas with easy raw materials and labour availability and also market accessibility. Co-operation, competition, technical competence and equipment result in high quality products. 5) **The manufactory**, where a number of artisans, often specialised in a specific work, co-exist in the same building or place, producing specialised products in a large scale. It can be imagined that working terms and conditions in this case are worse than in the previous production units. The term

¹³⁰ David Peacock, *Pottery in the Roman World: an Ethnoarchaeological Approach*, Longman London and New York 1982, p. 8.

¹³¹ *Ibid.*, p. 6-11.

“factory”, used in the present thesis and in scholarship regarding the pre-industrial period, actually implies this kind of unit. Marx has distinguished a special category within this model, which seems particularly applicable to textile production in our period, the so called “domestic industry”.¹³² In this case the workers are not grouped under a single roof, but work in their homes, and centres of production are dispersed over a whole region. This mode differs from the household industry mentioned above, because the craft is a full time occupation, it is directed from a proprietor, who often provides the raw materials, sets the rules and buys the finished products and, therefore, requires capital investment and investors. 6) **Estate production**, satisfying either the needs of the estate or also intended for the market. In our period, however, as it will be argued, the large estates of the Roman and Byzantine times were declining and, although there might have been some textile manufacture there, this must not have been significant.¹³³ 7) **Military and state production**, where the state controls and directs textile manufacture either for official use or for the market. This model is particularly interesting and more complicated when it comes to the textile industry of our period, possibly involving other already mentioned units, like the manufactory and the workshop, individual or nucleated.

Regarding household production, it is true that from ancient times until the present day, women in Egypt -and not only there- used to weave clothes and bedding in order to fulfil their household’s needs, especially in the villages, where ready-made fabrics were less easily available.

Indications of domestic weaving are often found in the papyri of the Byzantine period, and although it is sometimes difficult to distinguish professional from domestic in the documentary sources, it appears that household weaving was a common practice. The papyri include evidence for women weaving in order to satisfy the needs of the family members. For example, a woman in a 4th century letter from Oxyrhynchus informs her husband that she is weaving his cloak.¹³⁴ In another of the 4th-5th century from Herakleopolis a mother asks her son to send her some linen yarn so she can weave his garments.¹³⁵

In the pre-industrial era, of course, as already mentioned, the line between professionals and non-professionals was not clearly drawn. Some domestic production could also have been intended

¹³² Karl Marx, *Capital, A Critique of Political Economy I*, Chicago 1918, p. 509.

¹³³ See chapter 1c. The people involved: workers, weavers and merchants, p. 44.

¹³⁴ P.Oxy. LVI 3860, p. 124-130; R.S. Bagnall and R. Cribiore with contributions by E. Ahtaridis, *Women’s Letters from Ancient Egypt, 300 BC to AD 800*, University of Michigan Press 2006. Retrieved from <https://hdl-handle-net.ezproxy-prd.bodleian.ox.ac.uk/2027/heb90014.0001.001>, chapter: Textile Production, para. 7.

¹³⁵ Ibid.; BGU III 948, p. 274-275.

for selling or exchanging with other products,¹³⁶ but, in any case, domestic weaving could only have been of little economic importance.¹³⁷

There is not enough evidence for the popularity of domestic weaving in the Islamic period. The papyri which list persons owning looms seem rather to refer to professional weavers for taxing purposes.¹³⁸ Until more documents are published, we can only assume that the expansion of the industry in the 10th century, and the consequent greater availability of ready-made clothes, could have diminished the extent of household weaving, which, of course, never ceased, and continues to be a common task, especially in village communities of the developing countries until the present day.

Of course there were also professional weavers (Peacock's individual or nucleated workshops), who took up the craft as a wage earning occupation and whose production was exclusively an object of trade. Professional weavers could practise their art either inside their own houses or at special premises, depending mainly on the size of their enterprise and the number of the workers they employed. The term for a weaving atelier, (*λινυφαντεῖον- linyphanteion*, or *ὕφαντεῖον- hyphanteion*), appears rarely in the papyri and ostraca of the Byzantine period¹³⁹ and it is possible that the predominance of terms for weavers, (*γέρδιος- gerdios*, *λινούφος- linouphos*, or *λινόφος- linyphos*), as opposed to references to weaving ateliers, even where the second would be more appropriate, attests to the fact that most of the weavers in this early period did not have special establishments but worked from their own houses.¹⁴⁰ In these cases, all members of the family contributed to production, thus forming a family business.

The normal textile producing unit during the Byzantine period must have been fairly small, since many workshops are attested in a small town or village.¹⁴¹ Two Coptic documents from the town of Kellis that give an account of spinning and weaving work completed and still pending and of weaving salaries, might reflect this kind of small scale weaving workshop.¹⁴² Larger establishments, employing more than three or four adult specialised weavers, seem to have been

¹³⁶ See Peacock, *Pottery in the Roman World*, p. 7-8.

¹³⁷ A.H.M. Jones, "The Cloth Industry Under the Roman Empire", *The Economic History Review* vol. 13 (2) (1960), p. 184.

¹³⁸ See chapter 1c. The people involved: workers, weavers and merchants, p. 35-36.

¹³⁹ P.Kellis IV Tablet 6, verso line 1266 (4th c.), p. 152.

¹⁴⁰ Wipszycka, *L'industrie*, p. 56.

¹⁴¹ Jones, "The Cloth Industry", p. 186-188.

¹⁴² P.KellisCopt. V 44 and 47 (4th c.), p. 254-258 and 263-266.

rare.¹⁴³ The term *ἱστονώρχης- histōnarchēs* that appears in papyri and ostraca¹⁴⁴ has often been interpreted as the director or supervisor of such an atelier. However, his tasks are not clearly specified and it seems that he was rather responsible for issuing licences to weavers to exercise their craft in a specific region.¹⁴⁵

After the Islamic conquest, many weavers continued working in their homes or in small workshops in the sūq.¹⁴⁶ The Geniza letters suggest that even in the 10th-13th centuries, the normal production unit was still that of a small workshop, run by a single craftsman, a family or partners, usually no more than five,¹⁴⁷ and even silk weaving was practised in small, often household premises in towns or villages. In these documents, family enterprises of silk weaving, based in domestic establishments in Alexandria are attested,¹⁴⁸ as is the practice of hiring part of a house to be used as a silk workers' workshop.¹⁴⁹ Also, business letters often refer to silk that was sent to small towns, or was bought there by itinerant merchants.¹⁵⁰ In one of these documents, dated to 1157, we find an inventory of a workshop of a silk-weaver, which may well represent the average size of a textile weaving unit at the period. The weaver possessed, among other things, four looms, three combs, three cylinders of wood, two irons for pressing the clothes, baskets full of warps and weaver's reeds.¹⁵¹

Gradually, and specifically during the Fāṭimid period, the boost in textile production and trade led to the creation of larger establishments of the manufactory type, and also to the organisation of a "domestic industry" of commissions under state or private control.¹⁵² The growth of the large textile producing towns of the Delta after the 9th century points to a greater

¹⁴³ Wipszycka, *L'industrie*, p. 95.

¹⁴⁴ P.Wash.Univ. I 35 (4th-5th c.), p. 47-48.

¹⁴⁵ Wipszycka, *L'industrie*, p. 82-86; Dross-Krüpe, *Wolle-Weber-Wirtschaft*, p. 161-163, 179. Ibid., "How (not) to Organise Roman Textile Production. Some Considerations on Merchant-Entrepreneurs in Roman Egypt and the *ἱστονώρχης*", in *Egyptian Textiles and Their Production*, p. 134-136.

¹⁴⁶ Shayzarī, *The Book of the Islamic Market Inspector*, p. 85-86

¹⁴⁷ Goitein, *Mediterranean Society*, vol. 1, p. 80-81.

¹⁴⁸ Miriam Frenkel, "Medieval Alexandria: Life in a Port City", *Al-Masaq: Journal of the Medieval Mediterranean* vol. 26, no 1 (2014), p. 25.

¹⁴⁹ Goitein, *Mediterranean Society*, vol. 4, p. 69-70.

¹⁵⁰ Ibid., vol. 1, p. 102.

¹⁵¹ Ibid., p. 86.

¹⁵² Yaacov Lev, "Tinnīs: An Industrial Medieval Town", in *L'Égypte Fāṭimide: son art et son histoire: actes du colloque organisé à Paris les 28-30 mai 1998*, M. Barrucand ed., Paris 1999, p. 87-90. For the explanation of the term "domestic industry" see above, p. 8. For a description of this practice see p. 18-19.

industrialisation and centralisation of textile production, at least in these regions, although, as already mentioned, village level production and small scale workshops continued functioning.

Weaving also took place in the monasteries throughout the period under discussion. These ateliers must have operated mostly by the monks, who occasionally also hired professional weavers, and seem to have mainly served the needs of the monastic communities.¹⁵³ In the Pachomian Monastery of Pbow in the 4th century, for example, 22 linen weaver monks are attested.¹⁵⁴ However, monks could also be individually involved in weaving production and some monasteries produced garments also for the village communities or the government. A known example is the monk Frange of the Monastery of Epiphanius, who, as the ostraca from the Amenemope tomb in the Thebaid demonstrate, used to accept orders for clothing from people outside the monastic community.¹⁵⁵ The same practice is also probably reflected in a Coptic letter of the 8th century from the Monastery of Apollo at Bāwīt, where a villager complains for not having received the garments according to the annual custom.¹⁵⁶ The reasons for this arrangement are not specified, but it is possible that the monastery produced textiles for the local community. Other papyri of the 7th-8th century, also from Bāwīt, indicate the production of wool and the trade in woollen garments,¹⁵⁷ and a list of requisitions for the government,¹⁵⁸ dated to the late 7th-early 8th century, includes coarse clothing.¹⁵⁹

Weavers that worked from home, weaving in monasteries, family business, village workshops, establishments in town markets and larger production units, all coexisted throughout the period under discussion, although it is without doubt that the latter multiplied after the 9th century.

The great variety of workshops in the documentary sources corresponds to the varied quality of the textiles produced. The type of premises, the equipment available and the competence of the

¹⁵³ Herbert E. Winlock and Walter E. Crum, *The Monastery of Epiphanius at Thebes*, New York 1926, vol. 1, p. 67-75; Wipszycka, *L'industrie*, p. 95-98.

¹⁵⁴ F. Halkin, *Le corpus athénien de Saint Pachome. Avec une traduction française par A.-J. Festugière*, Cahiers d'orientalisme 2, Genève 1982, p. 107 and 155-156.

¹⁵⁵ *Les ostraca coptes*, vol. 1 Textes, p. 171, 425 no 213, 793.

¹⁵⁶ S. J. Clackson, *Coptic and Greek Texts Relating to the Hermopolite Monastery of Apa Apollo*, Griffith Institute, Ashmolean Museum Oxford 2000, no 55, p. 130-131. Also Alain Delattre, *Papyrus coptes et grecs du monastère d'apa Apollô de Baouît conservés aux Musées royaux d'Art et d'Histoire de Bruxelles*, Bruxelles 2007, p. 90.

¹⁵⁷ Clackson, *It is our Father who Writes: Orders from the Monastery of Apollo at Bawit*, American Society of Papyrologists 2008, p. 78-79, nos 43, 44.

¹⁵⁸ For the requisitions see p. 13-14.

¹⁵⁹ Nikolaos Gonis, "Two fiscal registers from early Islamic Egypt (P. Vatic. Aphrod. 13, SB XX 14701)", *Journal of Juristic Papyrology* vol. 30 (2000), p. 21-25.

workers affected the quality of the products. The existence of many specimens with similar design and technical characteristics (e.g. I 9-18, II 3 and comparanda), found in different museums and collections indicate a mass production of certain types, made either in the same factories, or, in some cases, also imitated by other workshops. IV 24 and V 4, for example, demonstrate that the same iconography was employed on textiles of different materials and weaving qualities. The first piece seems to have been a product of a qualified workshop, while the latter was possibly a version woven in a home establishment.

The existence of state or imperial textile factories in Egypt in the Roman-Byzantine period is a much debated topic and, although it is important for our understanding of the organisation of textile production, it has not yet been satisfactorily answered. State factories that produced clothing for the Roman army and were called *gynaecaea* were established in the Empire in the 3rd century,¹⁶⁰ but no direct information for their existence in Egypt survives. The *Notitia Dignitatum*, a governmental document of the 4th-5th century regarding the administrative organisation of the Empire, which constitutes the basic source of evidence for the state factories that supplied the Roman army, lists only the Western textile factories and therefore contains no information on Egypt.¹⁶¹

Nevertheless, several scholars have argued in favour of the existence of state factories in pre-Islamic Egypt. Marzouk, for example, based on the evidence of P. Oxy XII 1414, supported the existence of state factories in Egypt during the Roman and Byzantine period.¹⁶² The document, however, seems to be referring to a delivery of taxes in kind, rather than to products of public factories.¹⁶³ Wipszycka, on the other hand, argues that there is no information about the existence of state weaving workshops in Egypt for the Roman-Byzantine period, perhaps with the exception of Alexandria. She bases her argument on the fact that these factories were basically intended to satisfy the needs of the army, which in Egypt was not numerous and could be supplied through

¹⁶⁰ John Peter Wild, "The Gynaecaea", in *Aspects of the Notitia Dignitatum, Papers Presented to the Conference in Oxford, December 13 to 15, 1974*, R. Goodburn and P. Bartholomew eds., Oxford 1976, p. 51-58.

¹⁶¹ Simon James, "The Fabricae: State Arms Factories of the Later Roman Empire", in *Military Equipment and the Identity of Roman Soldiers, Proceedings of the Fourth Roman Military Equipment Conference*, J.C. Coulston ed., Oxford 1988, p. 288.

¹⁶² Marzouk, *Textile Industry in Alexandria*, p. 36.

¹⁶³ Sophie Gällnö, "Invisible Spinners in the Documentary Papyri from Roman Egypt", in *Making Textiles in Pre-Roman and Roman Times: People, Places, Identities*, M. Gleba and J. Pásztoókai-Szeőke eds., Oxford 2013, p. 165.

orders passed down via the administrative hierarchy to individual weavers.¹⁶⁴ In her article in the *Coptic Encyclopaedia*, nevertheless, she writes that the state owned textile workshops, but she doesn't specify where they were and what was their function.¹⁶⁵ Persson also favours the suggestion that most of the state's needs were fulfilled through commissions to individual weavers.¹⁶⁶

Written sources indeed record orders of clothing for units of the Roman army that were based not only in Egypt but also elsewhere in the Near East, including Judaea and Cappadocia.¹⁶⁷ These orders were issued to Egyptian weavers in many different villages. The requisitions were passed down to the weavers through the orders of the prefect and then "collectors of public clothing" (*παρὰλῆπται δημοσίου ἱματισμοῦ* - *paralēptai dēmosiou himatismou*) were appointed for the collection of the requisitions. The craftsmen were usually paid in advance for their work, but there certainly was an obligatory element to the transaction. The weavers were responsible for any imperfections in the garments delivered and had to pay back the price of articles that were rejected by the collectors.¹⁶⁸ These compulsory purchases seem to have become by the 4th century a levy in kind.¹⁶⁹ The system of garment requisitions continued at least during the first centuries after the Islamic conquest.¹⁷⁰ This practice is not only attested in the papyri,¹⁷¹ but also in the works of historians, like al-Baladhūrī, who mentions that the Egyptians were obliged to deliver one shirt for each Arab soldier every year.¹⁷² The requests were passed down through the Governor of Egypt to the pagarchs, the local administrators, who were then responsible for the collection of the requisitioned articles in their administrative district. It is not clear though whether the suppliers in

¹⁶⁴ Wipszycka, *L'industrie*, p. 90.

¹⁶⁵ Wipszycka, "Textiles: Organization of Production" in *The Coptic Encyclopaedia*, vol. 7, A.S. Atiya ed., New York, Toronto 1991, p. 2220.

¹⁶⁶ Axel Persson, *Staat und Manufaktur im Römischen Reiche: eine Wirtschaftsgeschichtliche Studie, nebst einem Excurse über angezogene Götterstatuen*, Lund 1923, p. 97-114.

¹⁶⁷ P.Oxy. XII 1448, p. 132-134; Jones, "The Cloth Industry", p. 186-187.

¹⁶⁸ Naphtali Lewis, *Life in Egypt Under Roman Rule*, Oxford 1983, p. 174-175.

¹⁶⁹ Wild, "Gynaecia", p. 55.

¹⁷⁰ For the organisation of requisitions during the first years after the conquest see also Legendre, "Neither Byzantine nor Islamic?", p. 7-15.

¹⁷¹ Morelli, "Gonakhia", p. 55-81; BGU II 366 (645-660), p. 25; P.Apoll. 49-50 (660-676), p. 120-124; P.Lond. IV 1352 (710), p. 26-27; P.Vindob. A P 11045 (730-50), p. 284-290.

¹⁷² Al-Balādhurī, *Kitāb Futūḥ al-Buldān*, p. 214-215, trans. Hitti, *The Origins of the Islamic State*, p. 338-339.

the Early Islamic period received money for these obligatory deliveries or whether the costs were credited against the annual tax liability of the supplying village.¹⁷³

Despite the existence of requisitions, the additional operation of a state factory for army supplies cannot be excluded, since the evidence suggests a great demand for Egyptian fabrics and Egypt appears to have satisfied the needs not only of its own garrisons, but also of the ones outside it. Wild also mentions that the system of requisitions and taxation in clothing was, by the 3rd century rendered insufficient to meet the needs of the Roman army and the establishment of state factories was deemed as a solution to the problem.¹⁷⁴

The existence of an imperial silk factory in Alexandria during the Byzantine period has also been proposed by some scholars.¹⁷⁵ It seems, however, that at the moment there is insufficient evidence to confirm the operation of either a factory providing for the army or a silk factory in Byzantine Egypt. What is certain is that the government was a major commissioner of clothes and fabrics for both the army and the court, throughout the period under discussion. In the Geniza letters, merchants appear to claim that the government was the only buyer from which they could expect some profit, in periods when the prices of the raw materials and the textiles were extremely low, and also the only buyer that could pay the extravagant sums requested in times when prices rose significantly.¹⁷⁶

The existence of the so-called *ṭirāz* institutions is, on the other hand, well attested in Egypt during the Islamic period. These institutions produced the renowned *ṭirāz* textiles, which bore epigraphic bands mentioning the name of the caliph, the place of production, the date and, often, the person who was in charge of the production, and were distributed by the ruler to his courtiers and high rank officials (I 31-32, VII 5-8). However, the large number and diverse characteristics of textiles that bear *ṭirāz* or *ṭirāz*-like inscriptions indicate that these types must have been imitated, but also, possibly, that some were officially made for a wider market.

It is often supposed that *ṭirāz* institutions were owned and controlled by the state, because they produced textiles with the caliphal protocol, but, as will be shown, at least some of them seem to have belonged to or to have been managed by private entrepreneurs. Many *ṭirāz* were found in

¹⁷³ Maged, “Notes on the “Ahl al-Dīwān”: The Arab-Egyptian Army of the Seventh through the Ninth Centuries C.E.”, *Journal of the American Oriental Society* vol. 128, no 2 (April-June 2008), p. 278.

¹⁷⁴ Wild, “Gynaecia”, p. 55.

¹⁷⁵ See, for example, R. Forrer, *Römische und byzantinische Seiden-Textilien aus dem Gräberfelde von Akhmim-Panopolis*, Strassburg 1891, p. 12; Muthesius, “The Byzantine Silk Industry”, p. 57; Marzouk, *Textile Industry in Alexandria*, p. 36; Von Falke Otto, *Decorative Silks*, London 1936, p. 7;

¹⁷⁶ Goitein, *Mediterranean Society*, vol. 1, p. 267.

the Delta region and more specifically in Tinnīs, Damietta (Dumyāt), Shaṭā, Dabīq, Dumayra and Tūna. Others were also found in Miṣr, identified with Fuṣṭāt, and other cities in Upper Egypt and the Fayyūm.¹⁷⁷ It is generally accepted that they were influenced by similar Byzantine or Sasanian institutions.¹⁷⁸ A Sasanian origin is also proposed by Ibn Khaldūn.¹⁷⁹

In Egypt they are attested as early as the 8th century: Kühnel and Bellinger have identified surviving *ṭirāz* textile fragments from Qaīs in Upper Egypt and Tinnīs in the Delta, with inscriptions dating them to the second half of the 8th century.¹⁸⁰ Regarding the written evidence, Al-Kindī, the historian of the 9th century, mentions a *ṭirāz* factory in Tinnīs.¹⁸¹ A proctor of the *ṭirāz* of Ashmūn and Anṣinā is also mentioned in an Arabic document of the 8th-9th century,¹⁸² and an order from a *ṭirāz* is attested in another Arabic document, datable, with all probability, to the 9th century.¹⁸³ Their early existence reinforces the hypothesis of predecessors in the country, but the lack of evidence makes it quite impossible to follow the line of transformation.

The organisation of these institutions in the Early Islamic period is poorly documented. Writers like Ibn Mammātī, Ibn Khaldūn, al-Maqrīzī and al-Qalqashandī,¹⁸⁴ who describe their function, wrote much later, in the 12th-14th century and we know that during the Fāṭimids, a special *dīwān*, the *dīwān al-ṭirāz*, was responsible for the organisation and control of *ṭirāz* textiles and workshops.¹⁸⁵

The size of the *ṭirāz* enterprises should not be overestimated just because the information available about them is more abundant than for the private sector. We can not speak of a “factory” in the modern sense, namely a fully integrated and controlled workshop, bringing together a large

¹⁷⁷ Serjeant, “Material”, *Ars Islamica* vol. 13, p. 107-109.

¹⁷⁸ For a detailed analysis of the different theories see *ibid.*, *Ars Islamica* vol. 9, p. 60-65.

¹⁷⁹ Ibn Khaldūn, *Muqaddimah*, M. Quatremère ed., Paris 1858, p. 58, trans., M. De Slane, *Les Prolégomènes d’Ibn Khaldoun*, Paris 1936, p. 67.

¹⁸⁰ Kühnel and Bellinger, *Catalogue*, p. 121, 123, 124.

¹⁸¹ Al-Kindī, *Faḍā’il al-Miṣr*, p. 67.

¹⁸² P.Cair.Arab. II 117, 118, p. 153-154.

¹⁸³ Grohmann, “Arabische Papyri aus den Staatlichen Museen zu Berlin”, *Der Islam* vol. 22 (1935), p.17-18, no.6

¹⁸⁴ Qalqashandī Aḥmad ibn ‘Alī, *Kitāb ṣubḥ al-a’shā*, Cairo 1913-1922, trans. F. Wüstenfeld, *Geographie und Verwaltung von Ägypten*, Göttingen 1879.

¹⁸⁵ See also chapter 1d. State control and monopolies, p. 47. For the diwan and its creation see Lev, “Tinnīs”, p. 86.

number of weavers, embroiderers, tailors and other occupations under one roof.¹⁸⁶ In fact, evidence collected and correlated in the course of this research has indicated, as will be shown below, that *ṭirāz* in the period under discussion might have not been a specific place at all, but rather a system of organisation of production through commissions to private weavers and workshops, administered by state and private investors.

Some of the *ṭirāz* institutions are described in epigraphic textiles and literature as ‘*āmma*’ (e.g. VIII 8), or “public” and others as *khāṣṣa*, or “private”. Surviving textiles show that this distinction already existed in the late 9th century.¹⁸⁷ Different theories have been presented for the interpretation of these epithets, the prevalent view being that “private” commissioned fabrics for the caliph and his court, and “public” produced for the market,¹⁸⁸ though this explanation poses several problems.

Sokoly, having studied the technical details of a number of *ṭirāz* textiles coming from both types of institutions, discovered that there are not quality differences between them and that both produced the whole spectrum of textile types and qualities.¹⁸⁹ That some *khāṣṣa* products could also be of low quality and, presumably not destined for the court, is also corroborated by other surviving textiles, such as a poor quality tapestry in the Bouvier,¹⁹⁰ and an embroidered *ṭirāz* in the Arabic Leinwand Collection in the Austrian National Library of Vienna,¹⁹¹ which both state in their inscriptions that they were made in “private” workshops. On the other hand, *ṭirāz* pieces with the caliphal protocol were also made in “public” workshops (e.g. VIII 8). What was then the role of each branch?

¹⁸⁶ Maya Shatzmiller, *Labour in the Medieval Islamic World*, Leiden 1994, p. 246-247.

¹⁸⁷ Sokoly, “Towards a Model of Early Islamic Textile Institutions in Egypt”, in *Islamische Textilkunst des Mittelalters*, p. 118.

¹⁸⁸ Grohmann, “Ṭirāz” in *The Encyclopaedia of Islam*, M. Th. Houtsma, A. J. Wensinck, H. A. R. Gibb, W. Heffening, E. Lévi-Provençal eds., Supplement, Leiden, London 1938, p. 248-250; For a different view see Sokoly, “Towards a Model”, p. 118-119.

¹⁸⁹ Sokoly, “Towards a Model”, p. 116.

¹⁹⁰ Georgette Cornu, Marielle Martiniani-Reber and Claude Ritschard, *Tissus d’Egypte. Témoins du monde arabe VIIIe–XVe siècles: Collection Bouvier*, Geneva, Paris 1993, no 18, p. 67-68.

¹⁹¹ Anne Regourd and Fiona J. L. Handley, “A Name of a Private Factory (or Workshop) on a Piece of Textile: the Case of the Document A.L.18 (Vienna)”, in *Textile Terminologies from the Orient to the Mediterranean and Europe, 1000 BC to 1000 AD*, Salvatore Gaspa, Cécile Michel and Marie-Louise Nosch eds., Lincoln, NE: Zea Books 2017, p. 374-382. It has been proposed that this could be a poor quality imitation of an authentic private *ṭirāz* product. It is almost certain that imitations of the caliphal protocol on textiles must have circulated in the market, but there is not enough evidence to suggest that all low quality *ṭirāz* were such.

Evidence in literature suggests that some of these institutions were, at least partly, managed by merchants. Ibn Ḥawqal, describing the *ṭirāz* of Bahnasā in the 10th century, mentions that apart from the authorities and the high officials, merchants from around the world supervised their organisation and production.¹⁹² Unfortunately the passage is far from clear and the role that each part played cannot be determined, but it indicates that the organisation and function of the *ṭirāz* was more complex than hitherto believed and decisively interwoven with private investment and international textile trade. Stillman has also suggested that “public” *ṭirāz* were actually owned by merchants. Frantz-Murphy, based on the evidence of the written sources, argued that government officials, who were also landholders, members of a new powerful landed elite, were involved in the textile industry as investors, especially during the Ṭulūnid period, and that the officials who administered the government production of textiles may also have controlled the large private industries.¹⁹³ Ashtor, too, has suggested that state factories were often farmed out to businessmen and that by the 10th century the private sector was expanding at the expense of the state-financed enterprises.¹⁹⁴

It can, therefore, be hypothesised that some *ṭirāz*, possibly those described as *‘amma*, were, at least by the 10th century, run by private owners, merchants or landholders, who were involved with international textile trade, and produced textiles for markets inside or outside Egypt. It is possible that these merchants were collaborating with state functionaries in the management of production, as Ibn Ḥawqal’s passage indicates, although the role that the state played in this case cannot be determined. For example, was the state a co-investor, a sponsor or a controller of production or was there no actual participation of the state, only the involvement of state officials, who were also entrepreneurs in textile trade? No definite answer can be given at the moment, but, in any case, the collaboration of state administration and merchants is also evident in other financial practices by the 11th century¹⁹⁵ Other *ṭirāz*, in all probability those described as *khāṣṣa*, were possibly sponsored by the caliphs, and produced a variety of textiles also intended for the market.

¹⁹² Ibn Ḥawqal, *Kitāb Ṣūrat al-ard*, p. 149, trans. Kramers and Wiet, *Configuration de la terre*, p. 157.

¹⁹³ Frantz-Murphy, “A New Interpretation”, p. 274-297.

¹⁹⁴ Eliyahu Ashtor, *A Social and Economic History of the Near East in the Middle Ages*, London 1976, p. 150-151.

¹⁹⁵ A practice that seems to have been a norm by the 11th century was that merchants, instead or together with purchasing some of the commercial crop from the farmers in advance, often undertook the payment of the farmers’ taxes. In this process they seem to have been aided by the administration, which intervened to persuade the peasant dodgers into fulfilling their commitments. The merchants’ interference ensured the payment of taxes to the state and the state’s interference guaranteed the merchants’ profit. For this practice see Bondioli, *Peasants, Merchants and Caliphs*, p. 136-144, based on the evidence of the Geniza and an account of al-Maqrīzī.

Caliphs are known to have invested in textile production and commerce, as also in other sectors of urban and rural economy, and not only in Egypt.¹⁹⁶ These investments aimed at financial gain,¹⁹⁷ but were also a means of political propaganda, commemorating the sovereign's authority and creating bonds with the non-Muslim urban classes.¹⁹⁸ Whether these enterprises were operating for the interest of the state or the private profit of the caliph cannot be ascertained, but it is generally difficult to draw that line of distinction in this period.¹⁹⁹ The Egyptian-centred dynasties, the Ṭulūnids and Fāṭimids, in particular, encouraged by the favourable circumstances in the Mediterranean and the East,²⁰⁰ were eager to invest in the textile industry, because they saw it as an ideal means of developing the countries financial and artistic potentials for its own benefit, propagating at the same time the splendour of their court.

On some *ṭirāz* pieces, the town of production is mentioned without any specification as to the type of the institution, even when they were made in towns known to have possessed both 'āmma and *khāṣṣa* branches (e.g. VIII 5-7). Apparently, textiles of the *ṭirāz* type were also being produced outside the 'āmma and *khāṣṣa* system. So how was manufacture organised?

Regarding court commissions, Sokoly, based on his aforementioned analysis of *ṭirāz* pieces of both branches, convincingly argues that they might not necessarily have been executed by special institutions dedicated to that purpose, but rather issued to any existing workshops favoured by the sovereign.²⁰¹ This is corroborated by the evidence of Nāṣir-i Khusraw, who, in his account of Tinnīs, he mentions that the full price of the textiles was paid to the weavers who wove the linen

¹⁹⁶ Fanny Bessard, *Caliphs and Merchants: Cities and Economies of Power in the Near East (700-950)*, Oxford Studies in Byzantium, Oxford, 2020, p. 35-41. Bessard also mentions an account of Balādhurī, according to which 'Abd al-Malik's son, Sulaymān, patronised the foundation of a workshop for the production of costly dyed fabrics in Ramla (Al-Balādhurī, *Kitāb Futūḥ al-Buldān*, p. 143). For the properties of the 'Abbāsīd caliphs in Egypt see Sijpesteijn, "Egypt's Connections in the Early Caliphate: Political, Economic and Cultural", in *Egypt and the Eastern Mediterranean World*, p. 257-258. For those of the Fāṭimids see Lev, *State and Society in Fatimid Egypt*, Leiden Brill 1991, p. 65-67.

¹⁹⁷ Bondioli, *Peasants, Merchants and Caliphs*, p. 147.

¹⁹⁸ Bessard, *Caliphs and Merchants*, p. 45-51.

¹⁹⁹ A similar situation existed for state land: Bondioli, *Peasants, Merchants and Caliphs*, p. 35-36 and 45.

²⁰⁰ See Introduction, p. iv and chapter 2a. Materials, p. 75-76.

²⁰¹ Sokoly, *Dated and Datable Ṭirāz Textiles from the Time of the Fāṭimid Dynasty in Egypt (969-1171)*, M. Phil. dissertation, University of Oxford 1992, p. 30-34. See also Grohmann, "Ṭirāz"; Anna Contadini, *Fāṭimid Art at the Victoria and Albert Museum*, London 1998, p. 45-46, also discusses that, after the centralisation of the industry in the 10th century, there was no need for a royal workshop situated at the palace, since court textiles could be ordered from the easy to administer workshops of the Delta. However, she does not exactly speak of a putting out system.

and *būqalamūn* textiles for the caliph,²⁰² possibly indicating some kind of putting out of caliphal orders to different weavers, a system that can be seen as an evolution of the requisitions, discussed above. The centralisation of the industry and the large number of existent workshops, possibly obliterated the need for a specific state or court factory. To this evidence we should add the lack of any specific term for the *ṭirāz* weavers in the otherwise extent list of specialisations in the Islamic textile industry. This might suggest that *ṭirāz* weavers did not constitute a different group that worked in a different place, but rather operated like the rest of their colleagues.²⁰³

It is, therefore, possible that not only court textiles, but *ṭirāz* textiles, in general, were made through commissions to weavers and workshops, in a model similar to Marx's "domestic industry". If this is indeed the case, the *ṭirāz* system should be understood as an effort to organise the competent and specialised Egyptian craftsmen into a production unit in which caliphs, officials and entrepreneurs could invest and which, at the same time would meet the needs of the court, without the necessity to gather them under one roof. Undoubtedly, more research is needed to provide a satisfactory explanation, but, although particularly intriguing, is beyond the scope of this thesis.

What is certain is the interlocking of public and private sector in the organisation of the textile industry, making it sometimes difficult to distinguish between the two. This was not peculiar to the Islamic period or regime. The integration of state and private interests is also seen in Roman and Byzantine Egypt.²⁰⁴ The existence of a new type of *kommerkiarioi*, found in Byzantine seals across the empire after the 6th century,²⁰⁵ has been interpreted as evidence that this was no longer a civil office, but that the Byzantine state sold the monopoly rights and outsourced the production and trade of silk to private individuals.²⁰⁶ It appears that, throughout the period under discussion, the state was closely collaborating with merchants when their interests coincided. However, the impactful role of caliphal and elite investments gained ground after the conquest, underpinning the significant expansion of the textile industry.

²⁰² Thackston, *Nāṣer-e Khosraw's Book of Travels*, p. 40. For *būqalamūn* see chapter 1e. Centres of production, p. 58.

²⁰³ See chapter 1c. The people involved: workers, weavers and merchants, p. 31.

²⁰⁴ Alan Bowman, *Egypt After the Pharaohs 332 B.C.-A.D. 642: From Alexander to the Arab Conquest*, Oxford 1990, p. 120.

²⁰⁵ N. Oikonomidès, "The Kommerkiarios of Constantinople", in *Byzantine Constantinople: Monuments, Topography and Everyday Life*, N. Necipoğlu ed., Leiden 2001, p. 235–244.

²⁰⁶ Jairus Banaji, *Exploring the Economy of Late Antiquity: Selected Essays*, Cambridge University Press 2015, p. 15-16 and 83-84. For a slightly different view see Constantin Zuckerman, "Silk 'Made in Byzantium': a Study of Economic Policies of Emperor Justinian", *Travaux et Mémoires* vol. 17 (2013), p. 323-50, especially 341-347.

1c. The people involved: workers, weavers and merchants

Harvesting and preparing the raw material

The first stage of flax exploitation, namely the harvesting, was usually done by the farmers entrusted with its cultivation, whether these were the owners of the land or hired workers. In a Coptic document of the 7th century a farmer appears to be working on a piece of land for a single cycle of cultivation, with the task to plant, water and gather the flax, having received in advance a salary of 2 solidi.²⁰⁷ The leasing of land in order to cultivate flax is also attested in Arabic papyri.²⁰⁸ Moreover, professional weavers appear leasing or owning a piece of land in which they grew flax.²⁰⁹ Flax was also cultivated in some monasteries.²¹⁰

Evidence for the existence of specialised workers who dealt with the next stages of retting, scutching and hatcheling the flax cannot be securely traced in the papyri of the Byzantine period. Words like *στιππουργός-stippourgos*,²¹¹ usually translated as “tow-worker”, and *λινοπλυστής-linoplystēs* or *λινοπλυτής-linoplytēs*, “linenwasher”, are occasionally attested,²¹² but they are not further described or specified, so it is not possible to ascertain what exactly their tasks were.²¹³ The processing of flax seems also to have taken place in monasteries.²¹⁴

The Geniza documents suggest that the soaking and drying of the plants was normally done by the farmers themselves, as the trade name for this product “flax of the farmers” (*muzāri ʿīn*) indicates. The next stage of beating and combing the flax was, according to the Geniza, done by specialist workers, as the trade name for this product “flax of the workers” (*sunnāʿ*) indicates.²¹⁵ In the Geniza, we also find a word for a flax-comber (*mashshāt*) who, in all probability dealt with the

²⁰⁷ P.Vindob. K 1330 = CPR IV 165 (7th c.), p. 148-149.

²⁰⁸ P.Cair.Arab I 81, 82 (867), p. 44-51; Geoffrey Khan, *Bills, Letters and Deeds: Arabic Papyri of the 7th to 11th Centuries*, Oxford 1993, p. 39, No 10 (9th c.).

²⁰⁹ P.Cair.Masp. I 67116 (6th c), p. 181-183; P.Flor. III 296 (6th c.), p. 17-18.

²¹⁰ Delattre, *Papyrus coptes et grecs*, p. 82.

²¹¹ BGU XVII 2694 (6th c.), p. 56-60; CPR XIV 5 (6th c.), p. 33-35; BGU XVII 2685 (7th c.), p. 32-36; Wipszycka, *L'industrie*, p. 25-26.

²¹² P.Ryl. IV 640 (4th c.), p. 151-152; P.Vindob.Tandem 19 (5th c.), p. 125-132; Wipszycka, *L'industrie*, p. 23.

²¹³ The interpretation of the terms that appear in the papyri is often complicated and their literal translation in any modern language does not always correspond to the meaning they had at the time.

²¹⁴ Selander, “Textilien”, p. 46.

²¹⁵ Goitein, *Mediterranean Society*, vol. 1, p. 105.

hatcheling of the fibres.²¹⁶ Such a distinction of workmanship does not appear in the papyri of the Byzantine period, so it is not clear whether this division of labour existed before the 10th century, or was also a consequence of the expansion of the industry, although it is possible that it did exist, given the already mentioned importance attached to these tasks.²¹⁷

Two letters from the Cairo Geniza, addressed to the great Jewish merchant Ibn ʿAwqāl by his agent in the rural regions of central Egypt, probably dated to the 1020s or 1030s, are revealing of the conditions in the flax growing areas at the height of the flax season. It is clear that workmen, specialised or not, were hired for the processing, but they are referred to simply as “workers” or “group” and it is not specified at which stage exactly of the flax processing they worked.²¹⁸ It is evident from the letters that it was sometimes difficult to find workers, and wages could, consequently, rise considerably.²¹⁹ However, these letters date to the 11th century, after the expansion of the industry under the Fāṭimids, so they may reflect the conditions of this later era, when production and trade were more intense.

Evidence for the people who dealt with the processing of wool is also obscure. The shearing of the sheep was, in all probability, done by the shepherds themselves.²²⁰ Several terms related to the beating of wool are attested in papyri. The term *κτενιστής*- *ktenistēs*, “comber, carder”, appears until the 6th century,²²¹ and also in Arabic documents (*hallāj*),²²² but, again in this case, as these words are not further described, it is uncertain who these people were, exactly what task they performed, and whether only a single stage of the wool processing was assigned to them. In most of the documents that mention the occupation of *ktenistēs*, the material these workers are dealing with is not defined, although the term is usually translated as “wool carder”. But flax, as we have seen, underwent a similar process of combing, so it is possible then that the term was applied to both linen and wool combers.

The processing of flax and wool seem to have been seasonal occupations, since flax was harvested once and sheep sheared once or twice a year. We can assume therefore that these were not

²¹⁶ Shatzmiller, *Labour*, p. 122.

²¹⁷ See chapter 1a. The preparatory stages, p. 1-2.

²¹⁸ Norman Stillman, “A Case of Labour Problems in Medieval Egypt”, *International Journal of Middle East Studies* vol. 5, no 2 (April 1974), p. 198-200.

²¹⁹ *Ibid.*, p. 197-201.

²²⁰ Wipszycka, *L'industrie*, p. 29.

²²¹ CPR VI 40 (4th c.), p. 86-87; P.Fouad. I 84 (6th-7th c.), p. 171; Wipszycka, *L'industrie*, p. 34-35.

²²² Shatzmiller, *Labour*, p. 120.

exclusive full time professions, but were taken up by workers who also practised other tasks. The preparation of flax or wool, or at least some stages of it, could also be done by the weavers or the spinners themselves.²²³

From field to workshop: flax and wool merchants

How was flax made accessible to the craftsmen? The situation that emerges in this first stage of textile production throughout the period in question is quite complicated, with different groups of workers, specialised or not, taking part in the processing and the distribution of the raw materials, directly or through intermediaries.

The terms *λινέμπορος*- *linemporos*,²²⁴ and *λινόπώλης*- *linopōlēs*,²²⁵ that are found in the papyri of the Byzantine period, signify tradesmen of flax. In a Coptic document of 625 a collective order of flax seems to have been placed upon fourteen farmers of the same town who then sign all together a contract, committing to its future delivery to the buyer,²²⁶ in all probability a flax merchant. This document possibly indicates that merchants purchased the farmers' flax crop in advance. We do not have more information about the frequency and the technicalities of this practice in the Byzantine period, but it is clearly attested and illustrated through the Geniza letters in the Islamic period. It was usually local merchants (*al-ṣa'ālīk*) who bought the flax from the farmers and transported it into towns, where wholesale town merchants and other consumers could buy it.²²⁷ But sometimes, wholesale merchants headed to buy flax straight from the producers, travelling in the countryside and visiting a large number of farms.²²⁸ In any case, the producers were usually paid in advance and were bound to deliver to the buyers the prearranged amount of product after the harvest. However, many letters of wholesale merchants strongly advise their agents not to buy directly from the farmers, so as to avoid advance payments, possibly because of the insecurity of the

²²³ In a letter of the 2nd century (P.Oxy. XXXI 2593, p. 151-153), accompanying a delivery of yarn, the spinner Apollonia particularly states that "the warp has been soaked here at my place". However, it is uncertain how common this practice was in our period, especially as division of labour seems to have gradually increased.

²²⁴ SB XXIV 16000 (4th c.), p. 114-137.

²²⁵ CPR XIX 59 (6th c.), p. 108-109.

²²⁶ P.Vindob. K 3002 = CPR IV 48, p. 49-51.

²²⁷ Bondioli, *Peasants, Merchants and Caliphs*, p. 107-108

²²⁸ Ibid.; Goldberg, *Trade and Institutions*, p. 286-287.

transaction and the freezing of capital it required, even if this way better prices could be achieved.²²⁹

It makes sense that weavers or spinners who needed small quantities of flax would turn to *al-ša 'ālīk*, the local merchants, or straight to the producers, while traders who bought large quantities, would turn to the wholesale retailers. However, it appears that local merchants were sometimes preferred, even in the latter case. This is suggested by a letter of a Tunisian trader, who advises his agent in Egypt to buy flax not from the great house of the Tansāwī, which would be difficult to deal with, but to pick out for himself the best he could find from *al-ša 'ālīk*.²³⁰

Flax could be traded at almost every stage of processing, completely untreated in bundles, scutched, or hatched.²³¹ The different paths of accessing flax reveal an effort on behalf of the merchants to achieve better quality products and to avoid the intervention and, therefore, the cost of middlemen. It also reveals a lack of a strict organisation of production and trade, and, at the same time the high level of expertise and connections that the merchants had to possess in order to take decisions and sustain such a complicated network.²³²

Merchants specialising in the wool trade are also frequently attested in the papyri under the terms *ἐριέμπορος- eriemporos*²³³ and *ἐριοπώλης- eriopōlēs*.²³⁴ Silk traders (*qazzāz*) are mentioned for the first time in Arabic papyri, although the term might also signify the sellers of ready made silk garments.²³⁵

Consequently, the weavers or spinners, professional or not, could be supplied either with the untreated material, which they then treated themselves, or with the prepared, unspun fibre, by buying them directly from the producers or through specialised traders. In many cases, the weavers were provided the yarns by the clients themselves,²³⁶ and, rarely, they appear to have cultivated their own material.²³⁷ It has also been supported, based on the evidence of the archives of the 9th

²²⁹ Gil, “The Flax Trade”, p. 88-89; Bondioli, *Peasants, Merchants and Caliphs*, p. 110-123.

²³⁰ Goitein, *Mediterranean Society*, vol. 1, p. 79.

²³¹ *Ibid.*, p. 105; Goldberg, *Trade and Institutions*, p. 101-103.

²³² Goldberg, *Trade and Institutions*, p. 101-104.

²³³ P.Princ. II 80 (4th c.), p. 77; Wipszycka, *L'industrie*, p. 45.

²³⁴ BGU XII 2135 (4th c.), p. 6-7; P.Lips. I 14 (4th c.), p. 49-50; Wipszycka, p. 45; P.Naqlun I 9 (6th c.), p. 121-140.

²³⁵ P.Cair.Arab. I 64, 65 (1050), p. 208-227.

²³⁶ Dross-Krüpe, “How (not) to Organise Roman Textile Production”, p. 130-131.

²³⁷ Isabelle Marthot-Santaniello, “Flax Growing in Late Antique Egypt: Evidence from the Aphrodito Papyri”, in *Egyptian Textiles and Their Production*, p. 107-115.

century family of Fayyūmī cloth merchants, the Banū ‘Abd al-Mu’min, who issued commissions to many weavers, that it was the merchants who also provided the raw materials for the execution of the commissions, according to the medieval Verlagssystem,²³⁸ a fact that would indicate the complete dependance of the artisans upon the traders, although this practice is not clearly specified anywhere in the archives.²³⁹

It is impossible to establish which path for supplies was more frequently used, but in any case, the rural or urban settings of the weaving establishment, its proximity to the producers of raw materials and the financial condition of the weavers and their clients must have played an important role in choosing the easiest and probably the cheapest way of obtaining the materials.

Dyers

The next stage of processing, that of dyeing the yarns, required a special establishment and was usually done by specialised professionals.²⁴⁰ Dyeing establishments (*βαφεῖον- bapheion*) and dyers (*βαφεῖς- bapheis*) are often mentioned in the papyri of the Roman and Byzantine period.²⁴¹ Female dyers are also encountered in the papyri²⁴² and the Geniza documents.²⁴³ Dyers in the Geniza letters appear to specialise in specific colours, like crimson, saffron and sumac.²⁴⁴ No equal specialisation seems to have existed in the Byzantine era, although the purple dyers (*κογχισταί- konchistai*), who dealt with the precious murex dyestuff are separately mentioned.²⁴⁵ Once more, the greater division of labour, owing to the significant expansion of the textile industry in the 10th century, is attested.

²³⁸ See p. 41-42.

²³⁹ Bondioli, *Peasants, Merchants and Caliphs*, p. 173-174. Yūsuf Rāgib, “Marchands d’Egypte du VIIe au IXe siècle d’après leur correspondance et leurs actes”, *Actes des congrès de la Société des historiens médiévistes de l’enseignement supérieur public, 19e congrès, Reims, 1988*, Le marchand au Moyen Age, p. 28.

²⁴⁰ Wipszycka, *L’industrie*, p. 146.

²⁴¹ CPR XIX 10 (6th c.) p. 48-49; K. A. Worp, “Nochmals der Notar Anup: Eine byzantinische Bürgerschaftsurkunde”, *Zeitschrift für Papyrologie und Epigraphik* vol. 47 (1982), p. 287-290.

²⁴² P.Oxy. XXIV 2421 (4th c.), p. 185-188 and SB I 1957 (4th c.), p. 163; Bogensperger and Rösler-Mautendorfer, “Dyeing in Texts and Textiles”, p. 93.

²⁴³ It regards a female dyer of silk. See Goitein, *Mediterranean Society*, vol. 1, p. 360-362.

²⁴⁴ *Ibid.*, p. 107.

²⁴⁵ P.Grenf. II 87 (7th c.), p. 136-138.

As Wipszycka has argued, it is possible that people who couldn't afford paying a specialist dyed some of their textiles on their own, although the result must have been much poorer in quality,²⁴⁶ given the means, the techniques and the equipment available.

It seems that, at least during the Islamic period, the principal workers in the dyeing craft were the Jews. Goitein stresses that dyeing was a pronouncedly Jewish profession in all countries and that the Jews were thought to have professional secrets in it.²⁴⁷ The great number of dyers mentioned in the Geniza letters corroborates this statement. Other medieval writers also mention Jews as being engaged or specialised in dyeing and tanning, not only in Egypt, but also in Palestine²⁴⁸ and Byzantium.²⁴⁹ However, there is no evidence for such a specialisation in Egypt in the Byzantine period. It is possible that this lack of information is related to the underrepresentation of Jewish communities in the surviving documentary sources prior to the Geniza period. But it is also possible that this specialisation was an outcome of the urbanisation, especially of the Muslim world, after the 8th century and the moving of Jewish population from the countryside to the cities.²⁵⁰ Occupations like tanning, fulling and dyeing were at the bottom of the social scale, being considered "filthy", because of the odours and the dirty waters that the industrial processes involved. There is no indication that such occupations were imposed to the Jews, but it can be inferred that because of the working conditions and the low social status they involved, the religious majorities of society usually refrained from taking them, leaving them to the newly urbanised, job-seeking Jewish minorities.

Dyeing establishments were usually situated outside towns because the smell of the products used was very strong and even harmful, although no official legislation regarding their location seems to have existed. The practice of remote dying workshops does not seem to have always been followed, since we know of leasing contracts of the 6th century, renting private houses in order to be used as dyeing workshops, some situated next to the public market place, like the one in 6th c.

²⁴⁶ Wipszycka, *L'industrie*, p. 150.

²⁴⁷ Goitein, *Mediterranean Society*, vol. 1, p. 100.

²⁴⁸ Ghabin, *Hisba*, p. 233. See also Gil, *Jews in Islamic Countries in the Middle Ages*, Brill 2004, p. 603-604.

²⁴⁹ David Jacoby, "The Jews in the Byzantine Economy (Seventh to mid-Fifteenth Century)", in *Jews in Byzantium*, Robert Bonfil, Oded Irshai, Guy G. Stroumsa and Rina Talgam, Brill 2011, p. 229-233.

²⁵⁰ Maristella Botticini and Zvi Eckstein, "Jewish Occupational Selection: Education, Restrictions, or Minorities?", *The Journal of Economic History* vol. 65, no 4 (2005), p. 928-929.

Antinopolis.²⁵¹ Restrictions as to the location of the establishments are also absent from the ḥisba manuals of the Islamic period.

Dyers usually worked in their own premises, but the establishment of a dying atelier required an investment in dyes, chemical products and the proper arrangement with basins, tans and vases.²⁵² Those that could not afford the expenses could be employed as salaried workers. A document of 602 mentions three purple dyers who had to go and exercise their craft in the workshop of a wholesale dealer in hemp until they had completed a large commercial contract, bringing their own equipment and leaving their shop for the period of the contract.²⁵³ This practice apparently continued throughout the period under discussion. The Geniza letters show that dyers moved from Old Cairo to Damietta to exercise their craft, and in one letter, a woman from al-Mahdiyya in Ifrīqiya is complaining about her daughter's husband, a dyer, who was only one month in the village and six months away from it.²⁵⁴ These itinerant working conditions must have had an important impact on the domestic lives of the dyers, making it difficult to establish a household and settle in a family life.

Dyers were provided with dyes from shops or specialised merchants, known in the byzantine period as “πορφυροπώλης-porphypōlēs”.²⁵⁵ Dyers did not usually chose the colours they would use themselves, but were subject to the demands of their clients, who could often provide samples of dyed wool or gave instructions as to their preferred hue,²⁵⁶ but it is not always clear whether these clients were weavers or people that ordered textiles for personal use.

Spinners

The task that usually followed was that of spinning, which was done almost exclusively by women. The reason for this is that it was, in most cases, a task performed at home. Women might spin the yarns for the family's weaving workshop, or might be employed for spinning for other weaving establishments. In a private letter of the 4th century, for example, the writer asks her

²⁵¹ Wipszycka, *L'industrie*, p. 150; Bogensperger and Rösel-Mautendorfer, “Dyeing in Texts and Textiles”, p. 93.

²⁵² Wipszycka, *L'industrie*, p. 151.

²⁵³ P.Grenf. II 87 (7th c.), p. 136-138; Wipszycka, *L'industrie*, p. 151.

²⁵⁴ Goitein, *Mediterranean Society*, vol. 1, p. 86.

²⁵⁵ Wipszycka, *L'industrie*, p. 153.

²⁵⁶ Bogensperger and Rösel-Mautendorfer, “Dyeing in Texts and Textiles”, p. 93-94.

mother to send her some tow in order to spin it and earn money for her brother's orphaned children, because she, being a woman, was not able to support them otherwise.²⁵⁷

Spinning demanded long apprenticeship in order to be learnt, especially when regarding the spinning of warp yarns, which had to be sturdier and which not all spinners could undertake.²⁵⁸ It was also a time consuming process: Roth states that 135 hours of spinning were needed for one Roman tunic,²⁵⁹ and Jones has calculated that the work of five spinners was necessary to make the yarn for a single weaving loom.²⁶⁰ Consequently, Carrié has convincingly estimated that, in order to cover the clothing needs, 7.5% of the population would have been employed in full-time spinning and, of course, much more in part-time.²⁶¹ Nevertheless, spinners and spinning (*κλώθω- klōthō* or *véω-neō*) only rarely appear in the sources of the Byzantine period, a fact usually explained by the domestic character of the task, which did not constitute an organised profession.²⁶²

Since spinning was extremely time-consuming, sometimes women did not spin all the yarn they used themselves, but also put a part of the work out to other persons, although it is not specified whether these were men or women.²⁶³

The practice of women spinning at home seems to have continued into the Islamic period. In the Geniza the general term for spinners is scarce, but specialisations according to the material handled are often.²⁶⁴ In case of silk, different specialities such as the “unraveler” (*naqqād*) and “peeler” (*muqashshir*) are found.

In a description by the Christian patriarch Dionysius, referring to the 9th century, the weavers of the Delta state that their occupation was to weave the yarns that their women spin at home.²⁶⁵ Also, from the Geniza marriage contracts we learn that when husbands were away from their households, they shouldn't lay any claims on the earnings of their wives made through “work

²⁵⁷ SB XIV 11881, p. 311.

²⁵⁸ Bender Jørgensen, “Spinning Faith”, in *Embodied Knowledge: Perspectives on Belief and Technology*, Marie Louise Stig Sørensen and Katharina Rebay-Salisbury eds., Oxbow Books 2015, p. 129.

²⁵⁹ U. Roth, *Thinking Tools. Agricultural Slavery between Evidence and Models*, London 2007, p. 81-82.

²⁶⁰ Wild, “The Textile Industries of Roman Britain”, *Britannia* vol. 33 (2002), p. 8-9.

²⁶¹ Jean-Michel Carrié, “Vitalité de l'industrie textile à la fin de l'antiquité”, *Antiquité Tardive* vol. 12 (2004), p. 38-39.

²⁶² Jones, “The Cloth Industry”, p. 190.

²⁶³ Gällnö, “Invisible Spinners”, p. 166-167.

²⁶⁴ Goitein, *Mediterranean Society*, vol. 1, p., 101.

²⁶⁵ *Chronicle of Michael the Syrian*, p. 63.

and spinning”.²⁶⁶ In other Geniza documents spindles are encountered as gifts to the women of the house and small daughters appear to help their mothers with the task of spinning, from which they earned their living.²⁶⁷ The work of female spinners is also implied in the stories about the miracles of saints, like those of al-Sayyida Nafīsa, where the presumably familiar image of a poor woman spinner coming to the market to sell her products emerges.²⁶⁸

However, it is possible that in the 10th and 11th century, when the industrialisation of textile production demanded larger work-force and specialisation, an additional, professional sector of spinning might have emerged, in which men, as in all professional occupations, had the leading role. Al-Shayzarī and Ibn al-Ukhuwwa mention spinners in their manuals for the muḥtasib, warning particularly that flax and cotton spinners and carders should not leave women waiting at their shop doors and that they, as well as spindle makers, should be people of honourable character since they were interrelated with women.²⁶⁹ If spinners is indeed the way to translate the text, these are, in all probability men-hence the warning- and the existence of professional spinners, to which women brought the material they couldn't spin themselves is suggested.

The truth is that we don't know what was women's contribution to large-scale production and how large establishments were provided with the spun yarn, but it seems that even the spinning, practised by women for major industrial manufacturing after the 10th century was carried out at home, since there is no indication that women either worked with men or had special workshops reserved for them.²⁷⁰ In any case, Rapoport points out that the work of women, even when practised at home, was an integral and indispensable part of the textile industry and much of what they did had a market value, “even if the male authors of the texts at our disposal seldom give credit to women's contribution to the urban economy”.²⁷¹ It appears that it is rather simplistic to consider

²⁶⁶ Goitein, *Mediterranean Society*, vol. 1, p. 127.

²⁶⁷ *Ibid.*, vol. 3, p. 236 and vol. 5, p. 37

²⁶⁸ Yossef Rapoport, *Marriage, Money and Divorce in Medieval Islamic Society*, Cambridge 2005, p. 35.

²⁶⁹ Shayzarī, *The Book of the Islamic Market Inspector*, p. 89; Ibn al-Ukhūwah, *Ma'ālim al-Qurba*, Arabic text p. 142, 143, 225, trans. p. 45, 46, 90. There is apparently a confusion of terminology in the translations, since the same terms are used to designate spinners, carders and sellers of the material (*katān* for those dealing with flax and *qaṭān* for those dealing with cotton. See also, Shatzmiller, *Labour*, p. 121). Levy, in the *Ma'ālim al-Qurba* translates the term *katānīn* as “spinners of flax” and the term *qaṭānīn* as “spinners of cotton”, but then mentions that they carded the cotton in their shops. Buckley, in the identical part of Shayzarī's, *The Book of the Islamic Market Inspector*, translates the same terms as “spinners of flax” and “carders of cotton”. It could be, of course, that these professionals did both the carding and the spinning, but it is in any case difficult to identify their exact specialisation.

²⁷⁰ Shatzmiller, *Labour*, p. 358-359.

²⁷¹ Rapoport, *Marriage, Money and Divorce*, p. 32.

women's work purely domestic and of no economic importance, as it engaged a large part of the population and is also attested in business transactions, as an occupation from which money could be earned.²⁷²

Weavers: associations, apprenticeships, religious background and social position

While spinning was basically women's work, weaving was practised by both men and women, though men seem to have been prevalent when it came to professional weaving. Weavers were distinguished mainly according to the fabric with which they worked. The term *γέρδιος-gerdios*,²⁷³ appearing from the 2nd century onwards, seems to signify both linen and wool weavers. The linen weavers (*λινούφοι- linouphoi* or *λινύφοι- linyphoi*) appear to have been the most numerous.²⁷⁴ Other categories are also mentioned in the Greek papyri, like the *ταρσικάριοι-tarsikarioi*,²⁷⁵ makers of another type of linen that imitated that from Tarsus in Cilicia, which was very fashionable in the Mediterranean area and which appears in papyri from the 2nd until the 8th century.²⁷⁶ Other specialists were the *καυνακοποιοί- kaunakopoiōi*²⁷⁷ of the Byzantine period, namely the weavers of the woollen overcoats called *kaunakia* or, later *gonachia*.²⁷⁸ In the Arabic papyri, the term for a weaver is encountered (*nasāj*)²⁷⁹ and weavers of linen (*kattān*) and silk (*mulhim*) are also attested in the Geniza documents.²⁸⁰

Decorative techniques, like tapestry and embroidery, demanded special knowledge and experience and some kinds of textiles even demanded the setting up and the operation of special looms. Consequently, the specialisation of weavers in one type of decorative weave can be

²⁷² See also Dross-Krüpe, *Wolle-Weber-Wirtschaft*, p. 48-51.

²⁷³ BGU I 21 (4th c.), p. 35; P.Ant. II 109 (6th c.), p. 117-118; SB X 10464 (7th c.), p. 110; CPR XXII 39 (8th c.), p. 203-205.

²⁷⁴ P.Anag. p. 192 (6th c.); P.Cair.Masp. I 67116 (6th c.), p. 181-183; P.Cair.Masp. II 67147 (6th c.), p. 81-82; P.Cair.Masp. III 67288 (6th c.), P. 32-39; P.Brookl. 19 (7th-8th c.), p. 31-32; P.Lond IV 1446 (8th c.), p. 358-359; CPR XXII 39 (8th c.), p. 203-205.

²⁷⁵ BGU I 34 (4th c.), p. 45-50; P.Flor. I 13 (6th c.), p. 33-34; BGU III 750 (7th c.), p. 58; CPR XIV 16 (7th c.), p. 58-59; P.Ross.Georg. III 56 (8th c.), p. 238-241.

²⁷⁶ Wipszycka, *L'industrie*, p. 110.

²⁷⁷ P.Cair.Masp. I 67094 (6th c.), p. 133-135; P.Cair.Masp. III 67283 (6th c.), p. 15-23; P.Lond. IV 1419 (8th c.), p. 166-230.

²⁷⁸ Federico Morelli, "Gonachia e kaunakai nei papiri", *The Journal of Juristic Papyrology* vol. 32 (2002), p. 55-56. See also chapter 2a. Materials, p. 72.

²⁷⁹ P.Cair.Arab. I 41 (9th c.), p. 85-91.

²⁸⁰ Goitein, *Mediterranean Society*, vol. 1, p. 90.

presupposed. The only specialisations of this kind that are attested in the sources are that of *πλουμάριος- ploumarios* in the Greek papyri,²⁸¹ designating either an embroiderer or tapestry weaver,²⁸² also with the implication that the occupation could be taken up by women (*τῶν πλουμαρισσῶν τέχνην- tōn ploumarissōn tehnēn*),²⁸³ and that of embroiderers (*maṭraz*), found in the *Ma'ālim al-Qurba*.²⁸⁴

In the Byzantine period, the makers of garments also used to weave bedding, coverings and hangings,²⁸⁵ but in the Islamic period a greater division of labour is attested. Shatzmiller records a large number of specialists of the textile industry in Islamic lands, some of which also occur in sources from Islamic Egypt (10th-14th century), like the *dawraqī*, “maker/seller of caps”, the *hibrāwī*, “silken shawl maker”, the *khaīshī*, “weaver/seller of low grade flax”, the *maqāni'ī*, “maker/seller of women’s scarves/veils”, the *marāwihī*, “fan maker”, the *sutūrī*, “maker of curtains, veils, screens” and the *ṭanāfisī*, “maker/seller of carpets, mats”.²⁸⁶

The weavers of carpets (*ταπητάριος- tapētarios, ταπητῶς- tapētas*),²⁸⁷ and cushions (*τυλοπλόκος- tyloplokos, τυλοφάντης- tylophantēs*),²⁸⁸ appear to have been altogether different specialists.²⁸⁹

²⁸¹ P.Cair.Masp. II 67163 (6th c.), p. 121-125; P.Apoll. 38 (7th c.), p. 91-93; P.Apoll. 65 (7th c.), p. 143-144; P.Bad. IV 97 (7th. c.), p. 150-151.

²⁸² Dross-Krüpe and Annette Paetz gen. Schieck, “Unravelling the Tangled Threads of Ancient Embroidery: A Compilation of Written Sources and Archaeologically Preserved Textiles ” in *Greek and Roman Textiles and Dress, An Interdisciplinary Anthology*, Mary Harlow and Marie-Louise Nosch eds., Ancient Textiles Series vol. 19, Oxbow Books 2014, p. 209-219.

²⁸³ P.Aberd. 59 (5th-6th c.), p. 60-61.

²⁸⁴ Ibn al-Ukhuwwa, *Ma'ālim al-Qurba*, Arabic text p. 139, trans. p. 44.

²⁸⁵ Wipszycka, *L'industrie*, p. 118.

²⁸⁶ Shatzmiller, *Labour*, p. 119-123.

²⁸⁷ P.Bad. IV 53 (4th c.), p. 17-20; P.Oxy. XLII 3045 (4th c.), p. 109; P.Mert. I 33 (4th c.), p. 117; P.Oxy. LXIII 4399 (5th-6th c.), p. 170-173.

²⁸⁸ PSI XII 1239 (5th c.), p. 27-29; Wipszycka, *L'industrie*, p. 120; Stud.Pal. VIII 823 (6th c.), p. 151.

²⁸⁹ Wipszycka, *L'industrie*, p. 119.

Weavers or workmen who helped with the use of the loom or did secondary tasks, also worked in weaving establishments as salaried workers, as the census documents in which they are described as *λινούφορος μίσθιον*- *linouphos misthion* indicate.²⁹⁰

The absence of any occupations specifically related to state factories among the great number of textile specialists mentioned in the written sources of the Islamic period, could signify that the *tirāz* factories did not constitute a supplementary dimension in the division of labour. It seems that the same specialisations existed and sometimes the very same individuals worked in both individual and *tirāz* production.²⁹¹ This absence, although it might be a chance of survival, could corroborate the already formulated argument that these establishments were possibly not organised as industrial factories, but the workers worked on their own account, forming partnerships of different sizes and conditions amongst themselves and getting paid by the pieces they produced.²⁹²

During the Byzantine period, the organisation of workers and artisans in associations, according to their specialisation is attested in the documentary sources. Associations of tailors and of makers of the *kaunakia* are attested in two documents from Aphrodito of the 6th-7th century.²⁹³ In two documents of the 5th and 6th century, the word *ἐπιστάτης*- *epistatēs*, “supervisor”, mentioned in regard to the cushion makers in Antinopolis,²⁹⁴ and to the linen weavers in the Arsinoite,²⁹⁵ may refer to the head of such an association, as does the word *κεφαλαιωτής*- *kephalaiōtēs*.²⁹⁶ However, we do not have more information about their organisation and hierarchical structure, apart from the fact that each association presumably had a supervisor or a

²⁹⁰ Jones, “The Cloth Industry”, p. 188. Also SB I 4503 (605 or 607), p. 374-375 from Panopolis, where a weaving assistant is hired for two years with the salary increasing in the second year; Ines Bogensperger, “Papyri on Textiles from Panopolis: Textile Production, Workshops and Craftsmen, Trade and Industry according to Documentary Texts from Late Antique Egypt”, in *The Textile Centre Achmīm-Panopolis (Egypt) in Late Antiquity: Material Evidence for Continuity and Change in Society, Religion, Industry and Trade: Proceedings of the International Conference Organised by Georg-August-Universität Göttingen in Cooperation with Skulpturensammlung und Museum Für Byzantinische Kunst Der Staatlichen Museen Zu Berlin-Preußischer Kulturbesitz, Göttingen, 28-30 September 2017*, Rafed El-Sayed and Cäcilia Fluck eds., Reichert Verlag 2020, p. 136-139.

²⁹¹ Shatzmiller, *Labour*, p. 245.

²⁹² Goitein, *Mediterranean Society*, vol. 1, p. 81-82.

²⁹³ P.Hamb. I 56, p. 198- 209; Roger Rémondon, “P.Hamb. 56 et P.Lond. IV 1419 (notes sur les finances d'Aphrodito du VIe siècle au VIIIe)”, *Chronique d'Égypte* vol. 40 (1965), p. 401-430; P.Cair.Masp. III 67283, p. 15-23; *Women and Society in Greek and Roman Egypt: A Sourcebook*, Jane Rowlandson, and Roger S. Bagnall, eds., Cambridge University Press 1998, p. 20.

²⁹⁴ PSI XII 1239 (5th c.), p. 27-29.

²⁹⁵ P.Anag. p. 192 (6th c.).

²⁹⁶ SB XVI 12717 (640-650), p. 322-323.

manager, that they were established in both towns and villages, and that participation was not compulsory but most craftsmen joined them.²⁹⁷

The most important task of these organisations was to collect the taxes, thus ensuring the interests of the state, but also to help the members who owed money to private individuals, as well as to organise social and religious life.²⁹⁸ It appears that in Byzantine times, they tended to be more and more dependent on the state and used by it.²⁹⁹ A document of the middle of the 7th century from Herakleopolis throws some light on the tasks of the associations.³⁰⁰ A flax worker guarantees to the head of the dyers' association for a dyer, who has just been released from prison, stating that the dyer in question will perform his tasks, and he commits to bring him back to prison if he doesn't. It appears therefore that workers' associations were also responsible for, or were supervising the legal status of their members and the completion of the tasks assigned to them.

The presence of such associations is not clearly attested in the sources after the Islamic conquest. Documents of the second half of the 7th century refer to “the common of saddle makers” (*τό κοινόν τῆς ἐργασίας τῶν σελλοποιῶν- to koinon tēs ergasias tōn sellopoiōn*) and to “the headman of the fishermen” (*κεφαλαιωτής τῶν ἀλιέων- kephalaiōtēs tōn halieōn*),³⁰¹ but for how long these structure continued to function in the same or a different form, cannot be established. In the Geniza letters groups of weavers are mentioned, like the “silk weavers”, possibly suggesting partnerships of one or more workshops.³⁰² A combination of partnerships in two different cities is also attested and also a case of a silk cooperative in al-Mahalla in Lower Egypt, which opened a store in Fustāṭ, near another such corporation and combined with it.³⁰³ It is therefore reasonable to assume that some forms of professional associations existed in the Islamic period, but these did not

²⁹⁷ Wipszycka, “Textiles”, p. 2219.

²⁹⁸ I.F. Fikhman, “Sur quelques aspects socio-économiques de l’activité des corporations professionnelles de l’Égypte byzantine”, *Zeitschrift für Papyrologie und Epigraphik* vol. 103 (1994), p. 36-40.

²⁹⁹ Fikhman, “Corporations professionnelles”, p. 23.

³⁰⁰ SB XVI 12717 (640-650), p. 322-323.

³⁰¹ CPR XIV 32, p. 71-74; P.Ross.Georg. III 53, p. 223-232.

³⁰² Goitein, *Mediterranean Society*, vol. 1, p. 84, 87.

³⁰³ *Ibid.*, p. 88.

have the form of medieval guilds and their specific organisation and functions cannot be determined.³⁰⁴

It appears that, in the Byzantine period, the profession of the weaver was usually hereditary. There is no evidence to suggest that this was dictated by state laws rather than by the practical advantages of a son taking up the profession of his father.³⁰⁵ It seems that this practice, and the notion of family business, continued after the Islamic conquest.³⁰⁶

Slaves involved in the textile industry are not mentioned in the written sources of our period. They might have played an auxiliary role in domestic weaving, family workshops or large-scale production, but this role remains obscure.

A young man or woman was taught the profession of weaving or any other related profession through apprenticeship. The papyri of the Byzantine era include contracts of apprenticeship of different durations, extending from 1 to 5 years.³⁰⁷ The apprentices were usually initially not paid for their work but, in long-term contracts, wages were given to them, usually after the third year. Apprentices became important and low-cost assistants for weavers who needed help in their work.

Some of the contracts refer to weavers' children who were sent to other weavers as apprentices. Why this was done is not clear, but it could be explained by the inability of the parents, perhaps because of old age, to teach their own children.³⁰⁸ Of course many more weavers' children must have learned the craft with their parents, but in this case no contracts existed. Apprentices could also be taught the art of weaving by monks in monasteries.³⁰⁹ A very interesting ostrakon, dating from the 7th-8th century gives detailed instructions for the weaving of a textile and it seems

³⁰⁴ Lombard, *Les textiles*, p. 210; Bernard Lewis, "The Islamic Guilds", *The Economic History Review* vol. 8, no 1 (November 1937), p. 21. For a discussion of the different views on the subject see Abbas Hamdani, "The Rasa'il Ikhwan al-Safa' and the Controversy About the Origin of Craft Guilds in Early Medieval Islam", in *Money, Land and Trade. An Economic History of the Muslim Mediterranean*, Nelly Hanna ed., London, New York 2002, p. 162-167. See also Shatzmiller, "Human Capital Formation in Medieval Islam", *Workers of the World*, vol.1, no 3, (May 2013), p. 52-55. For workers' associations see Bessard, *Caliphs and Merchants*, p. 230-232.

³⁰⁵ Wipszycka, *L'industrie*, p. 61-62.

³⁰⁶ Bessard, *Caliphs and Merchants*, p. 225.

³⁰⁷ For example, P.Aberd. 59 (5th-6th c.), p. 60-61. For an interpretation of these durations and more information on apprenticeship contracts see also Maria Mossakowska-Gaubert, "A New Kind of Loom in Early Roman Egypt? How Iconography Could Explain (or not) Papyrological Evidence", in *Egyptian Textiles and their Production*, p. 18-19.

³⁰⁸ Ethel Brewster, "A Weaver of Oxyrhynchus: Sketch of a Humble Life in Roman Egypt", *Transactions and Proceedings of the American Philological Association* vol. 58 (1927), p. 139.

³⁰⁹ P.Kellis I 12 (4th c.), p. 35-38.

that, when master and pupil were literate, teaching could be facilitated and lessons memorised better by writing down the basic guidelines.³¹⁰

The apprenticeship system in all probability continued after the conquest, as in many other professions,³¹¹ although contracts of the Islamic period are scarce. So far, only one example regarding the textile industry is known. It is a contract from the Geniza archive, signed in 1027 in Fustāt,³¹² with which a father hired out his son to a weaver for four months, in return for a monthly payment of 15 *dirham* which would then be changed to the regular wages of a workman, both father and son making legally binding stipulations. It is possible that because of the legal practices of Islamic society, written documents for this kind of arrangement were not always considered necessary and agreement was, in most cases, done orally.³¹³

During the Roman and Byzantine periods, weavers belonged mainly to the Coptic speaking population of Egypt, but Greeks also practised weaving.³¹⁴ Was there a difference between the textiles woven by Copts and those woven by Greeks? Of course, certain distinguishing traditions may have been present, but the lack of evidence does not allow, at the moment, a more specific answer. In any case, what was most important in the production of fabrics was not the origin of the weaver but the tastes and preferences of the client.³¹⁵

The question of the craftsmen that were employed in the textile industry after the Islamic conquest has also often been discussed. It appears that, at least for the first two centuries of Islamic rule, as literary sources dating to the 9th and 10th century report, the majority of the weavers were Copts.³¹⁶ This does not come as a surprise, considering the long weaving experience and tradition of Egyptians, and, of course, the small number of the Muslim population and Arab settlers in Egypt, at least until the 9th century.

Serjeant argues that the absence of the epithet “Copts” in Nāṣir-i Khusraw’s description of Tinnīs and its weavers in the 11th century, might suggest that the population had been converted to

³¹⁰ O.Vind.Copt. 17, p. 5-6.

³¹¹ Shatzmiller, “Human Capital Formation”, p. 55-58.

³¹² Goitein, *Mediterranean Society*, vol. 3, p. 237.

³¹³ Shatzmiller, “Human Capital Formation”, p. 58-60.

³¹⁴ Wipszycka, “Textiles”, p. 2219-2220.

³¹⁵ *Ibid.*, p.2221.

³¹⁶ *Chronique de Michel le Syrien*, p. 63-64; Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 213, trans. Collins, *The Best Divisions*, p.185, 195; Yāqūt, *Kitāb Mu’jam al-buldān*, vol. 2, p. 472. It is not always easy to clarify the meaning of the term “Copt”, but in all probability, the writers refer to the indigenous Egyptians who were also Christians, as opposed to the Muslim conquerors.

Islam.³¹⁷ Also, in the 11th century account of the textile industry of Tinnīs of the *Book of Curiosities*, based on the authority of Ibn Bassām, who served there as a market inspector (*muhtasib*), the word “Copt” is not mentioned.³¹⁸ It is possible that the Coptic population of the Delta, most of whom were weavers, was affected by the islamisation processes pursued by caliphs like al-Ḥākim in the 11th century.³¹⁹ The emigration of Arab tribes in the Delta region and Upper Egypt, must have also contributed to a demographic change.³²⁰ Therefore, by the 11th century, larger parts of the Egyptian population were now Muslims and the population of weavers was not an exception. At the same time, it appears that a large portion of the remaining Christians in the 13th century, whether in urban or rural settings, were weavers,³²¹ a fact that attests to the strong tradition of weaving among Egyptian Christians. In any case, with the dominance of Islamic culture, evident especially from the 11th century onwards,³²² the distinction of the weavers’ religious or ethnical background ceased to have any practical meaning.

Weavers had, of course, to pay taxes. In Byzantine Egypt a tax named *γερδιακόν- gerdiakon*, a division of the *χειρωνάξιον- cheirōnaxion*, the general tax on trades, was imposed on the weavers,³²³ but it does not appear to have been exceptionally burdensome. Tax was based on the number of looms the weavers possessed and on the quantity of raw material they processed. Other workers of the industry also paid taxes according to their profession, and we also know about the *ἀναβολικόν- anabolikon*, a tax paid in kind - namely flax or textiles- by both weavers and linen traders.³²⁴ Under Islamic rule, taxes appear to have been of much the same kind, with the exception of the poll tax (*jizya*) for the Christian and Jewish population.³²⁵ Lists of the 7th-8th and 10th-11th century that record the number of looms that each weaver possessed, were probably intended for tax payment.³²⁶

³¹⁷ Serjeant, “Material”, *Ars Islamica* vol. 13, p. 95-96; Thackston, *Nāṣer-e Khosraw’s Book of Travels*, p. 38-39.

³¹⁸ *The Book of Curiosities*, Arabic text p. 194-198, trans. p. 470-474.

³¹⁹ Lev, “Tinnīs”, p. 93, 96.

³²⁰ Dunn, *The Struggle for ‘Abbasid Egypt*, p. 191-203. See also chapter 2b. Techniques, p. 84.

³²¹ Rapoport, *Rural Economy*, p. 208-210.

³²² See chapter 2d. Inscriptions, p. 126-127.

³²³ Brewster, “A Weaver of Oxyrhynchus”, p. 146.

³²⁴ For this tax see Jennifer A. Sheridan, “The Anabolikon”, *Zeitschrift für Papyrologie und Epigraphik* vol. 124 (1999), p. 211-217.

³²⁵ For the poll tax see p. 36.

³²⁶ For example, CPR X 63 (7th-8th c.), p. 109-111; P.Cair.Arab. VI 387 (10th-11th c.), p. 83-85.

The socio-economic status of weavers and other workers of the textile industry does not seem to have been particularly elevated. The papyrological evidence of the Byzantine period suggests that most of the weavers were neither poor nor rich.³²⁷ The fact that, in the case of state orders, the government paid the weavers in advance, because they themselves didn't have the money to purchase the material for the ordered clothing, and also the evidence of a surviving contract of a purple-dyer from the beginning of the 7th century, which mentions a very humble wage,³²⁸ indicate that the workers of the industry were people of limited resources.³²⁹ Of course, differentiations existed and we can assume that the status of a large workshop owner must have been better than that of a weaver working alone, and that specialists were better paid for their work.³³⁰ Nevertheless, no cases of extreme poverty are attested in the papyri of the period.

Lombard, on the contrary, based on the narrative sources, argues that during the Islamic period, the majority of the weavers in the Delta was very poor.³³¹ Also, in the already mentioned description of the Christian patriarch Dionysius, who visited the Delta in 815, the lives of the weavers are presented as almost unbearable. They themselves appear to claim that their conditions of life were very hard, that they couldn't afford to pay the enormous taxes, and that they were often sent to prison or were obliged to give their children away as slaves.³³² The great burden of taxes for the weavers is also described by other writers of the Islamic period, like al-Muqaddasī, who states that the taxes were exceptionally high especially in Tinnīs, Damietta and the banks of the Nile.³³³

Yāqūt, in his geographical dictionary, based on the authority of al-Muḥallabī, a writer of the 10th century, also stresses that the weavers in Damietta and Tinnīs, who made those exceptionally fine garments, were the lowest and humblest of people as regards their food and drink.³³⁴

Does this imply a deterioration of the economic status of the weavers, possibly after the 7th century? Could it be just a matter of evidence survival or the fact that the narratives reflect the writers' political, religious and dynastic preferences? Although all these might have some credit, it

³²⁷ Wipszycka, *L'industrie*, p. 81.

³²⁸ Allan Chester Johnson and Louis Caulton West, *Byzantine Egypt: Economic Studies*, Princeton 1949, p. 124.

³²⁹ Jones, "The Cloth Industry", p. 188.

³³⁰ Lombard, *Les textiles*, p. 157.

³³¹ Ibid.

³³² *Chronique de Michel le Syrien*, p. 63-64.

³³³ Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 213, trans. Collins, *The Best Divisions*, p. 195.

³³⁴ Yāqūt, *Kitāb Mu'jam al-buldān*, vol. 2, p. 472-473.

is indeed possible that the tax burden in the first centuries of Islamic rule was heavier than in Byzantine times and its collection more rigorously enforced,³³⁵ and that the status of the weavers and other craftsmen worsened.

This situation is connected with a general social disruption from the second half of the 7th and at least until the 9th century, exemplified in the large number of fugitive peasants, who abandoned their lands mainly because of the tax burden,³³⁶ and in peasant rebellions,³³⁷ revealing an economic crisis that also affected the workers of the textile industry. One of the reasons for this crisis might have been overtaxation. It is known that a new capitation or poll tax on adult males was introduced during the first century of Islamic rule, which disproportionately burdened the lower classes.³³⁸ The designation of the Egyptian land during the 'Abbasid period as land conquered without treaty and, therefore, *kharāj* land, susceptible to taxation, also worsened the status of tax payers.³³⁹ Also, the wars that affected Egypt in the 7th century, namely the Persian and Islamic conquests, must have also taken their toll.

The deterioration of the weavers' status can also be connected with a slow and steady decrease of the workmen's and craftsmen's salaries, which seems to have taken place in the 8th century, which can be attributed to the growth of the population and the surplus of manpower.³⁴⁰

In the 11th century, the Geniza documents reveal an improvement, testifying that weavers, at least Jews, belonged to the well-to-do urban classes,³⁴¹ though it is possible that this picture is misleading. In the Geniza we also find a list of donors to the needy, where a silk weaver appears to have contributed one and a half dinar, the same sum as that donated by several shopkeepers and a doctor,³⁴² a fact that indicates that his financial position was probably similar to that of a middle class entrepreneur. However, we should take into account that this case might not have applied to every weaver, or that silk weavers were better paid than others, and it is logical to assume that,

³³⁵ Clive Foss, "Egypt under Muāwiya Part II: Middle Egypt, Fustāt and Alexandria", *Bulletin of the School of Oriental and African Studies*, Vol. 72, Issue 2 (June 2009), p. 275. For the burden of taxation especially on Christians during the 'Abbasid period see Dunn, *The Struggle for 'Abbasid Egypt*, p. 158-162.

³³⁶ Frantz-Murphy, "Land Tenure in Egypt," pp. 241-42.

³³⁷ Bondioli, *Peasants, Merchants and Caliphs*, p. 48-49.

³³⁸ Sijpesteijn, *Shaping a Muslim State*, p. 179; Legendre, "Aspects of Umayyad Administration", in *The Umayyad World*, Andrew Marsham ed., London: Routledge 2021, p. 138.

³³⁹ Frantz-Murphy, "The Economics of State Formation", p. 110-112.

³⁴⁰ Ashtor, *Social and Economic History*, p. 153, 200-202.

³⁴¹ Goitein, *Mediterranean Society*, vol. 1, p. 77.

³⁴² *Ibid.*, p. 78.

throughout the period under discussion, craftsmen who ran their own workshops were better off, while those working in larger establishments or in the villages and were closely dependent upon the merchants for the commercialisation of their production, were in a worse financial position. The picture emerging from the Geniza rather reflects the former group, and might therefore, be misleading as to the social status of the weavers in general.³⁴³ If we take into account a growing inequality among society in the Fāṭimid period, which accompanied and, possibly was the source of the economic and commercial growth of Egypt in the 11th century,³⁴⁴ we can imagine that the expansion of the textile industry was also based upon the cheap labor and the exploitation of the industry workers.³⁴⁵

Nāṣir-i Khusraw mentions that the weavers of Tinnīs made special expensive clothes for the sultan of their own free will, a fact that was in contrast with the practice in other countries, where the government and the sovereign imposed forced labour on the artisans.³⁴⁶ Of course, Nāṣir's pro-Fāṭimid sentiments could have affected his descriptions and there is, in fact, evidence to suggest that work could have been imposed on weavers, as has also been the case for other workers.³⁴⁷ The petition of a Jewish weaver from Damascus to the Fāṭimid caliph is centred around his enforcement to work for the government under unfavourable conditions.³⁴⁸ Also, Ibn Ḥawqal mentions that Ibn Killis, the wazir of al-ʿAzīz, levied forced labour on the weavers of Tinnīs, although his general account of the lamentable situation of the town seems somewhat exaggerated.³⁴⁹

The consumers: ordering and buying garments

Weavers made clothes and other kinds of textiles either on their own initiative, intending to sell them in the market, or following specific orders from their clients, which could also be textile merchants. Accordingly, clients who were in need of clothes could either purchase a ready-made piece, or place an order specifying their requirements. Requests for purchasing or making of

³⁴³ See also Bondioli, *Peasants, Merchants and Caliphs*, p. 196-199.

³⁴⁴ For this view see Ashtor, *Social and Economic History*, p. 200; Bondioli, *Peasants, Merchants and Caliphs*, p. 198-199.

³⁴⁵ Bondioli, *Peasants, Merchants and Caliphs*, p. 199.

³⁴⁶ Thackston, *Nāṣir-e Khosraw's Book of Travels*, p. 40.

³⁴⁷ Shatzmiller, "Human Capital Formation", p. 56.

³⁴⁸ Lev, "Tinnīs", p. 90; Goitein, "Petitions to Fāṭimid Caliphs from the Cairo Geniza", *The Jewish Quarterly Review*, New Series vol. 45, no 1 (July 1954), p. 32-36.

³⁴⁹ Michael Brett, *The Rise of the Fatimids*, Leiden Brill 2021, p. 338; Ibn Ḥawqal, *Kitāb Ṣūrat al-ard*, p. 153, trans. *Configuration*, p. 150-151.

clothes, and deliveries of clothing items are very frequently found in the papyri and ostraca, although it is not always easy to ascertain whether these requests are addressed to weavers and, therefore, regard garments made-to-order, or to relatives or friends who, in all probability, lived or intended to travel to larger towns and could more easily find and buy ready-made clothes.³⁵⁰ Sometimes, exact instructions are given as to the type of weave and the measurements of the required garment.³⁵¹ In an Arabic letter of the 9th century, for example, the request is explicitly specific: “I should like you to buy for me...a garment, new article, light, full in width, nine spans in front, not clinging but easily flowing...with black or red borders, soft to the touch, delicate, made in Shaṭā”.³⁵²

A picture of the transactions between weavers and clients and of the frauds that were sometimes attempted is given by al-Shayzarī in his ḥisba manual, in which he states that weavers should weave a length of cloth well and closely textured, to the full length and width agreed upon, and not to sprinkle the cloth with flour or roasted gypsum while it is being woven, because this conceals its coarseness and makes it appear closely textured. He also warns that, if a weaver takes yarn from someone to weave him cloth, he must take it by weight. Then, after weaving, he should wash the cloth and return it to its owner, also by weight.³⁵³ This practice is also reflected in the Geniza documents, where in most cases concerning orders of clothing, the materials, like threads, appear to have been given to the weavers by the clients and to have been weighed before and after the manufacture of the articles ordered.³⁵⁴

The large amount of orders for custom-made clothing found in the papyri of the Byzantine and Early Islamic period seems to suggest that most clients ordered their garments. Custom-made was also the solution in areas where the garment market was restricted. In one case, a correspondent in the Fayyūm complains that he cannot find trousers anywhere and asks for a piece of cloth from which he can cut out one.³⁵⁵

³⁵⁰ Wipszycka, *L'industrie*, p. 77.

³⁵¹ P.Ant. I 44 (4th-5th c.), p. 101-102; P.Cair.Arab. VI 390 (9th-10th c.), p. 91-93; David Samuel Margoliouth, *Catalogue of Arabic Papyri in the John Rylands Library, Manchester*, Manchester 1933, p.93, no 4, p. 97, no 11; Khan, *Bills, Letters and Deeds*, p. 44, no 14 (9th c.); Khan, *Arabic Papyri: Selected Material from the Khalili Collection*, Oxford 1992, p. 178-181, no 22 (9th c.).

³⁵² P.Cair.Arab. V 308, p. 78-80.

³⁵³ Shayzarī, *The Book of the Islamic Market Inspector*, p. 85-86.

³⁵⁴ Goitein, *Mediterranean Society*, vol. 1, p. 90.

³⁵⁵ P.Marchands V/1 8 (9th c.), p. 19-22.

On the other hand, in the Geniza documents, ready-made clothing seems to be the rule.³⁵⁶ It is, therefore, possible that, after the growth of the industry in the 10th century, ready-made garments became more easily accessible and cheaper than before. Also, the intervention of merchants and the developed network of textile commerce they created, especially after the 9th century, might have also helped to make ready-made the easier option.³⁵⁷

The price of a garment depended naturally on the material, the dye and the complexity of the weave and decoration, but, in general, it appears that in Byzantine and Early Islamic Egypt, clothes were not cheap commodities.³⁵⁸ Instead of money, garments could also be purchased by exchanging food products, like oil, wheat and honey.³⁵⁹

The investors: merchants, caliphs and elites

It seems that during the Byzantine period most of the clients bought their clothes straight from the weavers, but textile merchants (*ἱματιοπώλης- himatiopōlēēs*) also operated within the country and they either owned shops or traded their goods by travelling around the towns and countryside, as was also done for other products.³⁶⁰

Evidence for cloth merchants (*bazzāz*) are also found in Arabic papyri in accounts of orders and deliveries of garments.³⁶¹ The profession of a cloth merchant could also be taken up temporarily: Frantz-Murphy supports the idea that religious scholars frequently financed their studies by acting as merchants, like a certain Ibrāhīm ibn al-Sirrī ibn Sahil, who, as Maqrīzī informs us, traded textiles in Tinnīs.³⁶²

The role of merchants in the clothing industry seems to have become more important in the course of the 9th century, when they often started to take the role of investors. Their part in the expansion of textile manufacture is extensively studied and amply stressed by Bondioli, who connects their ascendancy to the ‘Abbāsīd tax reforms, which substituted the tax payments in kind

³⁵⁶ Goitein, *Mediterranean Society*, vol. 4, p. 179.

³⁵⁷ See below, p. 40-42.

³⁵⁸ Selander, “Textilien”, p. 49. Also, Ashtor, based on the Geniza documents, has presented a table with the prices of various garments compared to the monthly wages of working class people during the Fāṭimid period. Ashtor, *Social and Economic History*, p. 200.

³⁵⁹ P. KellisCopt. 44 (4th c.), p. 254-259; *Les ostraca coptes*, p. 223, no 324.

³⁶⁰ Bowman, *Egypt After the Pharaohs*, p. 107.

³⁶¹ P.Cair.Arab. VI 391 (8th-9th c.), 392 (9th c.), p. 93-101; Margoliouth, *Arabic Papyri*, p. 93, no 4.

³⁶² Frantz-Murphy, “A New Interpretation”, p. 287-288.

with payments in cash. This made merchants indispensable for the tax payer producers, including weavers, who needed to sell their products in order to obtain cash for the payment of their taxes.³⁶³ Of course, the merchant class included various categories. There were houses who dealt with large quantities of textile products and traded across the Mediterranean and smaller entrepreneurs who were mostly active in regional markets.³⁶⁴

The aforementioned documents of the Banū ‘Abd al-Mu’min, the family of Fayyūmī traders, offer an insight into the practices of the latter category. It appears that the same people could trade both in fabrics and ready-made clothing, as the family is attested to sell textiles from the Fayyūm to the capital and garments from the capital to the Fayyūm.³⁶⁵ There were basically three ways of doing business: the Fayyūmī merchant could buy the textiles or garments from his area, and his agents could sell it to retailers in the capital; otherwise, the Fayyūmī trader could be directly associated with a retailer in the capital, or could deal with the retailer’s agents. The first path seems to have been preferred.³⁶⁶ There were, consequently, two types of traders: those that collected the textiles from various weavers and forwarded them to the shop keepers, and those who sold the textiles to the final consumers. The first could be associated with today’s wholesale dealers, while the latter with the retailers.³⁶⁷ The different paths of wholesale or retail selling of goods, directly or through brokers, also appear in the Geniza letters.³⁶⁸

For the Fayyūmī traders, the usual system was to commission specific types and numbers of clothing items to several village weavers, pay for them in advance,³⁶⁹ then collect the items and send them, usually on a weekly basis, to Fustāṭ or other towns, in order to be sold,³⁷⁰ an

³⁶³ Bondioli, *Peasants, Merchants and Caliphs*, p. 130-135. It seems that this policy was the culmination of the monetisation of tax payments that had already started in the reign of Justinian and was intensified under Umayyad rule. See Banaji, *Exploring the Economy*, p. 216-218.

³⁶⁴ Goldberg, *Trade and Institutions*, p. 116.

³⁶⁵ Rāḡib, “Marchands d’Egypte”, p. 28.

³⁶⁶ *Ibid.*, p. 31-32.

³⁶⁷ *Ibid.*, p. 32.

³⁶⁸ For the different options of trading see Goldberg, *Trade and Institutions*, p. 113-114.

³⁶⁹ The payments in advance were actually a form of loan to the weavers, who, possibly, couldn’t meet the costs of production or the commissions on their own. See Bondioli, *Peasants, Merchants and Caliphs*, p. 174-175.

³⁷⁰ Rāḡib, *Marchands d’étoffes du Fayyūm au IIIe/IXe siècle d’après leurs archives (actes et lettres)*, Le Caire: Institut français d’archéologie orientale 1982, vol. 1, p. 6–29, documents number II-IX. For the commissions see also Naïm Vanthieghem, “Les archives des marchands d’étoffes du Fayoum revisitées I. Un nouveau *ḡikr ḡaqq* du marchand Abū Hurayra”, *Archiv für Papyrusforschung und verwandte Gebiete* vol. 60, no. 2 (2014), p. 406-412.

organisation of production often described as a “putting out” or *Verlagssystem*.³⁷¹ The large number of documents indicates that this model was widespread in rural regions. It also suggests a certain dependence of weavers upon merchants, as the former did not commercialise their production themselves. The contracts the weavers made with merchants were always short term (eleven weeks at the maximum).³⁷² They could be renewed, if the merchants were satisfied with the services,³⁷³ but this was no certainty, a fact that left the weavers with a lot of insecurity and could have also led them to seek additional money-raising activities in order to survive.³⁷⁴

The existence of this production system already in the Roman and Byzantine period has also been supported in the past by some scholars, like Reil and Wipszycka,³⁷⁵ while others, like Dross Krüpe have argued against it.³⁷⁶ The truth is that the evidence that has been occasionally used to support the idea is insufficient. But the lack of evidence does not necessarily equal non-existence. One of Dross-Krüpe’s arguments is that the “putting out” system is characterised by low specialisation and qualification of workmanship, which cannot be applied in the case of Egypt. However, as we already saw, the “putting out” system is well documented in the 9th century, when there was a high level of both specialisation and qualification. Therefore, the operation of this system in Byzantine Egypt cannot be excluded.

Other sources of the Islamic period indicate that weavers could also be employed by traders as wage workers, but, again, their working conditions do not seem to have been particularly favourable. In the chronicle of Michael the Syrian, some weavers in the Delta complain to the patriarch Dionysus that the merchants paid them only half a silver coin per day.³⁷⁷

What is certain is that merchants after the 9th century invested a significant capital and had a major role in the organisation of textile production, collecting and transforming raw materials and textiles from different regions of Egypt into trade products, and, as we have already seen, also

³⁷¹ For the *Verlagssystem* see Medick Kriedte and Jürgen Schlumbohm, *Industrialization before Industrialization: Rural Industry in the Genesis of Capitalism*, New York: Cambridge University Press 1981, p. 101–110. Also Bondioli, *Peasants, Merchants and Caliphs*, p. 169-178.

³⁷² Rāgīb, *Marchands d’ étoffes*, vol. 1, p. 6–29, documents number II-IX.

³⁷³ Ibid., “Marchands d’Egypte”, p. 28.

³⁷⁴ Bondioli, *Peasants, Merchants and Caliphs*, p. 175.

³⁷⁵ Theodor Reil, *Beiträge zur Kenntnis des Gewerbes im hellenistischen Ägypten*, Leipzig 1913, p. 108; Wipszycka, *L’industrie*, p. 98-102.

³⁷⁶ Dross-Krüpe, “How (not) to Organise Roman Textile Production”, p. 128-138.

³⁷⁷ Bondioli, *Peasants, Merchants and Caliphs*, p. 190; *Chronique de Michel le Syrien*, p. 63.

playing an important part in the management of the *tirāz* workshops.³⁷⁸ The connections these merchants were creating between regional producers and central markets, Egyptian or not, and the commercialisation of artisanal creations helped to sustain local textile manufacture and facilitated the dispersion of textiles across Egypt and the Mediterranean,³⁷⁹ encouraging thus the inspiration and imitation of types and designs. However they do not appear to have been involved in any vertical organisation of manufacture, integrating all stages, from raw material to finished products,³⁸⁰ a fact possibly aiming at minimising the risk if problems in the markets, the shipments or the prices appeared.³⁸¹

Bondioli, therefore, argues that it was the activities and ventures of this rising class of traders that was behind the expansion of the textile industry in the 10th century, rather than those of state officials.³⁸² Banaji has already noted that the penetration of merchant capital into production was well advanced in Early Islamic economy of the 'Abbāsīd period, creating pre-capitalist classes involved in large scale manufacture and trade.³⁸³

The role of traders was indeed very important, but we should not overlook the active interest and similar ventures of caliphs and state elites, who had both the means and the incentive to put money in the textile industry. This practice, which was a conscious investment in the development of the country's resources, has already been seen in the *tirāz* system, and, as will be shown below, was also combined with investments in flax cultivation and trade, favoured by the formation of local, Egyptian-centred landed elites, and the revival of international commerce.³⁸⁴ Therefore, there is no reason to conclude that it was only the initiatives of the merchants that led to a sophisticated and intensive textile production in the 10th century, as the caliphal and elite involvement, whether setting the tone or following the trend, cannot be underestimated. A collaboration between merchant and caliphal/state capital must also have been a common occurrence, as already seen in the case of the *tirāz* factories, the terms of which, however, are yet unknown to us.

³⁷⁸ See chapter 1b. Weaving workshops and factories, p. 17.

³⁷⁹ Goldberg, *Trade and Institutions*, p. 339.

³⁸⁰ *Ibid.*, p. 101-105.

³⁸¹ *Ibid.*, p. 115-119. However, the evidence for the merchants' activities in the Islamic period mainly come from the Geniza and this increased anxiety for their capital might primarily apply to the Jewish merchants, whose position, as a religious minority, was more at stake. See *ibid.*, p. 179.

³⁸² Bondioli, *Peasants, Merchants and Caliphs*, p. 212-214.

³⁸³ Banaji, *Exploring the Economy*, p. 219-221.

³⁸⁴ See chapter 2a. Materials, p. 74-75.

Did the officials and aristocrats of the Byzantine period conduct similar investments? We do not have sufficient information, but this possibility cannot be discarded. Papyri from the Apion archive, one of the most renowned and rich family estates in Byzantine Egypt in the Oxyrhynchus area, suggest that the estates dealt with flax cultivation and wool production. For example, in P. Oxy XIX 2243a, a group of the estate's workers appears to have bought flax from the household, in P. Oxy XVI 2033 some inhabitants of an estate village pay the overseer of the estate in flax, and in P. Oxy XVI 1911 the estate appears to lease flocks of sheep to its tenants.³⁸⁵ It is therefore possible that landowning elites of the Byzantine period were also involved in the textile industry. In any case, their enterprises do not seem to have been as important³⁸⁶ as those of the elites and officials from the 9th century onwards. Egypt was not, during the Byzantine period, financially autonomous and, therefore, its agricultural revenue and industry was arranged in a manner that served the needs of the distant capital in Constantinople.³⁸⁷

The degree to which the weavers were contingent upon the investors of the industry, whether these were traders or state elites, varied. There is no firm evidence to suggest that wage or paid-in-advance weavers were completely cut off from the market and dependent solely on their financiers, not only for the selling of their products but also for the provision of raw materials.³⁸⁸ In other words, it is not possible to establish whether materials and means of production both belonged to the entrepreneurs instead of the textile producers, a situation that would equal the complete dependence of the latter.³⁸⁹ What can only be inferred is that such cases of absolute subordination, if existent in our period, were by no means the dominant situation. This fact is attested firstly by the persistent references to small, independent textile workshops, operating well into the Islamic period,³⁹⁰ and also by the already mentioned absence in the sources of terms referring explicitly to workers in the *tirāz* system, indicating that, possibly, these workers wove textiles for other clients too.³⁹¹

³⁸⁵ Peter Sarris, "The Early Byzantine Economy in Context: Aristocratic Property and Economic Growth Reconsidered", *Early Medieval Europe* vol. 19, no 3 (2011), p. 270-271.

³⁸⁶ For the role of estates in textile production see also Wipszycka, *L'industrie*, p. 90-95.

³⁸⁷ Sarris, "The Early Byzantine Economy in Context", p. 262-263.

³⁸⁸ For the view that merchants also provided the weavers with the raw materials, thus making them completely reliant see Bondioli, *Peasants, Merchants and Caliphs*, p. 173-174.

³⁸⁹ For this type of capital penetration and its reasons see Kriedte and Schlumbohm, *Industrialization before Industrialization*, p. 102-107.

³⁹⁰ See chapter 1b. Weaving workshops and factories, p. 10.

³⁹¹ See p. 31

In any case, it is evident that, after the 9th century, at least some branches of textile manufacture, tended to become more centrally controlled not by the producers themselves, but by capital investors.

Other craftsmen

Other artisans who also worked in the cloth industry and dealt with the textiles after they had come out of the loom are the fullers (*γναφεῖς- gnaphéis or κναφεῖς- knapheis*)³⁹² who must have done the washing and the beating of the garments to make them ready for wearing. The latter owned special workshops that had to be near a water source and, apart from the processing of new cloths, they also worked with used pieces that were brought to them to be renovated.³⁹³ In one document of the 6th century, a woman working as a fuller is attested, but we do not know whether this was a common occurrence.³⁹⁴ Fullers are also mentioned in the Geniza letters, together with sprinklers (*mumarrish*) and pressers (*kammād*), who sprinkled, beat and pressed the garments in order to give them a denser and smoother appearance.³⁹⁵ Fullers (*qaṣār*) in the *Ma'ālim al-Qurba*, are instructed not to steal from the stuffs entrusted to them nor to wear them, thereby insinuating that these malpractices often happened.³⁹⁶ Tailors (*ῥάπτης-rhaptēs* in Greek, *khiyāṭ* in Arabic) also appear very frequently in the sources.³⁹⁷ Their exact occupation is not clearly specified, but we can assume that they dealt with the textiles that needed tailoring after they had been woven or that they even embellished them, applying extra cloth bands.³⁹⁸ An idea of the tasks performed by tailors is given in the *Ma'ālim al-Qurba*, where the cutting and shaping of the neck of the garment and the equal shaping of the sleeves and skirts is described.³⁹⁹

To all these categories employed in the textile industry, we should add the loom makers and the craftsmen who produced various tools used in weaving, like spindles and shuttles, as well as the

³⁹² BGU 1 21 (4th c.), p. 33-35; P.Bad. IV 95 (6th c.), p. 113-149; P.Cair.Masp. I 67020 (6th c.), p. 45-48; P.Cair.Masp. III 67283 (6th c.), p. 15-23; P.Bad. IV 97 (7th c.), p. 150-151; P.Lond. IV 1419 (8th c.), p. 166-230.

³⁹³ Wipszycka, *L'industrie*, p. 130.

³⁹⁴ P.Iand. III 43 (6th c.), p. 106-107.

³⁹⁵ Goitein, *Mediterranean Society*, vol. 4, p. 178.

³⁹⁶ Ibn al-Ukhuwwa, *Ma'ālim al-Qurba*, Arabic text p. 139, trans. p. 44.

³⁹⁷ P.Cair.Masp. II 67143 (6th c.), p. 73-76; P.Cair.Masp. III 67288, (6th c.), p. 32-39; P.Oxy. XVI 1883 (6th c.), p. 85-87; SB XXVI 16347 (7th c.), p. 4-6; CPR XXII 4 (7th c.), p. 38-46.

³⁹⁸ Wipszycka, *L'industrie*, p. 122.

³⁹⁹ Ibn al-Ukhuwwa, *Ma'ālim al-Qurba*, Arabic text p. 137, trans. p. 44.

producers of dyestuffs. Arabic papyri of the 9th century even mention specialists like needle makers (*ibari*).⁴⁰⁰ The information on the role of all these secondary categories of artisans is little, if existent at all. Two things are certain: first, that the occupation of the Egyptian population in the weaving industry was significant at all times and especially after the 9th-10th centuries, when, as we have already seen, entire villages in the Delta region appear to have been involved in it,⁴⁰¹ and, second, that there was great specialisation and division of labour.⁴⁰² This is not surprising, for the sophistication and complexity of the economic structure of Egyptian society is well attested since Ptolemaic times,⁴⁰³ although it didn't necessarily reflect back then a high degree of technical achievement or developed merchandise.⁴⁰⁴ Specialisation reaches a climax with the growth of textile production in the 10th century, a fact that is surely indicative of the industry's increasing economic importance.

1d. State control and monopolies

Such an important industry was not left unattended by the state. Throughout the period under discussion, restrictions were imposed to certain luxurious products and the export of textiles was closely supervised.

In the *Codex Theodosianus* of the 5th century, it is clearly stated that the weaving of borders of gold or of silk interwoven with gold on garments for private use was forbidden, as well as the possession of all-purple clothes.⁴⁰⁵ During the reign of Justinian, the import of silk in the Byzantine Empire was carefully controlled. The most well-known regulation is Justinian's novel "On silk", which stated that only the appointed *kommerkiarioi*⁴⁰⁶ could import silk and fixed its maximum

⁴⁰⁰ P.Cair.Arab. I 48, p.108-118.

⁴⁰¹ *Chronique de Michel le Syrien*, p. 63-63.

⁴⁰² See also the different categories catalogued in Shatzmiller, *Labour*, p. 119-123.

⁴⁰³ Bowman, *Egypt After the Pharaohs*, p. 120.

⁴⁰⁴ Wipszycka, *L'industrie*, p. 127-128.

⁴⁰⁵ Clyde Pharr, *The Theodosian Code and Novels and the Sirmondian Constitutions*, New York 1969, p. 288, Title 21.

⁴⁰⁶ For the *kommerkiarioi* see also chapter 1b. Weaving workshops and factories, p. 19.

price at 15 gold coins for a pound of yarn.⁴⁰⁷ When sericulture was introduced into the Empire, in the middle of the 6th century, a state monopoly on the production of silk seems also to have existed, with its weaving being restricted to state factories.⁴⁰⁸

After the Islamic conquest, restrictions continued to be imposed on the industry, mainly regarding revenues. Especially under the Fāṭimids, a carefully organised sector supervising and dealing with textile production developed. The Fāṭimids gave special importance and were particularly involved in the expansion, organisation and control of textile manufacture.⁴⁰⁹ When the administrative system was expanded, the *dīwān al-amwāl*, responsible for financial affairs, was divided into fourteen sections, two of which were the *dīwān khazā'in al-kiswat*, the bureau of the storehouses of clothing, namely a depository for textiles, and the *dīwān al-ṭirāz*, the bureau responsible for administering the production of *ṭirāz* textiles and the connected financial affairs.⁴¹⁰ It is possible that the latter maintained branch-offices in the major textile producing centres, in order to facilitate direct contact with local workers and dealers. A separate bureau, the *dīwān al-khāṣṣ* was responsible for the administration of the caliph's private finances, possessions and treasuries.⁴¹¹

Certain luxurious types of fabrics were reserved to the exclusive use of the caliph and their exportation was strictly forbidden, at least during the Fāṭimid period. Nāṣir-i-Khusraw describes the unsuccessful efforts of the sovereign of Fars and of the Byzantine emperor to obtain access to the textiles destined for the caliph.⁴¹²

Al-Muqaddasī also refers to restrictions and control over production, stressing that “The Copts may not weave any at all of their superb cotton cloth known by the name of al-Shaṭāwiyya (made in Shaṭā), unless they have the certificate stamped with the seal of the ruler”, and that these materials could not be sold except through appointed brokers or in the presence of representatives of the government.⁴¹³ It appears, though, that what the state was actually interested in, was not so

⁴⁰⁷ For a review on literature and the arguments on the dating and the purpose of the novel see Zuckerman, “Silk”, p. 323-350.

⁴⁰⁸ Robert Sabatino Lopez, “Silk Industry in the Byzantine Empire”, *Speculum* vol. 20, no 1 (January 1945), p. 9-12; Muthesius, “The Byzantine Silk Industry”, p. 5, 65-67; Zuckerman, “Silk”, p. 323-350.

⁴⁰⁹ Lev, “Tinnīs”, p. 88-89; *ibid.*, *State and Society in Fatimid Egypt*, Leiden Brill 1991, p. 65-67.

⁴¹⁰ For the diwan and its creation see Lev, “Tinnīs”, p. 86.

⁴¹¹ Jochen Sokoly, *Dated and Datable Ṭirāz Textiles*, p. 26-27.

⁴¹² Thackston, *Nāṣir-e Khosraw's Book of Travels*, p. 39.

⁴¹³ Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 213, trans. Collins, *The Best Divisions*, p. 195.

much the limited production of luxurious fabrics, but the control over the products' taxation and also over the use of the caliphal protocol.⁴¹⁴

A surviving textile within the Arabic Leinwand collection (A.L. 1) bears testimony of what the seal of the caliph might have looked like, although it postdates our period. It is a linen fabric which has a round stamp in red colour with the name of Mamluk sultan Aybak (1250-1257). The stamp must be related to the mechanisms for controlling textile production, although it has not been possible to find more information on the design and the quality of the textile, which could have revealed aspects of its origin or destination in the market.⁴¹⁵

The export and import of textiles was also under strict control and the payment of customs, dues and taxes was closely supervised. A sophisticated and quite evasion-proof system of taxation of commodities, among which were also textiles, seems to have developed until the Fāṭimid period, aiming at ensuring not only the collection of revenues, but also a positive financial balance between exports and imports.⁴¹⁶ The *Dārs* appear to have been points of transit where items were collected and evaluated by officers authorised by the state.⁴¹⁷ Consequently, a large number of state officials were employed for the supervision of the industry. Al-Muqaddasī describes how the state officers at Tinnīs and Damietta “record what is sold in the register, it is then taken to someone who folds the cloth, then to someone who packs it in straw, then to someone who packs it in a basket, then to one who puts it in a wrapping and at every step a fee is charged”.⁴¹⁸ Ibn Mammātī mentions the officers supervising the *ṭirāz* system and gives an interesting description of the way the orders of the court were forwarded in the form of lists- together with the required money and the gold thread- and of the way the value of the finished articles was checked upon delivery.⁴¹⁹

The Geniza letters also note the Fāṭimid government's practice to take possession of commodities for its own needs, against the wish of the merchants. A letter dated to the beginning of the 11th century, informs us that precious textiles destined for Qayrawān were opened and

⁴¹⁴ Sokoly, *Ṭirāz Textiles from Egypt: Production, Administration and Uses of Ṭirāz Textiles from Egypt Under the Umayyad, 'Abbāsīd and Fāṭimid Dynasties*, DPhil dissertation, University of Oxford 2002, p. 161, 264.

⁴¹⁵ Regourd and Handley, “A Name of a Private Factory”, p. 378; Grohmann, *Allgemeine Einführung in die arabischen Papyri*, vol. 1, part 1: Einführung. Corpus Papyrorum Raineri III, Vienna 1924, p. 59-60 and Abb. 2.

⁴¹⁶ For the analysis of this system see Bondioli, *Peasants, Merchants and Caliphs*, chapter V, p. 218-265.

⁴¹⁷ Ibid., p. 224-235.

⁴¹⁸ Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 213, trans. Collins, *The Best Divisions*, p. 195-196.

⁴¹⁹ Serjeant, “Material”, *Ars Islamica* vol. 13, p. 104.

thoroughly examined in al-Mahdiyya, being passed on only if the official in charge decided not to purchase them for the government.⁴²⁰ In another letter from Alexandria, dated to 1140, a merchant reports that “All the silk that arrived was detained for the government with the exception of that of poor quality”.

Al-Shayzarī and Ibn al-Ukhuwwa, as we have seen, mention several regulations concerning the quality of the products and the workmanship of private weavers and tailors,⁴²¹ but these could be considered as instructions intended to guard the honesty and morality of the craftsmen rather than as restrictions imposed on production.⁴²²

1e. Centres of production

Identifying textile production premises is difficult since they almost never leave diagnostic debris in the archaeological record and, on the other hand, inscriptions on textiles, naming specific places of production are rare. Thus, how can we determine where textiles were actually made? Several indications should be taken into account, like the places with a concentration of textile finds carrying common characteristics -technical or iconographical-, the location of the earliest known examples of a certain kind of technique, the written sources and, when available, also archaeological finds, such as spindle whorls and other textile tools.⁴²³

It appears that during the Byzantine period and the first two centuries of Islamic rule, a large part of textile production came from provincial towns and villages. However, after the 9th century production became more centralised with the emergence of large, industrialised textile centres in the Delta. This doesn't mean that household production or small workshops ceased to exist, but rather that the majority of textiles circulating in the market were mass-produced in large centres.

A geographical aspect in the organisation of textile centres across Egypt becomes apparent, with environmental factors and commercial routes definitely playing a part in their emergence and flourishing.

⁴²⁰ Goitein, *Mediterranean Society*, vol. 1, p. 268.

⁴²¹ Shayzarī, *The Book of the Islamic Market Inspector*, p. 85, 86, 89; Ibn al-Ukhuwwa, *Ma'ālim al-Qurba*, Arabic text p. 135-140, trans. p. 43-44.

⁴²² See also Ghabin, *Hisba*, p. 11-13.

⁴²³ Shamir, “Cotton Textiles”, p. 2.

One of the problems of research on the centres of Egyptian textile production is the lack of continuity of information. Most of them are usually mentioned in secondary literature and textile catalogues only in relation to certain time periods. Surviving textiles attributed to Bahnasā, for example, date from the 8th-9th centuries, while the so-called Fayyūmi textiles seem to emerge after the 10th century, therefore, production in these areas before or after that specific period remains unexplored. An effort to fill this gap and reconstruct the activities and the time frame of operation of some of the most important centres will be made here, taking into consideration both the written sources and the evidence of the surviving textiles.

During the Byzantine period, Alexandria, Panopolis (Akhmīm), Antinopolis and Oxyrhynchus (Bahnasā) were major production centres. Qasios, a town east of the Delta region, is also mentioned as a village famous for its linen textiles.⁴²⁶

To begin with, Alexandria, an important industrial, commercial and cultural centre during the Byzantine period, is a possible case of continuity. Its geographical position on the Mediterranean coast and on a central branch of the Nile, made Alexandria a link between the Egyptian mainland and the Mediterranean, and, therefore, an important commercial centre throughout the period under discussion. The port of Alexandria was the main departure centre for ships towards Ifrīqiya, Sicily, Spain, Christian Europe and Byzantium. The establishment and growth of Fuṣṭāṭ, with which it was closely integrated and also connected through an artificial canal, navigable during flood periods,⁴²⁷ only intensified its role.

However, evidence, especially for the city's Islamic period, is scarce. Few papyri from the area survive, and no textile fragment can be securely attributed to it.⁴²⁸ As already mentioned, several scholars, have suggested that in the Byzantine period an imperial silk factory operated in Alexandria, although the existence of such factories in Egypt is debatable.⁴²⁹ The written sources, and the existence of *ṭirāz* pieces mentioning the name of the city (VIII 6, dating to the last decades of the 9th century, and comparanda⁴³⁰), suggest that Alexandria was important in the textile manufacture of the Early Islamic period. Al-Maqrīzī, quoting earlier sources, states that

⁴²⁶ Stephani Byzantii, *Ethnikon quae supersunt*, A. Westermann ed., Lipsiae 1839, p. 446. This town is also mentioned by writers of the Islamic period as manufacturing silk striped garments (see Serjeant, "Material", *Ars Islamica* vol. 13, p. 113-115).

⁴²⁷ Miriam Frenkel, "Medieval Alexandria – Life in a Port City," *Al-Masāq* vol. 26, no 1 (2014), p. 9.

⁴²⁸ A group of samite silks with Christian scenes, datable to the 8th-9th century, has been attributed to the town by some scholars. See *Byzantium and Islam*, no 101, p. 152-153.

⁴²⁹ See chapter 1b. Weaving Workshops and Factories, p. 14.

⁴³⁰ Kühnel and Bellinger, *Catalogue*, no 73.634, p. 11, pl. IV.

Alexandria's industry flourished under the Fāṭimids and that the city was one of their major textile suppliers.⁴³¹

The textile production of the town of Oxyrhynchus, south of the Fayyūm, during the Byzantine period is mainly known through the written sources, namely the papyri found in the town. There is no surviving fabric, datable to before the conquest that can be safely attributed to that centre. Nevertheless, Van Minnen, based on a list of a weekly exportation of garments on a papyrus of the 2nd-3rd century, estimates a yearly production of 100.000 textile pieces (or about 15,000-20,000 complete pieces of cloth), destined mainly for export outside the town.⁴³² It might be far-fetched to deduce the amount of yearly export from the data of a single week, but, in any case, the numbers indicate an important centre of textile production and trade. The shipment of goods all over Egypt is a recurring theme in the papyri of the Byzantine period from Oxyrhynchus.⁴³³ indicating that communication and trade from the town was a low cost and easy process. The area of Oxyrhynchus is also known to have produced considerable amounts of flax and also wool in the Byzantine period,⁴³⁴ and the easy accessibility to raw materials undoubtedly contributed to its development.

Oxyrhynchus/Bahnasā continued to play an important role after the conquest. A large number of textile fragments datable to the 8th and 9th centuries are associated with that centre, based on their similarity in iconography, colours and style with two pieces in the MIC, which bear inscriptions mentioning the *ṭirāz* of that town.⁴³⁵ Although provenance cannot be positively proven for all the associated textiles, it seems possible that many, if not all of these pieces, were made in Bahnasā or a neighbouring centre that imitated the style of this prominent town. Bahnasā's flourishing textile industry during the first centuries of Islamic rule is corroborated by the written sources. The town figures often in the narratives of historians and geographers as a major textile centre, famous particularly for its production of curtains, which bore images of all kinds of animals and were made of linen and wool.⁴³⁶ *Bahnasī* curtains appear in the trousseau lists of the Jewish

⁴³¹ Maqrīzī, *Khiṭaṭ*, vol. 1, trans. U. Bouriant and P. Casanova, *Description topographique*, p. 415.

⁴³² Peter Van Minnen, "The Volume of the Oxyrhynchite Textile Trade", *Münstersche Beiträge zur Antiken Handelgeschichte* vol. 5, no 2 (1986), p. 88-95.

⁴³³ Wickham, *Framing the Early Middle Ages*, p. 247.

⁴³⁴ Bagnall, *Egypt in Late Antiquity*, p. 82-83.

⁴³⁵ MIC 14.913 and 15.017 in Cornu and Martiniani-Reber, *Tissus d'Égypte*, p. 93 and 108.

⁴³⁶ Ibn Ḥawqal, *Kitāb Ṣūrat al-ard*, p. 150, trans. Kramers and Wiet, *Configuration de la terre*, p. 157; Ya'qūbī, *Al-Buldān*, p. 170, trans. Wiet, *Les pays*, p.186.

brides in the Geniza as the most popular type of curtains, in one case also described as being ornamented with figures of lions.⁴³⁷ They seem to have been so famous, that in 956 we find a pair among the possessions of a bride in Damascus.⁴³⁸ It is not clear, however, whether *Bahnasī* was meant as a type of fabric, named after the prominent textile centre, or as signifying the actual origin of these curtains, or, of course, if the word had concurrently both uses.

The surviving textiles corroborate the written evidence. The pieces attributed to Bahnasā, consist of bands with large scale animal friezes, and also of roundels with birds and quadrupeds, most of which belong to hangings or other furnishing textiles (I 8-18 and comparanda⁴³⁹). Most of the textiles attributed to Bahnasā have woollen and linen wefts and a linen warp, usually S-spun and paired, or less often, S-spun **Z-plied**. Ochre, khaki and dark blue are the predominant colours for the former, while the latter are mainly white and dark blue with some ochre details. Although the degree of abstraction among the pictured animals varies, they are generally characterised by an elegant execution.

It seems logical that at least some of the workshops of the town continued operating after the 9th century, although nothing is known about their production. Some indication of this continuity is provided by pieces like I 22, the design and colours of which are similar to those of the Bahnasā group, but it is decorated with silk tapestry. It is possible, therefore, that after the 9th century, the weavers of the town started experimenting with silk tapestries, following the trend and the wide introduction of silk in the industry.

It should be acknowledged, however, that the large number of surviving papyri mentioning textiles, and also of textiles attributed to Bahnasā in museums and collection, may also reflect the intensity of archaeological investigation at this site.

Further up the Nile, Panopolis (Akhmīm), situated on the eastern banks of the river and occupied uninterruptedly since Pharaonic times, carried an important role in the administration, religion and culture,⁴⁴⁰ and was also a renowned centre of textile production during the Byzantine

⁴³⁷ Goitein, *Mediterranean Society*, vol. 4, p. 119-120.

⁴³⁸ *Ibid.*, p. 120.

⁴³⁹ Cornu and Martiniani-Reber, *Tissus d’Egypte*, nos 43 and 44, p. 100-101; Alexandra Lorquin, *Les tissus coptes au musée national du Moyen Age-Thermes de Cluny: catalogue des étoffes égyptiennes de lin et de laine de l’Antiquité tardive aux premiers siècles de l’Islam*, Réunion des musées nationaux 1992, nos 85 and 86, p. 228-230; Alisa Baginski and Amalia Tidhar, *Textiles from Egypt: 4th–13th Centuries C.E.*, Jerusalem, 1980, no 147, p. 106.

⁴⁴⁰ Arielle Winnik, “Egyptian Textiles and Networks of Exchange Prior to and Following the Arab-Islamic Conquest”, in *The World of the Ancient Silk Road*, Liu Xinru ed., Routledge 2022, p. 392.

period.⁴⁴¹ A group of two-coloured wool and linen tapestries bearing a distinctive interlaced motif decorated with the flying shuttle technique, datable to the 3rd-6th centuries, have been attributed to Panopolis, although similar textiles have also been found on other sites across Egypt.⁴⁴²

It seems that the town continued being important after the conquest, although no positive provenance is possible for the textiles attributed to it. The so-called “Akhmīm” silks, a group of fabrics found at the site and radiocarbon-dated between the 7th and 10th centuries (e.g. IX 3),⁴⁴³ were possibly made there, indicating a continuity of similar production before and after the conquest. In a group of these textiles known as the “Zachariou silks”, Greek inscriptions mention the names of Zacharias and Joseph, which might be referring to the much venerated saints of Egypt, or, as other scholars have proposed, to names of workshops or weavers.⁴⁴⁴ Other Akhmīm silks, similar in iconography and execution to the “Zachariou” group, bear Arabic inscriptions with invocations to God.⁴⁴⁵ It is possible that those with the Arabic writing are of a later date, exemplifying the gradual linguistic change in the country.⁴⁴⁶ But their stylistic affinities make it also tempting to regard them as simultaneously produced by different weavers or/and for a different clientele.

Another group of textiles with woollen tapestry decoration, datable to the 7th-8th century, are also attributed to the area. Among them are the “David” textiles (II 1 and comparanda⁴⁴⁷) which were all found in the town. The characteristic rendering of the hooked nose of the figures on these textiles, also present on several other pieces associated with Akhmīm, is regarded as a possible local

⁴⁴¹ Rafed el-Sayed, “The Archaeology of Textiles and Textile Production at Akhmīm. Find Spots, Finds and their Contexts”, in *The Textile Centre Akhmīm-Panopolis (Egypt)*, p. 29.

⁴⁴² Winnik, “Egyptian Textiles”, p. 389.

⁴⁴³ Antoine de Moor, Sabine Schrenk and Chris Verhecken-Lammens, “New Research on the So-Called Akhmīm Silks” in *Textiles in Situ*, p. 92-94. Different opinions have been expressed regarding the provenance of these silk pieces and their Egyptian production is not universally accepted. See Marielle Martiniani-Reber, *Lyon, musée historique des tissus: Soieries sassanides, coptes et byzantines Ve-XIe siècles*, Paris 1986, p. 80-81.

⁴⁴⁴ Fluck, “Akhmim as a Source of Textiles”, in *Christianity and Monasticism in Upper Egypt: Volume 1: Akhmim and Sohag*, Hany N. Takla and Gawdat Gabra eds., Cairo: American University in Cairo Press 2008., p. 216.

⁴⁴⁵ For this group of silks and characteristic examples see Grube, “Studies”, p. 76-81; Winnik, “Egyptian Textiles”, p. 392.

⁴⁴⁶ Winnik, “Egyptian Textiles”, p. 392.

⁴⁴⁷ Albert Frank Kendrick, *Catalogue of Textiles from Burying-Grounds in Egypt*, HM Stationery Office, 1920, no 631, p. 14, pl. VIII; Annemarie Stauffer, *Spätantike und koptische Wirkereien*, Peter Lang 1992, p. 246-248; Lucia Guerrini, *Le stoffe copte del Museo Archeologico di Firenze*, Rome 1957, no 108, p. 89-91; Jacqueline Lafontaine-Dosogne and De Jonghe, *Textiles coptes des Musées Royaux D'art Et D'histoire*, Bruxelles: Les Musées Royaux 1988, pl.81.

characteristic,⁴⁴⁸ although it cannot be considered as conclusive evidence for attribution. Akhmīm is also mentioned by Ibn Ḥawqal in the 10th century, especially for its linen scarfs,⁴⁴⁹ and Mas‘ūdī mentions the production of *tirāz* textiles in the area.⁴⁵⁰ Therefore, a versatile manufacture seems to continue in the town at least up to the 10th century.

The nearby town of Athribis, on the west bank of the Nile, seems also to have been a centre of textile production in Late Antiquity, given the large dyeing establishments excavated in it.⁴⁵¹

Miṣr/Fustāṭ became an important textile centre in the 9th century. Fustāṭ was a major metropolis, which grew to become the centre of trade, not only of Egypt, but also of the surrounding north-eastern Mediterranean region.⁴⁵² It was well connected with routes of interior and exterior trade, almost all of which passed through it,⁴⁵³ and was thus able to control not only maritime commerce, but also east-west caravan traffic.⁴⁵⁴ The city’s central position was enhanced by its natural advantages. Not only was it close and well connected to the towns of the Delta and the Mediterranean ports, but it was also situated on the mouth of an ancient canal that connected the Nile with the Red Sea,⁴⁵⁵ It was, therefore, an important market both for raw materials like flax and silk and also for textiles.

Its textile manufacture is basically known from its *tirāz* products. It is only logical that the town, which was built by the Muslim conquerors and became their first administrative centre and the first settlement of the Arab population in Egypt, was a centre of *tirāz* production. It is, however, interesting to note the differences in quality and design of the textiles of its workshops, evident on one hand on pieces embroidered in silk, like VIII 5, VIII 8 (datable to the 9th and 10th century respectively) and comparanda,⁴⁵⁶ and, on the other hand, on tapestry pieces made entirely of wool,

⁴⁴⁸ Stauffer, *Koptische Wirkereien*, p. 248.

⁴⁴⁹ Ibn Ḥawqal, *Kitāb Ṣūrat al-ard*, p. 148, trans. Kramers and Wiet, *Configuration de la terre*, p. 157.

⁴⁵⁰ Kühnel, “The Rug *Tirāz* of Akhmīm”, Textile Museum, *Workshop Notes*, Paper no 22 (1960), p. 1–2.

⁴⁵¹ El-Sayed, “The Archaeology of Textiles and Textile Production at Akhmīm”, p. 35 and 38; W.M. Flinders Petrie, *Athribis*, London 1908, p. 11.

⁴⁵² See Goldberg, *Trade and Institutions*, p. 229-246.

⁴⁵³ *Ibid.*, p. 253-261.

⁴⁵⁴ Jonathan Bloom, *Arts of the City Victorious: Islamic Art and Architecture in Fatimid north Africa and Egypt*, Yale University Press, New Haven and London 2007, p. 53-54.

⁴⁵⁵ For this canal see Power, “The Red Sea”, p. 4.

⁴⁵⁶ Kühnel and Bellinger, *Catalogue*, nos 73.645 and 73.652, p. 6 and 8, pl. II.

or linen and wool.⁴⁵⁷ This diversity of materials and qualities possibly mirrors the diversity of the clientele and the differences between styles and techniques imported from the East and destined for the Muslim elites, and the continuation of long held local Egyptian traditions, destined, possibly, for an emerging local urban class.

Other textile centres appear for the first time -in both the material evidence and the written sources- during the Early Islamic period and nothing is known about their earlier existence. Such is the case of Al-Qays, a small town to the east of and quite close to Bahnasā, which seems to have been an active centre in the 8th and 9th century, producing high quality pieces of distinctive character. The attribution of textiles to al-Qays is based on a piece of the MIC, decorated with fish swimming around plants and bearing an inscription that mention the *ṭirāz* of that town and the date 784-785 (Catalogue p. 152, fig. 2).⁴⁵⁸ The comparable textiles (VI 21, IV 22 and comparanda⁴⁵⁹) share similar technical characteristics (dark blue woollen warp, exclusively woollen wefts, the technique of **two-coloured shed**), and similar colours with predominant red, ochre and blue hues. Although their iconography varies, the decoration of the framing bands is almost identical in all the known examples, therefore, their attribution to the same centre seems plausible. The inscriptions on these pieces differ in style and fillings and range from historical to pseudo-inscriptions. Al-Qays is also mentioned by Muslim geographers as a centre famous for the production of curtains and coats.⁴⁶⁰

A distribution of textile centres all over Egypt is evident until the 9th-10th century, each town having its own specialties in specific materials or types of garments: Ashmūnein (Hermopolis Magna) was known for its linen cloths,⁴⁶¹ Ahnās (Herakleopolis) for its coats,⁴⁶² and, as already mentioned, Akhmīm for its linen scarfs and Bahnasā for its curtains. However, it appears that after the 9th century, and more evidently by the late 10th, the towns of the Delta became the most prominent in the production of textiles. Tinnīs and Damietta grew into important centres, and other

⁴⁵⁷ See, for example the tapestries with inscriptions in the Bouvier, mentioning the private *ṭirāz* of Miṣr, in Cornu and Martiniani-Reber, *Tissus d’Egypte*, no 18, p. 67-68 and no 86, p. 158-159, both datable to the 9th-10th century.

⁴⁵⁸ John Beckwith, *Studies in Byzantine and Medieval Western Art*, London 1989, p. 16-17, fig. 24.

⁴⁵⁹ Cornu and Martiniani-Reber, *Tissus d’Egypte*, nos 10-17, p. 55-66.

⁴⁶⁰ Maqrīzī, *Khiṭāṭ*, p. 204, trans. U. Bouriant and P. Casanova, *Description topographique*, p. 599, quotes al-Kindī, who mentions that al-Qays produced woollen textiles and coats (*aksiya*) and that it was, together with Bahnasa, “the *ṭirāz* of the world”. Ya’ qūbī, *Al-Buldān*, p, trans. Wiet, *Les pays*, p. 185 mentions that the town of al-Qays produces textiles named *qaysiyya* and excellent woollen coats.

⁴⁶¹ Ibn Ḥawqal, *Kitāb Ṣūrat al-ard*, p. 148, trans. Kramers and Wiet, *Configuration de la terre*, p. 156.

⁴⁶² Ya’ qūbī, *Al-Buldān*, p. 170, trans. Wiet, *Les pays*, p.186.

towns and nearby villages, including Dabīq, Tūna, Shaṭā, Ibyār and Dumayra also contributed significantly to textile production. Of course, the large majority of textiles which have not yet been attributed to any known centre, does not allow for a safe conclusion as to the effects that the predominance of the Delta region brought to the distribution of textile production in the country, but some preliminary and tentative hypotheses can be generated.

It appears that the Delta area had been densely populated, urbanised and well integrated into the Egyptian economy as a hub for the Red Sea and Mediterranean commerce, already in the Roman and Byzantine period,⁴⁶³ but its important role in the textile industry is firstly attested by the geographers and travellers of the Islamic period. The textiles made there are praised more than often in the sources for their beauty and high quality. Damietta, that produced fine, white, linen textiles, figures first, with its products being the best in quality and workmanship, and Tinnīs, with its multicoloured cloths and garments closely follows.⁴⁶⁴

Tinnīs, Byzantine Thennesus, is situated on an island of the lagoon on the North-East side of the Delta. It was since the Byzantine period a town living from maritime trade.⁴⁶⁵ In the *Book of Curiosities*, the town is represented in the 10th and 11th century as an organised industrial textile centre. It is said to have had 150 shops specialised in the sale of cloths and garments, 5,000 weaving looms and 10,000 workers “not including the men and women who embroider or adorn clothes”. It also appears to have produced 1,500 chests (400 of which were destined for the Royal Treasury) and 1,000 bales of cloth each year and to have had in its northern suburbs “drying yards for bleaching clothes and beating stones for beating and cleaning them”.⁴⁶⁶

Shaṭā is mentioned as a centre of production of high quality textiles already by Ya‘qūbī in the 9th century,⁴⁶⁷ and also by al-Muqaddasī,⁴⁶⁸ who both refer to the presence of Copts involved in its

⁴⁶³ Katherine Blouin, “What’s Faith Got to Do with it? A Diachronic Perspective on Empire, Land and Religion”, in *Egypt and Empire*, p. 160-161.

⁴⁶⁴ Al-Mas‘ūdī, *Kitāb al-tanbīh wa’l ishrāf*, p. 22, trans. Carra de Vaux, *Le Livre de l’avertissement et de la revision*, p. 35; Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 201-202, trans. Collins, *The Best Divisions*, p. 185; Thackston, *Nāṣer-e Khosraw’s Book of Travels*, p. 39; Ya‘qūbī, *Al-Buldān*, p. 175-176, trans. Wiet, *Les pays*, p. 194-195; Abū Ṣāliḥ, *The Churches and Monasteries of Egypt and Some Neighbouring Countries*, ed. and trans. B.T.A. Evetts, Oxford 1895, Arabic text p. 26, trans., p. 62-63; Ibn Ḥawqal, *Kitāb Ṣūrat al-ard*, p. 143, trans. Kramers and Wiet, *Configuration de la terre*, p. 150;

⁴⁶⁵ Blouin, “What’s Faith Got to Do with it?”, p. 166.

⁴⁶⁶ *The Book of Curiosities*, Arabic text p. 195-197, trans. p. 470-471.

⁴⁶⁷ Ya‘qūbī, *Al-Buldān*, p. 161, trans. Wiet, *Les pays*, p.195.

⁴⁶⁸ Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 202, trans. Collins, *The Best Divisions*, p. 185.

textile industry.⁴⁶⁹ The names of various intendants of the factories of the town are known from *ṭirāz* pieces: Jābir, in 937, following on from one called Shāfi, and Fā'iz, intendant of both the public and private *ṭirāz* of Shaṭā, who was in office from the end of the 'Abbāsīd period to the beginning of the reign of the Fāṭimids and the caliphate of al-Mu'izz (952-975).⁴⁷⁰

The towns and villages of the Delta are known to have specialised in the production of luxurious and expensive textiles that were usually named after the town in which they were initially produced. The most famous varieties mentioned in the works of historians and geographers, but also in the Geniza documents, are *al-dabīqī*, a heavy, luxurious linen fabric often embroidered with silk, used basically on decorative bands and presumably manufactured in Dabīq, and *sharb*, a very fine linen fabric, used mainly for veils, turbans and feminine clothes, the origins of which are, however, unknown.⁴⁷¹ *Tinnīsī*, linen fabrics originally manufactured in the town of Tinnīs were mostly used for bedding and cushions. *Būqalamūn*, an iridescent coloured fabric, another product of this town, is also especially praised in the sources for its properties of reflecting the light and changing colours.⁴⁷² Linen garments from Tūna were also famous for their quality and beauty.⁴⁷³ Fabrics from Shaṭā (*Shaṭāwi*), mentioned in literary sources and the papyri, were also highly esteemed.⁴⁷⁴ Yāqūt gives more details, based on al-Ḥasan ibn Muḥammad al-Muḥallabī, who mentions that Shaṭā and Damietta were famous for their production of very fine and delicate textiles, the price of some of them being 1000 dirhams, although no gold was used in their fabric.⁴⁷⁵ Al-Maqrīzī also quotes al-Fākihī, who saw a *kiswa* (the cloth that covered the Ka'aba in Mecca) from Shaṭā bearing the name of Hārūn al-Rashīd (786-809), the famous 'Abbāsīd caliph.⁴⁷⁶

⁴⁶⁹ For the references to the factories of Shaṭā see Regourd and Handley, "A Name of a Private Factory", p. 377.

⁴⁷⁰ Kuhnel and Bellinger, *Catalogue*, no. 73.214, pl. XVIII and no. 73.638, pls. XXI and XLI, p. 40 and 48.

⁴⁷¹ 'Umar ibn Muḥammad Al-Kindī, *Faḍā'il Miṣr*, p. 67; Ya'qūbī, *Al-Buldān*, p.175-176, trans. Wiet, *Les pays*, p. 194-195; Ibn Ḥawqal, *Kitāb Ṣūrat al-ard*, p. 143, trans. Kramers and Wiet, *Configuration de la terre*, p. 150; Thackston, *Nāṣer-e Khosraw's Book of Travels*, p. 50; *The Book of Curiosities*, Arabic text p. 196, trans. p. 471; For further references see Serjeant, "Material", *Ars Islamica*, vol. 13, p. 92-100. Also Goitein, *Mediterranean Society*, vol. 4, p. 165-167.

⁴⁷² Thackston, *Nāṣer-e Khosraw's Book of Travels*, p. 39.

⁴⁷³ Goitein, *Mediterranean Society*, vol. 4, p. 166-167.

⁴⁷⁴ Muqaddasī, *Aḥsan al-taqāsīm*, p. 202, trans. Collins, *The Best Divisions*, p. 185; Maqrīzī, *Khiṭaṭ*, vol. 1, trans. U. Bouriant and P. Casanova, *Description topographique*, p. 611-612; Also Rāḡib, *Marchands d'étoffes*, vol. 2, p. 74-76.

⁴⁷⁵ Yāqūt, *Kitāb Mu'jam al-buldān*, vol. 3., p. 388.

⁴⁷⁶ Maqrīzī, *Khiṭaṭ*, vol. 1, trans. U. Bouriant and P. Casanova, *Description topographique*, p. 611-612.

The reasons for the prominence of the Delta are multiple. The growth of international trade during the Fāṭimid period, and the region's direct access to the trading ports of the Mediterranean on one hand, and to the Nile on the other, enhanced its position in the Egyptian textile industry. Tinnīs and Damietta were usual entry points into Egypt for commercial ships and the port of Tinnīs is described by Nāṣir-i Khusraw, although possibly with some exaggeration, as always having a thousand ships anchored around it.⁴⁷⁷ Moreover, the population of towns like Tinnīs and Damietta could not, due to their natural environment engage in subsistence agriculture, a fact that also led them to engage in industrial occupations.⁴⁷⁸

Another important factor was the spread of the cultivation of flax in the Delta region, basically initiated in the 9th century by the Ṭūlūnids.⁴⁷⁹ This orientation fuelled an active local Egyptian economy, resulting in a prosperous financial period for the country.⁴⁸⁰ Consequently, the Delta combined the easy provision of raw flax, extensively cultivated in the region, and the easy access to imported raw materials, like cotton and silk -which had started to be employed in the industry- with the proximity to the Mediterranean ports for the export of the finished products.⁴⁸¹

Bondioli argues that it was not so much the state that encouraged the growth of these centralised textile centres, but rather the merchants of these towns, who invested in urban textile production.⁴⁸² It is true that the merchants of the Delta could lay hands on large sums of capital, but we should also consider that the investments of officials and the caliph himself were also important in the area. For example, the ships mentioned by Nāṣir-i Khusraw as being anchored on the port of Tinnīs are reported to have belonged both to traders and the caliph.⁴⁸³

Of course, it is difficult to imagine that, after the growth of the Delta industry, towns like Bahnasā or al-Qays ceased to produce textiles, but it could be assumed that their manufacture diminished in quantity and quality.

⁴⁷⁷ Thackston, *Nāṣir-e Khosraw's Book of Travels*, p. 39.

⁴⁷⁸ Bondioli, *Peasants, Merchants and Caliphs*, p. 181-183, also based on a yet unpublished work by Chris Wickham, "Internal Circulation" (forthcoming).

⁴⁷⁹ Frantz-Murphy, "A New Interpretation", p. 284-285, 288; Lev, "Tinnīs", p. 84. See also chapter 2a. Materials, p. 75-77.

⁴⁸⁰ Matthew S. Gordon, "Aḥmad ibn Ṭūlūn and the Politics of Deference", in *Islamic Cultures, Islamic Contexts: Essays in Honor of Professor Patricia Crone*, Behnam Sadeghi et al. eds., Leiden and Boston: Brill 2015, p. 235-236.

⁴⁸¹ Contadini, *Fāṭimid Art*, p. 43.

⁴⁸² Bondioli, *Peasants, Merchants and Caliphs*, p. 187-189.

⁴⁸³ Thackston, *Nāṣir-e Khosraw's Book of Travels*, p. 39.

Another example of significant, continuing textile production is the Fayyūm area. Towns like Karanis⁴⁸⁴ and Tebtunis (Ṭūṭūn) were active centres during the Byzantine period, but the so called “Fayyūmi” textiles with their distinct style are usually dated from the 9th to the 11th century, though radiocarbon analysis of some specimens has revealed dates as late as the 13th century.⁴⁸⁵ The prototype for the attribution of fabrics to the area is a piece in the MIC, the inscription of which mentions a private *ṭirāz* in the Fayyūm, and bears a peculiar epigraphic style, accompanied by friezes of reductive, angular animals and human figures.⁴⁸⁶

All textiles attributed to the area have a woollen warp and woollen and linen wefts, and they actually constitute the only extended group of surviving woollen tapestry-decorated textiles made after the 10th century (IV 26-31). It is possible that when the massive production of linen textiles was assigned to the large factories of the Delta in the 10th century, the workshops of the Fayyūm continued their specialisation in wool, a material which was always readily available in the oases of the area.

But, apart from wool, the Fayyūm was a centre of intensive cultivation of good quality flax.⁴⁸⁷ Its lands were surprisingly well irrigated all year round, even in years of low Nile and, especially in the Fāṭimid period, the state seems to have taken an active interest in the maintenance of its irrigation system, a practice that can be attributed to a general effort of the Fāṭimids to map and control all of the Egyptian canal routes. The networks established in the area by merchants trading in flax, documented in the Geniza archives, facilitated and intensified the integration of the Fayyūm in the Mediterranean commercial routes, and contributed to the prosperity of the region and its local Christian elites.⁴⁸⁸

⁴⁸⁴ Jane C. Batcheller, *Late Roman Textiles From Karanis, Egypt: An Investigation Into Characterization of Archeological Textiles*, PhD dissertation 2002; Thelma K. Thomas, *Textiles from Karanis, Egypt in the Kelsey Museum of Archaeology: Artifacts of Everyday Life*, University of Michigan, 2001; *Ibid.*, “Reevaluating the Textiles from Karanis”, in *Textiles in Situ*, p. 135-148.

⁴⁸⁵ Radiocarbon dating of KN inv. 711/DM 159B, which is woven in a very fine, silky wool and bears brocaded Coptic and tapestry Arabic pseudo-inscriptions, showed a date from 1029 to 1219, in Antoine de Moor, Chris Verheeken-Lammens and Mark Van Strydonck, “Relevance and Irrelevance of Radiocarbon Dating of Inscribed Textiles”, in *Textile Messages: Inscribed Fabrics from Roman to ‘Abbāsid Egypt*, Cäcilia Fluck and Gisela Helmecke eds., Brill 2006, p. 226.

⁴⁸⁶ The textile responsible for the provenance of these pieces is one in the MIC, bearing an inscription that mentions a private *ṭirāz* factory of the Fayyūm region. See Gaston Wiet, “Tissus et tapisseries du Musée Arabe du Caire”, *Syria* vol.16 Fasc 3 (1935), p. 285-286, pl. XLVIIa; For a presentation of the characteristics of the group see D. Thompson, “A Fāṭimid Textile of Coptic Tradition with Arabic Inscription”, *Journal of the American Research Center in Egypt* vol. 4 (1965), p. 145, footnote 3. See also IV 30

⁴⁸⁷ For the specific areas of flax cultivation see Rapoport, *Rural Economy*, p. 119-121.

⁴⁸⁸ Gil, “The Flax Trade”, p. 85-87; Rapoport, *Rural Economy*, p. 35-47.

Consequently, it comes as no surprise, that, although the textiles traditionally attributed to the Fayyūm are exclusively made of wool, there are also some pieces with linen warp and/or silk wefts, which follow the general iconographic and stylistic rendering of the Fayyūmi workshops (I 20, I 24, II 9). It is, therefore, possible that some Fayyūmi workshops also employed linen and silk and were producing more variant products than those usually attributed to them. Together with the well known shawls and turbans, II 9 may represent a type of furnishing textile woven in the area, and I 24 could indicate an effort of the Fayyūmi workshops to follow the trend for silk tapestry bands that emerged in the 10th century.

Fayyūmi textiles have been associated with the Coptic community, since some of them bear Coptic inscriptions, often together with Arabic ones.⁴⁸⁹ It is true that in the villages of the Fayyūm Christians were still a majority in the 11th century⁴⁹⁰ and their rural society seems to have been dominated by Coptic and not Muslim elites, even at this late date.⁴⁹¹ Is there a connection between the material and the design of these textiles with the religious affiliations of the population of the area? As will be shown below, woollen textiles were not particularly associated with Christian populations or with Christian burial practices.⁴⁹² However, in the village communities of the Fayyūm, where Islamisation was less felt in religion and, possibly, local society, at least until the 11th century, and where the impact of the Muslim elites, who initiated the taste for eastern techniques and materials, like embroidery and silk, was small, weaving might have also continued to follow older traditions, like that of woollen tapestries.

At least part of the Fayyūmi production, came from *ṭirāz* workshops, also mentioned by Arab historians like Ibn Ḥawqal.⁴⁹³ One private *ṭirāz*, that of Ṭūṭūn, is known to have operated in the area during the 9th and 10th centuries.⁴⁹⁴ These textiles bear characteristic tripartite letters (e.g.

⁴⁸⁹ See also chapter 2d. Inscriptions, p. 128-129.

⁴⁹⁰ Jean-Michel Mouton, “La société villageoise au Fayyom de 900 à 1100”, in *Hommes et villages du Fayyom dans la documentation papyrologique arabe (Xe-XIe siècles)*, C. Gaubert and J.M. Mouton eds., Droz 2014, p. 237-242. See also Mouton, “Un village copte du Fayyom au XIe siècle, d’après la découverte d’un lot d’archives”, *Comptes rendus des séances de l’Académie des Inscriptions et Belles-Lettres*, 146e année, no. 2, 2002. Retrieved from <https://doi.org/10.3406/crai.2002.22442>, p. 451, where he estimates that in a specific village (Damūyah), the Coptic population constituted the 80%-90% in the 11th century. The situation, however, was completely reversed two centuries later: see Rapoport, *Rural Economy*, p. 205-211.

⁴⁹¹ Mouton, “Un village copte du Fayyom”, p. 452-453.

⁴⁹² See chapter 2a. Materials, p. 69.

⁴⁹³ Ibn Ḥawqal, *Kitāb Ṣūrat al-ard*, trans. Kramers and Wiet, *Configuration de la terre*, p. 159.

⁴⁹⁴ Maximilien Durand and Simon Rettig, “Un atelier sous contrôle califal identifié dans le Fayyom: le *ṭirāz* privé de Ṭūṭūn”, in *Égypte, la trame de l’Histoire: textiles pharaoniques, coptes et islamiques*, M. Durand and F. Saragoza eds., Somogy 2002, p. 167-170.

IV 27). In Ṭūṭūn, ancient Tebtunis, Byzantine Theodosiopolis, a fullery of the Roman period has been excavated in a central part of the town, and papyrological evidence bears testimony of the processing of textiles in the area,⁴⁹⁵ indicating a continuing weaving tradition, although none of its pre-conquest products can be identified. The town was abandoned by the 11th century,⁴⁹⁶ possibly following a general decline of the Fayyūm area and a desertion of some of its villages after the 1060's, which might have been a result of the political and financial crisis during the reign of al-Mustanşir.⁴⁹⁷ This, together with the fact that none of the 11th and 12th century *ṭirāz* found in the cemetery of nearby Naqlūn come from Ṭūṭūn, implying that the *ṭirāz* of the town no longer existed by then,⁴⁹⁸ provide a terminus ante quem for the textile production of the town.

A group of shawls made in Ṭūṭūn bears both Arabic and Coptic inscriptions.⁴⁹⁹ In the Arabic inscriptions the *ṭirāz* protocol is followed, but the name of the caliph is absent. This has fuelled the theory that the *ṭirāz* of Ṭūṭūn was established in the 9th century by the Ṭūlūnids, who, based on the local, mostly Christian population, tried to promote an Egyptian production, disengaged from the official 'Abbāsid government in Iraq.⁵⁰⁰ However, this theory doesn't seem plausible, given the lack of any official rejection of the authority of Baghdad on Ibn Ṭūlūn's part.⁵⁰¹ The textile evidence, like III 6, dated to the reign of al-Mu'tamid (885-886) and manufactured in Alexandria, proves that the Ṭūlūnids did issue textiles with the name of the 'Abbasid caliph, and continued referring to the 'Abbasid regime. They also used the title *mawlā amīr al-mu'minīn* and kept striking coins with the caliph's name.⁵⁰² It is rather probable that these *ṭirāz*-type textiles, on which the name of the caliph

⁴⁹⁵ Micaela Langellotti, "The Non-Agricultural Economy", *Village Life in Roman Egypt: Tebtunis in the First Century AD*, Oxford 2020, p. 201-206.

⁴⁹⁶ *Egypt: From Alexander to the Copts: an Archaeological and Historical Guide*, Bagnall and Dominic Rathbone eds., London 2004, p. 149-152.

⁴⁹⁷ Rapoport, *Rural Economy*, p. 47-48 and footnote 113.

⁴⁹⁸ Helmecke, "Textiles with Arabic Inscriptions", p. 195.

⁴⁹⁹ See chapter 2d. Inscriptions, p. 129-130.

⁵⁰⁰ Durand, "Inscribed Fabrics from Egypt. A Study in Greek and Coptic Textile Epigraphy", *Journal of Coptic Studies* vol. 11 (2009), p. 174.

⁵⁰¹ Gordon, "Aḥmad ibn Ṭūlūn and the Politics of Deference", p. 229-256.

⁵⁰² Sijpesteijn, "Egypt's Connections in the Early Caliphate", p. 246.

was not mentioned, were private commissions, associated with the flourishing Christian elites of the Fayyūm,⁵⁰³ and not official *ṭirāz* pieces distributed by the caliph.⁵⁰⁴

Although Egypt was a prominent textile producer, it also imported textiles from other countries. Imports from countries like Iran and India are attested throughout our period,⁵⁰⁵ but the Islamic conquest certainly facilitated them, by unifying basic trade routes under one regime. In the Geniza letters, imports of clothing items are reported, either from the Muslim West, like Tunisia, or from the East.⁵⁰⁶ At first glance, it might seem strange that the Egyptians, who possessed such a highly developed textile industry, ordered imported garments, but it appears that certain countries and towns had their own specialisations and the specific types they produced were renowned and sought after.⁵⁰⁷ Besides, the growth of the Mediterranean trade after the 11th century meant that garments circulated in large quantities and Egypt could be both an exporter and importer of such commodities.

1f. The looms

The basic appliance in the weaving industry was the loom, on the form of which depended largely the type of weaving and the patterning of the textile. In Egypt, where the ancient weaving traditions of the Pharaonic period mixed with the traditions of the Greeks and the Roman conquerors, more than one type of loom was in use.

By the beginning of the Christian era, vertical or high warp looms were very widespread in the Mediterranean region. In Egypt, vertical looms with the cloth beam at the bottom had been used

⁵⁰³ Rapoport, *Rural Economy*, p. 44.

⁵⁰⁴ See, for example, the *ṭirāz* of Samuel Ibn-Murqus in Marzouk, “The Turban of Samuel Ibn Musa: The Earliest Dated Islamic Textile”, *Bulletin of the Faculty Of Arts (University Of Cairo)* vol. 16 (1954), Part II, p. 143-151. Also Yedida Stillman, Paula Sanders and Nasser Rabbat, “*Ṭirāz*” in *Encyclopaedia of Islam, Second Edition*, P. Bearman et al. eds., Brill Reference Online. Retrieved from https://referenceworks-brillonline-com.ezproxy-prd.bodleian.ox.ac.uk/entries/encyclopaedia-of-islam-2/tiraz-COM_1228, chapter 2. Development of the *Ṭirāz* institution, para. 6; Sokoly, “Social Fabrics: Early Islamic Egypt through the Lens of Inscribed *Ṭirāz* Textiles”, in *Social Fabrics: Inscribed Textiles from Medieval Egyptian Tombs*, Mary McWilliams and Jochen Sokoly eds., Cambridge, Mass.: Harvard Art Museums 2021, p. 22.

⁵⁰⁵ See for example the textiles with Sasanian birds, the prototypes of which seem to be of Iranian origin, chapter 2c. Iconography, p. 103-104, the tailored eastern costumes found at Antinoe, chapter 2e. Uses, p. 135 and the block printed textiles from India, chapter 2a. Materials, p. 81.

⁵⁰⁶ Goitein, *Mediterranean Society*, vol. 4, p. 180-181.

⁵⁰⁷ For example, Qayrawān and Sūsa in Tunisia were famous for a type of robe called *shuqqa* and Sicily for a type called *farkha*. See Goitein, *Mediterranean Society*, vol. 4, p. 180.

since 2000 B.C., as representations in pharaonic tombs show.⁵⁰⁸ Warp-weighted looms of the European tradition, introduced to Egypt by the Greeks, must have also been in use, but they are not easy to identify, unless loom weights are discovered, or peculiar technical characteristics are recognised on the textiles, like their flat-woven starting borders.⁵⁰⁹ Also, a number of early Coptic textiles show an extreme displacement of the warp ends, a fact that could be attributed to the use of such a loom.⁵¹⁰ The warp-weighted loom was suitable for tapestry weaving, because the use of weights instead of a warp beam makes the warp easily manipulated, but it does not allow for **warp grouping and crossing**, a technical characteristic found in most of Late Antique tapestries.⁵¹¹ Vertical looms were better suited to the weaving of tapestry as the weaver could still easily raise the chosen warps that were right in front of him in order to form the ornament, and also allowed the crossing of the warps with the heddle rods. It appears that the majority of the textiles throughout the period under discussion, whether these were tapestries or **weft-faced compound weaves**, were woven on such a loom.⁵¹² Foot-strap looms might also have been in use, as is proposed by the representation on a painted tunic from the 2nd century from Sakkara.⁵¹³

In Diocletian's Price Edict of 301, which represents an effort to control the prices of many kinds of traded goods and payments in the Roman Empire, though prior to our period, a number of different looms are mentioned, like one for silk (*tela holosericis vestis*), one for part-silk (*tela subsericae vestis*), one for linen (*tela lentiaria*) and one for coarse textiles (*telam ad vestes grossas*).⁵¹⁴ No more details are given as to how different or how popular these looms were, but the existence of looms specialised in the weaving of specific materials is quite remarkable.

⁵⁰⁸ Bellinger, "Textile Analysis: Early Techniques in Egypt and the Near East", Textile Museum, *Workshop Notes*, Paper 2 (June 1950), p. 2-3.

⁵⁰⁹ See, for example the case of Qaṣr Ibrīm in J. P. Wild and F. Wild, "Qaṣr Ibrim", p. 76.

⁵¹⁰ Carroll, *Looms and Textiles*, p. 34.

⁵¹¹ Hero Granger-Taylor, "The Grouping of Warp Threads for Areas of Weft-Faced Decoration in Textiles of the Roman Period: A Means of Distinguishing Looms?", *Vlaamse Vereniging voor oud en hedendaags Textiel Bulletin* (1992), p. 20-21. See also Martin Cizuk and Lena Hammarlund, "Roman Looms – A Study of Craftsmanship and Technology in the Mons Claudianus Textile Project", in, *Purpureae Vestes II. Vestidos, textiles y tintes: estudios sobre la producción de bienes de consumo en la Antigüedad : actas del II symposium internacional sobre textiles y tintes del Mediterráneo en el mundo antiguo (Atenas, 24 al 26 de noviembre, 2005)*, C. Alfaro and L. Karali eds., Valencia 2008, p. 127-130.

⁵¹² Cizuk and Hammarlund, "Roman Looms", p. 127.

⁵¹³ Mossakowska-Gaubert, "A New Kind of Loom", p. 14-16.

⁵¹⁴ Michael Crawford and Joyce Reynolds, "The Aezani Copy of the Prices Edict", *Zeitschrift für Papyrologie und Epigraphik* vol. 26 (1977), (p. 125-151). p. 135.

In the papyri, leasing and selling of looms are recorded, which are referred to as *ἰστός- histos*, *ἰστός ὄρθιος- histos orthios*, “upright loom”, or *ἰστός γερδιακός- histos gerdiakos*, “weaver’s loom”, or *ἰστός τῶν ἐπικαρσιῶν- histos tōn epikarsiōn*, possibly for the weaving of chequered **twill** fabrics, usually with details as to their measurements and technological characteristics.⁵¹⁵ Other types of looms are also mentioned in the papyri, like the *ἰστός ταρσικοῦφικός- histos tarsikoiphikos*,⁵¹⁶ probably for the weaving of the linen textile *tarsikon*, but its special characteristics are not described.

Textile evidence, like the patterns and the weave faults of Roman damask silks,⁵¹⁷ suggests that horizontal draw-loom with multiple heddle-rods were used in Egypt since the 3rd century. The heddle-rods were not mechanically operated, but one or more assistants, who sat alongside the loom, raised the heddle-rods according to the weaver’s commands.⁵¹⁸

In Early Islamic Egypt, both horizontal draw-loom and vertical looms were used, depending on the desired textile structure, the horizontal being more suitable for compound weaves, while the vertical for tapestries. Looms are mentioned in the Arabic papyri in lists of persons who possessed them, in all probability for taxation reasons, but their type is not specified.

An advanced type of loom, the horizontal treadle operated loom, known in China as early as the second half of the first millennium BC,⁵¹⁹ is first mentioned in western literature by Rabbi Solomon Izhaqi, commonly called Rashi, who lived in France between 1040 and 1105,⁵²⁰ so we can conclude that the treadle loom was widely used in Europe by the 11th century. The pit looms of the 11th or 12th century discovered in a domestic environment in Selime, Cappadocia, suggest that by the 11th century such looms were also widespread in the Near East,⁵²¹ and provide a possible link between the Chinese and the European treadle looms, via the Islamic world. It is logical to assume

⁵¹⁵ Mossakowska-Gaubert, “A New Kind of Loom”, p.16-18.

⁵¹⁶ P.Oxy. LXVI 4534 (335), p. 212-214.

⁵¹⁷ De Jonghe and M. Tavernier, “Les damassés de la Proche-Antiquité”, *Bulletin de Liaison CIETA* vol. 47/48 (1978), p. 14-42.

⁵¹⁸ Wild, “The Roman Horizontal Loom”, *American Journal of Archaeology* vol. 91, No 3 (July 1987), p. 461-465.

⁵¹⁹ Dieter Kuhn, “Silk Weaving in Ancient China”, *Chinese Science* vol. 12 (1995), p. 77–114.

⁵²⁰ Eleanora Carus-Wilson, “Haberget: A Medieval Textile Conundrum”, *Medieval Archaeology* vol. 13, no 1, (1969), p. 165.

⁵²¹ Jennifer Ball, “The Missing Link: Filling the Gap in the Evolution of Medieval Domestic Looms”, *Journal of Archaeology* vol. 91 (1987), p. 38-44.

that this invention found its way into Europe from China through the Silk Road.⁵²² It is possible, therefore, that the foot-powered loom was introduced to Egypt after the Islamic conquest, when relations with Central Asia and China intensified, although the available evidence for its existence in Egypt -or anywhere else in the Eastern Mediterranean- prior to the 11th century is not convincing.

It has been suggested that the treadle loom appeared in Egypt during the Roman or Byzantine period,⁵²³ and both archaeological and written evidence has been brought forward to support this suggestion: the eight brick-lined depressions of the early 7th century, excavated at the monastery of Epiphanius at Thebes, each constructed with a ledge at one side near the top, were interpreted as pits for single-treadle horizontal looms.⁵²⁴ However, this interpretation of the archeological finds has been questioned by many scholars⁵²⁵ and the absence of supportive evidence from any other site makes this hypothesis quite far-fetched.

Carroll, judging from the changes in tunics, which became narrower in the 4th century, argued that the vertical loom was gradually replaced by experimental versions of horizontal looms, which might have included a treadle loom.⁵²⁶ She further supported her statement with papyrological evidence, namely a document of the 3rd century, where a loom purchased by a certain Apollonia is sold at an extremely high price, and is also described simply as *histos*, and not as *histos orthios*, the usual term for an “upright loom”, while its dimensions are given by width and length and not by height. All these made Carroll believe that this was no ordinary loom, concluding that it must have been a horizontal treadle loom.⁵²⁷ This interpretation was rejected by Wild, who convincingly argued that the contract refers to a two-beam vertical loom, stressing the fact that, in the absence of “contemporary figures for comparable purchases, it would be unwise to assume that

⁵²² This view is most recently supported by scholars like John Becker (*Pattern and Loom: A Practical Study of the Development of Weaving Techniques in China, Western Asia and Europe*, Copenhagen: Rhodos 1987) and Anna Muthesius (Muthesius, Ewald Kislinger and Johannes Koder, *Byzantine Silk Weaving: AD 400 to AD 1200*, Vienna: Fassbaender 1997).

⁵²³ A. P. Usher, *A History of Mechanical Inventions*, Harvard University press 1954, p. 54, 258; Carroll, *Looms and Textiles*, p. 36.

⁵²⁴ Winlock and Crum, *The Monastery of Epiphanius*, p. 68-70.

⁵²⁵ Forbes, *Ancient Technology*, p. 218-220; Lynn White, “A History of Mechanical Inventions by Abbott Payson Usher: Review”, *Isis* vol. 46, no 3 (September 1955), p. 292; Wild, “The Roman Horizontal Loom”, p. 459; Johanna Sigl, “Egyptian Pit-Looms from the Late First Millennium AD: Attempts in Reconstruction from the Archaeological Evidence”, *Egyptian Textiles and Their Production*, p. 22-35; Gang Wu, “How Did Byzantines Weave? A Synthesis of Textual, Pictorial, Ethnographic, and Archaeological Evidence”, *Greek, Roman and Byzantine Studies* vol. 61 (2021), p. 368–395.

⁵²⁶ Carroll, *Looms and Textiles*, p. 41-42.

⁵²⁷ *Ibid.*, p. 43.

the cost of this loom put it into a special category”.⁵²⁸ Therefore, the hypothesis for the existence of a treadle loom in Roman or Byzantine Egypt cannot be supported by the available data.

⁵²⁸ Wild, “The Roman Horizontal Loom”, p. 465.

2. The textile products: materials, technology, images and practices

2a. Materials

Linen, wool, silk and, to a lesser extent, cotton, are the materials mostly encountered on the textiles of the period under discussion, the prevalence of one or the other over time depending on multiple social and economic reasons. In any case, it should be taken into account that most of the surviving Egyptian textiles originate from burial contexts. Therefore, the surviving materials are mostly those preferred for burial attire and might not be representative of those used for everyday textiles.

Linen was the predominant fibre in the Egyptian textile industry since Pharaonic times.⁵²⁹ With its light texture and appearance, it was ideal for garments, especially those worn during the warmer months. Linen warps were also used in furnishing textiles, mainly hangings and curtains, though often these warps were plied and, therefore, reinforced.

The presence of linen seems to be limited to the tapestry weaves of the period. Surviving embroideries have silk or cotton bases, although in some cases (e.g. VIII 1) green linen yarns are used in small quantities for the embroidery itself. Linen compound weaves have not been encountered in any of the studied textiles. This might be explained by the use of compound weaves as cushion covers or spreads, which are more susceptible to wear and require sturdier materials, like wool, in order to endure.

Undyed linen is employed for the white parts in the decoration of the tapestry areas and for the ground weave. However, during the second half of the 11th century there appears a trend for textiles with a blue, lighter or darker, linen warp (e.g. I 38, IV 40 and I 46⁵³⁰). The achievement of easily dyed blue linen yarns has been attributed to the expansion of the cultivation of indigo, a dye which can be used without a mordant.⁵³¹ Some pieces (e.g. I 34) also use blue linen wefts in their decoration.

⁵²⁹ Jana Jones, "Textiles, Pharaonic Egypt", in *The Encyclopaedia of Ancient History*, 2013.

⁵³⁰ Also, indicatively, pieces found in the MET (MET 27.170.67 in <https://www.metmuseum.org/art/collection/search/448111>), the Bouvier (Cornu and Martiniani-Reber, *Tissus d'Egypte*, no 45, p. 231-232), the CMA (CMA 1950.531, in <https://www.clevelandart.org/art/1950.531>) and the ROM (ROM 970.117.2, in <https://collections.rom.on.ca/objects/435648/tiraz-textile-fragment?ctx=4ed736f4-ea16-4609-a210-9a8edc1200e2&idx=99>).

⁵³¹ Cornu and Martiniani-Reber, *Tissus d'Egypte*, p. 232, footnote 5.

The material evidence indicates a wide use of wool during the Byzantine period. Most of the examined woollen textiles of the Benaki collection range in date between the 7th and the 8th centuries and research on other collections has confirmed the growing importance of woollen textiles and tunics after the 6th century.⁵³² It has been suggested, based on archaeological evidence on certain Egyptian sites, that wool replaced linen in Christian burials⁵³³ possibly indicating a change in burial practices.⁵³⁴ Funerary attire was particularly significant and written sources reveal that people in Byzantine Egypt were preoccupied with their burials, which they were anxious to arrange while still alive or to entrust to relatives.⁵³⁵ However, in other excavated Christian cemeteries of the Byzantine period, the textiles made especially for burial purposes were all made of linen, while everyday textiles were mainly woollen.⁵³⁶ Also in Christian cemeteries of the 11th-12th centuries, linen and not wool was the predominant material of the clothes and shrouds of the deceased, although wool occasionally appeared.⁵³⁷ Consequently, it seems that wool was not particularly associated with Christian burials and the large number of woollen textiles encountered from the 6th to the 9th century cannot be attributed to funerary practices.

Cabrera suggests, based on climate studies, that this increase could have its roots on the colder and drier periods between the 5th and the 9th century, which negatively affected the cultivation and production of linen, causing a consequent rise in its price.⁵³⁸ This explanation seems

⁵³² See, for example, Ana Cabrera Lafuente, *La industrial textil copta: la colección de tejidos de la Antigüedad Tardía del Museu Tèxtil y d'Indumentària de Barcelona*, Tesis doctoral, Madrid 2015, p. 212-213.

⁵³³ Fleur Letellier-Willemin, "Contribution of the Textiles to the Study of the Site of Al-Deir, Khārga Oasis", in *The Oasis Papers 9: Proceedings of the Ninth International Dakhleh Oasis Project conference: Papers presented in honour of Anthony J. Mills*, Colin A. Hope and Gillian E. Bowen eds., Oxbow Books 2020, p. 408. See also the Fag al-Gamous cemetery, where woollen textiles appear together with linen ones in Christian burials, in Gawdat Gabra, "Early Christian Burials in the Fayyoun", in *Christianity and Monasticism in the Fayoum Oasis: Essays from the 2004 International Symposium of the Saint Mark Foundation and the Saint Shenouda the Archimandrite Coptic Society in Honor of Martin Krause*, American University in Cairo Press 2005, p. 190; Letellier-Willemin, "Contribution of Textiles as Archaeological Artefacts to the Study of the Christian Cemetery", in Bagnall, P. Davoli & C.A. Hope eds., *The Oasis Papers 6: Sixth International Conference of Dakhleh Oasis Project*. Dakhleh Oasis Project Monograph 15, Oxford, p. 491-495.

⁵³⁴ Cabrera Lafuente, *La industrial textil*, p. 213.

⁵³⁵ Françoise Dunand, "Between Tradition and Innovation: Egyptian Funerary Practices in Late Antiquity", in *Egypt in the Byzantine World*, p. 179-180.

⁵³⁶ For example, in the site of Al-Kom al-Ahmar/Sharūna in Middle Egypt, in Béatrice Huber, "Al-Kom al-Ahmar/Sharūna: Different Archaeological Contexts, Different Textiles?", in *Textiles in situ*, p. 67.

⁵³⁷ For the 11th and 12th centuries see Gawdat Gabra, "The Medieval Coptic Cemetery at Naqlun", in *Christianity and Monasticism in the Fayoum Oasis*, p. 177, 180-181; Czaja-Szewczak, "Burial Tunics", p. 177-184.

⁵³⁸ Cabrera Lafuente, *La industrial textil*, p. 212-213.

reasonable and it should be added that the cultivation of linen could also have been negatively affected by the socio-economic disruption of the 6th to the 8th centuries. Sources convey a general sense of crisis in Egypt after the reign of Justinian, with the deterioration of living standards, caused partly by the devastating consequences of the plague (541-549) and by the strengthening of the land owning aristocracy, after the failure of the emperor's efforts to intensify imperial control over the provincial elites.⁵³⁹ The turbulent situation was only worsened by the Persian conquest of 617-619, known to have been violent and also to have resulted in the disintegration of Egyptian elites, changing the dynamics of power and administration in the country,⁵⁴⁰ and finally by the Islamic conquest of 640-642 and the significant changes it set in motion. Linen, which requires investment in settled agriculture, was more difficult to produce in periods of crisis, so it is possible that it was largely replaced by wool, which is less susceptible to climatic changes and socio-economic shifts, and was, therefore, easier to produce and employ in the textile industry during unsettled times.

A difference in the use of wool is also evident between different areas of Egypt, at least before the conquest. While in the inland, desert areas, like the oases, wool was the predominant fibre during the Byzantine period, in the coastal sites, linen was more common.⁵⁴¹ The papyrological evidence seems to support this fact. In the town of Kellis, in the Dākhleh Oasis in Upper Egypt, for example, wool has a prominent role in the documents of the 4th century as an object of trade and a material for clothes.⁵⁴² The lack of evidence does not reveal whether or not this situation continued after the conquest.

Scholars like Jørgensen and Cardon attribute this difference to climate, arguing that the humid conditions of the coastal sites called for materials able to absorb sweat, like linen, while the dry and often cold climate of the desert sites called for materials that offered insulation, like wool.⁵⁴³ However, this explanation doesn't appear convincing, and if this difference is not a matter of survival,⁵⁴⁴ it might rather be explained by the availability of materials. In the villages of the

⁵³⁹ Sarris, *Economy and Society in the Age of Justinian*, Cambridge University Press 2006, p. 204-227.

⁵⁴⁰ *Roman Egypt*, Bagnall and Haggag eds., p. 276-280.

⁵⁴¹ Bender Jørgensen, "A Matter of Material: Changes in Textiles from Roman Sites in Egypt's Eastern Desert", *Antiquité Tardive* vol. 12 (2004), p. 87-99; *Ibid.*, "Dated Textiles from Mons Claudianus and 'Abu Sha'ar", in *Methods of Dating Ancient Textiles*, p. 26-35.

⁵⁴² P.Kellis I 66 (4th c.), p. 175-177; P.Kellis I 72 (4th c.), p. 189-191; P.KellisCopt. 18, p. 152-154; P.KellisCopt. 19, p. 156-165; P. KellisCopt. 44, p. 254-259, P. KellisCopt. 47, p. 263-266; P. KellisCopt. 48, p. 266-271 (all 4th c.).

⁵⁴³ Bender Jørgensen, "A Matter of Material", p. 91-92.

⁵⁴⁴ *Ibid.*, "Dated Textiles", p. 28.

oases, wool was probably more easily obtained from local herds, while some of the coastal settlements had better access to linen and cotton through trade routes. Moreover, in some coastal sites, like the Delta, the conditions for the cultivation of linen were suitable and its production there had grown to large scale.

It seems that during the Byzantine period, and possibly up to the 9th century, linen remained a more expensive material than wool. With its demand for heavy workmanship and its susceptibility to adverse weather conditions and social disruption, it was often more difficult to obtain, while wool was more easily accessible in rural areas and outside the linen-producing regions, and it must have been the most readily available material for weaving in many Egyptian villages. Woollen tunics seem to have been cheaper than linen ones, not only because wool cost less, but also because the process of weaving the tapestry decoration on the former was easier and less time consuming, since the more widely spaced woollen warps did not need to be grouped and crossed, as was the case for the linen.

It is generally believed that the importance of wool declined after the Islamic conquest and that wool was only considered a humble material.⁵⁴⁵ However, the textile evidence reveals that wool was extensively used for the decoration of tapestries at least until the 9th century. Textile fragments with woollen tapestry decoration on a linen ground (e.g. I 8-18 and comparanda,⁵⁴⁶ I 20 and I 21) or made entirely of wool (e.g. IV 5-7, IV 24 V 2-3 and comparanda,⁵⁴⁷ IV 17 and comparanda⁵⁴⁸) are found in many collections and the large number of comparable textiles indicates that they must have been produced on a large scale.

⁵⁴⁵ See, for example, Stillman, "Labour Problems", p. 197; Bulliet, *Cotton, Climate, and Camels in Early Islamic Iran: a Moment in World History*, New York: Columbia University Press 2009, p. 46-47.

⁵⁴⁶ Cornu and Martiniani-Reber, *Tissus d'Egypte*, nos 51 and 52, p. 107-110 and nos 38, 39, p. 92-96; MHTL 41.812; TMW 3290; Cluny 22.462; MET 27-170-73 in <https://www.metmuseum.org/art/collection/search/448117>; Lorquin, *Les tissus coptes*, no 69, p. 200-201; Beckwith, *Studies*, p. 17, fig. 25.

⁵⁴⁷ Carl Johan Lamm, "Some Woollen Tapestry Weavings from Egypt in Swedish Museums", *Le monde oriental*, 30 (1934), nos 36 and 41, pl. IX d and X b; Cornu and Martiniani-Reber, *Tissus d'Egypte*, no 31, p. 82-83.

⁵⁴⁸ Lamm, "Some Woollen Tapestry Weavings", p. 70-71, nos 49 and 52, pl. XII c and XIII c; Cornu and Martiniani-Reber, *Tissus d'Egypte*, p. 78, no 26; DM inv. no. 1/1989 in https://www.davidmus.dk/en/exhibitions/previous/flora_islamica/selected-works/1-1989; ROM inv. no 978.76.136, in <https://collections.rom.on.ca/search/978.76.136#filters>.

These post-conquest woollen tapestries were not restricted to products for wide consumption but also decorated more elaborate *ṭirāz* pieces, a fact that attests to the continuing importance of wool.⁵⁴⁹

Written evidence corroborates the continuing use of wool during the first two centuries of Islamic rule. The *gonachia* or *kaunakia*, overcoats made of wool with the loop technique, figure in the papyri and seem to have enjoyed a renewed popularity after the conquest, possibly as an object of requisition, which was highly priced and esteemed by the conquerors.⁵⁵⁰ Also, woollen upper gowns are encountered in Arabic papyri of the 9th century, in lists of garments delivered to various persons.⁵⁵¹ In the works of Muslim writers of the 9th century the production of high quality woollen textiles, and especially coats, are mentioned, in relation to the town of al-Qays.⁵⁵²

Did the use of wool change after this period? The surprising scarcity in museums and collections of woollen fabrics or textiles decorated with wool, datable after the 9th century, would suggest so. Those surviving seem to come almost exclusively from the area of the Fayyūm (IV 26-30) -some radiocarbon dated to as late as the 12th century-⁵⁵³ giving the impression that the production of woollen garments in the rest of Egypt ceased completely.

The discovery of woollen textiles in scientific excavations slightly alter this picture, indicating a continuing, though restricted use of wool for the whole of Egypt after the 9th century. For example, in the 1980 season at Fustāt, 50 pieces out of 3000, most datable to the 11th century, were found to contain wool -most of them not exclusively made of wool, but with woollen decoration.⁵⁵⁴ They were a minority, compared to linen textiles or linen decorated with silk, found on the same site, but still present.

On the other hand, literary evidence gives the impression that wool continued being almost as important as before, not only for everyday garments, but also for more luxurious products, and for export. In the Geniza documents woollen garments, such as turbans, figure at least until the 11th

⁵⁴⁹ Dorothy Shepherd, "An Early Ṭirāz from Egypt", *The Bulletin of the Cleveland Museum of Art* vol. 47, no 1 (January 1960), p. 7-14, in 15796-VI 3, fig. 1; Sokoly, *Ṭirāz Textiles*, p. 102-104; Cornu and Martiniani-Reber, *Tissus d'Égypte*, no 18, p. 67-68.

⁵⁵⁰ Morelli, "Gonachia", p. 78-79; Selander, "Der Kopten teure Kleider", in *Gewebte Geschichte*, p. 53-59.

⁵⁵¹ See, for example, Grohmann, "Texte zur Wirtschaftsgeschichte Ägyptens in arabischer Zeit", *Archiv orientální* 7 (1935), p. 437-472, no 14,5.

⁵⁵² See chapter 1e. Centres of production, p. 56.

⁵⁵³ See chapter 1e. Centres of production, p. 60-63.

⁵⁵⁴ Mackie, "Textiles", p. 86-88 and nos 3, 4, 11-13, p. 81-97.

century.⁵⁵⁵ Wool workers are also encountered, although their specific occupation is not mentioned.⁵⁵⁶ That wool was not necessarily associated with the poor or with shabby clothing is indicated by the example of a woollen cloak, woven by the wife of a teacher of the Mishnah and worn by both husband and wife as an outer garment, also during public prayers.⁵⁵⁷ Nāṣir-i Khusraw, writing in the 11th century, informs us that garments made of wool were exported from Egypt to Persia and mentions the good quality of the products of Asyūṭ describing that he saw “a shawl of sheep’s wool so fine you would think it was silk”.⁵⁵⁸ Moreover, Egypt figures in the works of writers of the Islamic period and in the Geniza documents as being an exporter of wool, which was produced mainly in Upper Egypt, although wool was also imported from the Western Islamic world and Syria.⁵⁵⁹

How can this difference in the evidence be explained? Why only few woollen textiles datable to the 10th and 11th century have survived, and even less are found in museums? One possible explanation is that most of woollen textiles became plainer after the 9th century, bearing little or no decoration. This change could be attributed to a shift in fashion, possibly a consequence of the increasing popularity of silk tapestry.⁵⁶⁰ Both large establishments and smaller workshops started dealing more and more with silk tapestry, so that woollen tapestries were gradually abandoned, becoming peculiar of only certain areas, like the Fayyūm. Some every day tunics and coats continued to be made of wool, but the majority was not amply decorated and, therefore, was unattractive to the excavators and collectors of the previous centuries, who did not care to preserve them.

Of course, there is always the possibility that some of the museum tapestries, which are usually assigned dates earlier than the 10th century, are in fact of a later date. For example, a woollen tapestry fragment of a furnishing textile in the KN, which could have been dated, on stylistic grounds, to the 8th or 9th century, has been radiocarbon dated to the 10th-11th century, and bears testimony to the production of tapestry hangings decorated with woollen wefts at this later

⁵⁵⁵ Goitein, *Mediterranean Society*, vol. 1, p. 105.

⁵⁵⁶ *Ibid.*, p. 83.

⁵⁵⁷ *Ibid.*, vol. 4, p. 153

⁵⁵⁸ Thackston, *Nāṣer-e Khosraw’s Book of Travels*, p. 63.

⁵⁵⁹ Goitein, *Mediterranean Society*, vol. 1, p. 105; Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 203, trans. B.A. Collins, *The Best Divisions*, p. 186; Thackston, *Nāṣer-e Khosraw’s Book of Travels*, p. 63.

⁵⁶⁰ See p. 77-80.

date.⁵⁶¹ The inescapable truth is that until more scientifically excavated textiles from this period can be brought to light, and more pieces can be subjected to radiocarbon analysis, these tapestries cannot be securely dated on the basis of decoration or technique alone.

The scarcity of surviving woollen textiles could also be attributed to the fact that most of the textiles come from burials, and it seems that Muslims, the number of which started growing significantly in Egypt after the 9th century, avoided wool as their funerary attire. Although evidence is scarce, it appears that linen is the commonest material found in Muslim cemeteries of the period in Egypt.⁵⁶² For Muslims, shrouds carried an important religious significance.⁵⁶³ People cared beforehand for their preparation and purchase, and their material was preferably refined and expensive, at least for those who could afford it.⁵⁶⁴ The case of the ruler supplying shrouds to 80,000 people at his own expense, during a time when famine and plague together had stroke Egypt, is indicative for the importance of shrouding the deceased.⁵⁶⁵ Although there was no official prohibition, white was considered the preferable colour for shrouds.⁵⁶⁶ It appears that the purer and shinier white colour and the fineness of linen fabrics, as opposed to the coarser appearance and brownish colour of wool, made linen more appealing for burial attire. Evidence from 19th-century Egypt suggests that shrouds and funerary attire were made of cotton or, preferably, silk.⁵⁶⁷ It can rather be argued that the importance that Muslims attached to burial clothing called not for specific

⁵⁶¹ KN 1603 dated to 900-1022, in http://www.textile-dates.uni-bonn.de/textile_list_start.php?textile_id=452

⁵⁶² See, for example, the cemeteries of Iṣṭabl ‘Antar in Gayraud et. al., “Iṣṭabl ‘Antar (Fostat) 1994”, p. 8; Gayraud, Sophia Björnesjö, Philipp Speiser, “Iṣṭabl ‘Antar (Fostat) 1992- Rapport de fouilles”, *Annales Islamologiques* vol. 28 (1994), p. 13.

⁵⁶³ The command for wrapping the deceased with shrouds of good quality is also found in the ḥadīth. See, for example, Sunan al-Nasā’ī, Book 21, ḥadīth 78 in <https://sunnah.com/nasai:1895> and Mishkat al-Masabih 1636, Book 5, ḥadīth 112 in <https://sunnah.com/mishkat:1636>

⁵⁶⁴ Leor E. Halevi, *Muhammad’s Grave: Death, Ritual and Society in the Early Islamic World*, PhD dissertation, Harvard University, ProQuest Dissertations Publishing 2002, p. 171-175.

⁵⁶⁵ Muwaffaq al-Dīn Abū ‘l-‘Abbās Ahmād b. al-Ḳāsim b. Khalīfa b. Yūnus al-Khazrajī b. Abī Uṣaybi‘a, ‘*Uyūn al-anbā’ fī ṭabaqāt al-aṭibbā’*’, transl. L. Kopf and M. Plessner, Jerusalem: Institute of Asian and African Studies, The Hebrew University, 1971, http://www.tertullian.org/fathers/ibn_abi_usaibia_03.htm; see also Bulliet, *Cotton, Climate, and Camels*, p. 51.

⁵⁶⁶ Andrew Petersen, “The Archaeology of Death and Burial in the Islamic World”, in *The Oxford Handbook of the Archaeology of Death and Burial*, Liv Nilsson Stutz and Anna Belfer-Cohen eds., Oxford 2013, Oxford Handbooks Online; Halevi, *Muhammad’s Grave*, p. 203. The preference for white shrouds, which are considered pure and modest, is repeatedly found in the ḥadīth tradition. See, for example, Sunan al-Nasā’ī, Book 21, Ḥadīth 80 in <https://sunnah.com/nasai:1897>, Jami‘ al-Tirmidhi 994, Book 10, Ḥadīth 30 in <https://sunnah.com/tirmidhi:994>, Riyad al-Salihin 779, Book 3, Ḥadīth 2 in <https://sunnah.com/riyadussalihin:779>

⁵⁶⁷ Edward William Lane, *An Account of the Manners and Customs of the Modern Egyptians*, American University in Cairo Press. Retrieved from <https://ezproxy-prd.bodleian.ox.ac.uk:2560/view/10.5743/cairo/9789774165603.001.0001/upso-9789774165603-chapter-28>, p. 474.

materials, but for the finest that the deceased or his relatives could afford, which, did not include wool.

Consequently, there is strong evidence to support that woollen textiles continued being produced in the Early Islamic period and that their use was wider than suggested by the surviving museum textiles, possibly even by archaeological finds. In any case, we have to accept that their production, after the 9th century, was more restricted than in the preceding period. Woollen textiles are indeed present in the excavation finds, in papyrological evidence and in the geographical narratives, but at the same time, linen and silk are far more well represented, indicating that the proportion of wool in the industry gradually diminished, in favour of linen textiles and silk tapestry decorations, the development of which will be discussed below.

From the 9th century onwards a wider cultivation and, therefore, availability of linen is attested, which made it more easily accessible and, probably, cheaper than it had been previously. This change could have its roots in the economic policies of the ‘Abbāsids, Ṭūlūnids and Fāṭimids.

The already discussed ‘Abbāsīd tax reforms, which widely substituted the taxes in kind with taxes in cash, drove the farmers towards cultivations which could be easily commercialised, like flax, in an effort to easily obtain cash with which they could meet their fiscal obligations.⁵⁶⁸

This commercialisation of the agrarian economy and other favourable circumstances in Egypt and the Mediterranean, guaranteed profitable business ventures and created a rising demand for commodities. The dramatic increase of urban population, especially of Fustāṭ, the growing army of Egypt, the financial and military revival of Byzantium under the Macedonian dynasty, the flourishing of Umayyad Spain, the establishment of trade connections between North Africa and the growing in wealth Italian cities, all contributed to the stimulation of Mediterranean and Red Sea trade,⁵⁶⁹ which reached its peak in the 11th century.⁵⁷⁰ Moreover, the turbulent political and financial situation in Iraq and the emergence of independent dynasties in Egypt and Yemen, which provided new business opportunities,⁵⁷¹ resulted in the shifting of trade routes away from the Persian Gulf and towards the Red Sea, thus making Egypt’s role in the connection of the Indian

⁵⁶⁸ Bondioli, *Peasants, Merchants and Caliphs*, p. 130-133.

⁵⁶⁹ For the Red Sea connections see Lev, “At the Crossroads of Regional Settings”, p. 48-53. Also, for the revival of the Red Sea trade and the abandonment of the Persian Gulf routes in the 9th century see Power, “The Red Sea”, p. 6

⁵⁷⁰ Power, “The Red Sea”, p. 7.

⁵⁷¹ *Ibid.*, p. 6.

Ocean with the Mediterranean even more important.⁵⁷² Therefore, more chances for profit and accumulation of capital arose for the members of rural and urban elites.⁵⁷³

These investments are believed to have been initiated in the Ṭūlūnid period,⁵⁷⁴ also with the intention to fuel the textile industry, although they seem to have already started in the later ‘Abbāsīd period, with the considerable growth of land owned by the official elite.⁵⁷⁵ The gradual increase of state-owned land during the Fāṭimids⁵⁷⁶ and the interest of the state in the development of the country’s resources further encouraged the investments of caliphs and state officials in industrial crops and flax trade,⁵⁷⁷ which aimed at building up and reinvestment of capital.⁵⁷⁸

This orientation towards flax constituted a change in agricultural economy, an adjustment of one sector, namely agriculture, in order to meet the demands of another and most prominent sector, the textile industry and the expanding Mediterranean textile trade.⁵⁷⁹ What is certain is that the production of flax grew considerably after the 9th century and more so under the Fāṭimids, and became, together with the production of linen textiles, the predominant economic activity of Egypt. Although it has been argued that this expansion led to the replacement of a food crop, wheat, which had been, in the Roman period, Egypt’s main resource and export product par excellence, with an industrial crop, flax,⁵⁸⁰ it is doubtful that this replacement actually ever happened, since wheat seems to have remained a prominent Egyptian cultivation.⁵⁸¹

Letters of merchants from the Geniza confirm the large quantity and the central role of flax in 11th to 12th century Egyptian trade, and the wide distribution of the regions across the country

⁵⁷² Sijpesteijn, “Egypt’s Connections in the Early Caliphate”, p. 261-262.

⁵⁷³ Bondioli, *Peasants, Merchants and Caliphs*, p. 98-100.

⁵⁷⁴ Frantz-Murphy, “A New Interpretation”, p. 274-297

⁵⁷⁵ See Introduction, p. iii, footnote 14. For the land investments of the ‘Abbasid caliphs in Egypt see also Sijpesteijn, “Egypt’s Connections in the Early Caliphate”, p. 257-258. Legendre, “Landowners”, p. 412-413.

⁵⁷⁶ See Wickham, “The Power of Property” p. 67-107.

⁵⁷⁷ Goldberg, *Trade and Institutions*, p. 291, footnote 107. Also Brett, *The Rise of the Fatimids*, p. 339-340.

⁵⁷⁸ For the “pax Islamica” and the commercial activities of Muslims see Subhi Y. Labib, “Capitalism in Medieval Islam”, *Journal of Economic History* vol. 1, 1969, p. 79-96. According to Labib, “everywhere Islam entered, it activated business life, fostered an increasing exchange of goods and played an important part in the development of credit”. Although this statement seems a generalisation, in the case of Egypt and in a period of relative peace and safety, the investments of the state and of Muslim ruling elites in flax and textile production with the target to boost an already important industry of the country, which would bring prestige and increase their capital, seems a logical choice.

⁵⁷⁹ Udovitch, “International Trade”, p. 268-269. See also, Wickham, “The Power of Property”, p.75.

⁵⁸⁰ Mayerson, “The Role of Flax”, p. 201-207.

⁵⁸¹ Bondioli, *Peasants, Merchants and Caliphs*, xliii-xlvi

that were given over to its cultivation. As many as twenty eight varieties of flax are mentioned, each named after a different region of Upper and Lower Egypt,⁵⁸² while, in Roman times, Pliny reported only four varieties, all cultivated in the Delta.⁵⁸³

In the 10th century, silk also started being largely employed in the textile industry. Fabrics using silk yarns are encountered in Egypt during the whole period under discussion, but, until the 10th century, they constitute, a very small percentage of the surviving material and their Egyptian provenance is, in most cases, doubtful. A corpus of diverse, all-silk weavings, datable from the 6th-7th until the 9th century, are attributed to Egyptian textile centres such as Antinopolis, Panopolis (Akhmīm), Alexandria, and elsewhere.⁵⁸⁴ The high quality of craftsmanship of all these pieces and the fact that they were woven exclusively with silk in a compound weave, indicate that they were expensive objects and their weaving demanded expert knowledge. The scarcity of silk is also implied by the absence of the term in the published documentary evidence. The papyri of the Roman and Byzantine periods do not mention it, and the earliest reference appears in the middle of the 7th century, in a list of precious clothes, including long garments made of silk, found in the Arsinoites.⁵⁸⁵

From the 10th century onwards, however, silk starts to appear largely on the tapestry weaves, instead of wool. The replacement of woollen with silk tapestry decoration becomes evident in surviving textiles from both museums and scientific excavations,⁵⁸⁶ and is encountered even on fragments of lower artistic quality and naive designs (e.g. I 24, I 26, I 27, I 41. Also pieces in the CMA⁵⁸⁷ and the BAV⁵⁸⁸), indicating that the weavers who made them were not particularly specialised. Tapestry is a much easier and widespread technique than, for example, compound

⁵⁸² Gil, “The Flax Trade”, p. 84; Goitein, *Mediterranean Society*, vol. 1, p. 224. For the Fayyūm area see also Wickham, “The Power of Property”, p.75.

⁵⁸³ Mayerson, “The Role of Flax”, p. 202.

⁵⁸⁴ See *Byzantium and Islam*, p. 150-159. Compound weave silks datable from the 7th to the 10th century, are also represented in the Benaki (e.g. IX 3 and VIII 4-6).

⁵⁸⁵ Johannes Diethart and Ewald Kislinger, “ ‘Hunnisches’ auf einem Wiener Papyrus”, *Tyche–Beiträge zur Alten Geschichte, Papyrologie und Epigraphik* vol. 2 (1987), p. 7-9.

⁵⁸⁶ Baginski and Tidhar, *Textiles from Egypt*, p. 8; Sophie Desrosiers, “Techniques des textiles médiévaux égyptiens d’époque islamique” in *Égypte, la trame de l’Histoire*, p. 164; Sokoly, *Tirāz Textiles*, p. 102-103. For the excavated pieces see, for example, those in Naqlun, in Czaja-Szewczak, “Textiles from Naqlun, 1999”, *Polish Archaeology in the Mediterranean* vol. 11 (1999), p. 135-142. Also Mackie, “Textiles”, for the excavations in Fustāt, where, linen textiles with silk tapestry bands are abundant, in contrast to the few linen textiles with woollen tapestries.

⁵⁸⁷ *2000 Years of Tapestry Weaving: A Loan Exhibition*, Hartford, Wadsworth Atheneum 1951, no 53, p. 29.

⁵⁸⁸ Cornu, *Tissus islamiques*, p. 96-97 and 492.

weave. It doesn't need expert weaving knowledge or a specially set loom and can be practised even by domestic weavers. This fact implies the widespread use of silk in the lower scales of textile production and even in domestic weaving.

Written sources corroborate this fact. The Price Edict of Diocletian, issued in 301, reports extremely high prices for raw silk and for its unravelling.⁵⁸⁹ The Edict is of an earlier date than the period examined in this thesis, but could give an idea of the cost of silk during the Roman period. On the contrary, in the Geniza documents, silk appears rather as an everyday luxury. Small silk weaving workshops, operating even in domestic premises are attested, as is the purchase of silk by ordinary citizens and merchants in small towns of Egypt.⁵⁹⁰ In the same documents, silk weavers appear often, suggesting a quite common profession,⁵⁹¹ although it should be borne in mind that the Jews, to which these documents mostly refer, were prominent in silk working.⁵⁹² The Geniza letters mention twelve varieties of silk, differing in quality, degree of processing and origin.⁵⁹³ This large variety and its significance in the commercial correspondence attests to the growing importance of silk trade under the Fāṭimids. Silk yarns in small quantities, possibly for household weaving, also figure in the Arabic papyri, as early as the 8th century, indicating the growing popularity of the material and its increasing circulation in the market.⁵⁹⁴

It seems that raw silk destined to be traded in the countryside was of an inferior quality.⁵⁹⁵ It can be hypothesised, therefore, that good quality silk filaments were directed to large workshops of the capital and other textile centres in order to satisfy the needs of the elites and the court, while lower quality silk was traded in the countryside, obviously at a lower price.⁵⁹⁶

⁵⁸⁹ Alexandra Lee Kujanpaa, *The Changing Place of Silk throughout Antiquity: From the Earliest Evidence in Aristotle to the Twelfth Century AD*, Thesis presented in partial fulfilment of the requirements for the Degree of Bachelor of Arts with Honours in Classics and Ancient History at the University of Queensland, 4th November 2016, p. 33-34.

⁵⁹⁰ Goitein, *Mediterranean Society*, vol. 1, p. 102.

⁵⁹¹ *Ibid.*, p. 79.

⁵⁹² *Ibid.*, p. 100. Also, the name for a silk weaver (al-Ḥarārī) does not always indicate the profession of its bearer, but might have also been used as a family name.

⁵⁹³ *Ibid.*, p. 222. See also Gil, "References to Silk", p. 31-38.

⁵⁹⁴ P.Horak I 85 (8th century), p. 255-272. For later references on silk, either yarns or fabrics, see P. RagibEdfou 4 (9th-10th century), p. 13-14; P.World p. 173 (10th century); P.Transmission 8 (11th century), p. 66-72.

⁵⁹⁵ Goitein, *Mediterranean Society*, vol. 1, p. 104.

⁵⁹⁶ For the different qualities of silk and their distribution see also Jacoby, "Silk Economics and Cross-Cultural Artistic Interaction: Byzantium, the Muslim World and the Christian West", *Dumbarton Oaks Papers* vol. 58 (2004), p. 205.

To conclude, the material and written evidence indicates that from the 10th, and certainly by the 11th century, silk circulated widely in the Egyptian market and silk fabrics were produced not only in large workshops, but also in small, even domestic premises. Therefore, while silk was rare and expensive in the Roman and Byzantine period, it became a far commoner and more easily accessible commodity.

How was this achieved? First of all, the Islamic conquests greatly facilitated commercial ties between Egypt and eastern sources of silk. Another important factor was the increase of silk production around the Mediterranean, with Spain, Sicily and Ifrīqiya being added to the list of silk producing countries after the 9th century.⁵⁹⁷ Also, as in the case of linen, the relative stability of the period encouraged the textile-producers to reinvest their increasing profits into the importation of silk, thereby adding greater value to their indigenous products and the prestige of the industry. Besides, it is important to note that the wide distribution of silk along the social scale did not happen only in Egypt, but also in Byzantium and southern Italy, at about the same period.⁵⁹⁸

The increased demand for silk can be attributed to social factors, such as the accumulation of wealth among mainly the members of the urban classes, but also among provincial elites, and their need to exhibit their elevated social status. This fashion expanded to lower social strata, with the demand being satisfied through less sophisticated imitations of complex silk weaves and lower quality or blended materials.⁵⁹⁹

Bulliet has also argued that, although during the first centuries of Islamic rule, the new rulers and Muslim elites refrained from the use of silk, as a means of distinction from their Sassanian predecessors, silk garments ceased to provoke criticism by the tenth century and were, from then on, openly and widely favoured by and produced for the elites, possibly because there was no need for this kind of distinction any more.⁶⁰⁰ Although this conceptual change might have indeed happened, its cause-and-effect relation to the spread of silk might actually be quite reversed: the fact that silk had become easily accessible and extremely popular, made any prohibitions or restrictions to its use obsolete and practically meaningless.

⁵⁹⁷ Jacoby, "Silk Economics", p. 199-201.

⁵⁹⁸ Ibid., p. 207, 228; Muthesius, "The Byzantine Silk Industry", p. 12-13.

⁵⁹⁹ Jacoby, "Silk Economics", p. 215. Silk could be woven together with cotton or linen in order to lower the cost of the finished product.

⁶⁰⁰ Bulliet, *Cotton, Climate, and Camels*, p. 90-92.

Does this wide use of silk contrast with Muslim doctrines? It is true that restrictions and prohibitions regarding the use of silk are known in the Islamic tradition.⁶⁰¹ Most of them concern mainly all-silk garments, while silk bands of certain width and proportion were rather permitted.⁶⁰² Although these prohibitions were not taken at face value, the silk tapestry bands decorating most of the surviving textiles, datable after the 10th century, seem to conform with these regulations. It cannot be said with certainty whether the weavers or the wearers of these bands had the aforementioned restrictions in mind, but the decoration of linen garments with silk tapestry bands was probably an ideal way to indulge to the luxury of silk, without paying the large amount of money required for an all-silk garment, and without provoking religious criticism.⁶⁰³

The greater accessibility and popularity of silk in Fāṭimid Egypt was a significant change in the textile industry, which led to the production of a vast number of textiles with silk tapestry decoration, creating a long-lasting fashion. As Goitein put it, “the astounding popularity of the upstart silk is one of the more distinctive expressions of a refined and extravagant urban civilisation”.⁶⁰⁴

Cotton has generally been regarded as a foreign material, since, as already seen, it was not largely cultivated in Egypt during the period in question and cotton textiles have usually been considered as imports. Cotton seems to have been quite popular in the Roman and early Byzantine periods, as large proportions of cotton fragments have come to light in sites dated to the 5th century at the latest, especially in the Red Sea ports and the Western Desert oases.⁶⁰⁵ However, it is rarely found on surviving textiles from Egypt from the 6th to the 8th century. The reduction in its use can be attributed, on one hand, to the abandonment of the Red Sea ports- following the decline of the Red Sea trade-, a fact that obviously disrupted the import of cotton from the East, and, on the other,

⁶⁰¹ These restrictions might reflect, according to Sijpesteijn, a social policy against distinctions and towards a more egalitarian society, in accordance with the Early Islamic doctrine. See Sijpesteijn, “Request to Buy Coloured Silk”, p. 256-257. However, similar restrictions were also enforced in other empires, like, for example, in Byzantium (see also chapter 1d. State control and monopolies, p. 46-47), and seem rather to have aimed at reenforcing the existing socio-political status quo of the elites. See also Jacoby, “Silk Economics”, p. 206.

⁶⁰² Sijpesteijn, “Request to Buy Coloured Silk”, p. 256-257, footnote 8.

⁶⁰³ see also Bulliet, *Cotton, Climate, and Camels*, p. 51-59.

⁶⁰⁴ Goitein, *Mediterranean Society*, vol. 4, p. 165.

⁶⁰⁵ See for example the abundance of cotton fragments at El-Deir, the most recent of which have been radiocarbon dated to the 4th century, in Letellier-Willemin, “Tackling the Technical History of the Textiles of El-Deir, Khārga Oasis, the Western Desert of Egypt”, in *Egyptian Textiles and Their Production*, p. 42. The large number of cotton textiles in Berenike, dating to the 4th-5th century, is also indicative, in J.P. Wild and F. Wild, “Textile Contrasts”, para. 12.

to the depopulation of the Western desert after the 5th century,⁶⁰⁶ where presumably small quantities of the material must have been cultivated. Moreover, the already mentioned turbulent social and financial circumstances of the period after the 6th century, could also have affected its already restricted cultivation in the country, as was the case for linen.⁶⁰⁷

A wider use of cotton is observed on textiles of the 8th and 9th centuries, mostly as a decorative weft for the white parts of the decoration of woollen tapestries (e.g. II 9, IV 12, IV 15, IV 23, V 6, V 7 and comparanda⁶⁰⁸) and of some **samite** weaves (e.g. IX 2 and IX 4). An increase of cotton textile finds from the 8th and 9th century is also apparent in sites like Qaṣr Ibrīm, interpreted, rather hypothetically, as an indication of the early beginnings of an Egyptian cotton industry.⁶⁰⁹ Also, at about the same time, cotton was used as both warp and weft on the ground fabrics of allover embroideries (e.g. VIII 1-4), although its shorter and weaker fibres were not particularly suitable for warp yarns.⁶¹⁰ Block printed cotton textiles found in Egypt are also dated to this period at the earliest. Most of them must have been imports from India, but some might have also been Egyptian imitations.⁶¹¹

Written evidence, albeit fragmentary, seems to corroborate this increase. Although mentions of cotton in the Arabic papyri of the period under discussion are, generally, scarce, they mostly appear in documents datable to the 8th-10th centuries.⁶¹² Also, in the 10th century, al-Muqaddasī mentions that in Būsīr in the Fayyūm superior quality cotton was cultivated and traded, but cotton of an inferior quality was also produced in the area.⁶¹³

⁶⁰⁶ Kelley, “By Land or by Sea”, p. 282.

⁶⁰⁷ See p. 70.

⁶⁰⁸ Lamm, “Some Woollen Tapestry Weavings”, nos 2 and 8, p. 59, plate I b and III c; Cornu and Martiniani-Reber, *Tissus d’Egypte*, no 56, p. 115; *Exposition des tapis et tapisseries d’Orient de haute époque*, Musée des Gobelins, Paris 1935, p. 4, 16, nos 12.194/2, 8695, 15.661 and 6277/2; Sophie Desrosiers and Georgette Cornu, *Soieries et autres textiles de l’antiquité au XVIe siècle*, Paris: Reunion des Musees Nationaux 2004, no 8, p. 69.

⁶⁰⁹ Nettie K. Adams, “Political Affinities and Economic Fluctuations: the Evidence from Textiles”, in *Ancient Textiles: Production, Craft and Society*, International Conference on Ancient Textiles in Lund, Sweden; Copenhagen, Denmark, Carole Gillis ed., Oxford 2014, p. 203.

⁶¹⁰ Shamir, “Cotton Textiles”, p. 25.

⁶¹¹ Kelley, “By Land or by Sea”, p. 282-283; Ruth Barnes, *Indian Block-printed textiles in Egypt: the Newberry collection in the Ashmolean Museum*, Oxford, vol.1 Text, Oxford 1997, p. 33-34 and 39-40.

⁶¹² See, for example, P.GrohmannWirtsch. 19; P.DiemWien, p. 86, all most probably referring to cotton yarns, and P.Marchands II 9, (verso 17), p. 22-27, referring to a cotton coat.

⁶¹³ Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 201-203, trans. Collins, *The Best Divisions*, p. 185-186.

It is possible that the stability of the period after the 8th century provoked an increased agricultural production, as was also the case for linen. Moreover, the control of the Indian Ocean trade by the Islamic caliphate facilitated the import of cotton into Egypt. In any case, cotton was not extensively used in the country until the end of the Fāṭimid period,⁶¹⁴ after which, and especially under the Mamlūks, its employment in the textile industry grew considerably, as also suggest Arabic papyri, where the references to cotton multiply after the 13th century. It appears, therefore, that after the conquest the use of cotton in Egypt was resumed and gradually increased, the raw material coming from different sources and trade networks.⁶¹⁵

In his book about the Iranian cotton industry, Bulliet connects the significant increase in the cultivation of cotton in Iran after the Islamic conquest with the economic investments of the Arab conquerors, which, he claims, were initiated by their austere preferences for white cotton fabrics, as opposed to the lavish Sasanian silks.⁶¹⁶ As already seen, a similar situation emerged in Egypt, with the investments of the new landed elites in flax cultivation. It seems, therefore, that the reasons for the conquerors' ventures were more practical than aesthetic, as, in both the case of Iran and Egypt, they tried to exploit in the best way the provisions, investing in the most climatically suitable, most profitable or most readily available cash crop that could be farmed in the expanding textile industry of each country.

Apart from these materials, hemp is also rarely represented amongst surviving textiles of the period under discussion.⁶¹⁷ Its use, along with fur, is corroborated by the written sources.⁶¹⁸ Precious textiles made of sea wool are also rarely mentioned in the Geniza documents, but their provenance is unknown.⁶¹⁹

Gold was used for the decoration of Egyptian textiles already in the Byzantine period.⁶²⁰ Few of the examined pieces (e.g. I 40) still bear traces of the gold leaf that had been wrapped around their weft yarns. Their fragmentary state, however, does not allow to estimate whether the

⁶¹⁴ Pfister, "L'introduction du coton", p. 167-172.

⁶¹⁵ Kelley, "By Land or by Sea", p. 285.

⁶¹⁶ Bulliet, *Cotton, Climate, and Camels*, p. 1-68.

⁶¹⁷ See, for example, MTIB 27899, MTIB37690 and MTIB37703 n Cabrera Lafuente, *La industrial textil*, p. 77.

⁶¹⁸ See, for example, SB XVI 12249 (5th-6th c.), p. 20-21.

⁶¹⁹ Goitein, *Mediterranean Society*, vol. 1, p. 106.

⁶²⁰ Julie H. Wertz, Meredyth Lynn Winter, Robin Hanson and Meredith Montague, "Beyond the Surface: Technical Analysis of Egyptian Textiles, c. 4th-12th Century", in *Social Fabrics*, p. 55 and fig. 6.

gold leaf was employed in all the weft yarns or only on specific decorative zones. Surprisingly, at least during the Islamic period, metallic threads, appear also on textiles with less elegant, quite abstract design and non-historical inscriptions, like I 40,⁶²¹ indicating a wide use in fabrics of different qualities. This is also suggested by the written sources. In the Geniza letters the employment of precious metals for the decoration of fabrics is amply documented.⁶²² For example, copper threads covered with silver are encountered among the possessions of a silk weaver who owned a medium sized workshop, consisting of four looms.⁶²³ It seems, therefore, that the use of metallic threads was not confined to elaborate fabrics, large workshops and high class clients. The glamorous effect of these threads was also sought after by the urban classes, and their demand for imitation of the court culture was satisfied through textiles of more mediocre craftsmanship and the employment of precious materials in smaller quantities.

2b. Techniques

The prevalent decorative and constructive techniques of Egyptian textiles seem to change over time, according to the materials available, the looms employed, the influence of foreign craftsmanship and the trends and aesthetic preferences of weavers and clients. The Muslim conquest and the gradual influx of Arab settlers in Egypt mostly after the 9th century, significantly affected and accelerated some of these changes, which are mainly expressed in the trend for embroideries and the adaptation of weaving techniques to the wide employment of silk.

One of the basic technical aspects of a textile is the direction to which its yarns are spun (S or Z) and, particularly, its warp yarns, which is the most important structural element. The **direction of spinning** is a technical characteristic peculiar to certain geographical areas and societies and follows ancient traditions.⁶²⁴ In Egypt, for example, where linen was the most common material, S-spinning largely predominates, as flax fibres, when wet, rotate naturally in the S direction.

⁶²¹ See also the textiles in Bernard O’Kane, “The Egyptian Art of the Ṭirāz in Fāṭimid Times”, *The World of the Fāṭimids*, Melikian-Chirvani, Assadullah Souren eds., Toronto 2018, p. 183.

⁶²² *Arab Dress: A Short History from the Dawn of Islam to Modern Times*, Yedida K. Stillman, et al. eds., Brill 2003, p. 60.

⁶²³ Goitein, *Mediterranean Society*, vol. 1, p. 86.

⁶²⁴ Bender Jørgensen, “Spinning Faith”, p. 128.

Consequently, the vast majority of Egyptian linen and, accordingly, woollen products have S-spun yarns.

Z-spun wefts have been continuously present, though rare, in the Egyptian textile production.⁶²⁵ Z-spun warps, on the other hand, are encountered on textiles of Egyptian provenance only after the conquest, and Z-spun linen warps appear only in the 10th century.⁶²⁶ The presence of Z-spun yarns are usually considered indicative of imported textiles, materials, or workmanship.⁶²⁷ Bellinger, for example, attributes the presence of Z-spun yarns in Egypt during the 8th and 9th centuries to the transfer of Iraqi craftsmen by the ‘Abbāsids.⁶²⁸ However, there was no need for a purposeful import of textile workers into Egypt. The more frequent occurrence of Z-spun yarns after the conquest, can rather be explained by the arrival of immigrants and the relocation of populations from the eastern parts of the Islamic Empire into Egypt, among which must have been spinners and weavers,⁶²⁹ trained in the Z-spinning tradition of the East.

An important wave of emigration into Egypt was the establishment of Qaysī Arabs from the Jazīra in the Eastern Delta, which began in 727 on the initiative of the Egyptian governor, who possibly aimed at strengthening his control over the area which was inhabited by often revolting Copts.⁶³⁰ Also, from the late 8th century, Persian-Turkish soldiers were emigrating into Egypt, encouraged by governors and military leaders, and, by the end of the 8th and the beginnings of the 9th century, this military elite was largely represented in Egypt’s administration and land holdings.⁶³¹ Furthermore, as already seen, in the 9th century the role of Egypt in the East-West trade was growing more important, also due to the deteriorating conditions in Iraq and, consequently, Iraqi immigrants sought better living conditions and opportunities in Egypt, their imprint being

⁶²⁵ For a group of 5th century Egyptian textiles with Z-spun woollen wefts see F. Pritchard, *Clothing Culture: Dress in Egypt in the 1st Millennium AD*, Manchester 2006, p. 62-68. See also Catalogue I 7 and VII 2, both datable to the 7th-8th century.

⁶²⁶ See, for example, Cornu and Martiniani-Reber, *Tissus d’Egypte*, no 136, p. 229-230, no 154, p. 254-255 and no 157, p. 258 all datable to the 11th-12th centuries); also Catalogue III 1-4.

⁶²⁷ See, for example, Cornu and Martiniani-Reber, *Tissus d’Egypte*, p. 45, footnote 6.

⁶²⁸ Bellinger, “Craft Habits, Part II”, p. 3-4.

⁶²⁹ See Jacoby, “Silk Economics”, p. 224.

⁶³⁰ Dunn, *The Struggle for ‘Abbasid Egypt*, p. 191- 194; Legendre, “Landowners”, p. 400

⁶³¹ Sijpesteijn, “Visible Identities: In Search of Egypt’s Jews in Early Islamic Egypt”, in *Israel in Egypt: The Land of Egypt as Concept and Reality for Jews in Antiquity and the Early Medieval Period*, Alison Salvesen, Sarah Pearce and Miriam Frenkel eds., Brill 2020, p. 431.

evident in many forms of art of the period.⁶³² Emigration of Syro-Palestinian silk weavers into Egypt is also documented in the Geniza letters, where it is noted that their number was so large, that indigenous craftsmen complained of competition.⁶³³ All these waves of incomers might have included or might have been accompanied by spinners and other textile workers, who transferred their local practices and technical knowledge into Egypt.

We also know that most of the silk and cotton, and also an amount of the wool woven in Egypt, was imported, probably in even greater quantities after the growth of the industry in the 10th century. It is, therefore, possible that part of the imported materials was in the form of spun yarns, which, coming from the East or the West, were twisted in the Z direction. Although there is no information in the sources regarding the trade of spun yarns, the presence of both S- and Z-spun wefts on the same textiles (e.g. I 7, II 5, IV 25),⁶³⁴ indicates that both types coexisted in the same workshops,⁶³⁵ and suggests that yarns were sourced from different spinners, who could be found locally, in other towns or villages, or, possibly, even outside Egypt. It has also been proposed that textiles were woven intentionally with differently spun wefts, in order to create a visual effect,⁶³⁶ or to achieve better interlocking,⁶³⁷ but it is unlikely that both S- and Z- spun yarns came from the same spinner, since it is unusual to find people trained in both spinning traditions.⁶³⁸

In any case, the evidence of spinning alone should not be considered enough to prove a non-Egyptian provenance. It should also be mentioned that S-spinning was not exclusive to Egypt, but was also the predominant spinning direction in other areas of the Mediterranean.⁶³⁹

Regarding the basic weaving structures, the great majority of surviving textiles of our period are woven in **plain weave**, the simplest form of warp and weft interlace, while twill weaves are less

⁶³² Sijpesteijn, "Egypt's Connections in the Early Caliphate", p. 261-262. Also Ibid., "Visible Identities", p. 424-440.

⁶³³ Goitein, *Mediterranean Society*, vol. 1, p. 51.

⁶³⁴ Livingstone, "Household Furnishing Textiles", p. 416.

⁶³⁵ Pritchard, *Clothing Culture*, p. 62-63.

⁶³⁶ Shamir, "Egyptian and Nubian textiles from Qasr el-Yahud, 9th century AD", in *Textiles, Tools and Techniques of the 1st millennium AD from Egypt and Neighbouring Countries, Proceedings of the 8th Conference of the Research Group "Textiles from the Nile Valley" (4-6 October 2013, Antwerp)*, Lannoo, Tielt 2015, p. 58.

⁶³⁷ C. Bouchaud, E. Yvanez and J.P. Wild, "Tightening the Thread from Seed to Cloth. New Enquiries in the Archaeology of Old World Cotton: A Case for Inter-disciplinarity", *Revue d'ethnoécologie* vol. 15 (2019), Retrieved from doi: org/10.4000/ethnoecologie.4501, para. 32.

⁶³⁸ See also Kelley, "By Land or by Sea", p. 277.

⁶³⁹ Shamir, "Cotton Textiles", p. 2-3.

common. Twill weaves, which have less bindings, and allow for higher thread counts, produce durable fabrics, and for this reason they were used for military garments and outdoor clothing during the Roman period.⁶⁴⁰ This latter use seems to have continued in the Byzantine period,⁶⁴¹ although archaeological evidence suggests that twills, in general, diminished. For example, the Byzantine phase of the site of 'Abu Sha'ar, in Egypt's Eastern desert, yielded significantly less twills than the earlier phases of the same and other sites.⁶⁴² This could be possibly explained by the restriction of such textiles to only certain types of garments, like the already mentioned outdoor clothing. In any case, twill weaves are encountered, although rarely, well into the 11th century.⁶⁴³

Tapestry, being both decorative and constructional, is the most popular technique, employed on Egyptian textiles since Pharaonic times.⁶⁴⁴ Plain weaves decorated with tapestry areas constitute the vast majority of surviving textiles of the period under discussion, although archaeological finds demonstrate that textiles of varying techniques were available and used for different purposes, at least in the Egyptian cities.⁶⁴⁵ Of course, some of them were not particularly decorative and attractive to textile dealers and collectors of the previous centuries and, therefore, are not, as a rule, found in museums and collections.

A few remarks should be made regarding the crossing and grouping of the warp yarns in tapestry weaves, a technique first applied in the Near East and then adopted by the weavers of Egypt. The grouping was done in order to lessen the number of warps on the tapestry areas, so that

⁶⁴⁰ Archaeological evidence confirms the large proportion of twill weaves in Roman military sites, which, accordingly, tended to disappear when the garrisons abandoned the site. See Bender Jørgensen, "Dated Textiles", p. 28-29.

⁶⁴¹ Granger-Taylor, "Weaving Clothes to Shape in the Ancient World 25 years on: Corrections and Further Details with Particular Reference to the Cloaks from Lahun", *Archaeological Textiles Newsletter* vol. 45 (2007), p. 26-35.

⁶⁴² Bender Jørgensen, "Textiles from a Late Roman/Byzantine Ecclesiastical Centre at 'Abu Sha'ar, Egypt", in *Egyptian Textiles and Their Production*, p. 57

⁶⁴³ See Mackie, "Textiles", p. 87. See also the fragment of a linen twill bag in the ROM, found at Fustāt and datable to the 11th century, in <https://collections.rom.on.ca/objects/408006/fragment-of-a-bag?ctx=8408ce4e-9be2-4d52-af71-e39c212088cd&idx=9>. Also the linen twill textile in the CMA, datable to the beginning of the 11th century, in Mackie, *Symbols of Power: Luxury Textiles from Islamic Lands, 7th-21st Century*, Cleveland, New Haven: Cleveland Museum of Art, Yale University Press 2015, p. 81, fig. 2.47 and <https://www.clevelandart.org/art/1930.90#>.

⁶⁴⁴ The linen tapestry fragment found in the tomb of Thutmose IV [(1401 – 1391 BC or 1397 – 1388 BC (18th Dynasty)] is the earliest known tapestry weave from Egypt. See Baginski and Tidhar, *Textiles from Egypt*, p. 20.

⁶⁴⁵ Pritchard, "A Survey of Textiles in the UK from the 1913-14 Egypt Exploration Fund Season at Antinoupolis", in *Drawing the Threads Together: Textiles and Footwear of the 1st Millennium AD from Egypt*, Antoine de Moor, Căcilia Fluck and Petra Linscheid eds., Lanoo 2013 p. 36.

these could be completely covered by the weft, and create weft-faced tapestry decoration.⁶⁴⁶ This was usually done with the use of a **repp rod**, which separated and paired the warps evenly across the textile. Warp grouping was necessary on textiles with woollen tapestry, where the thick woollen wefts created gaps on the binding points, leaving parts of the warp exposed. On the contrary, it was not necessary on textiles with fine, silk wefts, which could more easily cover the warps completely, without bulging.⁶⁴⁷

The crossing and grouping of linen warps is evident in almost all tapestries, until about the 10th century. In the 10th and 11th century, this technique is only occasionally and less systematically employed. Few textiles datable to this period (e.g. I 34 and I 38 and comparanda⁶⁴⁸) have a regular warp grouping, while in the majority the grouping is irregular and does not follow any pattern, indicating that it was done by hand and not with the use of the repp rod.⁶⁴⁹ Also, crossing often appears even on single warps, something that was not seen on earlier pieces. On other examples, like I 27, the grouping of the warps is quite regular, but so scarce, that it is questionable whether it had any effect on the tapestry structure.

Therefore, although there is no particular technical reason for grouping the warps on silk tapestry decoration, this practice continued in Egypt, for about two centuries, in a less systematic form. It is probable that this was due to the tenacity of the tradition, and was employed in silk tapestries mainly in order to reinforce the structure, and “lock” the tapestry area on the plain ground, adapting the old technique to the different technical properties of the new material.

The technique of weaving tapestry medallions on a plain weave ground seems to remain unaltered from the Roman period, at least until the 9th century. I 10 illustrates this method, which includes the forming of tapestry triangles on the sides of the medallion, in order to achieve the transition from the plain weave ground to the circular tapestry area (Catalogue, p. 22, fig.1).⁶⁵⁰ The continuation of this technique shows the longevity of weaving traditions on Egyptian textiles. As

⁶⁴⁶ For a detailed analysis of the reasons for the employment of this technique see Bellinger, “Textile Analysis”, p. 3.

⁶⁴⁷ This technical fact was brought to my attention by Sophia Tsourinaki, independent textile researcher and weaver.

⁶⁴⁸ MET 27.170.58-60 and 27.170.67 with light blue, double linen warps, in www.metmuseum.org.

⁶⁴⁹ See for example Cornu and Martiniani-Reber, *Tissus d’Egypte*, no 127, p. 213-214, no 128, p. 215-218, no 158, p. 259; De Jonghe, *Ancient Tapestries*, no 6816, p. 292-293; Lorquin, *Les tissus coptes*, no 22465, p. 97.

⁶⁵⁰ De Jonghe et al., *Ancient Tapestries*, p. 16-17.

long as similar problems had to be solved, similar solutions were applied, passing through generations of weavers.

These tapestry ornaments were usually incorporated into the weaving, although rarely they were woven separately and then sewn into the tunics.⁶⁵¹ Ornaments without reinforced selvages could indicate a separate weaving, since when sewing them on the garment, the selvages were folded inwards and had to be as thin as possible.⁶⁵² Examples of medallions like I 7, where S-spun linen wefts are used on the plain weave area, and Z-spun linen wefts in the tapestry area, indicate that tapestry decorations, even when they were not woven separately,⁶⁵³ were sometimes woven afterwards, with different materials. We can imagine, consequently, that, during the weaving of the tunics, warp canvases were left empty for the tapestry weavers, who then added the decoration with the materials available to them.

Although tapestry was the predominant type of adornment during our period, embroidery, a purely decorative, sewing technique, employed on finished, woven fabrics, was also practised, often reaching high quality levels.⁶⁵⁴ Embroidery is considered an eastern technique that seems to have been transmitted to the West from Asia, where the greatest varieties of **stitches**, motifs and designs are encountered.⁶⁵⁵ Embroideries started being popular in Late Roman Egypt, possibly due to the influence of trade goods coming to the Roman Empire from the East, but their number remained small, compared to the tapestry weaves.⁶⁵⁶ Moreover, most of these Egyptian embroideries exhibit irregular stitches and uneven structures, which betray that Egyptian weavers were still quite unfamiliar with this technique.⁶⁵⁷

During the last centuries of Byzantine and the first century of Islamic rule embroidered textiles were scarce, but a revived interest is evident in the 8th-10th centuries. Embroidery gained a

⁶⁵¹ As De Jonghe states, only a few pieces can be proved to have been woven separately, as there was also the much commoner practice of cutting out the ornaments of worn out tunics and reusing them. De Jonghe et al., *Ancient Tapestries*, p. 47-48.

⁶⁵² Ibid., p. 47-48.

⁶⁵³ This piece seems to have been woven together with the tunics, judging from the tapestry triangle, part of which survives outside the left side of the medallion.

⁶⁵⁴ See, for example, the allover embroideries in wool on a linen ground with representations of the seasons in the Whitworth Art Gallery, Manchester, datable to the late 4th century, in Pritchard, *Clothing Culture*, p. 30-31, fig.3.3. Also, the less sophisticated embroidered tunics from the Khārga Oasis, dated to the 3rd-4th centuries, in Letellier-Willemin, "The Embroidered Tunic of Dush – A new approach", in *Drawing the Threads Together*, p. 23-33. See also, Dross-Krüpe and Paetz, "Ancient Embroidery", p. 221-228.

⁶⁵⁵ Dross-Krüpe and Paetz, "Ancient Embroidery", p. 232.

⁶⁵⁶ Ibid., p. 219-222, 227-228 and 232.

⁶⁵⁷ Dross-Krüpe and Paetz, "Ancient Embroidery", p. 232.

growing importance in the decoration of both tunics and furnishing textiles,⁶⁵⁸ apparently following the trend for eastern designs, evident also in iconography,⁶⁵⁹ and expressed first by state elites. Apart from embroidery, **brocading** started to be used on textiles woven in tapestry, as an additional decoration (e.g. I 19, IV 30).

The trend for embroidered designs was possibly initially expressed on Egyptian *ṭirāz* pieces, which bore embroidered inscriptions on plain weave grounds, inspired by Iraqi prototypes⁶⁶⁰ (e.g. VIII 5-8 and comparanda, datable from the first half of the 9th to the first half of the 10th century⁶⁶¹). The Egyptian provenance of these pieces is supported not only by the mention of Egyptian *ṭirāz* factories on their inscriptions, but also by the maladroit execution of the letters and the employment of a limited number of stitches, both indicative of weavers who were not particularly familiar with the technique.⁶⁶²

A group of allover embroideries datable to the 8th-9th century, specimens of which are encountered in different collections, (e.g. VIII 1-4 and comparanda⁶⁶³) confirm the post-conquest trend for embroidered decoration. Also, an Arabic letter of the 8th century, a request for the purchase of silk thread of different colours, could be considered as the earliest written evidence for silk embroidery in Islamic Egypt.⁶⁶⁴

It appears that, during the 'Abbasid period, the Muslim officials and elites of Egypt, closely connected with the court of Baghdad, not only brought Iraqi *ṭirāz* and other kinds of embroidered textiles into Egypt, but also provoked their imitation by Egyptian workshops. This trend continued and was intensified under the Ṭulūnids. The ambitious Ibn Ṭulūn and his successor, Khumārawayh, sought to establish a balance between their rule over Egypt and the continuation of the caliphal

⁶⁵⁸ Pritchard, *Clothing Culture*, p. 95.

⁶⁵⁹ See chapter 2c. Iconography, p. 102-106.

⁶⁶⁰ See, for example, the 10th century Iraqi *ṭirāz* excavated in Edfou in Amandine Mérat, "Etude technique and iconographique d'un ensemble de broderies égyptiennes antiques conservées au musée du Louvre", in *Drawing the Threads Together*, p. 137-139.

⁶⁶¹ Kühnel and Bellinger, *Catalogue*, nos 73.645 and 73.652, p. 6 and 8, pl. II, no 73.634, p. 11, pl. IV, no 73.530, p. 26, pl. IX.

⁶⁶² Bellinger argues that the earliest Egyptian *ṭirāz* were worked in couching stitch, which seemed a logical technique for weavers who were used to work with tapestry, as the Egyptian weavers were. Kühnel and Bellinger, *Catalogue*, p. 105.

⁶⁶³ Cornu and Martiniani-Reber, *Tissus d'Égypte*, nos 175-177, p. 277-280; KN inventory number 1374-03 in http://www.textile-dates.uni-bonn.de/textile_list_start.php?textile_id=436

⁶⁶⁴ Sijpesteijn, "Request to Buy Coloured Silk", p. 268.

regime, remaining committed to the ‘Abbasid caliphate.⁶⁶⁵ This political concept had its impact also in the art of the period, with Iraqi inspiration being pronounced in all different forms,⁶⁶⁶ albeit with a strong local character. This was not only a tribute to Ibn Ṭūlūn’s cultural heritage, shaped in the court of Samarra, but also, possibly, an indicator of his status anxiety and his effort to legitimise his power and gain the support of the ‘Abbasids.

Although the popularity of embroidered decoration was established thereafter in Egypt and its quality gradually improved, for *ṭirāz* pieces, the period of imitation lasted until the first half of the 10th century. The surviving material indicates that *ṭirāz* textiles executed in the traditional Egyptian technique of tapestry weave started being produced in Egypt at the beginning of the 920’s, and became the norm in the second half of the 10th century⁶⁶⁷ (e.g. I 31-32 and comparanda⁶⁶⁸). However, it appears that embroidered *ṭirāz* was still highly esteemed. During this period, tapestry *ṭirāz* employ techniques that imitate the visual effect of embroidery, like the creation of “floating” tapestry, in which the letters are directly woven on the plain weave ground, and not on a denser, tapestry band frame.⁶⁶⁹

The abandonment of an eastern technique, like embroidery, for the pieces bearing the caliphal protocol, and their adaptation to the Egyptian weaving traditions is presumably the culmination of the gradual Egyptisation of textile art, also observed in iconography from the 9th century,⁶⁷⁰ but it can be argued that tapestry woven *ṭirāz* finally prevailed in Egypt for practical reasons too. The growth of the Egyptian textile industry in the 10th century, expressed also in *ṭirāz* production, demanded a significant number of weavers, and, the majority of Egyptian weavers were trained in tapestry rather than embroidery. Furthermore, the greater availability of silk made the execution of silk tapestries possible, as tapestry employed more silk material than embroidery. We can, therefore, assume that the high demand for Egyptian textiles resulted in the adjustment even of

⁶⁶⁵ Gordon, *Aḥmad ibn Ṭūlūn: Governor of Abbasid Egypt*, 868-884, London 2021, p. 100-107.

⁶⁶⁶ See, for example, *ibid.*, “Ibn Ṭūlūn, al-Qata’i and the Legacy of Samarra”, *Beiträge Zur Islamische Kunst und Archäologie* vol. 4 (2014), p. 63-77.

⁶⁶⁷ Day, “Dated *ṭirāz* in the University of Michigan”, p. 429-430, no 9, fig. 9. Also J.M. Upton, “Dated Egypto-Arabic textiles in the Metropolitan Museum of Art”, *Metropolitan Museum Studies* vol. 3, no 2 (1931), p. 166, no 10, fig. 10 (dated to 932 and made in the private factory in Miṣr).

⁶⁶⁸ Lisa Golombek and Veronika Gervers, “*Ṭirāz* Fabrics in the Royal Ontario Museum”, *Studies in Textile History*, no 7 (1977), p. 100; Kühnel and Bellinger, *Catalogue*, nos 73.509, 73.215, 73.400, 73.28, 73.252, 73.432 and 73.544, p. 56-57, 49-53, 57-58 and 61, pl. XXV, XXII, XXIII, XXVI and XXVII; Florence E. Day, “Dated *Ṭirāz* in the Collection of the University of Michigan”, *Ars Islamica* vol. 4 (1937), fig. 23, p. 442, fig. 26, p. 444.

⁶⁶⁹ Wertz et al., “Beyond the Surface”, p. 53-54.

⁶⁷⁰ See chapter 2c. Iconography, p. 115-116.

traditionally embroidered pieces to the technical knowledge, abilities and visual tradition of the Egyptian craftsmen.

Moving to another category of textile construction, weft-faced compound weaves, **taquetés** or samites, have a completely different structure than plain and twill weaves, having two set of warps that interact separately with the wefts. It appears that the taqueté structure was the first compound structure used in Egypt and the Near East during the Late Roman period and that samites appeared at a later stage.⁶⁷¹

Scholars have often seen the development of the weft-faced compound structures in the Eastern Mediterranean as being driven by the influence and adaptation of Chinese warp-faced silks.⁶⁷² However, the significant technical differences between the two types and the fact that the earliest compound weaves in Egypt and the Near East were woven in wool, not silk, rather point to an independent development of the two techniques: warp-faced structures were invented in China, while weft-faced structures were invented in the Eastern Mediterranean, where a long tradition of weft-faced tapestries already existed.⁶⁷³

Compound weaves are reversible textiles and are characterised by repetitive patterns, because of their structure, which uses a special harness that lifts the additional patterning warp set in a predetermined sequence. As Homossani argues “The introduction of compound weaving techniques was the primary attempt for the repetitive mechanisation of the designing process of a woven fabric”.⁶⁷⁴ However, the technical aspects of these early weft-faced textiles of the Eastern Mediterranean suggest that the implements used for their weaving, at least during the period under discussion, were simple structures, including horizontal and vertical looms, with the addition of extra harnesses or **shed**-rods.⁶⁷⁵ All the surviving compound weaves from Egypt are either woollen

⁶⁷¹ M.M. El-Homossani, “Early Compound Weave Structures in Theory and Practice”, *Ars Textrina* vol. 9 (1988), p. 161 and 164.

⁶⁷² K. Riboud, (technical analysis by G. Vial), “A Newly Excavated Caftan from the Northern Caucasus”, *Textile Museum Journal* vol. 4, no. 3 (1979), p. 21-42; A. Geijer, *A History of Textile Art*, Leeds 1979, p. 280.

⁶⁷³ See also El-Homossani, “Early Compound Weave Structures”, p. 171.

⁶⁷⁴ El-Homossani, “Early Compound Weave Structures”, p. 165.

⁶⁷⁵ H.B. Burnham, “Technical Aspects of the Warp-Faced Compound Weaves of the Han Dynasty”, *Bulletin de Liaison CIETA* vol. 22, (July 1965), p. 25-45; D. King, “Some Notes on Warp-Faced Compound Weaves”, *Bulletin de Liaison CIETA* vol. 28 (1968), p. 9-19; Riboud, (technical analysis by G. Vial), “Quelques problèmes techniques concernant une soierie façonnée polychrome Han (Lou-Lan)”, *Bulletin de Liaison CIETA* vol. 49 (1979-1), p. 51-64; De Jonghe and Tavernier, “Les damassés”, p. 14-42; G.M. Vogelsang-Eastwood, *The Development and Spread of Compound Weave Textiles With Particular Reference to Weft-Faced Compound Weave Textiles in Wool from Egypt*, PhD dissertation, University of Manchester 1988, p. 652-653. The latter suggests that simple looms and draw-loom were both used at the same time to produce simpler and more complex compound textiles respectively.

or silk. Although it has been suggested that the woollen weaves were copies of the luxurious silks, it appears that they were both concurrently produced, satisfying different needs and performing different functions.⁶⁷⁶

Taqueté weave has more interlacing points than samite, resulting in a firmer textile, appropriate for use as furnishings. Wool is particularly suitable for this type of structure, because its low density needs to be firmly bound together.⁶⁷⁷ Indeed, the majority of this type is woven in wool, while silk taquetés are extremely rare.⁶⁷⁸ Taqueté fabrics are usually identified with the *polymita* of the sources⁶⁷⁹ and seem to have been mostly used as bed spreads and pillow coverings.⁶⁸⁰ Apart from the evidence of the sources, these uses are corroborated by archaeological finds: feathers adhering to taqueté covers have been found in excavations,⁶⁸¹ while the taqueté textiles from Berenike were noted to have had only one side exposed to strong daylight.⁶⁸²

Samites were made of both wool and silk, although the latter is more appropriate for this type of weaving, which has fewer interlacing points and creates a smoother surface, thus enhancing the natural properties of silk. The production of compound weave textiles seems to have flourished

⁶⁷⁶ Vogelsang-Eastwood, *The Development*, p. 368.

⁶⁷⁷ El-Homossani, “Early Compound Weave Structures”, p. 164.

⁶⁷⁸ A silk taqueté fragment survives in the Louvre, radiocarbon dated to the 4th-5th century, which is, however, attributed to Sasanian Iran. See Dominique Bénazeth, “Essai de datation par la méthode du radiocarbone de vêtements à la mode orientale retrouvés à Antinoé et de quelques soieries apparentées”, in *Methods of Dating Ancient Textiles*, p. 118.

⁶⁷⁹ G.M. Crowfoot and J. Griffiths, “Coptic Textiles in Two-Faced Weave with Pattern in Reverse”, *Journal of Egyptian Archaeology* vol. 25 (1939), p. 47; Donald King, “Early Textiles with Hunting Subjects in the Keir Collection”, in M. Flury-Lemberg and K. Stollies eds., *Documenta textilia: Festschrift für Sigrd Müller-Christensen*, München 1981, p. 94-104; Wild and Dross-Krüpe, “Ars Polymita, Ars Plumaria: The Weaving Terminology of Taqueté and Tapestry”, in *Textile Terminologies*, p. 303. However, see Vogelsang-Eastwood’s concerns on this identification in *The Development*, p. 326-329.

⁶⁸⁰ Wild and Dross-Krüpe, “Ars Polymita”, p. 304.

⁶⁸¹ Schrenk, *Textilien*, no 47, p. 139-140; Vogelsang-Eastwood, *The Development*, vol. 3, p. 592-596.

⁶⁸² Wild and Dross-Krüpe, “Ars Polymita”, p. 304.

in Egypt from the 2nd or 3rd to the 6th century. There are, however, later examples, in both wool and silk,⁶⁸³ which confirm their continuous production, throughout the period under discussion.⁶⁸⁴

Looped-pile textiles were also produced in Egypt,⁶⁸⁵ but all are datable to the 4th and 5th centuries, and their production does not seem to have continued. These textiles were woven with the help of a pile rod in order to form loops that could afterwards be cut or left uncut, and have been considered as predecessors of velvet structures.⁶⁸⁶ Silk velvets must have also existed in Egypt from the 9th century onwards, since they are occasionally mentioned in the works of Arab historians,⁶⁸⁷ although it is not known whether they were produced in the country.

Many decorative techniques used on tapestry weaves during the Roman and Byzantine periods are gradually, and mainly after the 9th century, abandoned. The use of **dove tailing**, a means of connecting the wefts of neighbouring areas, as apposed to **slit tapestry**, seems to diminish over time, and textiles of the 11th century only rarely exhibit this technique. One obvious reason for this is the miniaturisation of the decoration on silk tapestries, resulting in smaller weave gaps, which didn't need to be bridged. The "**flying shuttle**" or "**flying thread**" technique, quite popular for rendering the details of the decoration, especially on bicoloured textiles of the Byzantine period, is used until the 7th century. Thereafter and until the 9th century, it is only occasionally applied on restricted areas of the decoration, mostly in the form of **vertical weft brocading** (e.g. IV 6, 8-9 and 18) and, after the 9th century, it is not encountered at all. The "flying shuttle" technique, doesn't

⁶⁸³ See, for example, the radiocarbon dated compound weaves in Antoine De Moor, "Radiocarbon Dating of Ancient Textiles. State of Research", in *Methods of Dating Ancient Textiles*, p. 103-110. Also, the woollen piece from Qaṣr Ibrīm with the word *allāh*, establishing thus a post-conquest date, and another piece found on an eleventh century level in Fuṣṭāt, in Vogelsang-Eastwood, *The Development*, vol. 2, p. 316-317. Also, a group of woollen samites, decorated with cross-shaped elements and stylised birds, datable to the 9th century (e.g. IX 4 and comparanda in Cornu and Martiniani-Reber, *Tissus d'Égypte*, p. 73-74, footnote 3. Also, the Akhmīm silks produced from the 7th to the 10th century in De Moor, Schrenk and Verhecken-Lammens, "Akhmīm Silks", p. 92-94.

⁶⁸⁴ Vogelsang-Eastwood points that they are still- or were, back in the 1980's- produced in Akhmīm, although made of cotton. Vogelsang-Eastwood, *The Development*, vol. 2, p. 340-342.

⁶⁸⁵ See, for example VAM 682, 691 and 708, in Kendrick, *Catalogue*, vol. 2, nos 301-303, p. 10-11, and pl. I, p. 109; Also the Benaki pieces, in Tsourinaki Sophia, "Looped Pile Weaves at the Benaki Museum: More Observations on the Classification of Techniques and the Technology of Textiles", in *Modern Trends in European Egyptology*, Amanda-Alice Maravelia ed., BAR International Series 1448, 2005, p. 71-86.

⁶⁸⁶ See, for example, Wendy S. Landry, "On the Possibility of Byzantine Velvet", 2003, unpublished. Retrieved from <https://veloutiere.files.wordpress.com/2011/10/byz-velvet-full.pdf>.

⁶⁸⁷ Sumiyo Okumura, "Velvet and Patronage: The Origin and Historical Background of Ottoman and Italian Velvets", in *Textile Society of America Symposium Proceedings*, 2016. Retrieved from https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1993&context=tsaconf&seiredir=1&referer=https%253A%252F%252Fscholar.google.com%252Fscholar%253Fhl%253Del%2526as_sdt%253D2005%2526sci%253D0%25252C5%2526cites%253D3113510692014662578%2526scipsc%253D%2526q%253Dvelvet%252Btextiles%252BEgypt%2526btnG%253D#search=%22velvet%20textiles%20Egypt%22, chapter 3. Velvet production in the Middle East, para.2-3.

allow the weaver the freedom that tapestry woven designs do, as the number of warp threads needed has to be calculated beforehand.⁶⁸⁸ This might be a reason for the abandonment of the technique, also taking into account that, after the widespread use of silk in the industry, details of the decoration could be achieved with the thin silk wefts of the tapestry weave. Another decorative technique, **soumak** seems to be employed from the 7th until the 9th to 10th century and it does not generally appear on later textiles,⁶⁸⁹ which is also true for the two-coloured shed decoration and **gimp**.

Overall, although tapestries in Egypt became more luxurious and refined in materials after the 10th century, they also became technically simpler, as the peculiar techniques applied in earlier periods, were gradually abandoned, mainly because of the predominance of silk that had different technical characteristics and decorative potential. Unfortunately, the scarcity of woollen textiles from the period after the 10th century makes it impossible to establish at the moment whether these technical changes regarded only the textiles with silk wefts or were, under the influence of silk, employed also on textiles decorated with other materials.⁶⁹⁰ Any general conclusions would be, therefore, tentative.

Other decorative techniques, like resist-dyeing, block-printing, gilding and painting (e.g. III 3 and comparanda⁶⁹¹) were continually present, but never widely employed on Egyptian textiles during the period under discussion.⁶⁹² Moreover, knitting, used in the Roman and Byzantine period mainly for socks, expanded after the conquest to other types, the use of which, however, is still undetermined.⁶⁹³ Knitted fabrics do not fall into the category of “textiles”, since they don’t include the interlocking of two different yarn sets, and are not, therefore, further analysed in this study.

⁶⁸⁸ Verhecken Lammens, “Flying Thread Brocading- A Technical Approach”, in *Drawing the Threads Together*, p. 140-149.

⁶⁸⁹ See also *Coptic Textiles from Flemish Private Collections*, p. 26.

⁶⁹⁰ On the tapestry hanging in the KN, radiocarbon dated to the 10th -11th century, dove-tailing is widely employed. (KN 1603 dated to 900-1022, in http://www.textile-dates.uni-bonn.de/textile_list_start.php?textile_id=452). On the other hand, Fayyūmi textiles do not generally use this technique.

⁶⁹¹ Cornu and Martiniani-Reber, *Tissus d’Égypte*, no 111, p. 188-190. (Also MHTL 41.692 and AS 512); MET 32-129-3 in <https://www.metmuseum.org/art/collection/search/448690?&searchField=All&sortBy=Relevance&ft=321293&offset=0&rpp=20&pos=1>

⁶⁹² Anya H. King, “Textiles and Printing Blocks in Tenth-Century Egypt”, *Journal of the American Oriental Society* vol. 140, no 2 (2020), p. 455-465. For block-printed textiles possibly also produced in Egypt see Barnes, “Indian Trade Cloth in Egypt: The Newberry Collection”, *Textile Society of America Symposium Proceedings*, 1990. Retrieved from <https://digitalcommons.unl.edu/tsaconf/594>, p. 178-191. For resist-dyed textiles see Katarzyna Lubos, “Bemalt und gefärbt. Die Zusammenstellung der reserve-gefärbten Stoffe aus Achmîm”, in *The Textile Centre Akhmîm-Panopolis (Egypt)*, p. 153-162.

⁶⁹³ See, for example, the group of knitted fabrics, datable to the Fāṭimid period, in Cornu and Martiniani-Reber, *Tissus d’Égypte*, nos 159-172, p. 260-273.

Although no significant technological innovation seems to have marked the first centuries after the conquest- as is, for example, the case in ceramics, where the introduction of opacified tin glaze constituted a revolutionary technological approach-⁶⁹⁴ the 9th and 10th centuries marked a transition, with the introduction of practices and decorative methods of eastern origin, and a shift towards a simpler technical approach, appropriate to silk weaving.

In the period after the 11th century, which, however, surpasses the time limit of this thesis, more weaving innovations were to follow, like the complex **lampas weave**.⁶⁹⁵

2c. Iconography

The 7th and 8th centuries

One of the most characteristic aspects of the Egyptian textiles datable to the first two centuries after the conquest (7th and 8th centuries) is the survival and continuity of motifs popular during the Byzantine period. These are mainly classical and mythological representations, the latter also used for the representation of Christian themes, through a process of incorporation of mythological personages and episodes into Christian religion and iconography.⁶⁹⁶

Although the iconographic repertoire remained basically unaltered, changes also started to become apparent in textile decoration. These changes, which will be discussed in detail below, could be summarised in four points: a) the loss of the initial meaning of the images, b) the mixture of motifs from different narratives, c) the growing tendency towards non-narrative, repetitive representations and d) the influx of designs inspired by eastern textiles.

To begin with, many of the representations of Antique art that continued being used in the Early Islamic period, seem to have lost their original compositional and iconographic characteristics, as a consequence of also gradually losing their original significance and symbolism, conveying only general ideas of royalty, prosperity and protection, or becoming purely decorative. This process is evident in the absence, or the schematisation beyond recognition of

⁶⁹⁴ Michael Tite, Oliver Watson, Trinitat Pradell, Moujan Matin, Gloria Molina, Kelly Domoney and Anne Bouquillon, “Revisiting the Beginnings of Tin-Opacified Islamic Glazes”, *Journal of Archaeological Science* vol. 57 (2015), p. 80-91.

⁶⁹⁵ Different theories about the origin of this weave have been proposed. See, for example, Desrosiers, *Soieries*, p. 14–28, and Mackie, *Symbols of Power*, p. 148–151.

⁶⁹⁶ See Kurt Weitzmann, “The Survival of Mythological Representations in Early Christian and Byzantine Art and Its Impact on Christian Iconography”, *Dumbarton Oaks Papers* vol. 14 (1960), p. 43-68.

elements that were essential to the meaning and symbolism of the original compositions. On the textiles of the Early Islamic period these elements have become abstract designs and decorative patterns, a fact that indicates that their initial symbolism was not understood by the weavers who copied them.

This approach comes hand in hand with the mixture of motifs from different iconographic traditions, which also implies a shift in the perception of traditional images. Diverse elements were now combined to invoke a general feeling and impression and not a specific episode.⁶⁹⁷ This hybrid iconography is already observed in the Byzantine period,⁶⁹⁸ but becomes even more pronounced and popular after the conquest.

A closer look into the images that continue to be employed in Egyptian textiles will better explain the situation and clarify the points made above. Motifs like animal slayers, putti, nereids, dancers affiliated with Dionysus' entourage, female personifications and Christian scenes, clearly survive into the 8th century. But in most of these cases the iconography is selective, stylised and often confused.

Fragments with representations of personages fighting or flanked by animals, datable to the 7th-8th century are found in many collections. Their origin can be traced to the "Master of the Animals" type, popular in ancient Near Eastern art, and also encountered in ancient Greek mythology, Sasanian art, and, later, Christian art. The iconographic analysis of the examined pieces reveals a variety of iconographic sources and a polysemic nature.

⁶⁹⁷ For an example of such iconographic mixture and perception of the iconography, see Jennifer L. Ball, "Rich Interiors: The Remnant of a Hanging from Late Antique Egypt in the Collection of Dumbarton Oaks," in *Catalogue of the textiles in the Dumbarton Oaks Byzantine Collection*. Retrieved from <https://www.doaks.org/resources/textiles/essays/ball>.

⁶⁹⁸ Thelma Thomas, "Costume, Fashion and Taste in Late Antique Egypt: 'Decorative Devices' from the Textile Collection in the Kelsey Museum", *Bulletin of the University of Michigan Museums of Art and Archaeology*, vol. 12 (1997-2000), fig. 12, p. 42.

Some characteristic examples of this iconographic syncretism are a) the lion slayer on II 1 and its comparanda,⁶⁹⁹ which combine iconographic attributes of Hercules, David and Samson,⁷⁰⁰ b) the figure flanked by animals on IV 7, which combines characteristics of the triumph of Dionysus and the iconography of Daniel in the lions' den and also of other Christian saints, like St. Menas or St. Thecla,⁷⁰¹ and c) the figure flanked by birds on IV 6, bearing iconographic allusions to an ascension scene, connected with the iconography of Alexander the Great, the triumph of Dionysus, sun gods and the apotheosis of emperors.⁷⁰²

The confused compositions, the maladroit execution, and the combination of diverse iconographic elements on most of these textiles, not only obscure the details of the scenes, and thus impede identification of the iconographic models, but also suggest that the weavers, and also the wearers, Christians or Muslims, were uninterested in the illustration of a particular narrative or personage, and were possibly satisfied with combining elements known to evoke a general idea of God's favour and triumph over the powers of evil.

Another popular iconography of the period is connected with prosperity and abundance. Iconographic types established in the Roman and Byzantine period, like the female personifications, of Kosmēsis (Adornment), Tychē (Good fortune), Hestia Polyolbos (Blessed hearth) and Gaia (Earth), usually represented richly dressed and heavily jewelled, was a popular theme for the decoration of Late Antique households, where they evoked wealth and prosperity.⁷⁰³ These themes

⁶⁹⁹ VAM 631, AS 1388, MET 90.5.814, Louvre X 4749 in Thomas E.A. Dale, "The Power of the Anointed: The Life of David on Two Coptic Textiles in the Walters Art Gallery", *The Journal of the Walters Art Gallery* vol. 51 (1993) p. 29-34, figs. 12, 23, 24 and 25; MAF 108 in Guerrini, *Le stoffe copte*, no. 108, p. 89-91; HM11641 in *Byzantium and Islam*, no. 7, p. 18.

⁷⁰⁰ For the interpretation of the scene as an episode from the life of David see Dale, "The Power of the Anointed", p. 23-42. For the interpretation as Hercules see Stauffer, *Koptische Wirkereien*, p. 246-248, pl. 67 and Schrenk, *Textilien*, no 57, p. 169-173. For a survey of the Samson iconography, see Ernst J. Grube and Jeremy Johns, *The Painted Ceilings of the Cappella Palatina*, vol. 1, Bruschetti Foundation for Islamic and Asian Art 2005, p. 204-220; also, Jeremy Johns, "Muslim Artists and Christian Models in the Painted Ceilings of the Cappella Palatina", *Romanesque and the Mediterranean: Points of Contact Across the Latin, Greek and Islamic Worlds, c. 1000 to c. 1250*, Bacile Rosa Maria and John McNeill eds., Routledge 2017, p. 75-79.

⁷⁰¹ Francisco de Asís García García, "Daniel in the Lions' Den". Retrieved from <http://webs.ucm.es/centros/cont/descargas/documento24825.pdf>; Warren T. Woodfin, "An Officer and a Gentleman: Transformations in the Iconography of a Warrior Saint", *Dumbarton Oaks Papers* vol. 60 (2006), p. 111-143.

⁷⁰² Olga Lechitskaya, "Tabula with the Ascension of Alexander-Dionysus in the Pushkin State Museum of Fine Arts", in *Drawing the Threads together*, p. 177; Grube and Johns, *Cappella Palatina*, p. 244-247 and 250-255. Also E. Herzfeld, "Der Thron des Khosrô. Quellenkritische und ikonographische Studien über Grenzgebiete der Kunstgeschichte des Morgen- und Abendlandes", *Jahrbuch der Preussischen Kunstsammlungen* vol. 41 (1920), p. 106-136.

⁷⁰³ Henry Maguire, "The Good Life", in *Late Antique and Medieval Art of the Mediterranean World*, Eva R. Hoffman ed., Blackwell publishing 2007, p. 70.

continue into the Early Islamic period, as seen in pieces like I 3, IV 19 and comparanda,⁷⁰⁴ datable to the 6th-8th centuries. These themes are also encountered on other forms of art, as show the frescoes of Gaea from Quşayr ‘Amra, integrated into the general theme of the agricultural calendar and seasonal cycle, propagating ideas of prosperous and mighty rulership.⁷⁰⁵ Also, the *semis* decoration,⁷⁰⁶ popular in the Byzantine period and usually comprising small birds and flowers either in a diaper pattern, or scattered along the surface of the textile, continues being used, as examples like I 4-5 and comparanda⁷⁰⁷ indicate. However, these iconographic types seem to be gradually replaced by hybrid examples, with a mixture of different iconographic elements. Plants, animals, birds, marine creatures, putti carrying baskets, and equestrian motifs are combined to convey a general feeling of wealth.⁷⁰⁸ On IV 8-9 and their comparanda⁷⁰⁹ an intermingling of dancers and hunters with motifs from the so-called “marine thiasos”, comprising nereids, sea horses, dolphin riders, tritons and other aquatic creatures is represented.⁷¹⁰ All these motifs, the combination of which was already known in the Byzantine period,⁷¹¹ originate in different iconographic traditions but are combined because they bear similar connotations, alluding to the pleasures of life or afterlife and implicate a sense of well-being and an elevated social status.

⁷⁰⁴ H. Maguire, “Garments Pleasing to God”, *Dumbarton Oaks Papers* vol. 44 (1990), p. 217, figs 12.

⁷⁰⁵ Nadia Ali, and Mattia Guidetti, “Umayyad Palace Iconography: On the Practical Aspects of Artistic Creation”, in *Power, Patronage, and Memory in Early Islam: Perspectives on Umayyad Elites*, George Alain and Andrew Marsham eds., Oxford University Press 2017, p. 206-209.

⁷⁰⁶ See Anna Gonosová, “The Formation and Sources of Early Byzantine Floral Semis and Floral Diaper Patterns Reexamined”, *Dumbarton Oaks Papers* vol. 41, *Studies on Art and Archaeology in Honor of Ernst Kitzinger on His Seventy-Fifth Birthday* (1987), p. 227-237.

⁷⁰⁷ Du Bourguet, *Catalogue*, no E 75, p. 216; Stauffer and Maurice Bouvier, *Textiles d’Égypte de la collection Bouvier: antiquité tardive, période copte, premiers temps de l’Islam*, Benteli 1991, no 51, p. 136; Yvonne Bourgon-Amir, *Les tapisseries coptes du Musée historique des tissus, Lyon*. vol. 1., Publications de la recherche, Université de Montpellier 1993, pl. 277-278; Eunice Dauterman Maguire, *Weavings from Roman, Byzantine and Islamic Egypt, The Rich Life and the Dance*, University of Illinois 1999, no A28, p. 72.

⁷⁰⁸ For example the DOC and MET hangings, both discussed in Ball, “Rich Interiors”.

⁷⁰⁹ Lillian M. Wilson, *Ancient Textiles from Egypt in the University of Michigan Collection*, Ann Arbor, University of Michigan Press 1933, no 157, p. 61, pl. XIV.

⁷¹⁰ Anthousa Papagiannaki, “Nereids and Hippocamps: The Marine Thiasos on Late Antique and Medieval Byzantine Ivory and Bone Caskets” in *The Legacy of Antiquity: New Perspectives in the Reception of the Classical World*, Lenia Kouneni ed., Cambridge 2013, p. 71-103. This theme, also associated with the river Nile and its deified properties, enjoyed a great popularity on Egyptian textiles of the Byzantine period, see, for example, Du Bourguet, *Catalogue*, nos C 76-78, p. 115-116, datable to the 6th century.

⁷¹¹ Sophia Tsourinaki, “Late Antique Textiles of the Benaki Museum With Bucolic and Mythological Iconography”, in *Europe, Hellas and Egypt- Complementary Antipodes During Late Antiquity*, Amanda-Alice Maravelia ed., BAR International Series 1218, 2004, p. 55 and respective footnotes.

In the same context, the *Mänadenstoffe*, a type of tunic decoration with vine scrolls, animals and dancers that belonged to the Dionysian-cycle⁷¹² and was extremely popular during the Byzantine period, reaching its peak during the 5th and 6th centuries, seems to have been rarely produced in the same form after the Islamic conquest.⁷¹³ Figures with similar design and dancing postures are found on textiles like IV 2, datable to the 7th-8th centuries, but without the presence of any other elements that constitute the Dionysian iconography, like the vine scrolls. This case is another example of the persistency of Hellenistic themes, the original context and symbolism of which has, however, been lost or altered. The dancing figures could have been received by the viewers of the 7th or 8th century simply as images evoking pleasure and “good life”⁷¹⁴ and to have been reproduced and combined with other imagery as such. It is worth noting that a similar iconography appears, during this period, on the wall paintings of the palaces of Khirbat al-Mafjar and Qaşayr ‘Amra.⁷¹⁵

However, objects with clearly distinguishable Dionysiac imagery are encountered well into the 8th century in the Umayyad realm, like the brazier found in the residence of al-Fudayn in Jordan.⁷¹⁶ This difference between a hybrid iconography on textiles and a more coherent one on items like the brazier, datable to the same period, may indicate that the perception of Hellenistic imagery was not the same among the general public that ordered and wove the aforementioned textiles and among the elites that commissioned valuable objects like the brazier. The difference could additionally be attributed to the background and the competency of the craftsmen employed.

Another interesting iconographic mixture on the textiles of the period is the combination of putti with richly dressed, haloed figures, which are often associated with Christ and Christian

⁷¹² For a general survey of this type of tunics see Paetz, “Radiocarbon Dating on Nine Late Antique and Early Islamic Tapestry Weaves of Dionysian, Joseph and David-Cycle Design”, in *Methods of Dating Ancient Textiles*, p. 167-168.

⁷¹³ Ibid., p. 167-175.

⁷¹⁴ See also Anna Ballian, “Country Estates, Material Culture and the Celebration of Princely Life: Islamic Art and the Secular Domain” in *Byzantium and Islam*, p. 206-207.

⁷¹⁵ Richard Ettinghausen, Oleg Grabar and Marilyn Jenkins-Madina, *Islamic Art and Architecture 650-1250*, Yale University Press 2001, p. 42-48.

⁷¹⁶ *Byzantium and Islam*, no 143, p. 212-213. The brazier features colonnades and arches under which appear satyrs with drinking vessels and dancers.

saints⁷¹⁷ This combination is found on a group of *clavi* (II 3 and VI 2), well represented in many collections, and datable to the 7th to 9th century.⁷¹⁸ On some representations the costume of the figures is highly reminiscent of Byzantine royal dress, possibly suggesting an influence from Byzantine textiles and other works of art. The diversity of styles of the surviving pieces indicates that *clavi* of this type were produced in different workshops during a long period of time, undergoing several stylistic and iconographic alterations.

Despite the Christian attributions and the Byzantine connections, most of the examples seem to have been manufactured after the 7th century, indicating that they constituted a post-conquest vogue. It is possible that these images were initially used by Christians, who wished to profess their religious and cultural affiliations. However, the presence of the word *allāh* in Arabic letters next to a haloed figure on one of these pieces,⁷¹⁹ indicates an Arabic-speaking client and/or weaver, and suggests that the same textiles were produced and used by Christians and Muslims alike. It is, of course, possible, if we accept a late dating, that this garment belonged to an Arabic-speaking Christian, as during the 9th and 10th centuries Arabic was increasingly spoken by Egyptian Christians and Jews.⁷²⁰ Alternatively, the inscribed *clavi* could have been made by a Christian weaver, used to producing “Christian” or “Byzantine” figures, but this time for a Muslim client, who simply wanted one of these fashionable bands, or for a recent convert to Islam who wanted to express his faith, using the already popular iconographic types, possibly with an effort to “Islamise”

⁷¹⁷ For the interpretation of the figures as Christian saints see *Coptic Textiles from Flemish Private Collections*, no 145, p. 257-259; Pfister, “Matériaux”, p. 11; Anna Apostolaki, *Koptika Yfasmata tou en Athinai Mouseiou Kosmētikōn Tehnōn*, Athens 1932, footnote 172; *Ägyptische Textilien aus spätantiker und frühislamischer Zeit im Bestand der Kunstsammlungen Chemnitz*, Mössinger Ingrid and Metz Katharina eds., Bielefeld, Berlin 2108, no 131, p. 130, where the nimbed figure holds a leaf in his hand, which is interpreted as the palm leaf of the martyrs of Christian faith.

⁷¹⁸ See, for example those in the Louvre (nos 10154, 10162) in Pfister, “Matériaux”, p. 11, pl. I, A1 and pl. III, A1; in the MDA, in Apostolaki, *Koptika Yfasmata*, no 1364, p. 154-155, ill. 26, no 1376, p. 152-153, ill. 120, no 1373, p. 155, ill. 122, no 1726, p. 156, ill. 123, no 1368, p. 157, ill. 124, no 1374, p. 157-158, ill. 125, no 748, p. 159, ill. 126, no 746, p. 159-160, ill. 127, no 745, p. 160, no 747, p. 163-164, ill. 131; in the ROM, inv. no 980.78.27, in <https://collections.rom.on.ca/objects/435106/fragment-of-a-clavus-band-from-a-tunic?ctx=f9a595c6-5589-437a-a9b6-e475fdff5599&idx=0>; in Brooklyn, in Deborah Thompson, *Coptic Textiles in the Brooklyn Museum*, Brooklyn Museum 1971, no 27 (Acc. no 38.748), p. 64-66; in the KN, www.textile-dates.uni-bonn.de/textile_list_start.php?textile_id=535, radiocarbon dated to 689-885; in the PC, in De Jonghe et al., *Ancient Tapestries*, no 7014, p. 99 and ill. XLVII, p. 274; in the Chemnitz collection, in *Ägyptische Textilien*, nos 123, 125-126, 131-133 and 139, p. 124-126, 130-132 and 136; in the Krannert Art Museum, in Dauterman Maguire, *Weavings*, nos C26, C29-30, p. 168-169, 172-173; in the Israel and Haifa Museum, in Baginski and Tidhar, *Textiles from Egypt*, nos 139-140, p. 102; in the MHTL, in Bourgon-Amir, *Les tapisseries coptes*, pl. 96-101; in the Pushkin State Museum of Fine Art, in Olga Lechitskaya, *Koptskie tkani=Coptic Textiles*, Moscow 2010, no 188, p. 350-351.

⁷¹⁹ Beckwith, *Studies*, p. 17, fig. 26.

⁷²⁰ Richter, “Greek, Coptic and the ‘Language of the Hijra’”, p. 419-421; Sijpesteijn, “The Arab Conquest of Egypt”, p. 454; Papaconstantinou, “‘They shall speak the Arabic Language’”, p. 295-298.

them. Both the latter hypotheses suggest that, at least by the end of the period of production of these bands, their “Christian” connotations, if ever existent, had ceased to be particularly meaningful.

At the same time, there are groups of textiles with clearly biblical themes, like the Adoration of the Magi and scenes from the life of Joseph. These examples not only seem to appear relatively late in the 5th and 6th century, but were also popular in the 7th and 8th centuries.⁷²¹ In contrast to the hybrid iconography of the period, the representations on some of these textiles are specific and expressive and can hardly bear different interpretations.⁷²² Of course, it is hard to say whether these examples constitute a manifestation of Christianity⁷²³ or were also favoured among Muslims, who accepted the already popular iconography of holy figures and episodes,⁷²⁴ some of them being honoured in the Islamic religion too, as, for example, Joseph (Yūsuf), whose life was a common theme in Islamic art.⁷²⁵ Crosses are not often used for the decoration of textiles and when they are, they are usually included in non-Christian scenes, like those with Dionysiac imagery, probably falling into the general repertoire of “good life”, and employed not as markers of Christianity, but mostly for their apotropaic and beneficent value.⁷²⁶

Another characteristic of the Early Islamic period textiles from Egypt, observed towards the end of the 8th century, is the tendency to transform narrative scenes into static, repetitive representations, characteristic of a new aesthetic approach, which will become more pronounced in the centuries to follow.

⁷²¹ For textiles with such decoration see Maguire, “Garments”, p. 219-224.

⁷²² Ibid., figs. 33 and 35.

⁷²³ Rooijackers argues that if these scenes acted as an indicator of Christian identity they would be more prevalent, since Christians were still a majority in Egypt. However, the fragmentary survival of textiles does not allow us to conclude which iconography was or wasn't prevalent. These themes certainly constituted a trend in the Early Islamic period, that was not necessarily followed by all Christians or used as a marker of christianity, but might have been connected with an increased awareness of self-and religious- identification, as also mentioned by Paetz-Schieck and quoted by Rooijackers. See Tineke Rooijackers, “New styles, new fashions: Dress in early Byzantine and Islamic Egypt (5th-8th Centuries)” in *New themes, New Styles in the Eastern Mediterranean: Christian, Jewish, and Islamic Encounters (5th-8th Centuries)*, Hagit Amirav and Francesco Celia eds., Leuven 2017, p. 188, footnote 56, 57 and p. 190; Paetz, *Textile Bilderwelten: Wechselwirkungen zwischen Ägypten und Rom; Untersuchungen an "koptischen" Textilien unter besonderer Berücksichtigung unbearbeiteter Sammlungsbestände in Nordrhein-Westfalen*, PhD dissertation 2007, p. 130.

⁷²⁴ For the assimilation of aspects of Egyptian and Christian religious and cultural characteristics by the Muslims in Egypt see also Garcin, “L'arabisation de l'Égypte”, p. 131-132.

⁷²⁵ The life of Yūsuf and, particularly the story of Yūsuf and Zulaikha, became a popular subject in Persian and Turkish literature and manuscript illustration. See, for example, Francesca Leoni, Christiane Gruber, and P. Lory, *Power and Protection: Islamic Art and the Supernatural, Exhibition Catalogue*, Ashmolean Museum, University of Oxford 2016, fig. 12, p. 27.

⁷²⁶ Rooijackers, “Christianity as Lived Religion in Dress: Crosses on Garments from Achmîm”, in *The Textile Centre Achmîm-Panopolis (Egypt)*, p. 127-129.

An example of this approach is the theme of the putti or swimmers carrying baskets, vessels or other objects, very often found on Egyptian textiles of the Byzantine period. These themes seem to remain popular at least until the 8th century. However, while in pieces like IV 5 and comparanda,⁷²⁷ datable to the 7th century, the putti still retain their classical characteristics and attributes and they appear flying or swimming towards different directions on a wavy background, pieces like IV 25, datable to the 9th century, attest to the stylistic transformations of the motif and are indicative of a different aesthetic approach. The classical putti have become, here, highly stylised and barely recognisable as such, their posture and attributes have been distorted, they lack any background and are combined with unnaturalistic roundels with birds that give the impression of frames hang in a wall. This piece is indicative of the transformation of the Hellenistic iconography into schematised repetitive decoration, characteristic of the Early Islamic period, and also of its combination with other motifs, like the miniature birds in roundels, which will prevail in textiles after the 9th century.

Bucolic scenes, which also bear Christian annotations, are rarely encountered on textiles after the 6th century and when they are, they seem to have lost their narrative character, a fact that is evident if we compare fragments from the 5th-6th century to later ones.⁷²⁸

Another aspect that emerges during this period is the frequent presence of designs inspired by eastern textiles, not only Iranian, but also Central Asian and Chinese. Themes like mouflons and birds with rich plumage, isolated motifs like spiral clouds and cross-shapes with crescent arms and also the iconographic arrangement in pearl roundels, all closely connected with Iranian, Central Asian and Chinese prototypes, become popular on Egyptian tapestries, which probably copied imported silk pieces. The origin of these textiles is often debatable and some scholars support the idea that they are imported fabrics actually made in the East,⁷²⁹ which is a tenable hypothesis for some of them,⁷³⁰ although Egyptian products also exist.⁷³¹ Whatever their origin, they bear

⁷²⁷ Also the one in the PC, in De Jonghe et al., *Ancient Tapestries*, inv. no 7347, p. 95, ill. XXXII, p. 256.

⁷²⁸ See, for example, *Age of Spirituality, Late Antique and Early Christian Art, Third to Seventh Century*, Kurt Weitzmann and Margaret English Frazer eds., Metropolitan Museum of Art 1980, nos 227-230, p. 249-251, no 237, p. 253.

⁷²⁹ Pfister, "Coqs sassanides", *Revue des arts asiatiques* vol. 12, no 1 (1938), p. 44-45; Kühnel and Bellinger, *Catalogue*, p. 5-6.

⁷³⁰ There are examples where the material (exclusively wool) and the direction of spinning of wefts and warps (Z-spun) point to a foreign origin (e.g. VII 3-5). However this evidence cannot be considered as conclusive.

⁷³¹ See, for example, the group of textiles with large pearl roundels IV 6-7, 15134, 15330, p. 124, figs. 4 and 5.

testimony of a growing preference of the Muslim elites for “exotic”, eastern decorations, and their varying qualities indicate that they were also imitated and favoured by a less wealthy clientele.

Mouflons (IV 15 and comparanda⁷³²) are a popular theme in Iranian art, found in stucco decoration, seals and silver plates.⁷³³ The circular or semi-circular decoration on the chest and thighs of the mouflons on the Egyptian textiles, (Catalogue p. 141, fig. 1), is a usual iconographic convention for animals pictured in Near Eastern and Central Asian art, indicating the imitation of eastern prototypes.⁷³⁴

An Iranian inspiration is also evident on textiles with human faces or busts,⁷³⁵ often accompanied with imposing headgear and combined with palmette decoration, like those on IV 18 and its comparanda.⁷³⁶ These faces are used either as a repeated pattern, like on IV 18, or as a single motif, like on 15134 and 15330 (Catalogue p. 124, figs. 4 and 5). The latter motif seems to have its source in Sasanian stucco reliefs (Catalogue p. 124, fig. 9).

The birds with flamboyant tails inside floral medallions on a red ground (VII 3-5 and comparanda⁷³⁷), which were popular on tapestries of the 7th and 8th centuries, are also connected with Iranian prototypes. The reason for this is a group of so-called “Sasanian” silks, like those in the Vatican (Catalogue p. 202, figs 1 and 2) and the Jouarre Abbey,⁷³⁸ which bear similar birds. The

⁷³² Lorquin, *Les tissus coptes*, no. 70, p. 202-204; Desrosiers, *Soieries*, no. 5, p. 66-67; Prudence O. Harper, “Ancient Near Eastern”, in “Textiles in the Metropolitan Museum of Art”, *The Metropolitan Museum of Art Bulletin* (Winter 1995/96), p. 21; Lamm, “Some Woollen Tapestry Weavings”, no 21, pp. 48 and 66, pl. VI d; Bourgon-Amir, *Les tapisseries*, pl. 150-151; MFAB nos 34.120 and 37.380, in mfa.org; ROM no 970.364.10, in rom.on.ca.

⁷³³ *Les Perses sassanides: fastes d'un empire oubliée (224-642)*, Musée Cernuschi, Musée des Arts de l'Asie de la Ville de Paris, 15 septembre-30 décembre 2006, *Exposition Catalogue*, Demange F. ed., Paris-Musées 2006, p. 52, fig. 2, no. 7, p. 54-55, no 177, p. 212; HM, inv. nos S-216, S-520, in K. V. Trever and V. G. Lukonin, *Sasanidskoe serebro. Khudozhestvennaia kul'tura Irana III-VIII vekov. Sobranie Gosudarstvennogo Ermitazha*, Moscow: Iskusstvo 1987, nos 8-9; also, MFAB no 1971.52 in <https://collections.mfa.org/objects/155820/plate-with-ram-on-a-mountain-top?ctx=2d29c52e-4823-410d-92fb-7f5a0910e8ab&idx=26>.

⁷³⁴ A characteristic example is a silk with bulls, datable to the 8th-9th century and one with confronted deer, datable to the 7th-8th century, both in the DM, in www.davidmus.dk, inv. no 10/1996 and 4/2005.

⁷³⁵ Ernst Kitzinger, “The Horse and Lion Tapestry at Dumbarton Oaks: A Study in Coptic and Sassanian Textile Design”, *Dumbarton Oaks Papers* vol. 3 (1946), p. 20-22.

⁷³⁶ Cornu and Martiniani-Reber, *Tissus d'Égypte*, p. 78-80, nos 27,28; Lamm, “Some Woollen Tapestry Weavings”, p. 69, nos 28, 30, 31 and 32, pl. VIIIc, e, f and g.

⁷³⁷ Pfister, “Coqs sassanides”, p. 40-47, pl. XXV-XXVIII; Overlaet, “Sassanian and Post- Sassanian Tapestries”, in *Ancient Tapestries*, p. 125-141, pl. LXIV-LXVIII and fig. 3-6, 11, 16, 21-22, 24-25, 29, p. 145; Pfister, “Matériaux”, p. 82-83; Lorquin, *Les tissus coptes*, nos 102, 103, p. 256-259; Desrosiers, *Soieries*, no 4, p. 65-66. Kühnel and Bellinger, *Catalogue*, p. 5-6, pl. I; also MIC no 66741, unpublished, in Lorquin, *Les tissus coptes*, p. 257.

⁷³⁸ Mark J.Y. Van Strydonck and Klaas Van der Borg, *The Construction of a Preparation Line for AMS-Targets at the Royal Institute for Cultural Heritage*, Brussels 1990, p. 228-234; also *Les Perses sassanides*, no 126, p. 176.

tapestries are made of wool and their warps are often Z-spun, S-plyed, a fact that has been used to support their foreign origin.⁷³⁹ The long legged birds represented in a group of two coloured, samite weaves (IX 2 and comparanda⁷⁴⁰) belong to the same iconographic tradition. The different qualities of design and execution on these textiles (compare, for example, VII 3 with VII 5), suggest that some of them were produced in large factories by expert craftsmen, and others in provincial workshops. Possibly, the finest among them are indeed the Iranian prototypes and the less sophisticated their Egyptian copies, although there is not conclusive evidence for their origin.

On many of the already mentioned tapestries with an “eastern” inspiration, the design is organised in pearl bordered medallions enclosing animals, human figures and stylised vegetal decoration (IV 6-7 and their comparanda⁷⁴¹). Although animals and birds in roundels were popular in Egyptian textiles for a very long period, the specific type of decoration arrangement seems to have prevailed during the 7th-8th century and to have its prototype on fabrics of Eastern origin with pearl roundels- mostly made of silk, made between the 6th and the 8th century (Catalogue p. 123, fig. 3).⁷⁴² The pearl roundel is a widespread motif that is generally believed to be of Sasanian origin. However, pearl roundels that form an overall design are not documented in Iranian art before the Islamic conquest and, although they appear on a costume represented at Taq-i Bostan, they are not arranged to form an overall pattern.⁷⁴³ Possibly, the origin of the motif should be sought in Central Asia or China.

In the course of this study, more design elements of eastern inspiration have been identified on Egyptian textiles of the period. One of them is the spiral cloud appearing on a medallion with a

⁷³⁹ For this discussion see Catalogue, p. 199-201.

⁷⁴⁰ Desrosiers, *Soieries*, no 120, p. 226-228; Vogelsang-Eastwood, *The Development*, vol. 3, no 130, p. 804, fig. 349.

⁷⁴¹ Lamm, “Some Woollen Tapestry Weavings”, p. 68-69.

⁷⁴² See, for example, Von Falke, *Kunstgeschichte der Seidenweberei*, vol. 1, Berlin 1921, abb. 28, p. 22; Michael W. Meister, “The Pearl Roundel in Chinese Textile Design”, *Ars Orientalis* vol. 8 (1970), p. 255-267, fig. 1, 18, 22-27, 31-33, 43-46; *When Silk Was Gold: Central Asian and Chinese Textiles*, Watt C.Y. James, Wardwell E. Anne and Rossabi Morris eds., Metropolitan Museum of Art 1997, no 4, p. 33, no 5, p. 34-37; Joan Allgrove McDowell, “Sassanian Textiles”, in *5000 Years of Textiles*, Jennifer Harris ed., London, British Museum 1999, p. 70; Matteo Compareti, “The Role of the Sogdian Colonies in the Diffusion of the Pearl Roundels Pattern in Transoxiana”, *Webfestschrift Series I, Webfestschrift Marshak 2003*, *Ēran ud Anērān*, Compareti, Raffetta, Scarcia eds. Retrieved from <http://www.transoxiana.org/Eran/Articles/compareti.html>.

⁷⁴³ Manson Bier, “Textiles”, in *The Royal Hunter: Art of the Sasanian Empire*, Prudence Oliver Harper ed., New York: Asia Society, 1978, p. 122

rider (II 11), which resembles the clouds found in some Central Asian and Chinese silks.⁷⁴⁴ Another motif is the cross with arms ending in crescents, featuring on the textiles with pearly medallions mentioned above. This cruciform element has close parallels in Chinese silk textiles, like those of the Shosoin collection (Catalogue p. 124, fig. 7).

Eastern types of decoration were often used to accompany or enclose figural scenes which intermingle Near Eastern, Greek and Christian iconographic traditions, combined with traditional Egyptian and hellenistic decorative elements.⁷⁴⁵ This, together with the fact that some of the textiles of this category are executed in a naive and low quality design (for example, IV 6), indicates that eastern motifs were not reproduced only in large workshops, but circulated widely, reaching provincial workshops and being incorporated into the traditional iconographic repertoire.

How did eastern designs reach provincial weavers? Possibly through a process of copying silks. A Muslim elite, as already mentioned in the case of embroidery, often persianised Arabs or Persians,⁷⁴⁶ coming straight from or being closely connected with the centre of the Islamic empire, ‘Abbāsīd Iraq,⁷⁴⁷ encouraged the import of luxurious eastern textiles, and promoted their copying in the large workshops of Egypt, the workers of which already had a high level of technical knowledge and artistic competence. Smaller workshops saw these copies and copied them too, though on cheaper materials, like wool, in an imitation of court culture that signified prestige to the wearer. Provincial weavers only had access to these designs after they had been copied several times, a fact that had possibly distorted their original iconography. It is also possible that these weavers interpreted the themes of the eastern prototypes through their own eyes and adjusted them to the preferences of popular tastes, as is the case for many “foreign” motifs appropriated in any visual

⁷⁴⁴ *When Silk Was Gold*, no 9, p. 44-45, fig. 14, p. 57 and no 18, p. 78-79, no 23, p. 87-90 (see also no 2, p. 31). For the cloud motif in Chinese textiles see also Zhao Feng, “The Evolution of Textiles Along the Silk Road”, in *China: Dawn of a Golden Age, 200-750*, James C.Y. Watt ed., Metropolitan Museum of Art 2004, p. 67-69. The earliest of the aforementioned examples are datable to the 10th century, but it is possible that there were earlier versions of the motif.

⁷⁴⁵ For example, IV 6 and IV 7 combine iconographic elements from different traditions, such as Near Eastern heroes, ascension scenes, hellenistic images of Dionysus and Christian saints.

⁷⁴⁶ Dunn, *The Struggle for ‘Abbasid Egypt*, p. 137-138. See also Frantz-Murphy, “The Economics of State Formation”, p. 106 and 108-110.

⁷⁴⁷ Kennedy, “Egypt as a Province in the Islamic Caliphate”, p. 76-85. Ibid., “The Muslim Elite of Early Islamic Egypt”, in *Egypt and Empire*, p. 361-368.

culture.⁷⁴⁸ In this way, and through the imitation of elite culture, eastern designs were assimilated in the visual culture of the Egyptians.⁷⁴⁹

Eastern inspiration, of course, can be traced on earlier Egyptian textiles,⁷⁵⁰ and it is possible that it was also encouraged by the short Sasanian occupation of Egypt, during the 7th century. However, the large number of such motifs, their frequent occurrence, and their combination with traditional Egyptian compositions seems to come after the Islamic conquest. The influx of eastern designs and the incorporation of different iconographic traditions of what has been called the visual *koine* of Late Antiquity, was intensified by the unification of areas of the Mediterranean and Near and Middle East under Islamic rule, and is already evident in the visual culture of the Umayyads.⁷⁵¹ The large diffusion of Central Asian designs has also been attributed to the increasing role of Sogdian textile production and of Sogdian commercial activities with both China and Iran, during this period.⁷⁵² The Islamic conquest largely facilitated the import of Iranian and Sogdian textiles into Egypt, which was now part of the Islamic empire, reaching as far as Transoxiana to the East, within which trade could be practised unencumbered by customs and political turbulence.⁷⁵³ What is more, the Islamic caliphate took control over the Indian Ocean trade routes, which were up to then dominated and strictly controlled by the Sasanians,⁷⁵⁴ so that exchanges with the East were further promoted.

It has been proposed that apotropaic and protective symbolism was the primary concern when it came to garments and household furnishings in Late Antiquity.⁷⁵⁵ This talismanic function of textiles could also partly explain the employment of abbreviated, detached iconographic elements, as well as the mixture of motifs with common symbolisms, evoking good health and fortune. It is also possible that mythological scenes were represented in a way and with an emphasis on the elements that reflected the specific tastes of the wearer, which could often include elements

⁷⁴⁸ Katharina Meinecke, “Umayyad Visual Culture and its Models”, in *The Umayyad World*, p. 109-110.

⁷⁴⁹ It has also been proposed that images were diffused in the Islamic Empire of the Umayyads also through illuminated manuscripts. See Meinecke, “Umayyad Visual Culture”, p. 106, 113.

⁷⁵⁰ See, for example, the so-called silks of Antioch, datable to the 4th-6th century and their woollen Egyptian versions in Kitzinger, “The Horse and Lion Tapestry”.

⁷⁵¹ Meinecke, “Umayyad Visual Culture”, p. 103-104.

⁷⁵² Compagni, “The Role of the Sogdian Colonies”.

⁷⁵³ Bessard, *Caliphs and Merchants*, p. 4-5.

⁷⁵⁴ Banaji, *Exploring the Economy*, p. 78 and 222.

⁷⁵⁵ Maguire, “Garments”, p. 215-224.

of fun and even erotic implications.⁷⁵⁶ It is uncertain whether the attachment of magical properties to textile images also applied to the Muslim population of Egypt. Although the use of talismans and apotropaic symbols is documented in Islam,⁷⁵⁷ these properties seem to have gradually moved from the images themselves to the increasingly popular Arabic script.⁷⁵⁸

To sum up, most of antique and Christian themes persist into the Early Islamic period textiles from Egypt, up to the 8th or early 9th century, without significant alterations in iconographic types. The survival of themes that were popular during the Byzantine period and, at the same time, the lack of new iconographic types during the first centuries after the conquest, indicate that there was no significant immediate impact on the textile industry. The population of Egypt, remained basically unaltered and Christian in its majority.⁷⁵⁹ The urban middle classes, and the population of the provinces, whether they belonged to the Christian majority or the newly settled Muslims, continued to dress themselves and furnish their houses with textiles bearing the established iconography of the Byzantine period, most of which no longer carried particular religious connotations and could be enjoyed for their decorative values and their allusions to prosperity and wealth.⁷⁶⁰ The same continuity regarding every day objects is also apparent in ceramics.⁷⁶¹

The Muslim elites seems to have had no important influence on the textile industry during this period, apart from the mass introduction of eastern designs. Apparently, the textile industry wasn't particularly important to the demonstration and establishment of the new faith and regime. The only clear case of political manifestation of the caliphal authority through textiles is the case of the *ṭirāz* pieces, which bore the caliphal protocol and were distributed to high officials and court members.⁷⁶² However, very few *ṭirāz* pieces datable to this early period and attributable to Egypt survive, and it seems that, until the 9th century, they were not used widely for political reasons, nor

⁷⁵⁶ Jennifer Moldenhauer, "Überlegungen zum Aussagepotential von gesellschaftlichem Status anhand ausgewählter spätantiker Textilien des Museum August Kestner in Hannover", in *The Textile Centre Akhmîm-Panopolis (Egypt)*, p. 87-94.

⁷⁵⁷ See, for example, Finbarr Barry Flood, "Image Against Nature: Spolia as Apotropaia in Byzantium and the Dār al-Islām", *The Medieval History Journal* vol. 9, no 1 (2006), p. 143-166.

⁷⁵⁸ Ball, "Rich Interiors", chapter: Textiles as Talismans.

⁷⁵⁹ See Introduction, p. i-ii.

⁷⁶⁰ See Ball, "Rich Interiors", chapter: Conclusions.

⁷⁶¹ Christine Vogt, "Les céramiques omeyyades et 'Abbāsīd es d' Iṣṭabl 'Antar-Fostat: traditions méditerranéennes et influences orientales", in *La céramique médiévale en Méditerranée, Actes du VIe congrès de l'AIECEM, Aix-en-Provence 1997*, p. 243-260.

⁷⁶² See chapter 2e. Uses, p. 138.

did they have an impact on the general textile production, as it will be observed in the centuries to follow.⁷⁶³

At the same time, after the conquest, changes in society, religion and culture caused changes in aesthetics and preferences. Although not deliberately pursued by the conquerors, the conquest brought about yet unformulated but meaningful changes to textile iconography. It is true that some of them were already set in motion during the last centuries of Byzantine rule. However, the process of change was accelerated and possibly followed different pathways, resulting in the greater popularity of hybrid types, which could be more easily understood and appreciated by diverse audiences, in the growing tendency to subsume textile iconography to an aesthetic of highly decorative designs and geometrical balance, characteristic of Islamic art, and in the introduction of eastern designs, which spread, through multiple copying, to all scales of production, often after having been adjusted to popular Egyptian preferences.

The 9th-11th centuries

The continuity of the iconographic traditions of the Byzantine period appears to come to an end during the last decades of the 8th and mainly in the course of the 9th century. Most of the themes that had remained popular during the 6th to 8th centuries, like the mythological personages, the putti and nereids and the Christian scenes do not seem to continue. Animals and birds now become the most popular motifs, represented in a schematised and repetitive version, often enclosed in medallions or stylised scrolls. Also, new themes, inspired from Islamic palatial art appear for the first time on Egyptian textiles and the echoes of the art of Samarra become apparent.

A specific and well represented group of textiles with birds in medallions made with linen warp and linen and woollen wefts, datable to the 9th century and attributed to Bahnasā, seems to represent the evolution of the “Sasanian” birds of the 7th-8th centuries, characterised now by more abstract designs and by the prevalence of Egyptian materials and weaving techniques (I 8-13 and comparanda⁷⁶⁴). These birds are represented in varying degrees of abstraction, but in general they are quite reductively rendered, with their oval bodies, long necks, large feet and projecting tails or

⁷⁶³ For the role of *ṭirāz* textiles and institutions in the ‘Abbāsid political propaganda see Sokoly, “Textiles and Identity”, in *A Companion to Islamic Art and Architecture*, Finbarr Flood and Gülru Necipoğlu eds., NJ: Wiley Blackwell 2017, p. 275-299. For the impact of the *ṭirāz* in the textile industry as a whole, see chapter 2d. Inscriptions, p. 126-128.

⁷⁶⁴ Indicatively, Cornu and Martiniani-Reber, *Tissus d’Egypte*, nos 43 and 44, p. 100-101; Lorquin, *Les tissus coptes*, nos 85 and 86, p. 228-230; Baginski and Tidhar, *Textiles from Egypt*, no 147, p. 106.J.

wings given in simple lines, while on some examples, like I 12, their connection with the earlier “Sasanian” group is more clearly pronounced, mainly in the elaborate, upward tail.

A similar group with friezes of quadrupeds that resemble lions, often set within a stylised scroll (I 16-17 and comparanda⁷⁶⁵) and also datable to the 9th century, have the same colour palette, materials and execution, and are also attributed to Bahnasā.

Some of the birds of this group appear to hold a sprig or leaf on their beaks and to have a curved element above their back (e.g. I 8). Both iconographic conventions seem to originate in Sasanian art, from where they spread to Byzantium and Western Europe and, of course, Eastern and Western Islamic lands.⁷⁶⁶ The curved element is reminiscent of the flying ribbon or scarf often encountered in Iranian and Central Asian art and usually accompanied by pearl necklaces which render royal or divine affiliations.⁷⁶⁷ Examples of the diffusion of this element are numerous, from the parrots with fluttering ribbons around their necks in the mosaics of Daphne in Antioch, dated to the 5th-early 6th century,⁷⁶⁸ to the cockerels in a wallpainting of the provincial church of Agia Kyriakē in the island of Naxos, in the Aegean, painted in the 7th century,⁷⁶⁹ and some human figures in the 8th century Qaṣr al-Ḥayr al-Gharbī.⁷⁷⁰ This motif gradually lost its significance and royal connotation, as is also the case for the sprig of leaves, and was employed by the weavers as a persistent decorative element of uncertain function, often represented in a fragmentary, highly stylised or abstract form. On the aforementioned group of textiles of the 9th century, the iconographic elements of the sprig, the pendant and the ribbon have, in most cases, been transformed into schematised designs, a fact that designates the loss of their original meaning.

The combination of these and other iconographic elements of Iranian and Iraqi inspiration on the group of textiles attributed to Bahnasā, bear close resemblances with the wall paintings of

⁷⁶⁵ Cornu and Martiniani-Reber, *Tissus d’Egypte*, nos 38, 39, p. 92-96; Lorquin, *Les tissus coptes*, no 69, p. 200-201; Beckwith, *Studies*, p. 17 and fig. 25.

⁷⁶⁶ See for example a manuscript of the 10th century in Von Falke, *Kunstgeschichte*, Abb. 102. For the diffusion of the motif of the sprig or leaf see Adám Bollók, “The Birds on the Braid Ornaments from Rakamaz: A View from the Mediterranean”, in *Byzanz–Das Römische Reich im Mittelalter*, Teil 3, F. Daim, J. Drauschke eds., Verlag des Römisch-Germanischen Zentralmuseums 2010. Retrieved from https://ri.btk.mta.hu/images/letoltes_publ/bollok.adam/Byzanz_Sonderdruck_Bollok.pdf, p. 345-352.

⁷⁶⁷ De Jonghe et al., *Ancient Tapestries*, p. 129. See, for example, the same theme on “Sasanian” textiles and on the murals in Afrasiab, all 7th century, *ibid*, p. 152 (fig.4), p. 156 (fig. 8), p. 166 (fig.18).

⁷⁶⁸ 1937.147, collection.artbma.org

⁷⁶⁹ Charles Delvoye, *Byzantinē Tehnē*, Athens 2000, fig. 80.

⁷⁷⁰ Ettinghausen, *Arab Painting*, Geneva 1962, p. 37.

Samarra,⁷⁷¹ the art of which had a significant impact on many aspects of the Egyptian art of the period.

Despite the fact that these birds and quadrupeds employ eastern iconographic elements, like their 7th and 8th century predecessors, these elements are now fewer and less significant to the composition. The arrangement in pearl roundels is gradually abandoned in favour of simple medallions and schematised forms of the Late Antique acanthus scroll, which has become here more stylised, lacking any organic connection to its environment.

A very interesting example, which provides a link between the “Sasanian” birds in floral or pearl roundels and the textiles attributed to Bahnasā, is a woollen tapestry with S-spun linen warp in the CMA, which Shepherd has dated to the first half of the 9th century, based mainly on epigraphic evidence (Catalogue p. 202, fig. 5).⁷⁷² The arrangement of the motifs is reminiscent of the 7th-8th century tapestries. However, there are differences in material and spinning, the rosettes are more stylised and simple and the design of the birds seems to be a hybrid between the “Sasanian” birds, - a fact especially evident in the decoration of their bodies-, and those of the Bahnasā group. We could, therefore, assume that the CMA example represents an Egyptian version of the eastern hangings, which took, over the course of a century, a local character, in terms of materials, techniques and iconography.

Birds and quadrupeds will remain the most popular theme on textiles for the rest of the period in question. Other types also became popular, like the bicoloured, partridge-like birds on a group of textiles made with coarse materials and also attributed to Bahnasā, (II 7 and comparanda⁷⁷³). Their plied warps and rough texture indicate their use as furnishing textiles.

A different decorative concept than that of the medallions or scrolls is represented by the free standing birds in rows on II 400-I 30, datable to the 9th-10th century. An evolution in the design of the birds is also evident here, as these seem to represent an intermediate stage between the birds of 8th-9th century Bahnasā textiles and the more abstract, miniaturised versions on 10th and 11th century pieces (e.g. I 44 and I 46), which will prevail in the Fāṭimid period.⁷⁷⁴

Also, new themes are introduced in textile iconography in the course of the 9th century, many of which show a growing influence of the Islamic palatial art. More species of quadrupeds

⁷⁷¹ See p. 118-119.

⁷⁷² Shepherd, “An Early Ṭirāz”, p. 7-14.

⁷⁷³ Cornu and Martiniani-Reber, *Tissus d’Egypte*, nos 51 and 52, p. 107-110; MHTL 41.812; TMW 3290; Cluny 22.462; MET 27-170-73 in <https://www.metmuseum.org/art/collection/search/448117>.

⁷⁷⁴ See p. 122.

appear, which are rarely or never encountered during earlier periods and which all have parallels in 'Abbāsīd and Fāṭimid art, like gazelles (I 14, IV 22-23 and comparanda⁷⁷⁵), bovids (IV 22) -these two also found together in the wall paintings of the palace of Samarra- camels (IV 30 and comparanda⁷⁷⁶) and, after the 10th century, dogs or jackals (I 20, I 37 and comparanda⁷⁷⁷), and winged quadrupeds (I 33, I 38 and comparanda⁷⁷⁸), associated with griffins.

Another motif found on Egyptian textiles only after the 9th century, is the falcon on its prey (I 29 and III 2), a motif that seems to appear for the first time in the Islamic artistic milieu and is also encountered on other forms of Islamic art of the period.⁷⁷⁹

A popular theme introduced in the late 8th or 9th century are the large palmettes (V 6-7 and comparanda⁷⁸⁰), which seem to have been produced in two phases. The first phase, datable to the 8th-9th century, comprises polychrome multi-petalled or artichoke-like palmettes, comparable aesthetically with the group of "Sasanian" birds in roundels (to this category belong the Split silk tapestry,⁷⁸¹ the woollen tapestries in the KL⁷⁸² and V 6). This phase is strongly related to Iranian and Central Asian prototypes, which are also exemplified in Umayyad art, like in the mosaics of the Dome of the Rock in Jerusalem.⁷⁸³ The later type (V 7 and comparanda⁷⁸⁴), datable to the 9th-10th centuries, is usually bicoloured and more stylised, and can be associated with prototypes from Samarra (Catalogue, p. 182, fig. 1) and their Egyptian versions, developed mainly during the Ṭūlūnid period- a period of intense artistic communication with Iraq. Although the palmette motif

⁷⁷⁵ Cornu and Martiniani-Reber, *Tissus d'Égypte*, no 40, p. 96-97; Lorquin, *Les tissus coptes*, no 69, pp. 200-202.

⁷⁷⁶ Cornu, *Tissus islamiques*, p. 86-88 and 489; Wiet, "Tissus et tapisseries", p. 286, pl. XLVIIa; CMA 1956.330 in <http://clevelandart.org/art/1956.330>.

⁷⁷⁷ Marzouk, "Four Dated Ṭirāz Fabrics of the Fāṭimid Khalif Az-Zāhir", *Kunst des Orients* vol. 2 (October 1955), p. 45-47. Also Cornu and Martiniani-Reber, *Tissus d'Égypte*, no 125, p. 211.

⁷⁷⁸ Cornu and Martiniani-Reber, *Tissus d'Égypte*, no 141, p. 236-237 and no 147, p. 245-246; MET 27.170.67.

⁷⁷⁹ Grube and Johns, *Cappella Palatina*, p. 174.

⁷⁸⁰ Cornu and Martiniani-Reber, *Tissus d'Égypte*, no 56, p. 115; *Exposition des tapis et tapisseries*, nos 12.194/2, 8695, 15.661 and 6277/2 p. 4, 16; Desrosiers, *Soieries*, no 8, p. 69; Mackie, "Textiles", p. 90, pl. 1.

⁷⁸¹ Avinoam Shalem, "The Nation Has Put on Garments of Blood: An Early Islamic Red Silken Tapestry in Split", in *Catalogue of the Textiles in the Dumbarton Oaks Byzantine Collection*. Retrieved from <https://www.doaks.org/resources/textiles/essays/shalem>.

⁷⁸² Lamm, "Some Woollen Tapestry Weavings", nos 2 and 8, p. 59, plate I b and III c.

⁷⁸³ See, for example, Ettinghausen et al., *Islamic Art and Architecture*, p. 20.

⁷⁸⁴ Cornu and Martiniani-Reber, *Tissus d'Égypte*, no 56, p. 115; Desrosiers, *Soieries*, no 8, p. 69; MIC nos 12.194/2, 8695, 15.661 and 6277/2 in *Exposition des tapis et tapisseries*, p. 4, 16.

cannot be regarded as purely Islamic, the appearance and great popularity of these specific types are related to Islamic palatial art, which was widely imitated and reproduced in different forms.⁷⁸⁵

During this period, images of the seated ruler or his *nadīm* (II 4, VIII 4 and comparanda⁷⁸⁶) appear for the first time on textiles. The type of the seated ruler, which is used widely in the palatial cycle of Iranian, Islamic and Turkish art, derives from eastern prototypes⁷⁸⁷ and has no parallels in pre-conquest Egyptian art. Therefore the importance of these pieces is undoubted as they exemplify the introduction of Islamic palatial cycle motifs into the textile art of Egypt. At about the same time in the 9th-10th century, the seated ruler also appears on pottery.⁷⁸⁸ However, the use of the motif on textiles seems restricted, since the surviving examples datable to the period under discussion are- to my knowledge- only five, and two of them, which are almost identical, were possibly made in the same workshop.

The prevalence of animal motifs on the textiles of the period is inversely proportional to the rarity of human representations, especially when compared with other forms of art, like pottery, where dancers and cup-holding rulers or *nudamā'* are often encountered during the 9th-11th centuries. Apart from the general problem of survival, which should be taken into account, the funerary context of most of the surviving textile fragments could also explain this difference. The reluctance for figural representations in religious environments might have led Muslim believers to choose less disturbing themes for their shrouds.⁷⁸⁹

Arabic script gradually gained more importance in the compositions in the course of the 9th century, accompanying or often overwhelming the figural representations, (e.g. I 19 and comparanda⁷⁹⁰). This fact demonstrates the aesthetics of a prevailing culture that valued writing not only for its beneficial meaning and power, but also for its aesthetic appeal. Also, the first Egyptian

⁷⁸⁵ For examples of palmettes on other forms of art of the 9th century see *Byzantium and Islam*, p. 223-229.

⁷⁸⁶ De Jonghe et al., *Ancient Tapestries*, no 7038, p. 100, ill. L, p. 277; Mackie, *Symbols of Power*, p. 76, fig. 2.41; John D. Cooney and Elizabeth Riefstahl, *Pagan and Christian Egypt: Egyptian Art from the First to the Tenth Century AD, Exhibited at the Brooklyn Museum by the Department of Ancient Art, January 23-March 9, 1941*, Brooklyn 1941, p. 86, no 271; Richard Ettinghausen, "Painting in the Fatimid Period: A Reconstruction", *Ars Islamica* vol. 9 (1942), p. 121, fig. 25.

⁷⁸⁷ For an iconographic study of the theme see Grube and Johns, *Cappella Palatina*, p. 138-139. Also Abbas Daneshvari, "Cup, Branch, Bird and Fish: An Iconographical Study of the Figure Holding a Cup and a Branch Flanked by a Bird and a Fish", in *The Iconography of Islamic Art, Studies in honour of Robert Hillenbrand*, Bernard O'Kane ed., Edinburgh University Press 2005, p. 103-117.

⁷⁸⁸ Daneshvari, "Cup, Branch, Bird and Fish", p. 103-110.

⁷⁸⁹ Halevi, *Muhammad's Grave*, p. 180. Halevi mentions that, according to oral traditions, depiction of both animals and humans was disturbing to austere-minded pietists. It is possible, therefore, that the representations of stylised animals was more easily accepted than the more realistic scenes of court pleasure.

⁷⁹⁰ Cornu and Martiniani-Reber, *Tissus d'Egypte*, nos 84-91, p. 156-164.

tirāz appear, at first imitating Iraqi prototypes in design and technique (e.g. VIII 4 and comparanda,⁷⁹¹ VIII 5 and comparanda⁷⁹²) and adapting in the course of the 10th century, as already mentioned, to the traditional Egyptian weaving method of tapestry. Bulliet observed on *tirāz* pieces the austere aesthetics of the new Arab conquerors, also illustrated during the same period in the bicoloured Samarqand or Nishapur pottery and opposed to the opulent Sasanian decorations.⁷⁹³

Moreover, the iconography of Egyptian textiles from the 9th century onwards, does not only differ from that of the 6th-8th centuries in terms of motifs, but also in terms of aesthetic approaches and visual prioritisation. These changes are particularly evident in the representation of those traditional themes that continue to be used.

Geometrical decorations, riders, orant figures, the tree of life and the already discussed animals and birds, are motifs that can be seen on textiles during the whole period from the 6th to the 11th century. However, new aesthetic values are introduced in the duration of the 9th century. A characteristic example is the trend for colourful decoration, where the shapes are created by a juxtaposition of differently coloured areas, often giving the impression of a textured surface, especially when combined with technical peculiarities, like plied warps (e.g. II 4). The pieces with geometrical decoration, like V 2-3 and comparanda,⁷⁹⁴ and some of those with palmettes, like V 6 and comparanda,⁷⁹⁵ with their multi-coloured shapes and contrasting colours convey a similar textured impression of the surface, an aesthetic which seems to have been very popular in ‘Abbāsīd art and is best represented in the bevelled style of Samarra.⁷⁹⁶

Also, human representations tend to appear, after the 9th century, as emblematic figures and not as participants in a narrative scene, continuing a tendency that had already started in the 8th century. An example of a theme with an uninterrupted use throughout the period under discussion, is that of the rider. However, the riders of the 6th century are very different from those of the 7th and 8th centuries, and all differ considerably from those of the 9th-11th centuries. Early horsemen were mostly two-coloured and appeared in the centre of panels, around which evolved scrolls with

⁷⁹¹ Kühnel and Bellinger, *Catalogue*, nos 73.645 and 73.652, p. 6 and 8, pl. II.

⁷⁹² *Ibid.*, no 73.634, p. 11, pl. IV.

⁷⁹³ Bulliet, *Cotton, Climate, and Camels*, p. 54-56.

⁷⁹⁴ Lamm, “Some Woollen Tapestry Weavings”, p. 68, nos 26, 27, 43 and 50, pl. VIIa and b, XIa and XIIIa.

⁷⁹⁵ *Ibid.*, nos 2 and 8, p. 59, plate I b and III c.

⁷⁹⁶ For a discussion of a similar aesthetic in ceramics see Matthew D. Saba, “‘Abbāsīd Lusterware and the Aesthetics of ‘Ajab”, *Muqarnas: An Annual on the Visual Cultures of the Islamic World* vol. 29 (2012), p. 187-212.

animals or personages.⁷⁹⁷ After the conquest, polychrome images of riders in medallions with floral borders or pearl roundels, which usually have a red ground, become popular, following the trend for imitation of silk designs (e.g. II 11 and comparanda⁷⁹⁸). The riders appearing after the 9th century fall into new iconographic types, one of the most popular comprising schematised, squat figures with large almond-shaped eyes and, in most cases, Y-shaped nose and eyebrows (e.g. VIII 3). This type is also used during the late ‘Abbāsīd and Fāṭīmid period in other representations, on textiles and other media, like ceramics and manuscripts.⁷⁹⁹ The type of the rider with a falcon, popular in Fāṭīmid art, also appears on textiles after the 11th century.⁸⁰⁰ What is more, these riders do not appear to have the narrative character still evident on some examples of the 7th-8th centuries, conveyed by the surroundings and the accompanying figures (compare, for example the Rouen roundel in Catalogue p. 93, fig. 1, IV 9-10, and IV 20 with Bouvier 134 and 139⁸⁰¹). They usually lack any implication of a background, a fact that contributes to their emblematic appearance, a treatment also characteristic of the scenes represented in the Islamic “princely cycle”.⁸⁰²

To conclude, although the 7th and the first half of the 8th century was a period when the continuation of older iconographic traditions was the rule- to which, of course new aesthetics and inspiration were often introduced- the repertoire of the Egyptian textiles seems to change gradually from the late 8th and, mainly, in the 9th century. Mythological and Christian themes were abandoned, animal motifs came to prevail, the echoes of the art of Samarra became evident, new designs and compositions inspired by the arts of the court and the Islamic palatial cycle appeared, and aesthetic approaches of abstraction and decorativeness, prevalent in Islamic art of the period,

⁷⁹⁷ Suzanne Lewis, “The Iconography of the Coptic Horseman in Byzantine Egypt”, *Journal of the American Research Center in Egypt* vol. 10 (1973), p. 31.

⁷⁹⁸ DM inv. no 3/2006 in davidmus.dk ; Claudia Naureth, *Koptische Stoffe*, Liebieghaus Monographie, Frankfurt am Main 1986, no 6, p. 23-24.

⁷⁹⁹ For the riders see, for example, the tapestry hangings in Mackie, *Symbols of power*, fig. 2.43-2.44, p. 78-79, and those in the Bouvier, in Cornu and Martiniani-Reber, *Tissus d’Egypte*, no 139, p. 233-235. For similar figures see I 44 and comparanda, the Benaki tapestry fragment no 8496 with a musician, in <https://www.metmuseum.org/art/collection/search/477931>, and two roundels in the CM, nos. 1950.541 and 1952.255, in <http://clevelandart.org/art/1950.541> and <http://clevelandart.org/art/1952.255>.

⁸⁰⁰ See, for example the chasuble of Thomas Beckett in *The Chasuble of Thomas Becket: A Biography*, Avinoam Shalem ed., Hirmer Verlag GmbH 2017.

⁸⁰¹ Cornu and Martiniani-Reber, *Tissus d’Egypte*, p. 225-227 and 233-235.

⁸⁰² For this view on the transformation of the human figure in Islamic art see Terry Allen, “Aniconism and Figural Representation”, in *Five Essays on Islamic Art*, Solipsist Press 1988, p. 17-37.

defined the iconography of textiles. At about the same time, similar changes also become apparent on other forms of art, like ceramics.⁸⁰³

The discontinuity of the mythological-Christian representations coincides with the significant growth of the Muslim population of Egypt, both through conversion and through the influx of Arab settlers.⁸⁰⁴ At the same time, Arabs from Fustāt, but also other Arab tribes from outside Egypt, started colonising the Egyptian countryside, either at their own will or as a result of caliphal policies, aiming at the infusion of Arabs into turbulent regions of Christian population where social disruption and revolt were common.⁸⁰⁵ These immigrations inflicted significant changes in the society of the Egyptian villages, which, until then, consisted almost exclusively of Christian Egyptians.⁸⁰⁶ New consumers' preferences and new artistic pursuits on part of the weavers emerged, as the connotations of the earlier iconographic traditions were gradually lost. Furthermore, it can be assumed that among the Arab settlers were also weavers, who helped to transplant into Egypt new designs and different aesthetic approaches.⁸⁰⁷

Therefore, the disappearance of hellenistic and the appearance of new themes, the emergence of Egyptian *tirāz* textiles and the new aesthetic approaches, coherent with the developments in other fields of Islamic art, indicate the growing influence of the new political and cultural regime on the textile industry of Egypt, and reflect the escalating arabisation of the population.

Eastern designs continued to be favoured by the elites, but many of these prototypes underwent a transformation in terms of weaving techniques and iconography, which brought them closer to the traditions and standards of Egyptian production, like the Samarra-inspired Bahnasā group with birds and quadrupeds. This adaptation, already observed in the combination of Egyptian iconography with eastern decoration on the textiles with pearl roundels of the 7th and 8th centuries, becomes now more creative and evident also on high quality pieces, like the CMA tapestry, discussed above, so that we could argue for an "Egyptisation" of textile art, even on pieces destined

⁸⁰³ Gayraud, Sophia Björnesjö, Jean-Michel Muller-Woulkoff, Véronique Miguet, Véronique Roche, Murielle Saillard, "Iṣṭabl 'Antar (Fostat), 1987-1989. Rapport de fouilles", *Annales Islamologiques* vol. 25 (1991), p. 86.

⁸⁰⁴ Maged, *From Byzantine to Islamic Egypt*, p. 71, 75-76; Morony, "The Age of Conversions", p. 136; Bulliet, *Conversion*, p. 92-103. For the reasons for the increasing conversions during the 'Abbasid period see Dunn, *The Struggle for 'Abbasid Egypt*, p. 177-184.

⁸⁰⁵ Dunn, *The Struggle for 'Abbasid Egypt*, p. 191-200.

⁸⁰⁶ Morimoto, "Land Tenure", p. 123-136.

⁸⁰⁷ For labour mobility of this kind see Jacoby, "Silk Economics", p. 224.

for a high class clientele. How did this distinct form of expression come to exist? In the 9th century, Arab Muslims started settling in the countryside and developing roots in the province, a fact that enhanced their integration with the local population, the arabisation- but not yet islamisation- of which was already advanced. At the same time, the taking over of Egypt's military, administration and land by Turkish soldiers coming from the East,⁸⁰⁸ produced a reaction among the Arab population of Egypt, arabised or not, and gradually led to the formation of a distinctive Egyptian-Muslim identity, often in acculturation with Christian Egyptians.⁸⁰⁹

What is more, this situation coincided with the political disintegration of the 'Abbasid caliphate and the expression of tendencies towards provincial autonomy in several districts. In this kind of political experimentation in regionality, the different rulers tried to define and legitimate their presence also by translating the imperial legacies of the caliphate into a distinctive ideology and visual culture with a local flavour. The Egyptian-centred dynasties, the Ṭūlūnids and Ikhshīdīds, despite their loyalty and cultural orientation to Baghdad, created the dynamics for an independent financial development of Egypt and helped to create a distinguished local character in art. This effort is evident in different artistic creations of the period, like the famous mosque of Ibn Ṭūlūn and the whole district of al-Qaṭā'ī that he designed and built in Fustāṭ.⁸¹⁰ In textiles it seems to have fostered the production of high quality Egyptian versions of eastern designs and Samarran prototypes, which were not simply copied but creatively transformed to form a unique iconographic style.

This Egyptian individuality culminated under the Fāṭimids. The autonomy of Egypt resulted in a change in the country's passive role, which was gradually transformed from a province dominated by a distant capital, to a country independently and energetically developing its economic potential. For the caliphs and elites of the dynasty, the textile industry, to which, as already discussed, they are known to have invested,⁸¹¹ was seen as a chance to exploit the Egyptian physical resources and skilled workforce into a profitable venture, which, concurrently, diffused a political message of splendour and authority and added to dynastic prestige, basically through the

⁸⁰⁸ Kennedy, "Egypt as a Province of the Islamic Caliphate", p. 80-85; Ibid., "The Muslim Elite of Early Islamic Egypt", p. 367-368

⁸⁰⁹ Sijpesteijn, "Building an Egyptian Identity", in *The Islamic Scholarly Tradition: Studies in History, Law, and Thought in Honor of Professor Michael Allan Cook*, Ahmed Q. Asad et al.eds., Brill 2011, p. 100. For the assimilation of aspects of ancient Egyptian and Christian religious and cultural characteristics by the Muslims in Egypt see also Garcin, "L'arabisation de l'Égypte", p. 131-132.

⁸¹⁰ Gordon, "Ibn Ṭūlūn, al-Qaṭā'ī and the Legacy of Samarra", p. 64.

⁸¹¹ See chapter 1b. Weaving workshops and factories, p. 18.

production and wide distribution of idiosyncratic *tirāz* and *tirāz*-like silk tapestries,⁸¹² on which an upstart material in the country was adapted to the traditionally Egyptian technique of tapestry weave, creating colourful decorative bands (e.g. I 33 and I 36-47).

The transformation of the inhabited scroll

A special reference should be made to the so-called “inhabited or animated scroll”, which constitutes the most long lived and one of the most popular motifs on Egyptian textiles, appearing in many variations throughout the period under discussion in this thesis. Vine or acanthus scrolls, with or without inhabitants, have been an extremely popular motif in Late Antique art, assuming a new meaning as a symbol of Christ and adopted also by the Umayyads, in the decoration of the Great Mosque of Damascus and the desert castles, conforming with the idea of the garden of paradise, and of courtly pleasure and luxury.⁸¹³ These scrolls may contain various kinds of animals, figures and plants, and can be continuously traced on Egyptian textiles, undergoing stylistic transformations parallel to the rest of the textile iconography, leading up to the miniaturised, arabesque forms of the Fāṭimid period. The process of transformation is not linear, but different types seem to have been produced at the same time, presumably by different workshops.

An early version of the inhabited scroll appears on two-coloured pieces with Dionysian iconography, datable up to the 7th century, and represented in many collections.⁸¹⁴ What is characteristic of the scrolls of this period, is the presence of human figures, dancers or hunters, alongside animals, like lions and hares, and various plants.

The scrolls on these textiles are not always naturalistic and in examples like I 2, and those in the DT⁸¹⁵ and the MTIB,⁸¹⁶ they take the form of interlocked medallions, hardly reminiscent of a vegetal design. Therefore, schematisation is not always indicative of a later date of manufacture, as a tendency for stylisation appears already in the 5th-6th centuries, alongside the more naturalistic versions. In any case, despite the often stylised character of the scroll itself, the posture and

⁸¹² For these textiles and their role see chapter 2d. Inscriptions, p. 126-128.

⁸¹³ Gabriele Mietke, “Vine Rinceaux”, in *Byzantium and Islam*, p. 175-176.

⁸¹⁴ See, indicatively, Du Bourguet, “Datation des tissus coptes en fonction des mosaïques méditerranéennes: précisions nouvelles”, *Ars Orientalis* vol. 3 (1959), fig. 29, 32, p. 191; Apostolaki, *Koptika Yfasmata*, no 706, p. 98, fig. 62 and no 720, p. 109, fig. 73; *Clavi* with rows of alternating, but, in this case, free-standing animals and figures are also encountered in MTIB, in Cabrera Lafuente, *La industrial textil*, no 42 (a looped tunic), p. 335-337 and also no 43, p. 339-341, no 45, p. 345-346, no 109, p. 489-490, no 112, p. 497-498.

⁸¹⁵ Paetz, “Radiocarbon Dating”, p. 172, fig. 9.

⁸¹⁶ Cabrera Lafuente, *La industrial textil*, no 39, p. 327-328

movement of the figures and animals, and the presence of a vegetal background, even rudimentary, still convey a life-like approach.

The group of textiles attributed to Qays and Bahnasā,⁸¹⁷ datable to the 8th-9th century, exemplify the prevalence of more schematised versions of the inhabited scroll over time. On the already discussed textiles with friezes of quadrupeds associated with Bahnasā, the animals, possibly lions, are stylised and the background is absent, although the medallions end in small leaves. A similar version of the scroll is represented by pieces attributed to Qays, like IV 22. The surviving textiles are too fragmentary for a safe conclusion, but this scroll seems to be further away from its vegetal origins, in comparison with those on the Bahnasā group, although the animals are more lively and naturalistic.

These types of animated scrolls are associated with the murals that decorated the Main Palace of Samarra, built in the 9th century for the 'Abbāsīd caliphs⁸¹⁸ (fig. 2) and are believed to have been inspired by them.⁸¹⁹ They were also favoured in Sasanian art,⁸²⁰ from where, possibly, the representations of Samarra derive. A strong resemblance between these textiles and some of the Samarra paintings seems indeed to exist. The pearl borders of the friezes, the posture of the running animals and the outlines of the medallions follow similar patterns. Furthermore, the green rectangle depicted on the borders of medallions on I 16 and Bouvier nos 38 and 39,⁸²¹ is reminiscent of the manner in which the borders in the Samarra mural are divided into sections. Also, the trilobe element depicted between the medallions on some specimen of this group, like Bouvier no 38 and a piece of the Haifa Museum,⁸²² appears in the Samarra paintings too. Moreover, the decoration of the lions' necks on I 17 and Bouvier no 38⁸²³ remind the checkered motifs on the necks of the Samarra lions.

⁸¹⁷ A link between the 5th-7th century Dionysian scrolls and the 8th-9th century Qays and Bahnasā group is possibly found in an example in the Bouvier collection, datable to the 6th-7th century, in Stauffer and Bouvier, *Textiles d'Egypte*, no 46, p. 130. On this piece, the scroll still retains something of its vegetal character.

⁸¹⁸ See, for example, Ernst Herzfeld, *Die Malereien von Samarra*, vol. 3, D. Reimer, 1927, pl. L. For this picture see p. 233, fig. 1.

⁸¹⁹ Cornu and Martiniani-Reber, *Tissus d'Egypte*, p. 93.

⁸²⁰ Matthew Canepa, *The Two Eyes of the Earth: Art and Ritual of Kingship between Rome and Sasanian Iran*, Berkeley: University of California Press 2009, p. 206. See also Meinecke, "Umayyad Visual Culture", p. 108-109.

⁸²¹ Cornu and Martiniani-Reber, *Tissus d'Egypte*, p. 92-96.

⁸²² Baginski and Tidhar, *Textiles from Egypt*, no 209, p. 139.

⁸²³ Cornu and Martiniani-Reber, *Tissus d'Egypte*, p. 92-95.



fig. 2 Reconstruction of wall painting by Ernst Herzfeld, based on fragments found at the Main Palace of Samarra. Ernst Herzfeld Papers, The Metropolitan Museum of Art, in <https://libmma.contentdm.oclc.org/digital/collection/p16028coll11/id/7186/rec/77>

In any case, the lions on this textile group appear much more stylised than their Iraqi comparanda and they seem to represent one step further in the development of their iconographic types, possibly owing to their transfer from one media to another, or to the later date of the textiles. It should also be stressed that this resemblance is based mostly on the watercolour reconstruction of the animal friezes, made by Herzfeld and not on the original composition, of which only tiny fragments survive, making the comparison quite tentative.

It is also worth noting that comparable compositions are found on 6th-7th century stone reliefs from Ahnās, a town quite close to Bahnasā, in which lions and other animals appear running among a relatively simple acanthus scroll, bearing few leaves along its branches (fig. 3).⁸²⁴ The scrolls on the aforementioned textile fragments are definitely descendants of such Antique inhabited



scrolls, but their iconographic characteristics are indicative of their transformation and their connection with eastern prototypes.

fig. 3 Stone relief from Ahnās in Strzygowski, *Koptische Kunst*, p. 57.

⁸²⁴ Josef Strzygowski, *Catalogue général des antiquités égyptiennes du Musée du Caire, Koptische Kunst*, Vienna 1904, no 7320, p. 57-58.

During the 9th century, a different version of the animated scroll is established, with birds and quadrupeds in compartments, medallions or hexagons, often surrounded with pearl borders. These compartments are usually smaller than the medallions of the previous period, and are separated by triangular, mirrored partitions, which take variant forms: stylised palmettes, wings, butterflies or schematised confronting birds (I 21 and comparanda⁸²⁵). This style of decoration seems to have been formed in the early 9th century, as the turban of Samuel Ibn Murqus indicates.⁸²⁶ A specific variation with E-shapes, either as partitions or around the compartments (e.g. I 21) is generally associated with the area of the Fayyūm, although some of these textiles do not bear other indication for such an attribution. Another version of these triangular partitions includes spirals (fig. 4), which are reminiscent of the stucco decoration partitions from Samarra and their

illusionistic approach of foreground and background (fig. 5), indicating a possible inspiration from the bevelled style, as copied in numerous works of art of the period.⁸²⁷



fig. 5 Samarra House XIII, room 11, west wall (after E. Herzfeld) in Allen, “The Arabesque”, fig. 11.29, p. 237.



fig. 4 Tapestry in wool in the MIC, no 5261, in Thompson, “A Fāṭimid Textile”, fig. 14, pl. XL.

⁸²⁵ Thompson, “A Fāṭimid Textile”, fig. 13-14, pl. XL. Also BAV 6848 (linen warp), 6854 (woollen warp) and 6863 (woollen warp, bearing an inscription with characteristic “Fayyūmi” letters), in Cornu, *Tissus islamiques*, p. 31-32, 111-113, 98-99, 468-469, 495 and 492; ROM 975.403.5, dated to the 9th century, in <https://collections.rom.on.ca/search/975.403.5#filters>; MET 1974.113.4, in Stauffer, M. Hill, H. C. Evans and D.S. Walker, *Textiles of Late Antiquity*, Metropolitan Museum of Art 1995, no 60, p. 41 and 48.

⁸²⁶ Marzouk, “The Turban of Samuel Ibn Musa”, p. 143-151. For the corrected reading of the name of the owner see Jacques van der Vliet, “‘In a Robe of Gold’: Status, Magic and Politics on Inscribed Christian Textiles from Egypt”, in *Textile Messages*, p. 32 and Sokoly, “Social Fabrics”, p. 21-22, also for a dating in the early ‘Abbasid period.

⁸²⁷ See, for example, *Byzantium and Islam*, nos 165-166, p. 231-233; Maurice S. Dimand, “Studies in Islamic Ornament: I. Some Aspects of Omayyad and Early ‘Abbāsīd Ornament”, *Ars Islamica* vol. 4 (1937) p. 317-323. See also Elizabeth Dospěl Williams, “A Taste for Textiles: Designing Umayyad and ‘Abbāsīd Interiors,” in *Catalogue of the Textiles in the Dumbarton Oaks Byzantine Collection*. Retrieved from <https://www.doaks.org/resources/textiles/essays/williams>, chapter: A Taste for Textiles.

I 22-23 and comparanda,⁸²⁸ I 25 and I 27, datable to the 10th century, seem to exemplify some early attempts of executing these friezes of birds and quadrupeds on silk tapestry, on which the size and style of the decoration does not differ from the woollen examples. This indicates that the potential of silk tapestry for small-scale decoration had not yet been fully exploited. The colours on I 22-23 are reminiscent of the textiles attributed to Bahnasā. On I 23 especially, the design of the birds seems to be an intermediate stage between the 9th century medallions and the more stylised examples on the textiles of the 11th-12th century.⁸²⁹ The stylistic and chromatic affinity with the Bahnasā group could indicate that these textiles were also products of this town, which, possibly experimented with silk tapestry, in an attempt to follow the trend and satisfy the demand of a wider public for silk-decorated textiles.

The presence of human figures in the decorative friezes of this period are rare. I 26 and comparanda,⁸³⁰ the compartments of which contain humans in the orans posture, represent characteristic examples that can be correlated with the inhabited scrolls of the 5th-7th centuries, with dancing figures, although the degree of abstraction and immobility is here much more progressed.

On all the aforementioned examples of the 9th and 10th centuries, the vegetal scroll has been transformed into a geometrical border that encloses the stylised animals, like picture frames. and seems to represent a transitional type between the 8th-9th century Bahnasā and Qays textiles, where the scrolls still retain hints of their vegetal character, and the 11th-12th century textiles, where the scrolls have been replaced by wide arabesque frames.

The next stage of transformation of the inhabited scroll is represented by textiles like I 33, I 40 and comparanda,⁸³¹ datable to the late 10th-early 11th century. On these pieces, the partitions have been incorporated into the frames of the medallions, the animals or birds have become smaller- deploying the potentials of silk tapestry for miniaturised designs- and quite repetitive, and

⁸²⁸ BAV 6839, in Cornu, *Tissus islamiques*, p. 47-49 and 476; Desrosiers, *Soieries*, no 28, p. 97; MFAB no 15.463 and 15.381 in Nancy Pence Britton, *A Study of Some Early Islamic Textiles in the Museum of Fine Arts*, Boston, Museum of Fine Arts 1938, p. 51; VAM inv. no 128-1891 in <http://collections.vam.ac.uk/item/O218501/textile-fragment-unknown/>.

⁸²⁹ This intermediate bird design is also observed, as already mentioned, on textiles with different decorative arrangements, like I 30.

⁸³⁰ ROM 978.76.137, in <https://collections.rom.on.ca/objects/442960/tiraz-textile-fragment-with-christian-motifs?ctx=99c46eae-09b1-41bb-9961-9dbed82cb217&idx=80>

⁸³¹ Cornu and Martiniani-Reber, *Tissus d’Egypte*, no 132, p. 222-223; Cornu, *Tissus islamiques*, p. 198-200 and 525.

the arrangement of the decoration in a central frieze, flanked by wide inscription bands seems to have prevailed.

Of course, textiles with friezes of the transitional type continued being produced in the 10th and even 11th century. I 37-38 and comparanda,⁸³² datable to the early 11th century, bear strong influences from the transitional types, like the palmette-like partitions, which, however, have here a secondary role in the frieze. I 28, where the large medallions, containing stylised, angular quadrupeds have E-shaped partitions and rosettes and volutes on the spandrels, is attributed to a revived archaism, occurring in textiles of the second half of the 11th century,⁸³³ although it rather seems to represent the continuation of the older, transitional designs by certain workshops or towns.

By the late 11th-early 12th century, the medallions and the animals or birds on the friezes become smaller, but acquire large frames which are connected with the interstices (I 41-42, I 45-46) and tend to become wider and more elaborate with time, growing larger than the medallions themselves and dominating the decoration. This evolution is evident if we compare, for example, the frames on I 45 with those of I 47. The transition from the palmette partitions of the previous periods to the complicated and unified geometrical frames is best exemplified in examples like I 41.

The development of these frames moved the animated scroll further away from naturalism and towards the stylised decoration called the arabesque.⁸³⁴ Therefore, the Fāṭimid textiles with friezes of birds and quadrupeds continue, on one hand, the animated scroll artistic tradition, but, on the other hand, give it a different aesthetic concept, also found on other aspects of Fāṭimid art (fig. 6), like architecture and book decoration.

⁸³² Golombek and Gervers, “Ṭirāz Fabrics”, no 18, p. 112-113; MET 27.170.58-60 and especially 27.170.67 with light blue, double linen warps, in <https://www.metmuseum.org/art/collection/search/448111>. This piece is much more elegant and is also flanked by inscriptions that repeat the word “allāh”; CMA 1950.536 in <http://clevelandart.org/art/1950.536> and CMA 1950. 535, in *2000 Years of Tapestry Weaving: A Loan Exhibition*, Hartford, Wadsworth Atheneum 1951, no 53, p. 29. The colours and the arrangement of the decoration on this piece are different, but the style is also angular and the quadrupeds and birds are very similar to our piece.

⁸³³ Cornu, *Tissus islamiques*, p. 255; Golombek and Gervers, “Ṭirāz Fabrics”, p. 88.

⁸³⁴ For the definition and evolution of the arabesque see Terry Allen, “The Arabesque, the Bevelled Style and the Mirage of an Early Islamic Art”, in *Tradition and Innovation in Late Antiquity*, R. Stephen Humphreys, F.M. Clover eds., University of Wisconsin Press 8, 1989, p. 209-230. Allen argues that the arabesque was inherent in the art of Late Antiquity, and constituted a natural and foreseeable transformation of the Late Antique vine and acanthus scrolls, not an original, “Islamic” creation. He also stresses that the arabesque emerged only in the 10th century. Indeed, it was logical that the already evident schematisation of designs in Late Antique art would lead to an abstract reminiscent of foliage, but the distinctive character of the “arabesque”, its complexity, its highly decorative properties and its wide use in a “horror vacui” manner, were shaped only in the environment of Islamic art.



fig. 6 Wooden Panel. Qalaun, Cairo, 11th century, in Gelfer-Jørgensen, Mirjam, *Medieval Islamic Symbolism and the Paintings in the Cefalù Cathedral*, Brill 1986, p. 127, fig. 69.

2d. Inscriptions

Inscriptions appear on textiles throughout the period under discussion. However, their popularity, language, contents and function change gradually after the conquest, under the influence of Islamic art and culture. On pre-conquest pieces inscriptions were mainly in Greek. In most cases, they accompanied figural or vegetal representations, which were the predominant decoration, and could be placed above, below or inside the composition. Only very rarely did they constitute the basic decorative element.⁸³⁵ They usually identified the persons or the scenes represented on the textiles,⁸³⁶ or, more rarely, they specified the owners or donors,⁸³⁷ they expressed benedictions for prosperity (like the wish “ΕΥΦΟΡΙΑ”, “flourish”⁸³⁸), or were repetitive formulas.⁸³⁹ Some scholars have supported the idea that certain inscriptions mentioning names of persons⁸⁴⁰ or towns⁸⁴¹ may constitute trademarks of weaving workshops, or places of manufacture. However, such a use of epigraphy cannot be positively established for the pre-conquest period.

⁸³⁵ See, for example the medallion in the Brooklyn Museum decorated with a Greek, cross-shaped acrostic with the words “ΖΩΗ” and “ΦΩΣ”, meaning “life” and “light”, in Maguire, “Garments”, fig. 19.

⁸³⁶ For examples of this use of epigraphy, see Durand, “Inscribed Fabrics”, p. 159-167.

⁸³⁷ Van der Vliet, “ ‘In a Robe of Gold’ ”, p. 26.

⁸³⁸ See, for example, the furnishing textile with a tree in the MFAB, in Maguire, “Garments”, fig. 8. For a review of the apotropaic meaning of representations and inscriptions on Late Antique clothing see Maguire, “Garments”.

⁸³⁹ Durand, “Inscribed Fabrics”, p. 157.

⁸⁴⁰ Such is the case, for example, of the “Zachariou” silks: see Grube, “Studies in the Survival and Continuity of Pre-Muslim Traditions in Egyptian Islamic Art”, *Journal of the American Research Center in Egypt* vol. 1 (1962), p. 76-78. See also chapter 1e. Centres of Production, p. 54.

⁸⁴¹ Durand, “Inscribed Fabrics” p. 159.

After the 6th-7th century Greek inscriptions appear more and more misspelled, while they are gradually replaced by Coptic,⁸⁴² a development in concordance with the already seen gradual abandonment of Greek and greater diffusion of Coptic in written documents.⁸⁴³ Also, inscriptions start being embellished with meaningless, decorative marks, such as crosses, or additional letters, isolated letters emerge in the pictorial compositions,⁸⁴⁴ and pseudo-inscriptions appear more frequently.⁸⁴⁵ This indicates a growing awareness of the decorative properties of script, inspired, in all probability, by Islamic art. Arabic writing also starts appearing on textiles of the 7th -8th century, in the form of single words or illegible inscriptions,⁸⁴⁶ set, like Greek and Coptic, inside the figural compositions, although there is not, to my knowledge, any Arabic inscription descriptive of the scene it accompanies. The illegible writings possibly indicate that the weavers did not know Arabic, but simply tried to copy inscriptions they had seen on other media, or imitate their visual effect. This seems reasonable at a time when the Arabic speaking population of Egypt still constituted a very small percentage.⁸⁴⁷

In the history of textile research, a lot of attention has been drawn to the so-called *ṭirāz* pieces. *Ṭirāz* means literally “embroidered” and initially referred to the inscribed bands bearing the caliphal protocol distributed to dignitaries and courtiers.⁸⁴⁸ In modern scholarship, however, the term is often used to designate all textiles with inscriptions, regardless of their contents, the quality of the textile and the existence or not of decorative bands,⁸⁴⁹ and it is in this sense that the word is also used here.

The textile evidence reveals that, apart from the prestigious pieces, distributed by the caliphal administration, there was also an extensive production of medium quality *ṭirāz* or *ṭirāz*-like

⁸⁴² For examples see Durand, “Inscribed Fabrics”, p. 168-171.

⁸⁴³ See Introduction, p. ii-iii.

⁸⁴⁴ Durand, “Inscribed Fabrics”, p. 171-172 and pl. 11, fig. 15; Fluck, “ ‘Denkt liebevoll an mich ...’ Textilien mit Inschriften im Museum für Byzantinische Kunst, Berlin”, in *Textile Messages*, p. 156, fig. 31. Also IV 6 and V 2.

⁸⁴⁵ For examples see Durand, “Inscribed Fabrics”, p. 171.

⁸⁴⁶ See, for example, the indecipherable (pseudo-inscription?) in a vertical band with riders in Berlin, in Fluck, “Textilien mit Inschriften”, p. 160, col.fig. 20; also, the word *allāh* next to a haloed figure in the VAM *clavi* with “saints”, in Beckwith, *Studies*, p. 17, fig. 26.

⁸⁴⁷ For the initial small number of Arab settlers and the process of Islamisation and Arabisation of Egypt see Introduction, p. i-iv.

⁸⁴⁸ For a detailed analysis see Grohmann, “Ṭirāz”, p. 248-250; Stillman et al., “Ṭirāz”. See also chapter 2e. Uses, p. 138-139.

⁸⁴⁹ See, for example, Cornu and Martiniani-Reber, *Tissus d’Egypte*, no 117, p. 198-200, no 119, p. 201-202, no 128, p. 215-218.

pieces, which circulated in the market, answering the demands of the less wealthy classes for imitation of the elite culture (e.g. I 38, I 40, I 42).⁸⁵⁰ These pieces could indeed be products of the *ṭirāz* system and bear the caliphal protocol, or could be imitations that reproduced the visual effect of *ṭirāz* bands, but contain general blessings, repetitive words, or pseudo-inscriptions.

The first securely dated Egyptian *ṭirāz* types in angular Arabic script appear in the early 8th century.⁸⁵¹ Cursive script is first encountered on textiles of the 12th century (e.g. I 44). However, the details of the inscriptions on the *ṭirāz* pieces will not be discussed here in detail, as their epigraphic peculiarities and typology are beyond the scope of this study.

The popularity of inscribed textiles increased dramatically after the conquest. Moreover, it is evident that writing gradually gained a role equal to or, sometimes, even more important than the pictorial decoration and was used on textiles foremost for its aesthetic value, sometimes even constituting the only decorative element. A group of furnishing textiles made with linen warps and woollen and linen wefts, datable to the 9th-10th century and decorated with inscriptions, like I 19 and comparanda,⁸⁵² exemplify the increasing role of Arabic script also in household decoration.

By the 11th century a type of textile decoration was established, consisting of a central frieze with animals or birds in medallions, and framing inscription bands, often embellished with flowers, vine scrolls or smaller medallions (I 38 and I 45-46).⁸⁵³ Examples like I 36, where the main iconographic element appears to be the inscription and the birds simply have the role of space-fillers, as well as I 39, where the compartments created by the letter shafts are filled with floriated decoration, enhancing the decorative role of calligraphy, both illustrate the growing importance of inscriptions as decorative elements.

The inscriptions on post-conquest textiles seem to follow the pattern of blessings and repeated words destined to the well being of the owners, which were common on all kinds of objects of the period.⁸⁵⁴ They usually repeat benedictory phrases in a schematised form, like *naṣr min allāh*, “victory from God” (I 45), *al-amr li-llāh kullu-hu*, “dominion belongs wholly to

⁸⁵⁰ See also Handley and Regourd, “Textiles With Writing from Quseir al-Qadīm- Finds from the Southampton Excavations 1999-2003”, *Connected Hinterlands, Proceedings of Red Sea Project IV held at the University of Southampton, September 2008*, Lucy Blue, John Cooper, Ross Thomas, Julian Whitewright eds., Archaeopress 2009, p. 148.

⁸⁵¹ See, for example, Marzouk, “The Turban of Samuel Ibn Musa”, p. 143-151; Sokoly, “Social Fabrics”, p. 21-22.

⁸⁵² Cornu and Martiniani-Reber, *Tissus d’Egypte*, nos 84-91, p. 156-164. Two of them (nos 86 and 90, p. 158-159 and 162-163) mention the *ṭirāz* factory of Miṣr.

⁸⁵³ See also chapter 2c. Iconography, p. 121-122.

⁸⁵⁴ Allen, “Aniconism”, p. 27-28

God” (III 1), or just *allāh*, “God” (I 37). Many more, however, appear to be pseudo-inscriptions. Only in the case of the historical *ṭirāz* do inscriptions convey real information, and this is by no means narrative or descriptive, as it was in the pre-conquest period, but a declaration of the caliph’s authority and favour.

However, the role of *ṭirāz* and *ṭirāz*-like textiles and their exact pattern of use has not been positively established. Iconographic sources, like Fāṭimid lustreware⁸⁵⁵ and wall painting,⁸⁵⁶ and also the famous illustrated manuscript of Maqāmāt al-Ḥārīrī, where officials and rulers are pictured wearing inscribed bands on their upper arms, reveal a way of wearing such textiles,⁸⁵⁷ which were considered an indicators of high social status. On the other hand, the majority of inscribed textiles were discovered in burials and it seems that a tradition for burial clothing that bore or imitated *ṭirāz* inscriptions, gained popularity in the 10th century at the latest.⁸⁵⁸ The inscription was usually placed right over the eyes.⁸⁵⁹ It is possible that this tradition evolved because of the caliphal custom of distributing funerary attire to persons belonging to his circle.⁸⁶⁰ Many of these textiles show no signs of previous wear, meaning that they were especially made and only worn as shrouds.⁸⁶¹ It seems, therefore, that these textiles had a double function. The caliphal protocol, and even the imitations of it, were regarded as signs of prestige in life and as a powerful talisman in death, protective to the wearer for afterlife or meant for the desired moment of resurrection. Possibly, the wealthier could afford more such pieces, for clothing and shrouding, while the poorer saved these precious textiles for their burial.⁸⁶²

Archaeological evidence is fragmentary and does not allow us to follow closely the evolution of these funerary traditions. However, based on the excavated textiles of Christian cemeteries, like Naqlūn, we can conclude that, at least by the 11th century, Christians followed the

⁸⁵⁵ See, for example, the bowl with the “Coptic monk” at the VAM, in <https://collections.vam.ac.uk/item/O76461/bowl-unknown/>, the large dish at the MIC, in https://islamicart.museumwnf.org/database_item.php?id=object;ISL;eg;Mus01;38;en and Catalogue p. 22, fig. 2.

⁸⁵⁶ A characteristic example is the seated drinker in the stucco painted decoration of a bathhouse in Cairo in the MIC, in https://islamicart.museumwnf.org/database_item.php?id=object;ISL;eg;Mus01;26;en.

⁸⁵⁷ Oleg Grabar and Ḥārīrī. *The Illustrations of the Maqamat*. Chicago, London: University of Chicago 1984.

⁸⁵⁸ See the excavated *ṭirāz* from Fustāt in Gayraud et al., “Iṣṭabl ‘Antar (Fostat) 1994”, p. 8.

⁸⁵⁹ Sokoly, “Between Life and Death: The Funerary Context of Ṭirāz Textiles”, in *Islamische Textilkunst des Mittelalters*, p. 71-74.

⁸⁶⁰ Ibid., p. 77.

⁸⁶¹ Handley and Regourd, “Textiles with Writing”, p. 148.

⁸⁶² For the dissemination of the *ṭirāz* tradition across Eurasia see Winnik, “The Creation and Spread of Ṭirāz Textiles Across the Silk Road”, in *The World of the Ancient Silk Road*, p. 531-536.

same practices as Muslims.⁸⁶³ Many of the *ṭirāz* pieces found in Christian graves bear pseudo-inscriptions or general blessings, which could be acceptable by Muslim and Christians alike, but some bear specific Qur'ānic verses.⁸⁶⁴ Apparently, *ṭirāz* or *ṭirāz*-like textiles bore the same benedictory value for both Muslim and Christians. Iconographic sources, like the wall paintings of the Monastery of Saint Anthony in the Red Sea, dated to the 13th century, where bishops are represented wearing *ṭirāz* bands,⁸⁶⁵ corroborate this assimilation. Generic blessings, without particularly Islamic character might have been preferred by Christians, but, also taking into consideration that a large percentage of the population was illiterate, a luxurious piece with a Qur'ānic inscription could also accompany a deceased Christian, as the aesthetics, the material and the benedictory qualities of such textiles were more important than the contents of their inscriptions.⁸⁶⁶ This practice indicates the complete domination of the Arabic language and the Islamic culture in Egypt by the 11th century, which the Christians accepted and adapted,⁸⁶⁷ despite their religious difference. Arabisation and islamisation of the Egyptian society was not, therefore, always a simultaneous phenomenon, and the former seems to have taken hold in Egypt earlier than the latter.⁸⁶⁸ Even those Egyptians who remained Christian, shared common language, aesthetics and even burial traditions with the dominant Arab Muslim population.

It is also evident that *ṭirāz* textiles and their inscriptions were also used as a means of political propaganda, declaring authority and being subject to dynastic rivalries. The elimination or the inclusion of a wazir, a successor or, as in the case of the Ṭūlūnids, a governor, were all political actions with a meaning and a social impact.⁸⁶⁹ For example, Ibn Ṭūlūn is known from literary sources to have eliminated the name of the caliph's regent, al-Muwaffaq, from the *ṭirāz* produced in Egypt under his government, although no such textile evidence survives.⁸⁷⁰ The *ṭirāz* of his

⁸⁶³ Helmecke, "Textiles With Arabic Inscriptions", p. 195-202.

⁸⁶⁴ Ibid., p. 196-198.

⁸⁶⁵ Van der Vliet, " 'In a Robe of Gold' ", p. 31-32.

⁸⁶⁶ See also Irene Bierman, *Art and Politics: The Impact of Fāṭimid Uses of Ṭirāz Fabrics*, PhD dissertation, the University of Chicago 1980, p. 50-51 and 93-94, who stresses that *ṭirāz* were regarded as symbols of luxury and power even in the Christian world.

⁸⁶⁷ Helmecke, "Textiles With Arabic Inscriptions", p. 202.

⁸⁶⁸ See also Garcin, "L'arabisation de l'Égypte", p. 131-132.

⁸⁶⁹ Bierman, *Art and politics*, p. 21-25; Diana Ng, "Journey to the West: The Kelsey Mulham in the Context of the Political Usage of Ṭirāz by the 'Abbasids and the Ṭūlūnids", *The University of Michigan Museum of Art and Archaeology Bulletin* vol. 14 (2001), p. 70-74.

⁸⁷⁰ Bierman, *Art and politics*, p. 23; Stillman et al., "Ṭirāz", chapter 2. Development of the *Ṭirāz* institution, para. 9.

successor, Khumārawayh, mention both the caliph and Khumārawayh himself, although most surviving examples date after 893, when the governor is known to have come to terms with the ‘Abbasid ruler Mu‘taḍid, a reconciliation sealed with the marriage of the former’s daughter, Qaṭr al-Nadā, to the caliph.⁸⁷¹

A *ṭirāz* of the Ikhshīdīd period (935-969) is also indicative of these tendencies for regional separation, as it mentions the name of an wazir (possibly Kāfūr himself) and of an administrator in Egypt, in all probability appointed by Kāfūr and not from the central government in Baghdad.⁸⁷²

Later on, Fāṭimid *ṭirāz* inscriptions exhibit a pronounced religiosity, stressing the link of the Fāṭimids with the Prophet’s family and the special relation of the caliphs to God, characterising them as “friends of God” (e.g. I 32). This practice reflects the Ismā‘īlī doctrine that considers the caliphs as appointees and mediators of God, but, at the same time, it is an effort to declare their legitimacy to power and justify their dynastic ambitions.⁸⁷³

The type and style of an inscription can often help with the dating of a textile or even with the attribution to specific areas, as is the case with the textiles from the Fayyūm, which consist of letters with pyramidal tops and dots or birds as fillings (e.g. IV 26-27). These textiles are usually dated to the 9th-11th century⁸⁷⁴ and are associated with the Coptic community, since many among them bear Coptic inscriptions.⁸⁷⁵ More specifically, a type of tripartite letters, consisting of a downward hook, a longer, straight line and a triangular top with a stepped contour and plenty of fillings (e.g. IV 27), is associated, as already mentioned, with the private *ṭirāz* of Ṭūṭūn in the Fayyūm.⁸⁷⁶

After the 9th century, Coptic and Greek inscriptions are only rarely encountered, alone (like the Coptic or Greek inscriptions with verses from the Psalms on the monastic mantles from

⁸⁷¹ Ng, “Journey to the West”, p. 70-74.

⁸⁷² Sokoly, “Social Fabrics”, p. 25-26.

⁸⁷³ Ibid., p. 26-27.

⁸⁷⁴ See chapter 1e. Centres of production, p. 60.

⁸⁷⁵ Wiet, “Tissus et tapisseries”, p. 285-286, pl. XLVII; Golombek and Gervers, “Ṭirāz Fabrics”, p. 88 and footnote 59; De Moor et al., “Relevance and Irrelevance”, p. 224-226. For Coptic inscriptions in Fayyūmi textiles see also CMA 1956.330 in <http://clevelandart.org/art/1956.330>

⁸⁷⁶ Durand and Rettig, “Un atelier sous contrôle califal”, p. 167-170 and 198. See also chapter 1e. Centres of production, p. 62-63.

Saqqara),⁸⁷⁷ in combination with each other,⁸⁷⁸ or alongside Arabic ones, the latter basically on a group of textiles attributed to the Fayyūm (e.g. IV 31). Coptic appears to have been spoken, at some areas of Upper Egypt until the 11th century,⁸⁷⁹ although we do not know how widespread it was by then. The specific use of Coptic in inscriptions of a religious character might be connected with a notion expressed among theologians in the 9th century, that this language, which had started being abandoned in favour of Arabic in everyday communication, was the appropriate language par excellence of Christian confession.⁸⁸⁰ During the 10th century Coptic inscriptions started to imitate the *ṭirāz* types in form and, sometimes, even in content.⁸⁸¹ They appear above or below decorative bands and have, in most cases, a benedictory character, containing invocations to God or blessings to the owner,⁸⁸² biblical quotations, or a combination of apotropaic phrases with biblical texts.⁸⁸³ It is interesting that a Coptic version of the Arabic *bismillah* is often used as the opening phrase on these inscriptions.⁸⁸⁴

In some cases, like on a group of textiles made in Ṭūṭūn, bearing Coptic and Arabic inscriptions together, the Arabic ones follow the usual *ṭirāz* phraseology, though without the name of the caliph⁸⁸⁵ (“In the name of God. This was realised in the private factory in Ṭūṭūn, Al-Fayyūm”), while the Coptic indicate the name of the owner and profess its christianity (“Lord Jesus Christ protect...”).⁸⁸⁶ This type of epigraphy belongs to a period in the 9th or 10th century, when the

⁸⁷⁷ See also Thomas, “Fashioning Ascetic Leadership: the Enduring Tradition of Mantles of Authority in Portraits of Egyptian Monastic Fathers”, in *Egypt and Empire*, p. 265-267.

⁸⁷⁸ These bilingual (Coptic-Greek) inscriptions combine, in most cases, a prayer in one language and verses from a Psalm in the other. For examples see Van der Vliet, “ ‘In a Robe of Gold’ ”, p. 42.

⁸⁷⁹ Papaconstantinou, “ ‘They shall speak the Arabic Language’ ”, p. 296.

⁸⁸⁰ Richter, “Greek, Coptic and the ‘Language of the Hijra’”, p. 426-248. For the connection of this notion with internal debate in the Egyptian Church regarding the assimilation with the Muslims See also Papaconstantinou, “ ‘They shall speak the Arabic Language’ ”, p. 273-299.

⁸⁸¹ Van der Vliet, “ ‘In a Robe of Gold’ ”, p. 30-35.

⁸⁸² Coptic inscriptions with invocations to God and calls for help for the owners are very common. There are also local variations of the invocation formulas. See Fluck, “Koptische Textilien mit Inschriften in Berlin-1. Teil”, *Bulletin de la société d’archéologie copte* vol. 35 (1996), p. 161-172. Also MET 90.5.877, where the Coptic inscription reads “This is...Misael [name?] use it in happiness; and rejoice...this [word written twice] in...”, in *Byzantium and Islam*, no 124B, p. 183-184. The piece is radiocarbon dated to 810-1010. Also a piece in the AS and another in the MIC, in Cornu and Martiniani-Reber, *Tissus d’Egypte*, p. 139, read “In the name of the Father, the Son and the Holy Spirit”, and IV 31, part of which can be translated as “May the Lord, Jesus Christ...”.

⁸⁸³ Van der Vliet, “ ‘In a Robe of Gold’ ”, p. 36.

⁸⁸⁴ Ibid.

⁸⁸⁵ See chapter 1e. Centres of production, p. 62-63.

⁸⁸⁶ Durand, “Inscribed Fabrics”, p. 173-174.

imitation of *ṭirāz* formulae was possibly adopted in the funerary attire of the Christian populations, but the owners still felt necessary to profess their Christianity in their native language, a practice that was abandoned in the course of the 11th century, with the complete assimilation of the *ṭirāz* used by Muslims and Christians. In any case, as the above mentioned textiles come from a specific area, conclusive remarks cannot be made until it can be ascertained whether bilingual inscriptions ever appeared in the rest of Egypt.

The Geniza letters suggest that textiles with Hebrew inscriptions, probably of the *ṭirāz* type and possibly copying biblical quotations, also existed,⁸⁸⁷ although none of them have, to my knowledge, survived.

Inscriptions can either be embroidered on textiles or woven in tapestry weave. Embroidering is closer to the act of handwriting than weaving in tapestry,⁸⁸⁸ and as already seen, prevailed in the first phases of Egyptian historical *ṭirāz* production, only to be replaced in the 10th century by tapestry.⁸⁸⁹ A few inscriptions handwritten with ink have also been found, having the role of labels, or mentioning the names of the owners and talismanic wishes,⁸⁹⁰ added probably by those using the textiles rather than by the weavers.

2e. Uses

Textiles can be categorised into two broad groups according to their usage: garments and furnishings. It is rarely easy to decide how any specific fragment was used. However, the warp material and the weaving technique could be indicative. Taqueté weaves and plied warps point to a furnishing textile, while finer textures rather indicate a garment.⁸⁹¹

Garments and furnishings alike followed trends, which changed over time, affected by the materials available, the prevailing aesthetics, and perhaps to a lesser extent, by religious concepts and practices.

⁸⁸⁷ Goitein, *Mediterranean Society*, vol. 4, p. 196-198.

⁸⁸⁸ Handley and Regourd, "Textiles With Writing", p. 148

⁸⁸⁹ See chapter 2b. Techniques, p. 89-91.

⁸⁹⁰ Handley and Regourd, "Textiles With Writing", p. 143-145. These excavated fragments, however, are datable to the Ayyūbid period.

⁸⁹¹ Sabine Schrenk has made a remarkable effort to catalogue the textiles of the AS according to their usage and has also tried to establish certain criteria for their categorisation, taking into consideration the size, the material, the orientation of the decoration (Schrenk, *Textilien*)

Garments

The types of garments worn in Egypt during the period under discussion are known through the written sources,⁸⁹² through representations on mosaics and wall paintings,⁸⁹³ and, of course, through the textiles themselves. The basic garment in Late Antique Egypt was a loose tunic, sleeved or sleeveless, used by men, women and children alike, which came in different lengths and forms and had different decorations⁸⁹⁴ (fig. 7). The predominant weave for tunics was plain tabby in linen or wool, although examples in twill or compound weave are also known.⁸⁹⁵ Women's tunics, reached to the ankles and tended to be more colourful, while men's were often knee-length. The shape of the garment did not usually carry any significance of status, but the materials and the decoration applied differed according to the social status of the wearer.⁸⁹⁶ Certain types of clothing were specific to social groups, like monastic attire.⁸⁹⁷

Tunics could be either woven to shape in one piece on the loom, or in three pieces (1 part for the sleeves and 2 parts for the body) that were afterwards sewn together. After the 5th century appears a trend for tunics made of two or three pieces and stitched above the waist with a horizontal seam.⁸⁹⁸ The weaving process can be deduced by details on the surviving tunics (e.g. I 1).

Regarding decoration, tunics usually bore striped or checkered woven patterns,⁸⁹⁹ or more rarely, embroidery, not always elaborate or made with fine materials.⁹⁰⁰ Plain, undecorated tunics

⁸⁹² For a study of the papyrological evidence on types of costume in Late Antique Egypt see Bagnall, *Egypt in Late Antiquity*, Princeton 1993; E. Wipszycka, *L'industrie*; M. Harlow, "Female Dress, Third-Sixth Century: The Messages in the Media", *Antiquité Tardive* vol. 12 (2004), p. 203–215.

⁸⁹³ See, for example, the mosaics of Piazza Armerina in Sicily and the mosaics of St. Vitale in Ravenna, where different types of garments are represented.

⁸⁹⁴ For the different types of tunics in Roman and Byzantine Egypt and their evolution see also Mossakowska-Gaubert, *Le vêtement monastique en Égypte (IVe-VIIIe siècle)*, Le Caire: Institut français d'archéologie orientale 2022, p. 23-26.

⁸⁹⁵ Pritchard, *Clothing Culture*, p. 47.

⁸⁹⁶ *Ibid.*, p. 46.

⁸⁹⁷ For the use and symbolism of the monastic mantles in iconography see Thomas, "Fashioning Ascetic Leadership", p. 247-275. For a detailed study of the attire of monks in Late Antique and Early Islamic Egypt see Mossakowska-Gaubert, *Le vêtement monastique*.

⁸⁹⁸ Pritchard, *Clothing Culture*, p. 60. For the process of weaving those tunics see *Coptic Textiles from Flemish Private Collections*, p. 43-46.

⁸⁹⁹ For some striped examples see Bender Jørgensen, "Dated Textiles", p. 27-35.

⁹⁰⁰ See, for example, N. Kajitani, "Textiles and Their Context in the Third to the Fourth Century CE Cemetery of al-Bagawat, Kharga Oasis, Egypt, from the 1907-1931 Excavations by the Metropolitan Museum of Arts, New-York", in *Textiles in situ*, p. 95-112. Also Letellier-Willemin, "The Embroidered Tunic of Dush", p. 22-33; the tunic from El-Deir, in Letellier-Willemin, "Tackling the Technical History", p. 43-44, fig. 8.

were widely used, as scientific excavations show, although they rarely survive in museums and collections. In the cemetery of Fag el Gamous, for example, the 86.6% of the textiles excavated during the 1998 season, ranging from the 2nd to the 8th century, had no colour or any kind of ornament.⁹⁰¹

Multi-coloured tunic decoration in tapestry weave, seems to have taken hold after the 5th century, replacing the earlier, simpler patterns.⁹⁰² It usually consisted of parallel strips (*clavi*),⁹⁰³ which started from the shoulders and reached to either the waist or the knees, often ending in a leaf-shaped ornament (*sigillum*), and also of medallions (*orbiculi/segmenti*) or squares (*tabulae*) on the shoulders and the knees, framed by *gammadia*, named, because of their shape, after the Greek letter gamma. A single or, more often, two parallel bands decorated the sleeves. Additional decoration could be found on the neck slit, the chest and the hem.

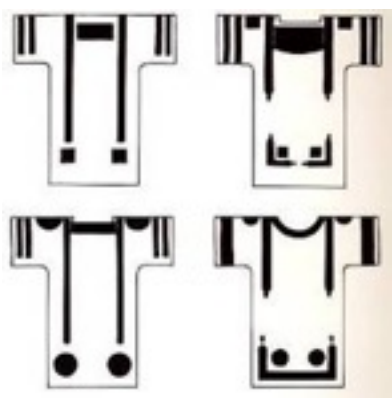


fig. 7 Types of tunic decoration in Cabrera Lafuente, *La industrial textil*, p. 159, fig. 5.2.

Similar tapestry decorations were also used for accessories, like shawls.⁹⁰⁴ Tunic bands can be distinguished by the orientation of their decoration, which tended to be towards the wearer or

⁹⁰¹ Clarke et al., “Indexing and Cataloging”, p. 125. Also see the textiles from the last phase of El-Deir, dating to the Byzantine period, those from the second phase of ‘Abu Sha’ar, dating from 400-640 and those from Kellis, dating to the 3rd-4th century, accordingly in Letellier-Willemin, “Tackling the Technical History”, p. 37-48 and Bender Jørgensen, “Dated Textiles”, p. 32-33.

⁹⁰² *Coptic Textiles from Flemish Private Collections*, p. 15. Archaeological evidence confirms that the simple, striped tunic designs, often discovered in the 1st and 2nd century sites, gradually and mainly after the 4th century went out of fashion. This difference is evident, for example, in the two phases of the ‘Abu Sha’ar settlement. Some simple striped tunics are still found in ‘Abu Sha’ar 1 (dating from 310-400), but are absent from ‘Abu Sha’ar 2 (dating from 400-640). See Bender Jørgensen, “Dated Textiles”, p. 32.

⁹⁰³ For the definition and origins of the term see Bender-Jørgensen, “Clavi and Non-Clavi: Definitions of Various Bands on Roman Textiles”, in *Purpureae Vestes III. Textiles y tintes en la ciudad antigua: actas del III Symposium internacional sobre textiles y tintes del Mediterráneo en el mundo antiguo (Naples 2008)*, C. Alfaro, J.-P. Brun, Ph. Borgard, R. Pierobon Benoit eds., Valencia, Naples 2011, p. 75-81.

⁹⁰⁴ Cabrere Lafuente, *La industrial textil*, p. 166-168; Mossakowska-Gaubert, *Le vêtement monastique*, p. 29.

viewer.⁹⁰⁵ Fragments like I 2, II 4, IV 2, IV 8 and V 9 must belong to tunics, while others, like IV 14 and IV 25 do not. However, exceptions often applied to this rule.⁹⁰⁶

Tunics were often accompanied by mantles, especially for civic and military dignitaries,⁹⁰⁷ and also different kinds of outerwear, usually made of wool, with or without a hood, and attached to the body either on the shoulder or the chest.⁹⁰⁸ Underwear, usually in the form of textile bands used as loincloths and brassieres was also sometimes worn.⁹⁰⁹

Any effort to reconstruct the costume worn in Byzantine and Early Islamic Egypt should take into consideration the fact that the majority of the surviving textiles have been found in a funerary context and might not exactly correspond to the costume that people used when alive.⁹¹⁰ This burial context testifies to their final use as shrouds for covering the bodies of the deceased, and it can't always be established which of the fabrics were also worn in every day life and which were especially made or readjusted for funerary purposes, unless they show signs of wear.⁹¹¹ It seems that it was a very usual practice, at least for people who could afford it, to commission clothing especially for burial. Among the excavated textiles from the Christian burials of the cemetery of Fag el Gamous, for example, which range chronologically from the 2nd to the 8th century, none of the pieces accompanying the deceased seem to have been used or worn previously.⁹¹² As Pleşa notes, based on the textiles found on the cemeteries of Mostagedda and Maţmar in Middle Egypt, a considerable number of people were buried in fine garments, which they, apparently, could not afford to wear in their every day lives and saved for their burial.⁹¹³

⁹⁰⁵ Schrenk, *Textilien*. p. 117.

⁹⁰⁶ See, for example, DT 12479 in Paetz, "Radiocarbon Dating", p. 173, fig. 11. The decoration on the vertical band of this tunic is horizontally orientated.

⁹⁰⁷ For a reconstruction of types of mantles see Thomas, "Fashioning Ascetic Leadership", p. 253-254.

⁹⁰⁸ Mossakowska-Gaubert, *Le vêtement monastique*, p. 27-28.

⁹⁰⁹ *Ibid.*, p. 26.

⁹¹⁰ See also Thomas, "Costume, Fashion and Taste", p. 94.

⁹¹¹ See Pleşa, "Religious Belief". A tunic (fig. 6) from tomb 10106 at Mostagedda, which may have been readjusted for burial purposes (the neck slit was sewn) is also presented in this article

⁹¹² Clarke et. al., "Indexing and Cataloging", p. 124.

⁹¹³ Pleşa, "Religious Belief", p. 26.

In Christian cemeteries the deceased are often found dressed in normal clothing items and then wrapped in shrouds, which could include shawls or even furnishing textiles.⁹¹⁴ Muslim burials appear to have followed similar practices, but the use of furnishing textiles seems to be abandoned.⁹¹⁵ Although Islamic tradition warns against extravagance and suggests shrouding with three pieces of preferably white cloths,⁹¹⁶ without shirt or turban, like the Prophet himself,⁹¹⁷ it is not certain whether this recommendation was always followed. In a letter from the Geniza, a man expresses his wish for a “simple” funerary attire, consisting of two cloaks, three robes and a linen turban, a fact that indicates the tendency to wrap the deceased with many pieces of their wardrobe.⁹¹⁸ In another Geniza letter, in which a man expresses his wish to be buried in his Sabbath (holiday) vestments indicates that funerary attire could also be the formal clothes worn in life on holidays.⁹¹⁹

A significant change in funerary attire, formulated by the 10th century, was the establishment of the tradition for burial clothing with *ṭirāz* or *ṭirāz*-like inscriptions for both Christians and Muslims, which has already been described. This attire, which bore the caliphal protocol, certainly had benedictory properties of protection for the deceased and those who didn't have access to the real thing, certainly wished to imitate the effect.

Surviving textiles suggest that the colourful tunics with *clavi*, *orbiculi* and *tabulae* were in vogue in Egypt during the Byzantine and the first centuries of Islamic rule, until, possibly, the 8th or 9th century.⁹²⁰ The abandonment of the heavily decorated tunics could be attributed to the growth of the Muslim population. The prevalence of the Arabic aesthetics for plain white or very simply decorated garments, based on the clothing traditions of the Arabic peninsula, at least in every day garments, and the aforementioned similar shrouding traditions could partly explain the

⁹¹⁴ For an example of this layering see the mummies from Antinopolis, originally excavated under Albert Gayet, in Fluck, “Textiles in Burial Practice in Roman and Late Antique Egypt”, in *Egypt and Empire*, p. 233-236.

⁹¹⁵ See also p. 143-144.

⁹¹⁶ See also chapter 2a. Materials, p. 74-75.

⁹¹⁷ Ṣaḥīḥ al-Bukhārī 1272, Book 23, Ḥadīth 33, in <https://sunnah.com/bukhari:1272>; Sunan al-Nasā'ī 1899, Book 21, Ḥadīth 82, in <https://sunnah.com/nasai:1899>

⁹¹⁸ Goitein, *Mediterranean Society*, vol. 4, p. 160.

⁹¹⁹ *Ibid.*, p. 155.

⁹²⁰ Bands like II 4 and V 9 and the extremely popular *clavi* like II 2 and VI 2, which constituted a post-conquest vogue, attest to the use of such decorative tunic bands for at least two centuries after the conquest.

simplification of the decoration of tunics.⁹²¹ The emerging fashion for silk tapestry bands, which were usually restricted to a small part of the garment, so as not to extremely increase its price could have also contributed to this change.

Therefore, in the course of the 9th century, the decoration of every day tunics seems to have become plainer, shifting towards simpler, striped or checkered patterns.⁹²² Although not many such garments survive, because they were not attractive to the collectors, the evidence from the Geniza confirms the popularity of these designs. Garments like *ḥabar*, *muzannar* and *jārī al-qalam* (“the flowing of the pen”), which were, in all probability, striped, and *mutakhhkhat* (“panelled”) and *shaṭranjī* (“chess-like”), which were checkered, appear very often in the trousseaux lists.⁹²³ Also, embroidery on small parts of the tunics became gradually more common than in earlier periods.⁹²⁴

The Arabian clothing tradition basically consisted of loose, untailed garments, like that of the Hellenistic and Roman world.⁹²⁵ However, the Iranian fitted, tailored costumes had already affected both the Byzantine and the evolving Islamic vestimentary style. In some cemeteries, among which Antinopolis and Naqlūn,⁹²⁶ many deceased were not dressed in tunics, but in tailored costumes of an eastern fashion, made of precious materials, like silk and cashmere, dated to the 5th-7th centuries. These costumes are unusual in Egypt and several interpretations for the identity of their wearers have been proposed, suggesting either an elite of a foreign origin, possibly established in Egypt during the Persian occupation of the country, foreign merchants or immigrants, or a taste for oriental costume among some native Egyptians, although it is not yet possible to establish an answer.⁹²⁷ In the Islamic period, Iranian fashion continued to influence especially the clothing of high officials and caliphs, who wished to imitate the splendour of the Sasanian court.⁹²⁸

⁹²¹ Bulliet, *Cotton, Climate, and Camels*, p. 64-65.

⁹²² For striped patterns see Fluck and Kathrin Mälck, “Radiocarbon Analysed Textiles in the Skulpturensammlung und Museum für Byzantinische Kunst, Berlin”, in *Methods of Dating Ancient Textiles*, p. 150, 163-164, fig. 19; Pritchard, *Clothing Culture*, p. 83-115. For checkered patterns see the robes excavated at Iṣṭabl ‘Antar, dating to the 9th and 11th century in Cornu, “Deux témoins du vêtement égyptien”, p. 89-102; Pritchard, “C14 Dating of a Group of Wool Tunics from Egypt Given by W.M. Flinders Petrie to the Whitworth Art Gallery in 1897”, in *Methods of Dating Ancient Textiles*, p. 185-187, fig. 6.

⁹²³ *Arab dress*, p. 59. See also chapter 2b. Techniques, p. 87-89.

⁹²⁴ Pritchard, *Clothing Culture*, p. 83.

⁹²⁵ *Arab dress*, p. 29.

⁹²⁶ Godlewski and Czaja-Szewczak, “Cemetery C. 1 in Naqlun Tomb CT 5 and its Cartonnages”, *Polish Archaeology in the Mediterranean* vol. 18 (2009), p. 251-258.

⁹²⁷ Fluck, “Textiles in Burial Practice”, p. 236.

⁹²⁸ *Arab dress*, p. 35-37

In any case, loose garments prevailed in Egypt throughout the period under discussion, although the gradually growing importance of the eastern technique of stitching in the construction and decoration of clothing is evident in the prevalence of tailored tunics after the 7th century,⁹²⁹ and in the increase of embroidered decoration.

The basic clothing in the Early Islamic period consisted of undergarments (like the *izār*- which was also an outer wrap- and the *sirwāl*), a body shirt (like the *qamīš* and the *ghilāla*), and of a variety of robes and tunics over it (like the *thawb*, also a general word for a garment, and the *jubba*), as well as mantles (like the *ridā'*, the *kisā'* the *burd* and the *milḥafa*). Women covered their heads with veils, like the *mandīl*, a word which also designated a handkerchief.⁹³⁰ In the Arabic papyri *thawb* is the most common word for a garment, while *kisā'* and *mandīl* also appear.⁹³¹

In any case, clothing identification is far from clear, since similar garments had different names in different places and, over time, the same names were used to designate different garments.⁹³² The Geniza documents indicate that in the Fāṭimid period the basic clothing items remained more or less the same, although their materials sometimes changed, and also reveal garments unknown from other sources, like the *nisfiyya*, possibly a half wrap, and the *jūkāniyya*, a fine dress with sleeves.⁹³³ The Geniza letters differentiate between male and female costume, but it appears that many pieces of clothing could be worn by men and women alike.⁹³⁴

Some types of garments continue the tradition of decoration with tapestry bands, though now made of silk, like the ample cloak known as *'abā* or *'abaya*, which has been identified in

⁹²⁹ Some archaeologists support their widespread use already from the 5th century: K.H. South, M.C. Kuchar and C.W. Griggs, "A Preliminary Report of the Textile Finds, 1998 season, at Fag el-Gamus", *Archaeological Textiles Newsletter* vol. 27 (1998), p. 10.

⁹³⁰ For a detailed presentation of the different clothing items mentioned in the written sources see Reuben Levy, "Notes on Costume from Arabic Sources", *The Journal of the Royal Asiatic Society of Great Britain and Ireland* vol. 2 (April 1935), p. 319-338 and also Y.K. Stillman, N.A. Stillmann, and T. Majda, "Libās", in *Encyclopaedia of Islam, Second Edition*, P. Bearman, Th. Bianquis, C.E. Bosworth, E. van Donzel, W.P. Heinrichs eds., published online in 2012. Retrieved from https://ezproxy-prd.bodleian.ox.ac.uk:3150/entries/encyclopaedia-of-islam-2/*-COM_0581.

⁹³¹ Indicatively, P.RagibEdfou 4 (9th-10th century), p. 13-14; P.World, p. 162, 163, 166 and 173; P.Marchands V/1 12 (9th c.), p. 31-32.

⁹³² Yedida Stillman, *Female Attire of Medieval Egypt: according to the Trousseau Lists and Cognate Material from the Cairo Geniza*, University of Pennsylvania 1972, p. 40.

⁹³³ A very useful source for the costume of post-conquest Egypt are the Geniza documents. See Goitein, *A Mediterranean Society*, vol. 4, p. 150-226; Stillman, *Female Attire*, p. 579-589; *ibid.*, "Textiles and Patterns", p. 35-52; *ibid.*, "New Data on Islamic Textiles from the Geniza", *Textile History* vol. 10, no 1 (1979), p. 184-195; *ibid.*, *Arab Dress*.

⁹³⁴ Goitein, *Mediterranean Society*, vol. 4, p. 153-155.

surviving pieces, like the well known “Veil of St. Anne” of Apt (fig. 8).⁹³⁵ Its decoration consists of a central band with medallions at the back, and sets of bands at the front edges.⁹³⁶



fig. 8 Hypothetic reconstruction of the so-called “Veil of St. Anne” in Marçais and Wiet, “Le voile de sainte Anne” d’Apt”, p. 192, fig. 9.

A significant change in the Islamic period was the wide use of headgear. Although hairnets, wreaths, cups and headscarves are known from Byzantine Egypt,⁹³⁷ they are not so common as the turbans (*imāma*) and cups (like the *qalansuwa*) of the Islamic period. Muslims did not only consider turbans as symbols of power and honour, continuing the pre-Islamic fashion of the Arab peninsula, but also as a means of differentiation from the “unbelievers”.⁹³⁸ Turbans are mentioned in the Arabic papyri, from the 9th century onwards, in colours like black and red and some made in velvet.⁹³⁹ Their importance is also stressed in the Geniza documents, where they appear to have

⁹³⁵ For this piece see Cornu, “Les tissus d’apparat fāṭimides”, in *L’Égypte fāṭimide, son art et son histoire*, Barrucand Marianne ed., Paris 1998. Also George Marçais and Gaston Wiet, “Le voile de sainte Anne” d’Apt”, *Monuments et mémoires de la Fondation Eugène Piot* vol. 34, no 1 (1934), p. 177-194. For other surviving fragments of such garments see Cornu and Martiniani-Reber, *Tissus d’Égypte*, nos 134-135, p. 225-229.

⁹³⁶ Some of the Fāṭimid textile fragments that are found in museums, decorated with bands in silk tapestry and generally described as “shawls” or “turbans” could very well belong to this or other types of tunic. See also Golombek and Gervers, “Ṭirāz Fabrics”, p. 85-86.

⁹³⁷ See, for example, Fluck and Harald Froschauer, “Dress Accessories from Antinoupolis: Finds from the Northern Necropolis”, and Letellier-Willemin, “Accessories from the Christian Cemetery of El Deir, in the Egyptian Oasis of Khargeh, Western Desert”, both in *Dress Accessories of the 1st Millennium AD from Egypt: Proceedings of the 6th Conference of the Research Group 'Textiles from the Nile Valley'*, Antwerp, 2-3 October 2009, De Moor and Fluck eds., Tiel, Belgium: Lannoo 2011, p. 55-69 and 97-109.

⁹³⁸ For the development of this fashion and the importance of the turban see Meir J. Kister, “The Crowns of this Community”... Some Notes on the Turban in the Muslim Tradition”, *Jerusalem Studies in Arabic and Islam* vol. 24, no 1 (2000), p. 217-245.

⁹³⁹ P.World, p. 173.

been made with high quality materials and craftsmanship and to have often been far more expensive than body garments.⁹⁴⁰

During certain periods, and especially under the caliph al-Ḥākim (996-1021), efforts were made to impose laws of differentiation between Muslims and non-Muslims, with mostly the obligation for non-Muslims to wear cord-like belts or to dress and wear patches of certain colours, and the prohibition to wear certain caps and turbans.⁹⁴¹ It is uncertain whether these restrictions were strictly followed, since they are constantly repeated and complaints about their violation often occur.⁹⁴² In general, it seems that especially after the 9th century, when the number of the Arab settlers and their interaction with the locals increased, the conquerors often dressed with similar costumes as the Egyptians. The already discussed tunic bands decorated with haloed figures and believed to represent Christian saints (e.g. II 3 and VI 2), an example of which bears the word *allāh* in Arabic letters,⁹⁴³ could possibly indicate the common use of these garments by Christians and Muslims alike. Clothing discrimination, if ever practically existent, gradually became meaningless, as more and more Egyptians converted to Islam. The Geniza documents indicate that by the 11th century, Muslim and Jewish women dressed alike.⁹⁴⁴

The caliphs used textiles as diplomatic and political gifts. They had the custom of distributing highly priced garments inscribed with *ṭirāz* bands, known as robes of honour (*khila'*) to high rank officers in special ceremonies every year, a custom already established in the Byzantine and Sasanian empire before the advent of Islam.⁹⁴⁵ It is possible that the inscriptions with the name of the caliph substituted the images of the emperor often found in these pre-Islamic robes, in an evolution analogous to the establishment of epigraphy on coinage.⁹⁴⁶ These robes were considered a great gift of honour and were immensely esteemed,⁹⁴⁷ their prices reaching sums which a lower urban class family could live on for close to a year.⁹⁴⁸ In this way, textiles, and especially *ṭirāz*

⁹⁴⁰ Goitein, *Mediterranean Society*, vol. 4, p. 158-159.

⁹⁴¹ *Arab Dress*, p. 102-107.

⁹⁴² *Ibid.*, p. 103-106.

⁹⁴³ Beckwith, *Studies*, p. 17, fig. 26. See also chapter 2c. Iconography, p. 99-101.

⁹⁴⁴ *Arab Dress*, p. 56.

⁹⁴⁵ Winnik, "The Creation and Spread of Ṭirāz Textiles", p. 525-526.

⁹⁴⁶ *Ibid.*, p. 525-527.

⁹⁴⁷ Paula Sanders, "Robes of Honor in Fāṭimid Egypt" in *Robes and Honor: The Medieval World of Investiture*, S. Gordon ed., New York 2001, p. 225-239.

⁹⁴⁸ Stillman, *Female Attire*, p. 95.

pieces, but also their imitations, became a means of political propaganda and declaration of authority on part of the sovereigns, and indicators of social status for the wearers. This, as already observed, did not apply only to the Muslim but also to the Christian population.⁹⁴⁹

Textiles were often used in place of currency, for the payment of troops and also as a form of tax. We have seen that, already during the Roman and Byzantine period, certain taxes were paid in clothing and that, after the conquest, the obligatory delivery of garments to the government was also frequent, as a form of taxation or requisitions.⁹⁵⁰ Moreover, especially in the Islamic period, the hoarding of textiles was considered a valuable investment.

A part of the textile production of the country was, of course, intended for export. Egypt was an exporter of large amounts of fabrics and, especially after the 7th century, with its integration into the Muslim commercial network, the exports extended throughout the Islamic world and beyond it. Al-Shām,⁹⁵¹ Byzantium and Western Europe were apparently among the buyers of Egyptian textiles.⁹⁵² Trade with Byzantium was restored by the 9th century, intensified during the 11th, and also expanded to the Christian West.⁹⁵³ Writers like Nāṣir-i Khusraw and al-Muqaddasī mention the widespread and extensive trade of Egyptian textile products.⁹⁵⁴

Furnishing textiles

Furnishing textiles, like cushion covers, curtains, wall hangings, blankets, bed spreads and tablecloths are mentioned in the written sources, but it is not always easy to identify surviving

⁹⁴⁹ See chapter 2d. Inscriptions, p. 126-128.

⁹⁵⁰ See chapter 1b. Weaving workshops and factories, p. 13-14.

⁹⁵¹ Goldberg, *Trade and Institutions*, p. 230.

⁹⁵² For traces of these exports both before and after the conquest see Winnik, "Egyptian Textiles", p. 396-399.

⁹⁵³ Jacoby, "Byzantine Trade With Egypt from the Mid-Tenth Century to the Fourth Crusade", *Thesaurismata* vol. 30 (2000), p. 31-35; Lev, "A Mediterranean Encounter: The Fāṭimids and Europe, Tenth to Twelfth Centuries" in *Shipping, Trade and Crusade in the Medieval Mediterranean, Studies in Honour of John Pryor*, R. Gertwagen and E. Jeffreys eds., Ashgate 2012, p.142-143, 146.

⁹⁵⁴ Thackston, *Nāṣer-e Khosraw's Book of Travels*, p. 63; Al Muqaddasī, *Aḥsan al-taqāsīm*, p. 203, trans. Collins, *The Best Divisions*, p. 186.

fragments as such.⁹⁵⁵ Surviving textiles and representations on other media, like mosaics (fig. 9)⁹⁵⁶ indicate that furnishing textiles often bore similar types of decoration to garments (*tabulae*, *orbiculi* and *gammadia*).



fig. 9 The colonnade of the palace of Theodoric in the mosaics of St. Apollinare in Ravenna. The pair of curtains on the central portico bear decoration with *gammadia*, in https://it.m.wikipedia.org/wiki/File:Meister_von_San_Apollinare_Nuovo_in_Ravenna_003.jpg

The use of richly decorated furnishing textiles was very popular in the well-to-do households of Late Antiquity, not only for utilitarian purposes, but also in order to convey a sense of abundance and good fortune. This practice did not only continue during the Islamic period, but, as it will be argued, the role of textiles in the household grew considerably.⁹⁵⁷

Curtains seem to have been the most popular type of household textiles. They were used to set boundaries within the house and ensure privacy for certain spaces, but also to block light and provide insulation.⁹⁵⁸ They enjoyed an increasingly important role after the 5th century, following a change in dwelling spaces. The transformation of peristyle Roman houses into more compartmentalised domestic environments with many subdivisions, a process already evident in Late Roman times and continued into the Byzantine and Islamic period, was also achieved through

⁹⁵⁵ W. Clarysse and K. Geens, “Textiles and Architecture in the Graeco-Roman and Byzantine Egypt”, in *Clothing the House. Furnishing Textiles of the 1st Millennium AD from Egypt and Neighbouring Countries*, De Moor and Fluck eds., p. 38-47. Also, for the Fāṭimid period, see Goitein, *Mediterranean Society*, vol. 4, p. 310-344.

⁹⁵⁶ See, for example the hanging with images of abundance in the MET, in *Byzantium and Islam*, p. 17 and that with riders in the DOC, in Ball, “Rich Interiors”, both featuring *tabulae* and *gammadia*.

⁹⁵⁷ See Maguire, “The Good Life”. For the discussion of Early Islamic interiors see Golombek, “The Draped Universe of Islam” in *Late Antique and Medieval Art of the Mediterranean world*, Eva Hoffmann ed., Blackwell publishing 2007, p. 97-114. Also Dospěl Williams, “A Taste for Textiles”.

⁹⁵⁸ For a discussion of the role and possible iconography of hangings see John W. Stephenson, “Veiling the Late Roman House”, *Textile History* vol. 45, no 1 (May 2014), p. 3-31.

curtains and hangings.⁹⁵⁹ Social changes and emphasis on the private rather than the public life, as well as Christian notions of modesty and concealment might also have contributed to the preference for closed, inner spaces.⁹⁶⁰ Papyri corroborate the picture of compartmentalisation of urban households. Leases of parts of houses appear frequently after the 5th century,⁹⁶¹ even of parts that were not originally meant for dwelling spaces, as seen, for example, in P.Lond. V 1768, dated to the 6th century, where *εξεδραι* (usually interpreted as halls open on one side) are leased “to be used and to dwell in”.⁹⁶² Cases of renting parts of a room, like in P.Lond. III 1023, dating to the 5th-6th century are also attested.⁹⁶³ This compartmentalisation and exploitation of every possible space, perhaps escalated by financial tightness in times of a general financial crisis,⁹⁶⁴ which created the need for versatile space dividers, like curtains.

Also, from about the 5th century onwards, curtains were extensively used in churches, facilitating the increasing secrecy of certain rituals and the separation between clergy and laymen.⁹⁶⁵

Written sources suggest that after the conquest, furnishing textiles gained gradually more popularity and importance, even in modest households, to a degree unknown in any other cultural environment.⁹⁶⁶ Curtains appear in the Islamic tradition as protectors of modesty and concealment,⁹⁶⁷ but it seems that the tendency for an abundant use of textiles in the household should not only be attributed to religious tradition; textiles enjoyed a growing appreciation in Islamic societies in general, and also compensated, with their multi-functional quality, for the

⁹⁵⁹ Ball, “Rich Interiors”, chapter: Then Allah brought them curtains and all good things, para. 3. For archaeological data supporting these changes see also Simon P. Ellis, “The End of the Roman House”, *American Journal of Archaeology* vol. 92, no 4 (October 1988), p. 565-576.

⁹⁶⁰ Helen Saradi, “Privatization and Subdivision of Urban Properties in the Early Byzantine Centuries: Social and Cultural Implications”, *The Bulletin of the American Society of Papyrologists* vol. 35, no 1/2 (1998), p. 17-43, especially p. 22-27.

⁹⁶¹ Saradi, “Privatization”, p. 30-37

⁹⁶² *Ibid.*, p. 32-33.

⁹⁶³ *Ibid.*, p. 39-40. The author explicitly mentions the possibility of the use of curtains for dividing spaces between the tenants, stating that “...it is also possible that at the beginning such partitions were simple curtains”

⁹⁶⁴ See chapter 2a. Materials, p. 70.

⁹⁶⁵ Gervers, “An Early Christian Curtain in the Royal Ontario Museum”, *Studies in Textile History in Memory of Harold. B. Burnham*, Gervers ed., Toronto 1977, p. 71-72.

⁹⁶⁶ Maria G. Parani, “Curtains in the Middle and Late Byzantine House,” in *Catalogue of the Textiles in the Dumbarton Oaks Byzantine Collection*. Retrieved from <https://www.doaks.org/resources/textiles/essays/parani>.

⁹⁶⁷ Ball, “Rich Interiors”, chapter: Then Allah brought them curtains and all good things, para. 2.

absence of wooden furniture. The Geniza documents relate that textiles were spread on the floor or used in heaps for seating or reclining.⁹⁶⁸

Curtains loom large among the trousseau lists of the Geniza, as the essential possessions even of middle-class brides, in such large numbers that led Goitein to wonder what purposes they might have served.⁹⁶⁹ Their importance is also stressed in a specific letter from the Geniza, where a business for hiring curtains to those that didn't have enough is attested.⁹⁷⁰ Of course, there was not always a clear distinction between bedding, carpets, covers and hangings and a certain piece might have served several purposes according to the needs of the household.⁹⁷¹ It is possible, therefore, that the textiles designated in the lists as curtains, might also have had other uses, if needed, a fact that could explain their abundance.

Consequently, the importance of furnishing textiles for the public image of the house owner, which was already evident in Byzantium, became more pronounced in the Islamic period. Al-Washshā', writing in the 9th century⁹⁷² and Al-Azdī, writing in the early 11th,⁹⁷³ though both not regarding Egypt, describe the variety and stress the importance of furnishing textiles in high class citizens' households. According to the latter, a well-to-do sitting room had four different kinds of floor coverings, three types of cushions and at least two expensive textile draperies. These were probably the most valuable items in the household and indicated the social status of the proprietors.⁹⁷⁴

Furnishing textiles also had a major role in palatial spaces and ceremonies, where they could decorate and, at the same time, conceal or dramatically reveal a certain room, or the ruler himself.⁹⁷⁵ This practice, already known in the Byzantine court,⁹⁷⁶ was further developed by Muslim rulers. During the Umayyad period, for example, a preference is evident for furnishing textiles that

⁹⁶⁸ Goitein, *Mediterranean Society*, vol. 4, p. 108

⁹⁶⁹ *Ibid.*, p. 117.

⁹⁷⁰ *Ibid.*, p. 122.

⁹⁷¹ *Ibid.*, p. 123-124.

⁹⁷² Muḥammad ibn Ishāq ibn Yaḥyā al-Washshā', *Le livre de brocart (al-Kitāb al-Muwashshā)*, S. Bouhlal ed. and trans., Paris 2004.

⁹⁷³ Golombek, "The Draped Universe", p. 104.

⁹⁷⁴ Dospěl Williams, "A Taste for Textiles", chapter: Documenting Early Islamic Interiors, para. 2.

⁹⁷⁵ Golombek, "The Draped Universe", p. 106.

⁹⁷⁶ Dauterman Maguire, "Curtains at the Threshold: How They Hung and How They Performed," in *Catalogue of the Textiles in the Dumbarton Oaks Byzantine Collection*. Retrieved from <https://www.doaks.org/resources/textiles/essays/maguire>, chapter: Experiencing Curtains and Their Themes, para. 2.

repeated the visual effect of palatial architectural decoration. Rosettes and medallions framed with flower borders appear both in surviving architectural elements and textiles. The lion-gazelle mosaic in Khirbat al-Mafjar, with its tassel-like border, might indicate an imitation of a similar textile, hanging above it and isolating the caliph's room.⁹⁷⁷

The opulence and abundance of curtains and hangings in the palaces, and their role in court ceremonies, is amply stressed in the sources.⁹⁷⁸ Ibn al-Zubayr, for example, describing the reception of a Byzantine embassy in Baghdad in 927, mentions that the palace was bedecked with 38.000 curtains and wall covers, some imported from China, Armenia or Egypt and some taken from the storehouses of the caliph's six predecessors.⁹⁷⁹ Although an exaggeration in numbers is almost certain, this description illustrates the importance of textiles in the interior decoration of palaces in order to impress. Nāṣir-i Khusraw's description of the festival of the yearly opening of the canal in Cairo, when the Nile reached its highest level, reveals an extravagant use of textiles: richly decorated tents, saddlecloths, turbans and garments, many with the caliph's name inscribed on them, were exhibited to propagate the splendour of the court.⁹⁸⁰ Of course, cheaper versions of these pieces were also in circulation, satisfying the needs of a less wealthy clientele.⁹⁸¹

Another important ceremonial textile was the *kiswa*, the veil that covered the Ka'ba in Mecca, the weaving of which was traditionally assigned to the factories of Tinnīs and its neighbouring villages.⁹⁸²

However, surviving furnishing textiles datable after the 9th century, can rarely be found or recognised as such. This could be explained by the fact that while during the late Byzantine period household textiles were often used to wrap the bodies of the deceased, together or instead of shrouds,⁹⁸³ the evidence of excavated textiles, like, for example, those from Deir al-Banāt in the

⁹⁷⁷ Doris Behrens-Abouseif, "The Lion-Gazelle Mosaic at Khirbat al-Mafjar", *Muqarnas* vol. 14 (1997) p. 16; See also I 14.

⁹⁷⁸ See, for example the descriptions of Maqrīzī, in Ettinghausen, "Painting in the Fāṭimid Period", p. 121, footnote 37.

⁹⁷⁹ Golombek, "The Draped Universe", p. 104.

⁹⁸⁰ Thackston, *Nāṣer-e Khosraw's Book of Travels*, p. 48-51.

⁹⁸¹ Moraitou, "Umayyad Ornament on Early Islamic Woodwork: A Pair of Doors in the Benaki Museum", *Museio Benaki* vol. 1 (2001), p. 159-172.

⁹⁸² Serjeant, "Material", *Ars Islamica* vol. 9, p. 64.

⁹⁸³ Amandine Mérat, "Late Antique Textiles", and Jonathan P. Elias, "Coptic Burial Wrapping", both in *The Phoebe A. Hearst expedition to Naga ed-Deir, cemeteries N 2000 and N 2500*, Vanessa Davies ed., Brill: Leiden, Boston 2021, p. 442-452 and 457-458. Also, Dauterman Maguire, "Curtains at the Threshold", chapter: Visual and Artistic Analysis of Paired Curtains, para. 6.

Fayyūm, indicates that this practice was not usually encountered earlier in the Roman period,⁹⁸⁴ and did not continue long after the 9th century, when the religious tradition and funerary practices of the growing Muslim population of Egypt called for simple shrouds and no grave goods.⁹⁸⁵ The absence of furnishing textiles in burials may answer for their scarcity after the 9th-10th century, since most surviving fabrics come from funerary contexts.

What did these textiles look like? They could, apparently, be decorated with small or large motifs,⁹⁸⁶ depending on the place and the manner they were exhibited, and the visibility of these motifs. Schrenk has pointed out that curtains were usually made of fine materials and were decorated with evenly distributed patterns.⁹⁸⁷

It appears that, until the 9th century, Late Antique themes, like the *semis* pattern with small birds and flowers (I 4), female personifications (I 3), putti with food (IV 5), riders (IV 10 and IV 20) and marine creatures, in other words iconography with allusions to “good life” and abundance, were still used on furnishing textiles.⁹⁸⁸ The trend for eastern decoration, initiated by the Muslim elites,⁹⁸⁹ promoted the wide use of furnishing textiles with “Sasanian” birds on a red ground during the 7th and 8th century (VII 3-5), the great variety of which indicate their popularity among different social strata. This trend acquired, in the course of the 9th century, more “Egyptian” characteristics in terms of technology and design, leading to the great popularity of the textiles with birds and quadrupeds attributed to Bahnasā (I 13-14, I 16-8). In the 10th century, the trend for linen fabrics with silk tapestry decorations was also applied on furnishing textiles. I 30, with its allover decoration of small birds and I 44, with its vertical arrangement of decorative zones, could be examples of curtains, datable respectively to the 10th and 12th century. The Late Antique repertoire of small birds and tree motifs with allusions to paradise are still present on these examples. Possibly, some of the fragments with *tirāz* bands might also belong to curtains.⁹⁹⁰ It appears that household textiles

⁹⁸⁴ G.A. Belova and S.V. Ivanov, “Preliminary Report on the Work of the CES RAS Archaeological Mission at Deir El-Banat (Fayoum). The 14th Season (March 3-April 24 2019)”, *Egypt and Neighbouring Countries* vol. 2 (2019), online Journal. Retrieved from <https://cyberleninka.ru/article/n/preliminary-report-on-the-work-of-the-ces-ras-archaeological-mission-at-deir-el-banat-fayoum-the-14th-season-march-3-april-24-2019/viewer>.

⁹⁸⁵ Fluck, “Textiles in Burial Practice”, p. 217, 240.

⁹⁸⁶ Stephenson, “Veiling the Late Roman House”, p. 14-15.

⁹⁸⁷ Shrenk, *Textilien*, p. 461-462. She also states that exceptions should be expected.

⁹⁸⁸ See chapter 2c. Iconography, p. 97-98.

⁹⁸⁹ See chapter 2c. Iconography, p. 102-106.

⁹⁹⁰ Bierman, *Art and Politics*, p. 94.

with decorations that propagated the prosperity and promoted the well-being of the owner were the basic choices of the clientele throughout the period under discussion.

It might just be a matter of survival, but it appears that eastern inspiration was more directly felt, during the 7th-9th century, on furnishing textiles rather than on garments. On the latter, as already discussed, the introduction of eastern techniques was basically expressed in a more frequent use of tailoring, stitching and embroidery, while the former exhibit a more evident influx of eastern designs (e.g. the pearl roundel arrangement in IV 6-7; 15134 and 15330, p. 124, figs. 4 and 5; V 2 and IX 2, the Sasanian or central Asian motifs in IV 15, VII 3-5). It is possible that people considered furnishings with less conservatism than their garments, and especially their burial attire, and, therefore, were more willing to follow new trends that imitated luxurious palace decorations on the fabrics that embellished their household.

Conclusions

The combination of information from the written sources with both scientifically excavated and museum textiles, and also with the new evidence from the Benaki collection, allows for a reconsideration of some aspects of textile production in the transitional period from Byzantine to Islamic rule, and for the establishment of a framework of the changes that occurred in the textile industry. The gradual transformation of Late Antique Egypt into a medieval Islamic state is well illustrated on the textiles of the period from the 6th to the 11th century, in the changes in iconography, aesthetics, burial customs, social needs and organisation of production. It is important to note that these changes, as in most other aspects of Egyptian history of the period, were not immediate and abrupt, and were always decisively affected by and correlated with social, political and economic changes, without the investigation of which the evolution of textile manufacture in the country cannot be fully traced and understood.

Already in the Byzantine period, the industry was well developed and organised, and particularly important to the economy and everyday life of Egypt. Shatzmiller, attempting to stress the importance of the changes brought about by the Islamic conquest, and drawing upon Jones's work on the Roman cloth industry, attributes to the Roman and Byzantine period a restricted production, without division of labour, with only few materials employed, limited demand, unorganised occupations and small, family-run workshops.⁹⁹¹ The more detailed study attempted in this paper has shown that this was not exactly the case. Division of labour did exist, textile occupations were professional undertakings and not spare time pursuits, and production was already significant. Of course, the change brought about after the 9th century, which turned textile production into an "industry", is undoubtedly of great social and economic importance, but it was founded on an already developed occupational specialisation, weaving tradition and organisation network.⁹⁹²

The impact of the Arab Muslim elites during the first centuries after the conquest was very small upon the Egyptian textile industry, most of the products of which, with the exception of historical *ṭirāz*, do not bear a direct political message and are not particularly important to the profession and establishment of the new rule and faith. On textiles, changes were possibly slower to appear than on other art media. No new forms were introduced, equivalent to the mosque in

⁹⁹¹ Shatzmiller, *Labour*, p. 248-249.

⁹⁹² For the sophistication of Late Antique economy in general see Sarris, "The Early Byzantine Economy in Context", p. 260-264.

architecture, no revolutionary new techniques, equivalent to opacified tin glaze in ceramics. Arabic script appears relatively early upon the embroidered *ṭirāz* produced for the Islamic state, but was much slower to appear upon in woven textiles produced for the market. At this early stage, *ṭirāz* textiles do not seem to have been produced in Egypt and, in any case, they did not yet have an impact on textile production in general. Also, representations drawn from the Islamic court repertoire are rare on textiles, compared for example with ceramics.

Therefore, The 7th and 8th centuries seem to be a period of more continuity than change. There is no significant alteration to the types and iconography of textiles and the places and methods of textile production. Mythological and Christian images continued to be popular and woollen tapestries, worked in techniques known from the Roman and Byzantine period, continued to be the most common decorative method. This fact is in concordance with the continuities evident in other aspects of administration and everyday life. However, at the same time, the tastes of the Muslim elites for luxurious eastern textiles and the facilitation of trade under a unified Islamic state, affected Egyptian production, promoting the imitation of eastern designs, the popularity of techniques like embroidery and the employment of imported dyes, like lac-dye and indigo. The foundations of the *ṭirāz* institutions were laid during this period.

The 9th century seems to mark a watershed in most sectors of textile production, provoked by important economic, social and political factors. The favourable circumstances for the expansion of trade in the Mediterranean and the East under the Islamic caliphate, led to the accumulation of capital and in the tendency of the newly formed Muslim landed elites to largely invest in flax production and trade. This, together with the changing fiscal policies of the Islamic dynasties favoured the appearance of wealthy merchants, the important role of which is amply stressed in their characterisation as infantile capitalists.⁹⁹³ These were involved in textile commerce, but also seem to have invested in textile manufacture, enhancing the commercialisation and the wide circulation of the products of the industry and promoting production. Moreover, the movements towards a more Egyptian-centred rulership, resulted in the interest of the government and officials to finance the development of the country's resources and their exploitation in the textile industry. Consequently the infrastructure and quantity of textile production in the country grew considerably in the course of this century and it is possible that it also became gradually more centralised and controlled by its capital investors.

⁹⁹³ Banaji, *Exploring the Economy*, p. 220-221.

At the same time, the increasing Arabisation, and, to a lesser extent, Islamisation of the Egyptian population had its impact on the iconography of textiles, with the growing popularity of epigraphy and the gradual abandonment of mythological and Christian scenes. Equally, iconography drawn from Islamic palatial art is encountered on Egyptian textiles for the first time, and the aesthetics of the representations move away from narrative scenes and towards more emblematic and decorative concepts, following the analogous paths of Islamic art. Also, the earlier imitations of eastern imports gradually adapted into Egyptian techniques and iconographic traditions, forming a distinct, “Egyptian” style.

An “industrialisation” of textile production seems to have been achieved in the Fāṭimid period, in the late 10th and 11th century, continuing the trend set in the 9th, with huge investments in the cultivation, processing and trade of flax, and the centralisation of factories in the Delta region. The administrative and, more importantly, the financial independence of Egypt encouraged this development, which was further facilitated by the commercial ties of the country with the East and India and the expansion of the Mediterranean trade,⁹⁹⁴ which also promoted an increase in the import and use of silk.

Silk became in the 10th century cheaper and more easily accessible to weavers and even middle class clients, and was from then on employed not only on luxurious textiles, but also on pieces of medium quality and design. This important change had its impact also on weaving techniques, which gradually adapted to the properties of silk. Although the prevalent notion in scholarship is that silk replaced wool in the 10th century, it has been shown that this was not exactly the case. Silk tapestries indeed became more affordable than before, and, therefore, much more popular, but woollen tapestries continued being produced, at least until the 11th century, although in significantly smaller numbers. Wool was still used for certain types of garments and furnishing textiles, even high quality ones, although the growth of flax production outweighed its importance. Also, the increasing Islamisation of the population and the gradual prevalence of Islamic culture resulted to a greater, almost exclusive use of linen, *ṭirāz* type textiles with silk tapestry bands in burials, from where most of the surviving textiles originate, so that other types and materials are, after that period, underrepresented. This widespread imitation of *ṭirāz* pieces and their use even in Christian burials, testifies to the almost complete domination of Islamic culture in Egypt by the 11th

⁹⁹⁴ For the wealth of Mediterranean production in the 11th century, the importance of inter-regional Mediterranean trade and the prominence of textiles in it see Goldberg, *Trade and Institutions*, p. 98. For the role of the Fāṭimids in this expansion see also Lev, “At the Crossroads of Regional Settings”, p. 62-63.

century. Moreover, during this period, the iconography of textiles became more abstract and repetitive, both due to massive production and to the increasing impact of medieval Islamic art.

The increase in textile manufacture in the 10th century led to a greater division of labour with more workers being employed and many new specialisations emerging. It seems that, by the 11th century, most people bought their clothes ready-made and a variety of garments and furnishing textiles in a profusion of colours was available in the market.

The Fāṭimids, aided by the favourable circumstances in the Mediterranean world and based on an already organised and developed Egyptian textile production, with skilled and technically competent craftsmen, promoted the textile industry so that it became the most prominent and indispensable for the economy of the country. It is evident that their interest was triggered by the fact that the textile industry proved a dynamic and successful combination: it was a profitable investment in the country's assets, and at the same time, a dynamic propagator of imperial prestige and ideology.