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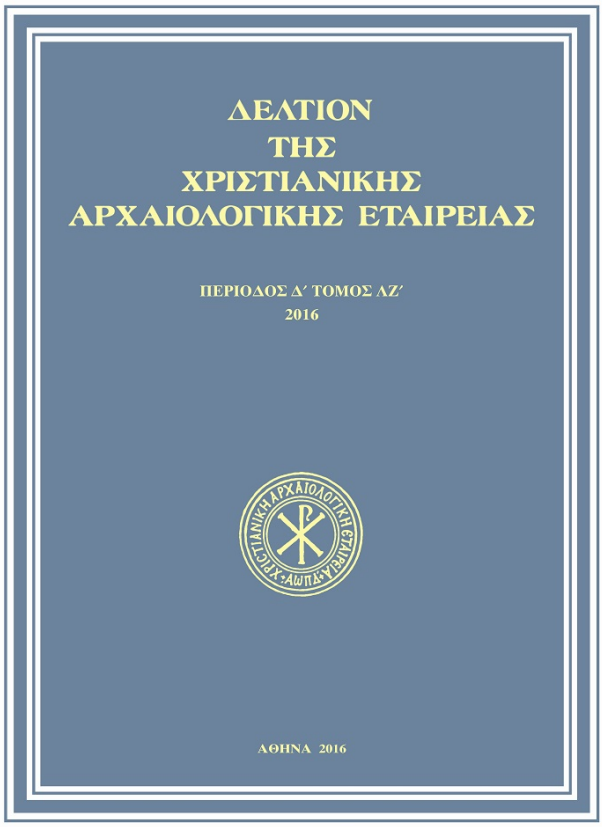

Το ύφασμα, το χρώμα, ο συμβολισμός και η σημασία του στο Βυζάντιο (4ος-15ος αιώνες)

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Anna Muthesius

CLOTH, COLOUR, SYMBOLISM AND MEANING IN BYZANTIUM (4th-15th CENTURIES)

Στο άρθρο εξετάζεται ο ρόλος που έπαιξαν οι βαφές των βυζαντινών μεταξωτών στη διαδικασία της αντίληψης του φωτός και του χρώματος στο Βυζάντιο από τον 4ο έως και 15ο αιώνα και ερευνάται η σχέση των συμβολισμών των χρωμάτων με την πολιτική ιδεολογία, τη θρησκευτική πίστη και την κοινωνική αλληλεπίδραση. Ακόμη, γίνεται διάκριση της σημασίας του χρώματος ως φορέα της φυσικής απόχρωσης και ως αλληγορίας για την εξουσία ή τη χριστιανική σωτηριολογία. Στη μελέτη υποστηρίζεται ότι στο Βυζάντιο το φως και το χρώμα είχαν ιδιαίτερη σημασία για τα μεταξωτά υφάσματα. Ως προς την αντίληψη των χρωμάτων από τους Βυζαντινούς τα μεταξωτά χρησίμευαν στην μεταφορά της φυσικής παρατήρησης που βασίζεται στις αισθήσεις στο πεδίο της νόησης, όπου τα ενσωματωμένα συμβολικά νοήματα μπορούσαν να αποκαλυφθούν και να εκτιμηθούν ανάλογα.

The article considers the role of coloured dyes upon Byzantine silks of the 4th-15th centuries, in the development of light and colour perception in Byzantium. It explores the creation of meaning through colour symbolism in the spheres of political ideology, religious belief and social inter-action. The article distinguishes the role of colour as the «enhancer» of form as hue, and its role as metaphor for power and authority or for Christian salvation. The paper suggests that light and colour perception in Byzantium were a powerful medium in relation to silks. In terms of what was understood at the time by Byzantine colour perception, the silks served for the visual transfer of sensual observation to the realms of the mind, where the embedded symbolic meanings could then be unravelled and appreciated.

Λέξεις κλειδιά

Βυζαντινά μεταξωτά, βυζαντινές χρωστικές, το φως, το χρώμα, *μεταφορά*, παραγωγή νοήματος.

Keywords

Byzantine silks, Byzantine dyes, light and colour perception, symbolism, metaphor and meaning.

«Cloth, Colour, Symbolism and Meaning in Byzantium (4-15 century)» has been chosen as the title of this paper because it highlights several areas of Byzantine studies, which have not received as much attention as they deserve. Whilst the study of Byzantine Material Culture is still in its infancy, and few scholars have either the training or the freedom of access necessary for the empirical analysis of surviving Byzantine artefacts, there is still a need to consider the teaching of a broad based research method for the field[1]. Object cen-

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[1] For a developed theoretical method as applicable to Byzantine material culture see, A. Muthesius, «Studies on material culture. Some general considerations», *Material Culture and Well-Being in Byzantium (400-1453), Cambridge University, International Byzantine Conference (8-10 September 2001)*, eds M. Grünbart – E. Kislinger – A. Muthesius – D. Stathakopoulos, Vienna 2007,

Fig. 1. Cologne, St. Cunibert. Hunter silk, eighth to ninth century, Byzantine.

tred studies, together with a broadening of traditional methods of Byzantine documentary and visual analysis, promise to produce knowledge beyond just that, which purely written and visual sources have so far been able to yield.

This paper, through the medium of dyed textiles, such as two hunter silks in Cologne and in Rome, explores the relationship of culture to technology in Byzantium, and it demonstrates the combination of first hand object based study, and documentary and visual analysis[2]

21-38. This was reprinted in, A. Muthesius, *Byzantine, Islamic and Near Eastern Silk Weaving*, London 2008, 212-243, with extensive development of the theoretical discussion by the author, on pages 244-283. The application of the method to Byzantine textile research by the author in her publications is demonstrated on pages 268-283.

[2] The difficulty is in breaching the gap between empirical and theo-

Fig. 2. Rome, Vatican Museo Sacro. Lion Hunter silk, eighth to ninth century, Byzantine.

(Figs 1, 2). An empirical, practical analysis of dyes upon surviving Byzantine silks is combined with an inter-disciplinary, theoretical critique of relevant written sources. The aim of the research is to explore how far colour perception both reflected and affected the development of social values and beliefs across Byzantium. The paper asks, «What part did colour play in creating meaning within Byzantium's ordered universe?»

The paper is divided into three parts:

• colour codes as institutional and social interaction

• the dye industry as organisation, process and social control

• colour perception, symbolism, human inter-action and creation of meaning in Byzantium.

A. The establishment of symbolic colour codes across Byzantium: Institutional and Social inter-action

i. Historical documentation, centres and processes

The existence of symbolic colour codes in any society suggests the presence of controlling agents, and of a society over which some form of symbolic control needs to be imposed. In the case of colour codes in Byzantium, it is possible to argue that they reflect the relationship of Institutions (State and Church) to society. The Theodosian and Justinianic Codes, the Basilics and the Book of the Eparch, variously dating between the fifth and the tenth centuries, indicate how Byzantine dyeing at state institutional level was dominated by the desire first to establish and then to maintain an Imperial monopoly over the production and use of certain murex purple dyed silks[3]. These specially dyed and tailored silks fashioned into costumes, were destined for ceremonial court display, and in particular they were intended to render visible the symbolic concepts surrounding legitimacy, power, authority and sanctity of Imperial rule[4].

The Imperial monopoly over murex purple was established from Late Roman to early Byzantine times, and as a form of legitimisation, it harked back to the use of such purples by rulers of the Hellenic and Roman past[5]. Murex purple dyed silk was discovered in the casket of Philip of Macedon[6].

retical research methods. The basic fundamental method was demonstrated in A. Muthesius, *Byzantine Silk Weaving*, Vienna 1997.

[3] A bibliography on Byzantine dyes is found in, Muthesius, *Byzantine Silk Weaving*, 32-33. In particular note, W. Born, «Die Purpurschnecke», *Ciba Rundschau* 4/8 (1936), 110-128, 134. P. E. McGovern – R. H. Michel, «Royal purple dye; the chemical reconstruction of the ancient Mediterranean industry», *Accounts of Chemical Research* 23 (1990), 152-158. M. Reinhold, «The history of purple as a status symbol in Antiquity», *Collection Latomus* 116 (1970), 7-73, and especially 50 forwards. G. Steigerwald, «Das kaiserliche Purpurprivileg in spätrömischer und frühbyzantinischer Zeit», *Jahrbuch für Antike und Christentum* 33 (1990), 209-239. A. Verhecken, «The indule pigments of Mollusca», *Annales de la société royale zoologique de Belgique* 119/2 (1989), 181-197, and by the same author, «Experiences with mollusc purple», *La Conchiglia* 22 (1990), 250-252. I. I. Ziderman, «Purple dyes made from shellfish in Antiquity», *Review of Progress in Colouration and related topics* 16 (1986), 46-52. In addition, note, J. Bridgeman, «Purple dye in Late Antiquity and Byzantium», *The Royal Purple and the Biblical Blue*, ed. E. Spanier, Jerusalem 1987, 159-163. Important earlier, is K. Faymonville, *Die Purpurfarberei*, Heidelberg 1900. Most recently, *Teintures précieuses de la Méditerranée*: *pourpre*, *kermès*, *pastel*, ed. D. Cardon, Carcassonne-Terrassa 1999-2000, and C. J. Cooksey, «Tyrian Purple: 6,6-dibromoindigo and related compounds», *Molecules* 6 (2001), 736-769.

[4] Refer to A. Muthesius, «Silk as politics in Byzantium», Muthesius, op.cit. (n.1), study XI, 14-30.

[5] Discussed in detail separately in Reinhold, and in Steigerwald, op.cit. (n.3).

[6] Philip of Macedon was buried in murex purple fabric. See J. Hofenk de Graaff, *The Colourful Past*, Riggisberg – London 2004, 270-272. Further see, A. Kottaridi, *Macedonian Treasures. A tour through the Museum of the Royal tombs at Aigai*, Athens 2011, 63, 68 for the murex textile traces found with Philip's remains.

Up to the time of Theodosius I (383-395) it was only the purple chlamys that was reserved entirely for Imperial use, although he did reinforce generally protective edicts issued by his predecessors. Most significantly, Theodosius I forbade private manufacture and use of «blatta, oxyblatta, and hyacinthina», three forms of murex purple, and also «false purple» imitation of these[7]. These colour terms for purple dye do not explain the nature of the shade of purple hue involved. Neither do they define which species of murex molluscs were used for the dyeing process. However, the discovery of discarded murex shells from ancient dye industries, points to the use of Murex molluscs for dyeing[8]. Purple and false purple dyeing, were described in two first century papyri (Leiden and Stockholm) and these need to be considered in determination of what might have constituted Theodosius' false purples[9]. Chemical analysis, particularly high power liquid chromatography, which relies on the analysis of the absorption rate of light of different dyes, is a scientific means of earning more about ancient purple dyes[10]. Reference to samples from surviving Byzantine silks tested by this method will be further discussed below. Dyeing from Murex trunculus, Murex brandaris and Murex haemastoma has been carried out by modern dyers, and two distinct hues, a deep red purple and a blue purple dye have been obtained from Murex Trunculus[11].

Under Theodosius II (408-450) in 424 A.D. especially tailored, gold and purple Imperial costume was defined as part of an exclusively Imperial dress code[12]. Justinian upheld this edict in the sixth century, which suggests it had received some opposition[13]. The mosaics at Ravenna indicate the type of costumes that Justinian reserved for the use of the Emperor and his court[14] (Fig. 3). Fraudulent purple dyeing was a problem. This activity was reported as early as 333 A.D, and under Emperors Theodosius I and II. In 436 A.D. in Phoenicia, illegal production of Imperial purples was taking place[15]. It was not easy to police the purple dye industry. An attempt by Justinian to raise revenue through the sale of Imperial half blatta in the House of Lamps in the Capital, was short lived[16]. The wrath of the mob ensured that the House of Lamps was burnt down in the Nika riots. Fraud continued in the ninth century, and the Basilika ruled against illegal manufacture of Imperial purple, on pain of death[17]. A concession of Leo VI (886-912) to allow citizens the right to wear clippings of Imperial purple was only a window-dressing, intended

Kottaridi, on pages 96-97 also discusses and illustrates the fabric of Meda, one of the wives of the king, who was buried alongside him in a gold and murex purple wool textile.

[7] Justinianic Code, *Corpus Iuris Civilis*, eds T. Mommsen – P. Krüger et al., Berlin 1928, 1929, IV, 40.1, XI, 9. 3-5.

[8] Ancient murex trunculus shells in great banks were found at Sidon (Saida) on the Phoenician coast. See, R. J. Forbes, *Studies in Ancient Technology*, Leiden – New York 1987, 119, and further see pages 99-110 on ancient dyeing, with extensive further bibliography.

[9] For the Leiden and Stockholm papyri refer to, R. Pfister, «Teinture et Alchimiclie dans l'Orient Hellénistique», *Seminarium Kondakovianum* VII, Prague 1935, 1-59. R. Halleux, *Les alchimistes grecs*, 1, Papyrus de Leyde-papyrus de Stockholm-Fragments et Recettes, Paris 1981.

[10] The process is described in A. Timar-Balazsy, D. Eastop, *Chemical Principles of Textile Conservation*, Oxford 1998, 391-393. See chapter 24, 412-430 and table 24.3 on 424 for results of dye analysis on samples from the Hungarian Coronation mantle. High Performance liquid chromatography processes are set out in detail also in, Hoffenk de Graaff, op.cit. (n. 6), 35-41.

[11] J. Edmonds, *Tyrian or Imperial Purple dye* (Historic Dye Series 7), Bucks 2000, pls 2 and 3.

[12] For the Theodosian Code see, *Theodosiani libri XVI cum Constitionibus Sirmondianis*, ed. T. Mommsen, Dublin – Zurich 1970-1971. English translation, C. Pharr, *The Theodosian Code and the Novels of the Sirmondian Constitutions*, Princeton 1970. For the Justinianic Code, see Mommsen – Kruger et al., op.cit. (n. 7). Theodosius legislated against the illicit use of Imperial purple as discussed in, A. Carile, «Produzione e usi della porpora nell'impero bizantino», *La Porpora, Realta e Immaginario di un colore simbolico, Atti del Convegno di Studio, Venezia, 24-25 Ottobre 1996*, ed. O. Longo, Venice 1998, 243-269, see p. 245.

[13] Carile, op.cit. (n. 12), 245 with note 8, cites *Corpus Iuris*, XI, 9 (8), 4.

[14] Ibid., figure 1 for Theodora and courtiers.

[15] *Theodosian Code*, ed. Mommsen, 1.32.1, for the Edict of 333 A.D., which refers to an illegal mixture of polluted dye. Phoenician fraudulent practices in 436 A.D. are recorded in *Theodosian Code* 18.10.20, as cited and discussed in H. Blümner, *Terminologie und Technologie der Gewerbe und Künste bei Griechen und Römern*, I-IV, Leipzig 1875-1887, see III, 190-191.

[16] Justinian reissued the 424 A.D. edict of Theodosius II under the extended title of «De vestibus holoveris et auralis et de tinctione-sacri muricis», see (C. Iust. 2.9.3), as cited by Steigerwald, op.cit. (n. 3), 226.

[17] The legislation cited in note 16 above was not re-promulgated in the Basilics. Instead illicit manufacture of the forbidden purple murex dyes was prohibited on pain of death. For the Basilics refer to *Basilicorum Libri LX*, eds H. J. Scheltema – N. van der Wal – D. Holwerda, Gröningen 1953-1988. For the prohibition see *Basilics* 19.1.30, in v. III, 918.

Fig. 3. Ravenna, St. Vitale. Mosaic detail of Empress Theodora, sixth century, Byzantine.

to raise up in the mind of the Byzantine citizen, an image of the benefice of the Emperor towards his people[18].

The Book of the Prefect, composed under Leo VI in 911/912, which regulated private guilds of Constantinople, did not mention a private guild of purple dyers[19]. However, it did state that some categories of Imperial purples were to be woven by private dyers, and delivered to Imperial stores[20]. Imperial purple dyers were to manufacture the forbidden purples (kekolymena) termed oxeon, porfiraeron, ememelinodiblatta, and prasinodiblatta[21]. Also there was reference to the use of aimatos

[18] For Novel 80 of Leo VI (886-912 A.D.) see, P. Noailles – H. Dain, *Les Novelles de Leon VI le sage*, Paris 1944, 272 forwards.
[19] J. Koder, *Das Eparchenbuch Leons des Weisen*, Vienna 1991.
[20] Ibid., section 8.1-8.2, 102-105.
[21] Ibid., section 8.4, 102-103.

for triblattia or diblattia[22]. The reference to peach and green shades of purple hue, suggest that murex purple dye was manipulated during the oxidisation process of vat dyeing, to arrest the dye at different stages prior to it reaching the full purple stage[23].

The recipes for murex dyeing found in ancient sources such as Pliny and Vitruvius do not reveal the secrets of the dyers art[24]. Modern reconstruction of these processes has shown that the colourless liquid of the gland of different types of murex sea mollusc when heated in an alkhaline bath in a dyers vat containing the pulp of the body of the sea snails is reduced[25]. The purple pigment dissolves in the solution with the addition of heat and potash to form a dye liquid, green in colour. The working conditions are kept dark to prevent re-oxidisation. The cloth is then dipped, and on exposure to the air, the purple dye is re-oxidised into the purple pigment, which appears on the cloth. The reduction (removal of oxygen) process occurs as a result of the operation of bacteria in the pulp of the snails added to the dye vat[26]. Pliny spoke of addition of salt to the dye vat, but this only operated to kill other non-necessary bacteria[27]. He had no concept of the operation of bacteria, although he described the snail pulp in the vat. The scientific identification of bacteria and the significance of their activity in the murex purple dyeing process was only recognised in the last decades. The ancient sources are incomplete because the scientific basis of the process could not have been understood at the time. Also, there was dyer's secrecy and some elements of the dyeing process anyway would have been kept secret.

Byzantine historians writing about purple dyes have not appreciated the scientific evidence and they have attempted to translate all sorts of technical terms literally or by analogy with recorded vocabulary. This has not been very successful and has led to interpretations, which bear no relation to technical possibility, or empirical reality. Clearly, the Byzantine dyeing industry had its own reference table of technical terms and these most likely applied to the weight of the dyed textiles sold[28]. The importance of broadening documentary research approaches to include empirical and scientific evidence is nowhere illustrated more than with reference to translation of Byzantine textile terms (both weaving and dyeing).

Technical terms such as zylon applied in the form of lepto, meso and megalozylon measures, with reference to some forbidden purples, most likely referred to the quality (that is the weight) of the purple silks in question[29]. Weight of silks depended on the density of the warp threads used across the loom and also to the matter added to silk yarns to replace the gum content lost through boiling[30]. Warp density certainly was one of the criteria by which Italian silk textiles were categorised

[22] Ibid., section 8.4, 104-105.

[23] Ibid., section 8.1, 102-103.

[24] Pliny's references to purple dye were discussed in Edmonds, op.cit. (n. 11), 17-18 and 36-37. See also, Hofenk de Graaff, op.cit. (n. 6), 268-270. Pliny was analysed by G. Steigerwald, «Die antike Purpurfarberei nach dem Bericht von Plinius des Alteren in seiner Naturalis Historia», *Traditio* (Studies in Ancient and Medieval History, Thought and Religion XLII), New York 1986, 1-57. See also, H. Schweppe, *Handbuch der Naturfarbstoffe. Vorkommen, Verwendung, Nachweis*. Landsberg am Lech 1992. For Vitruvius refer to Edmonds, op.cit. (n. 11), 34-35.

[25] Edmonds, op.cit. (n. 11), 16-30, discusses purple dyeing processes as such, as does Hofenk de Graaff, op.cit. (n. 11), 242. Murex purple dyes of various shades were obtained by arresting the dyeing process at different stages according to which shade was desired.

[26] Edmonds, op.cit. (n. 11), 20.

[27] Ibid., 17.

[28] For terminology in relation to purple dyes see, Muthesius, op.cit. (n. 2), 28. Eadem, «The Byzantine Silk Industry, Lopez and Beyond», A. Muthesius, *Byzantine and Islamic Silk Weaving*, London 1995, study IX, 291-297 and eadem, «Essential Processes, Looms and Technical Aspects of the Production of Silk Textiles», *The Economic History of Byzantium from the seventh through the fifteenth century*, ed. A. Laiou, I, Washington, D.C. 2002, 147-168, especially 158-165. Technical and trade names are distinct from terms used in everyday language but scholars constantly try to identify them within ordinary language. Haldon looked at terms of the Baggage Train account in the «Three Treatises», but without reference to empirical evidence for murex dyeing processes as they affected shades of purple implied in the language used to describe purples. See J. F. Haldon, *Constantine Porphyrogenitus. Three Treatises on Imperial Military Expeditions* (CFHB 28), Vienna 1990, C173, 213, 229-230, 235-236, 240, 242-245, 251, 258-259, 291, 294, 300-301, 503-504, 508, 732, 783. Further consider, G. Steigerwald, «Die Purpursorten im Preisedikt Diokletians von Jahre 301», *ByzF* 15 (1990), 219-276 again without acknowledgement of the existence of separate trade and technical vocabularies.

[29] Muthesius, «Essential Processes», op.cit. (n. 28), 163.

[30] Ibid., 152-154, and diagram 1, which explain how there were surface (binding warps) and internal (main warps) and their density, distribution and grouping across the width of the loom, varied according to the weave technique used. For the processes of production of silk yarn see 150.

for sale and taxation purposes[31]. Gallo-nut matter has been discovered through dye analysis of certain Byzantine silks and this might suggest that the practice of «weighting» existed in Byzantium[32]. The more technical analysis occurs the more the meaning of technical textile terms will be understood. Guesswork through documentary based analysis alone is no longer acceptable as part of a Byzantine Material Culture research method[33].

The Book of the Prefect reveals that the silk retailers (Vestiopratai) were to declare to the Eparch blattia and kata persikion, oxeon tailored silks[34]. The (Serikarioi) or silk weaver cum silk factory owners were to declare multi coloured katapersikion silks to the Eparch, and also blattia katapersikia, and plain or multi coloured silks valued at over 10 nomismata[35]. In general, only the exapolon, and octapolon porfiraeron ordered to be delivered to the Eidikon could be manufactured by the Serikarioi, otherwise these Imperial purples were forbidden[36]. Also forbidden to manufacture were the aimatos dyed triblattia, diblattia and dimoiroxea, mentioned above[37]. Only the alithinaeron, leptozylon, dekapolon and dodekapolon porfaeron, types of purples, were permitted for manufacture under the non-Imperial guild of the Serikarioi[38]. In the regulations governing the guild of linen weavers, only blattia exalia or elattona could be exchanged for Bulgar imports[39].

Perhaps the early regulations against the dyeing of imitation Imperial purples, described above, and the false purple dyeing outlined in the Leyden and the Stockholm papyri, give a clue towards the understanding of what the non-Imperial purples of the Book of the Prefect represented in dyeing terms. One Imperial, inscribed purple Lion silk of the reign of Basil II and Constantine VIII (975-1025), was dyed with indigo and madder that is false purple[40]. This silk was sent as diplomatic gift to the West; might it have been woven by private purple dyers, for delivery to the Eidikon, the Imperial storehouse mentioned on the Aachen Elephant silk[41] (Fig. 4)? The distinction between Imperial purples and non-Imperial purples might have indicated several things: that the same types of murex dyes were used in a different process to produce different non-Imperial purple shades; that other types of murex were used, which again yielded very different and easily distinguishable non Imperial purples, or that murex was not used at all. Purples could be obtained from madder and indigo as mentioned but also through other means, for example by using iron oxide together with red non-murex dyes[42]. Only the analysis of dyes from a great number of surviving silks will yield answers.

What the Book of the Prefect does indicate, is that a special sensitivity to different shades of purple hues must have existed across Byzantine society, which says something about Byzantine colour perception, and about colour coding as part of social control[43]. Below, this concept will be further explored with reference to the evidence of texts speaking about colour. It will be noted that symbolic meaning and importance was especially attached to qualities of brightness and to saturation of hue (as against merely colour recognition) within Byzantine colour perception, although colour was considered to be essential for the definition of

[31] Consult, D. King, «Silk weaves of Lucca in 1376», *Collected Textile Studies*, eds D. King – A. Muthesius, London 2004, 93-110. Dimensions of silks and their warp counts were very specific for each different kind of silk weave. The silks were woven to minimum permissible weights and there were fines for breaching of the regulations.

[32] On the artificial weighting of silk yarns see, Hofenk de Graaff, op.cit. (n. 6), 286-287. In the de-gumming of the cocoons by boiling, up to 30% of the weight of the silk thread could be lost. The silk could be re-weighted by treatment with agents including a solution of galls. A gallotannin agent perhaps used for weighting was found on the St. Servatius, Maastricht lion silk, probably a Central Asian imitation of an Imperial Byzantine lion silk, see 227. The Byzantine Eagle silk chasuble of St. Albuin, of the tenth to eleventh century, also might have been weighted with gallonuts, see 281-282.

[33] Material Culture methods as might be applied to Byzantine textiles were first discussed in Muthesius, op.cit. (n. 1), 222-283.

[34] Koder, op.cit. (n. 19), 592-593.

[35] Ibid., 102-103.

[36] Ibid., 104-105, section 8.2, lines 2-3, forbidding production by private persons or businesses.

[37] Ibid., section 8.4, 104-105.

[38] Ibid., section 8.2, lines 2-3, 104-105.

[39] Ibid., section 9.6, 108-109.

[40] Muthesius, op.cit. (n. 2), silk M615, on 28-29, and for other lion silks see, p. 34-38.

[41] Ibid., silk M58, on 38-39.

[42] Hofenk de Graaff, op.cit. (n. 6), 101-102, as applied to textiles of Egypt.

[43] Little work has been done on colour in Byzantium. Most comprehensively see, E. James, *Colour Perception in Byzantium*, PhD. Thesis, Courtauld institute of Art, London 1990. Eadem, «Colour and meaning in Byzantium», *Journal of Early Christian Studies* 11/2 (2003), 223-233 with further bibliography.

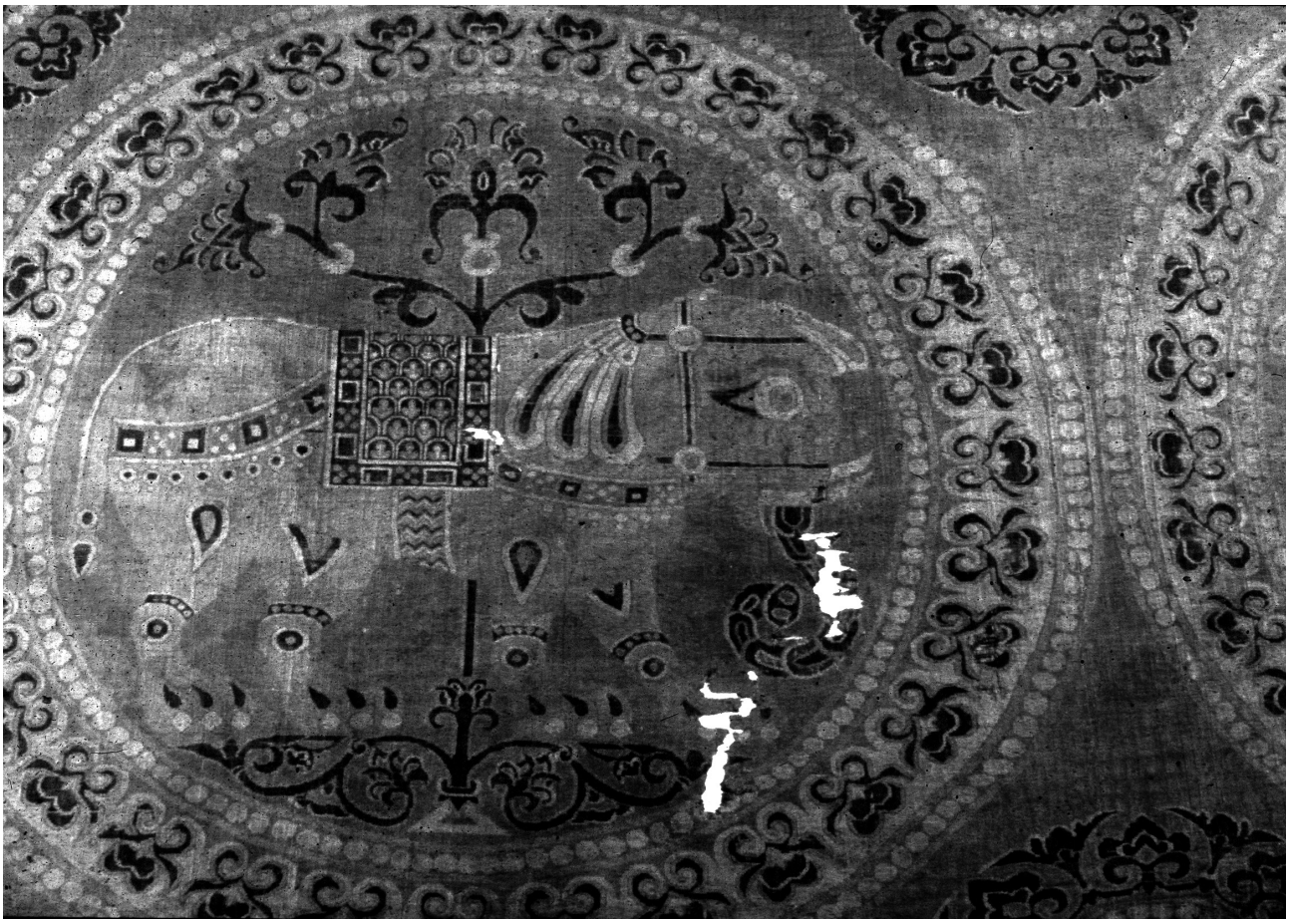

Fig. 4. Aachen Cathedral treasury. Elephant silk, early eleventh century, Byzantine.

forms[44]. The purple terminology in the Book of the Prefect should be understood on several levels: as result of dye process; as appeal to colour perception including the notion of «imagination» and recreation of form in the mind; and as symbolic metaphor of concepts and norms attached to the use of the dye in question.

As far as dye process was concerned, strengths of dye, numbers of dippings of the cloth into the vat, arrest of oxidising processes at different stages to induce different purples, all were part of what must have been an extremely skilled dye technology, in a high cost industry. The fact that an Imperial weaver of Jewish origin had to flee to his brethren in Cairo to raise a ransom for his children held in Constantinople, after he had spoilt an Imperial cloth in the purple dyeing process, in the eleventh century, reveals the heavy responsibility lying on the shoulders of those charged with production of the Imperial purple artefact[45]. What this source points to is the gravity attached to being able to distinguish the ruler from the ruled in Byzantium.

[44] James, *Colour*, op.cit. (n. 43), chapter 6, 272 forward.

[45] Discussed in S. D. Goitein, *A Mediterranean Society*, London 1967, I, section i.2, 50 with note 54, a reference to the source document Or 1081 J9 in the University Library at Cambridge.

B. Dyers, dyes and dyeing in Byzantium: values and threats of expertise

i. Dye workshops, corporations and guilds

How was the Late Roman and the Byzantine dyeing industry organised? The Late Roman state, in the fourth century, through the office of the Comes Sacrarum Largitionum, operated both weaving mills and dyeing centres, across the entire Empire[46]. These factories produced court costumes and military and civil service uniforms. Nine dyeing establishments were documented for the west Roman Empire: at Tarentum and Cissa in Italy; Syracuse in Sicily; Salona in Dalmatia; Telo and Narbo in Gaul; the Balearic islands; Girba in Tripolitania, and also a centre in Africa. A similar list of dye works for the east Roman Empire is missing, but dyeing in Phoenicia and in Cyprus is documented[47]. Initially workers were state slaves but they evolved into hereditary work groups by the mid fourth century and de facto they were free persons bound to the state by their trades[48].

The term used for dyer in papyri of the late Roman Empire is bapheous[49]. The Notitia Dignitatum, of the 4-5 century, which listed all civil and military offices of the Late Roman Empire, recorded workshops of corporations of baphio, and bapheia of Eliopoli, Laodicea, and Taranto[50]. In 424 A.D. a collegium of murileguli, conchylioleguli and conchyliarioi, appeared in the Theodosian Code, and were echoed later in the Justinianic Code[51]. In the Book of the Prefect, no mention was made of a private guild of dyers. Later in the eleventh century Peira a baphtike somateion was recorded[52].

ii. Cost of dyes

Turning to the value of dyes, the enormously high prices demanded for purples is reflected in the Edict of Diocletian of 301 A.D., where murex blatta dyed silk commanded a price of 150,000 denarii (three pounds of gold) per lb (ie. c.1.3 kgs of gold per. 430 grms of purple cloth)[53]. Wool, dyed with the same dye cost one third of the price[54]. On wool, lighter blatta was priced at 32,000 denari, bright Tyrian purple at 16, 000 denari, and Milesian purple at 12.000 denari per lb[55]. Scarlet from kermes dyes cost 1,500 denari a pound by way of comparison, and archil dyes 500 denari a pound[56]. Textile workers earned between 25 and 50 denari a day, whilst gold embroiderers could receive up to 300 denari per ounce of gold worked[57]. By way of comparison, a haircut cost 2 denarii[58].

iii. Symbolism attached to dyes

The Theodosian Code and later legislation, forbade the imitation of «sacred murex», indicating that by the fourth century a divine association had been made between purples and the Imperial house. A reference to a «ceremony of the adoration of the purple»; occurs already in a document of the time of Constantius II (337-353)[59]. In the hierarchy of colour coded dyes the Imperial murex purples stood at the helm, and below them came imitation purples, non murex reds, non murex blues, and yellows with non murex greens created from mixtures of yellow and blue dyes.

A very elaborate and strict form of colour coding, was reflected in changes of the Emperor's costumes/differently coloured crowns, across religious and secular ceremony, described in the tenth century Book of Cere-

[46] A. H. M. Jones, *The Later Roman Empire 284-602*, II, Oxford 1973, chapter 21, 834-839, especially 836-837, 848-850.
[47] Ibid., 836-837.
[48] Ibid., II, 836.
[49] Ibid., I, 66, II, 836-837, on the baphia.
[50] *Notitia Dignitatum Occidentalis Orientalis*, ed. O. Seeck, Berlin 1876, see Occidentalis 11.65. See also, F. Grelle – G. Volpe, «La geografia amministrativa ed economica della Puglia tardoanntica», *Culto e insediamenti micuelici nell'Italia Meridionale fra tarda Antichità e Medioevo*, eds C. Carletti – G. Otrato, Bari 1994, 31.
[51] *Corpus Iuris*, XI, 8.7.
[52] See *Peira* in *Jus Graecoromanum*, eds J. and P. Zepos, IV, Athens 1931, Aalen 1962, 1-260, 51.7.
[53] Discussed in Muthesius, «Lopez and beyond», op.cit. (n. 28), study XVI, 300-303.
[54] Ibid., Muthesius, 301.
[55] Ibid., 301 and Frank, *The Edict of Diocletian. An economic survey of ancient Rome* V, London 1940, 383.
[56] Ibid., 383.
[57] Ibid., 343 (tailors), 378 (weavers and gold embroiderers).
[58] Ibid., 342.
[59] Discussed in Carile, op.cit. (n. 12), 258, with reference to *The Abinnaeus Archive. Papers of a Roman officer in the reign of Constantius II*, eds H. I. Bell – V. Martin – E. G. Turner – D. van Berchem, Oxford 1962, Milan 1975, 35, rr 8-9.

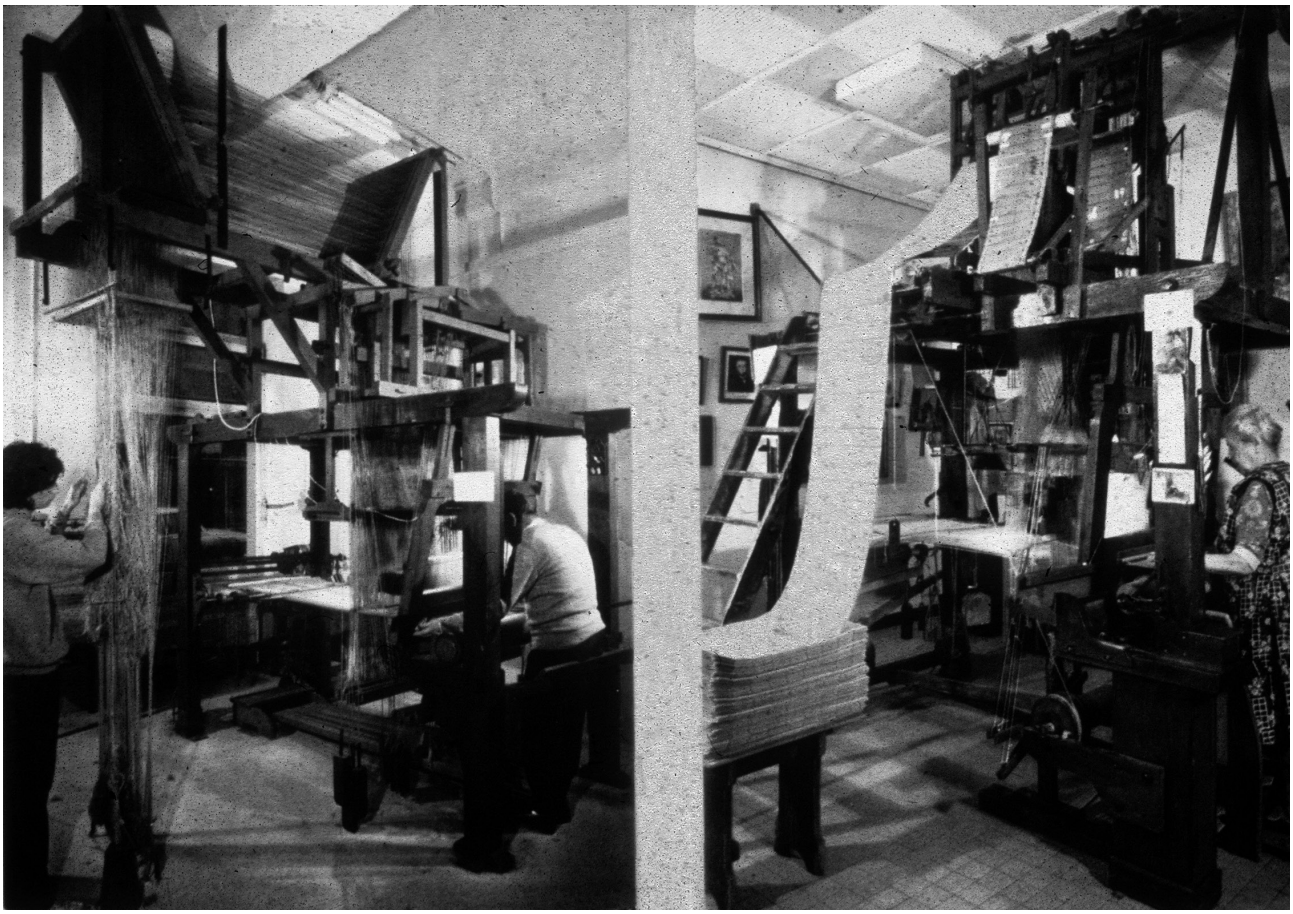

Fig. 5. Hand drawloom and Jacquard loom for comparison. Twentieth century photos.

monies[60]. Here also, each court office was rendered visible through distinction of coloured, tailored costume. Indeed, Nicetas Choniates was amazed when the Emperor Isaac II allowed the logothete of the Sekreta, Theodore Castamonites, to wear purple Imperial trappings as well as a purple military mantle (rather than the colour coded dress of his own rank)[61]. Even worse he was allowed to sign documents in the Imperial purple ink.

In the fourteenth century pseudo Kodinos, colour coded uniforms of court dignitaries were detailed, indicating the continuation of earlier practices[62]. The Baggage Train account as appended to the «Three Treatises» provides a guide to Imperial purples carried for use by the Emperor, even on campaign; alongside multi-coloured silks used for military uniforms[63]. Lower down the social scale, popular literature in the form of epics such as Digenites Akrites, served to present heroes and heroines in brightly coloured silks, reflective of their youth, beauty, bravery or prowess[64]. These literary images

[60] Ibid., 261-262.

[61] *Nicetas Choniates*, *Chronike Diegesis* (CFHB, series Berolinensis 11), ed. J. van Dieten, Berlin 1975, 438. 38-45. Translated in H. J. Magoulias, *O City of Byzantium*, *Annals of Niketas Choniates*, Detroit 1984, 240-241.

[62] *Pseudo Kodinos. Traité des offices*, ed. J. Verpeaux, Paris 1966.

[63] Haldon, op.cit. (n. 28), C.173, discusses diblattia as silk garments to include a divitesion triblattion. Compare also, C222 wool and linen garments/sheets, and other textiles in C224-C226, C229, C233-252, C289-301, C670, C734-735, C739-740, C749-750, C761.

[64] E. Jeffreys, *Digenis Akritis*, *The Grottaferrata and Escorial versions*, Cambridge 1998. Silk dress is described for example, on 59,

must have influenced Byzantine society in their choice of silk dress once production and distribution had been increased in the eleventh to twelfth century, when women dressed in silk appeared on the streets of Constantinople[65]. Epigrams also presented pictures of splendid cloths, as gate to expression of social values and beliefs. This illustrates how far technology went hand in hand with culture in Byzantium. Technological expertise allowed for the creation of the precious coloured cloth, which acted as medium for the metaphorical transfer of ideas and norms in Byzantium, as will be discussed further below. Here it is important to state that the level of expertise of the weavers of the tenth to eleventh century Byzantine court went far beyond that of operators of modern Jacquard looms[66] (Fig. 5). Technical skill alongside technological advancement is reflected in Byzantium. No modern weavers with all their technological advantages could produce by hand the equivalent of the Aachen Elephant silk. Similarly, further research on Byzantine dyes might lead to the same conclusion. This technical field of Byzantine studies has been entirely neglected, but it is key to the study of Material Culture.

iv. Dyes on extant Byzantine silks

Before looking at the material evidence of Byzantine dyeing on extant silks, it is necessary to consider which dyes known since Antiquity may have been of interest to the Byzantines. Forbes has distinguished three principle luxury types of antique purples:

• red purples (Tyrian, double dyed, and Laconian purple)

• violet into purple (Amethyst) and

• murex purples (Heliotrope of lighter and deeper shades, Mallow purple, and a deeper violet purple)[67].

Other dyes of Antiquity, documented in historical sources, he divides into five groups: red, blue, yellow, green and false purples, as follows

• red dyes (cochineal, kermes, lac, madder, henna, archil (lichen and litmus dyes) and alkanet).

• blue dyes including one purple (woad, indigo, sunt blue (akantha) and turnsole (helio-tropion).

• yellow dyes (safflower, saffron, tumeric, sumach, pomegranate, weld, dyers brown and Persian berries) and

• greens (created with mixtures of blue and green dyes)

• false purples (created with mixtures of red and blue dyes)[68].

Turning to the extant silks, using high performance liquid chromatography, Murex brandaris purple pigment has been detected on the Griffin silk of Sitten, a tenth to eleventh century Byzantine twill weave silk[69] (Fig. 6). Murex dye occurs also on silk fragment of the eleventh and twelfth and the seventh centuries at Sitten and at St. Maurice, church treasuries[70]. False purples have been detected on two Lion silks, one Byzantine and the other Central Asian[71]. The Berlin Lion silk, mentioned above, an Imperial diplomatic textile sent to the West, is a Byzantine twill of the tenth to eleventh century[72] (Fig. 7). On the silk is a mixture of madder and indigo, a false purple. The Maastricht Lion silk, a Central Asian imitation of a Byzantine Imperial lion silk, of the tenth to eleventh century, displays the use of a mixture of madder and a lichen, for its false purple[73] (Fig. 8).

Different samples taken from the Byzantine silk tapestry shroud of Bishop Gunther of Bamberg (d.1065), indicate that madder and madder and kermes dyes were used for the reds; sumac for the black; weld for the yellow, and either woad or indigo in combination with an-

lines 257-260; 81, lines 220-228; 109, line 709 (dowry wardrobe); 121, lines 920-926; 129, line 1054; 193, lines 715-717 and on 195, lines 736-739. Part discussion of a few examples is found in James, *Colour*, op.cit. (n. 43), 156-157.

[65] For the silks of Thebes and Corinth worn on the streets of Athens see, *Nicetas Choniates, Chronike Diegesis*, op.cit (n. 61), 461.

[66] For the Aachen Elephant silk see, Muthesius, op.cit. (n. 2), M58, on 38-39. Further refer to *CIETA Bulletin* 14 (1962), appendix technical report of G. Vial.

[67] Forbes, *Studies in Ancient Technology*, Leiden – New York 1987, 101-109.

[68] Ibid., 110-122.

[69] Hofenk de Graaff, op.cit. (n. 6), 264-273 (Tyrian purple), 271-272 (Sitten griffin silk). For the Sitten griffin silk also see, Muthesius, op.cit. (n. 2), M48, 50. For full bibliography on Tyrian purple refer to, *Dyes in History and Archaeology* 12 (1994), 57-66.

[70] Hofenk de Graaff, op.cit. (n. 6), 272-273 with reference to B. Schmedding, *Mittelalterliche Textilien in Kirchen und Klöstern der Schweiz*, Bern 1978, nos 131, 153, 239, 240.

[71] Muthesius, op.cit. (n. 2), M102, on 29 (Maastricht lion silk), M615, on 35 (Berlin lion silk).

[72] Ibid., 34-38 for the Imperial lion silks.

[73] Ibid., 30 for the chart with results of dye analysis.

Fig. 6. Sitten, Cathedral treasury. Fragments of Griffin silk sewn as a garment, tenth to eleventh century, Byzantine.

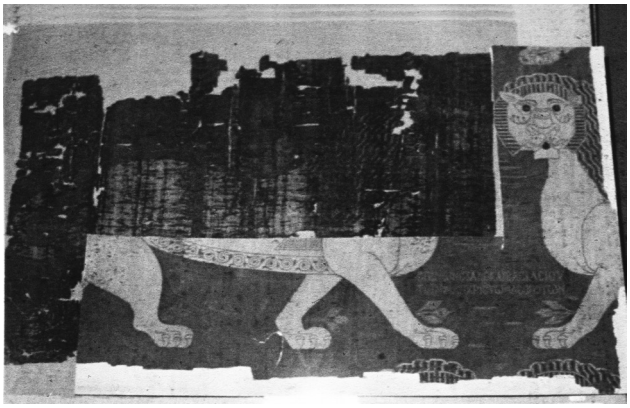

Fig. 7. Berlin, Schloss Charlottenburg, Staatliche Museum, Berlin/Düsseldorf/Crefeld. Lion silk, 976-1025A.D., Byzantine.

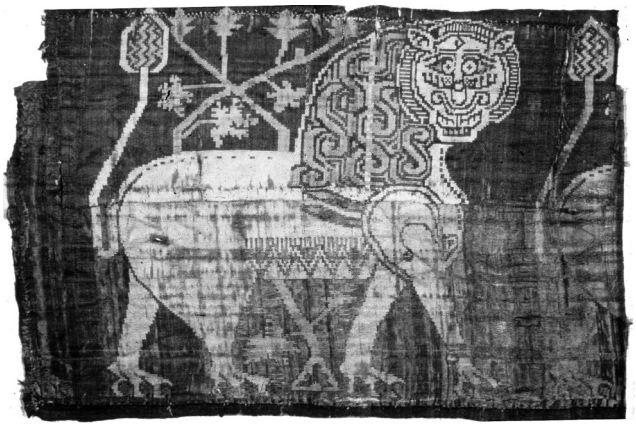

Fig. 8. Maastricht, St. Servatius. Lion silk, tenth to eleventh century, Central Asian copy of Imperial Byzantine Lion silk.

netto for the green colours[74] (Fig. 9). The chasuble of St. Vitalis, a tenth to eleventh, century, monochrome green, Byzantine twill weave silk, employed weld and an indigotin dye mixture[75]. A neck lining on the same vestment uses indigo and madder to create a false purple[76]. A similar combination of weld and woad has been detected on the vestment of Bishop Ulrich (890-973) at St. Ulrich and Affra, Augsburg[77]. At Sens Cathedral Treasury, a twill weave, Duck silk of the eighth to ninth century, uses kermes for its red background[78]. A Horse silk of similar date, at Sens Cathedral treasury, employed to shroud the relics of St. Victor, displays the use of a mixture of weld, madder and indigotin[79].

Many dyes were detected on the chasuble of St. Albinos (975-1006), at Brixen Cathedral treasury[80]. Tyrian purple appears across the area of the eagle motifs[81]. Other dyes detected include brazilwood and orchil with gallonuts (dark red wefts); madder (alizarin and purpurin, carmic acid and kermnesic acid) in combination with cochineal and Tyrian purple (red wefts); brazilwood (brown yellow sample); indigo (blue samples), and indigo with weld (including luteolin, on green samples), where gallnut also appeared[82]. The beige thread samples indicated use of luteolin with orchil and gallnut dye[83].

[74] Hofenk de Graaff, op.cit. (n. 6), 170. See also, S. Muller-Christensen, «Beobachtungen zum Bamberger Guntertuch». *Münchner Jahrbuch der Bildenden Kunst*, 3 Folge 17 (1956), 9-16. The silk is discussed also in Muthesius, op.cit. (n. 2), M90, on 101-102.

[75] Hofenk de Graaff, op.cit. (n. 6), 174 photo with identification of weld and indigotin dye in the green threads of the vestment. The silk is discussed in Muthesius, op.cit. (n. 2), M72, on 115.

[76] Hofenk de Graaff, op.cit. (n. 6), information on caption to photo on 174.

[77] Ibid., 221 and see Muthesius, op.cit. (n. 2), M75, on 86, 188, with plate 86B.

[78] Hofenk de Graaff, op.cit. (n. 6), 62 without inventory number, but this appears to be the same silk as in, Muthesius, op.cit. (n. 2), M458, on 216, which has the inventory number 27AB.

[79] See J. Hofenk de Graaff, «Comments on comments», *CIETA Bulletin* 44 (1976), 101-123.

[80] Hofenk de Graaff, op.cit. (n. 6), 281-282. Muthesius, *Byzantine Silk Weaving*, op.cit (n. 28), 47-50 and for the Brixen eagle silk see, M62, page 184.

[81] Hofenk de Graaff, op.cit. (n. 6), 281. Tyrian purple was detected in one of the dye tests on a small sample from the figured part of the silk, according to Hofenk de Graaff.

[82] Ibid., 281-282.

[83] Ibid., 282. She concluded that the original silk had faded from purple to red and that many dye stuffs were used on the silk in

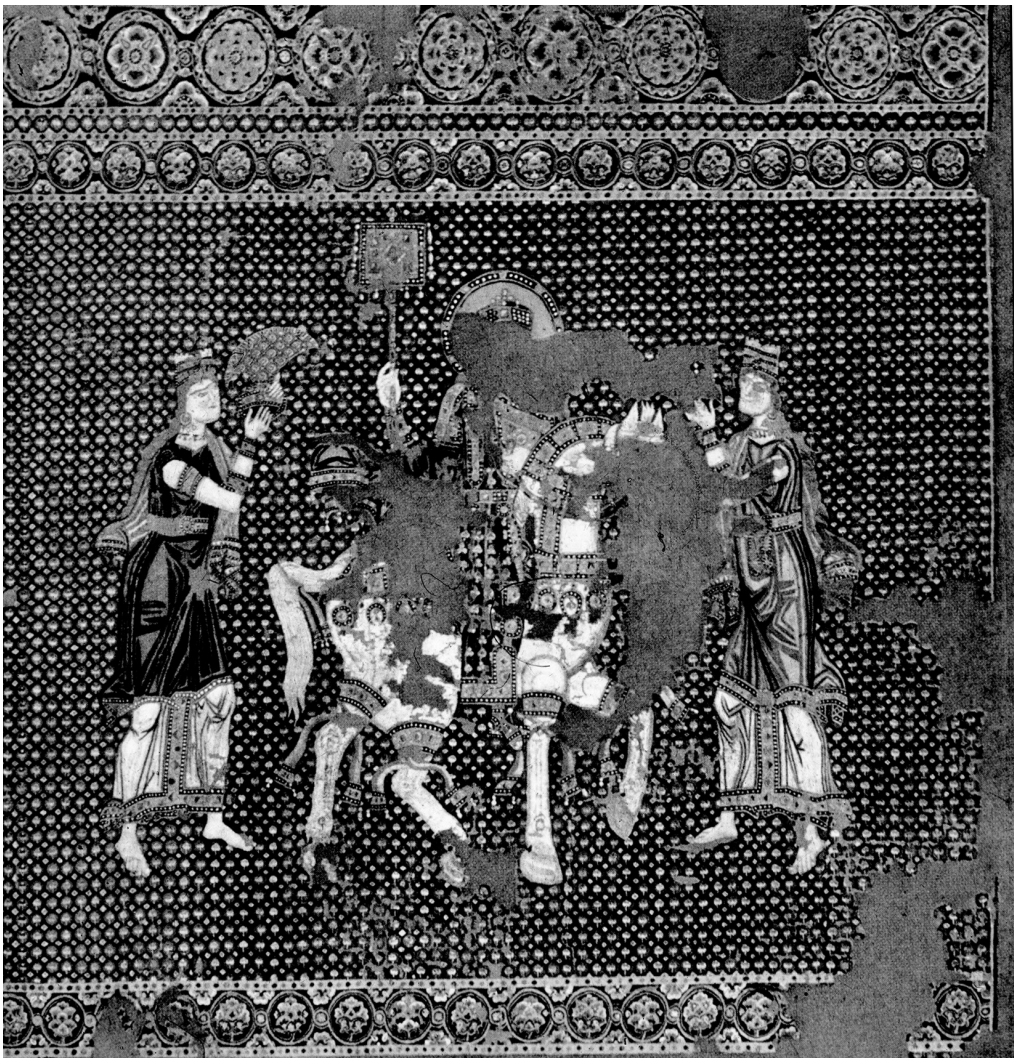

Fig. 9. Bamberg Cathedral treasury. Shroud of Bishop Gunther (d.1065A.D.), eleventh century, Byzantine.

The analysis of dyes is still new on Byzantine textiles and more samples require analysis. Nevertheless, when comparison is made between the dye samples from the Late Roman textiles of Palmyra and those of the Byzantine period as outlined above it can be observed that the dyes of antiquity continued in use into the Byzantine period[84]. It is also true to say that murex purple dye appears only rarely on the tested Late Roman textiles, as it does also across Byzantine period textiles of Egypt[85]. The same is largely true of the mediaeval Byzantine silks, where a very few murex purple dyed silk finds

a complex process. She suggested that gallonuts might have been used as a weighting device.

[84] For Palmyra dyes refer to, A. Schmidt-Colinet – A. Staufer – K. al Ascad, *Die Textilien aus Palmyra*. Mainz 2000, 82-90, 93, and colour pls I-VIII.

[85] Ibid., catalogue numbers 115, 171, 177, 355, 378, 413, 414, 453, 465, 491, 513 and 517 are murex dyed. For photos of these textile catalogue numbers in the same order (except there is no plate for catalogue number 378) see, plates 18c and 103 d-f, plate 48a and colour plate 111e, plate 35 and 15a, 54-55 and 102a, plate 45b, plate 47b and colour plate 111b, plate 13a and 79b-c, plate 32e and 104d and colour plate VId, plate 74a, plate 44a-b, plate 32e and 104d and colour plate 20c, respectively.

have to be set across the multiple use of false purples. In general, the control and restriction of murex purple dyeing appears to have been successful but more samples need to be analysed to confirm this thesis.

C. Use of dyed cloths across Byzantium: proper use and subversion of meanings

i. Colour as text; colour perception and colour words

In order to understand the meaning of the uses of light and colour codes in Byzantium it is important to consider, how light and colour were described, viewed and interpreted in Byzantium. The Seventh Ecumenical Council, described light as an agent of perception, via which a picture of God is transmitted from the eye to the mind[86]. Psellos, writing in the eleventh century suggested that colour is stable but that perception of it may vary[87]. Plato's concept of matter without quality, and as passive receiver of ideas and forms, passed into Byzantine colour theory, where colour was conceived of not only as hue but also as brightness and as saturation, and as such symbolically related to light[88].

Symbolic associations of colour could be either literal or metaphorical in nature. The literal associations concerned the practical aspects of modelling forms with light and dark as technical devices. The metaphorical associations existed to: make clear the nature of the modelled forms; to reveal their spiritual dimensions; and to stand as symbolic imitation of the prototype. Colour was understood as a symbolic agent for creating meaning, and it allowed for contemplation of the Divine rather than the contemplation of image only as an 'under drawing'. Colour gave 'authentic presentation' not in order to reproduce Divinity, but to give reality and meaning to the image. In this way it was a representation of a prototype and not the creation of an idol. Colour words incorporated in them, hue as part of their meaning, but they did not define colour as such. John of Damascus explained, «Purple cloth by itself is a simple thing and so is silk, and a cloak is woven from both. But if a king should put it on, the cloak receives honour from the honour given to him who wears it»[89].

Colour gave rise to allegorical symbolism and it could be used to heighten emotion. The action of dyes involved transmutation and in a Christian context this could be read not as alchemy but as a means to spiritual salvation. The transmutation processes of dyeing cloth, served as a parallel to the concept of the regenerating force of Christianity transforming the human soul[90].

Colour words in Antiquity and in the Byzantine period remained remarkably similar, with for example, alouryis for sea purple, becoming Imperial sea purple; and kuaneos for dark blue becoming melanos as applied to Poseidon and the sea[91]. Similarly xloros was applied to green in both periods, and ochros a green yellow in Antiquity, in Byzantium became a word related to fear, weakness and sickness[92]. Colour words applied to hue, brightness and to saturation of colour and they could vary according to the style of writing. For instance, the levkos and melas of Antiquity, and as later rendered in high style by Psellos in Byzantium, became the aspros and mavros of the epic of Digenis Akrites, which was representative of Byzantine popular literature. Further comparative analysis of colour words across literary categories with their varying styles is necessary to take this aspect of colour research forward.

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[86] For light as described in the seventh Ecumenical Council, that is Nicaea II of 787 A.D. see, *Decrees of the Ecumenical Councils*, ed. N. P. Tanner, Georgetown 1990, session 6, lines 23-28, 144 and with translation.

[87] James, *Colour*, op.cit. (n. 43), 135 discusses the work of Michael Psellos, «On colours», *De omnifaria Doctrina*, *PG* 122, 728, chapter 64. It is suggested after Plato, that effluences are sent to the eyes and that although colour is stable, perception of colour varies.

[88] Ibid., 314-316.

[89] Ibid., 185 note 50, citing John of Damascus, *First treatise on the Divine images commentary* (*PG* 94 1264B).

[90] Transmutation of colour through alchemy, for example in the dyeing of false purples, was recognised as a physical process, but also by Christians as a form of symbolic allegory. Colour was believed to heighten emotional response and to act as a regenerative force. This force via the medium of religious belief was thought to act to transform the human soul.

[91] James, *Colour*, op.cit. (n. 43), chapters 1 and 3. She compares definitions of colour terms across three different Byzantine lexica of the sixth to ninth centuries as follows: (Suida) sixth, (Photius) ninth, and (Hesychius) tenth centuries respectively. Also she refers to definitions in C. du Cange, *Glossarium ad Scriptores Mediae et Infirmae Graecitatis*, I-II, Lyons 1688, reprinted Bratislava 1891.

[92] James, *Colour*, op.cit. (n. 43), refers to Suida, Hesychius and Du Cange for the first term *χλωρός* and to Hesychius and Suida for the second term *ωχρός*.

Besides the antique heritage, colour perception in Byzantium had to accommodate the needs of the Christian tradition. Christianity readily adopted colour metaphors for the expression of the glory of God, and treasure metaphors were used, such that gold served as allegory of salvation[93]. Already by the fifth to sixth century the metaphors of gold and purple applied to the Imperial house, were transferred to depictions of angels in mosaics, and later they passed to Christ and the Virgin, to Church Fathers and Saints in general[94].

The Apostolic Constitutions (380 A.D.) advocated use of splendid coloured silk vestments to celebrate the liturgy as a metaphor for human salvation[95]. There were early objections on moral grounds but from an early date the treasure metaphor was used to symbolise the God of Light and the God of Salvation[96]. The silk treasuries of Byzantium testify to the power of the analogy right down to the fall in 1453 A.D. and beyond into Post Byzantine and later times.

Conclusion

It is clear from this brief outline that light and colour in Byzantium played an enormous part in creating meaning. Colour transferred form across from the senses to the mind. As it operated in society, colour assumed both a relative and an absolute role. It served as symbolic metaphor creating meaning and as hue producing physical colour and modelling form. This perhaps helps to explain the immense importance attached to the physical production of precise shades of purple hues, used as metaphor of Imperial power, authority, sanctity and rule. To wear purple buskins amounted to a declaration of treason in this system of colour coding. Through alliance of the image of a gold and purple clad heavenly court with the reality of a similarly attired Imperial court, an allegory of «heaven on earth» was set up[97]. The earthly court reflected the heavenly court, and the colour-coded, uniformed officials of the earthly court symbolised the imposition of God's order on earth through the actions of the Christian ruler. A picture of Christian governance was painted, which upheld the sacral element of Imperial rule.

On the popular level the documents reveal less about colour preference and its use on dress in society, than do surviving textiles. From extant silks and tunics of Byzantine period Egypt, the minute changes in decor can be appreciated and the rare and privileged use of purple dye, murex and false purple. In the sixth to seventh century restrained use of hue in combination with religious and secular subject matter prevailed[98]. By the eighth to ninth century, bright polychrome palettes appeared on Byzantine silks with secular and with religious subjects such as on a Chur silk with Samson and the Lion[99] (Fig. 10). How far this related to historical circumstances and to issues associated with the pre and post Iconoclastic stances of State and Religious institutions has not been investigated as yet. In the tenth to eleventh century, production of silk increased and markets broadened, as advances in weaving technology occurred, and a preference for monochrome silks can be detected[100]. On monochrome silks such as that of the chasuble of St. Vitalis, qualities of light and shade played a greater role in defining form than did colour contrasts (Fig. 11). This may reflect the influence of Islamic colour sensibility, where each court adopted a special colour code (Fatimid white; Abbasid black for

[93] See D. Janes, *God and Gold in Late Antiquity*, Cambridge 1998, 63-65.

[94] Ibid., 115-121, 129. It is beyond the scope of this article to discuss colour in relation to specific iconographic types. This remains a task for a later article.

[95] *Les Constitutions Apostoliques*, ed. M. Metzger, I-III, Paris 1985-1987. Anti-Nicene Christian Library, 17.2, Edinburgh 1870.

[96] G. Podskalsky, «Gott ist Licht», *Geist und Leben* 39 (1966), 201-214. See also, *ODB*, II, 1226-1227 on light as symbol for Byzantine liturgy and spirituality, and for Byzantine artistic imagery as token of religious sanctity and majesty.

[97] H. Maguire, «The Heavenly Court», *Byzantine Court Culture from 829-1204 A. D.*, ed. H. Maguire, Washington, D.C. 1997, 247-258.

[98] Muthesius, op.cit. (n. 2), chapter 8, 80, and see catalogue numbers M16, M20, and M398e with plates 26B, 81A and 27A, respectively.

[99] Ibid., chapter 7, 65-74, and catalogue numbers M35, M362-M363, M32, M27, M326, M30, M36 with plates 20A-B, 21A, 76B, 77A, 21B, 22A, and 22B, respectively.

[100] Ibid., chapter 9, 85-89. Examples include catalogue numbers and plates as follows: M77a plate 35A and M77b plate 35B, M81 plate 36A, M69 plate 85A, M71 plate 85B, M88 plate 86A, M72 plate 36B, M75 plate 86B, M1069b-d plate 37A, M119 plate 37B, M843 plate 38A, M862 plate 88A, M867c plate 88B, M86 plate39A, M74 plate 39B, M115 plates 40A and 40B, M976 plate 41A.

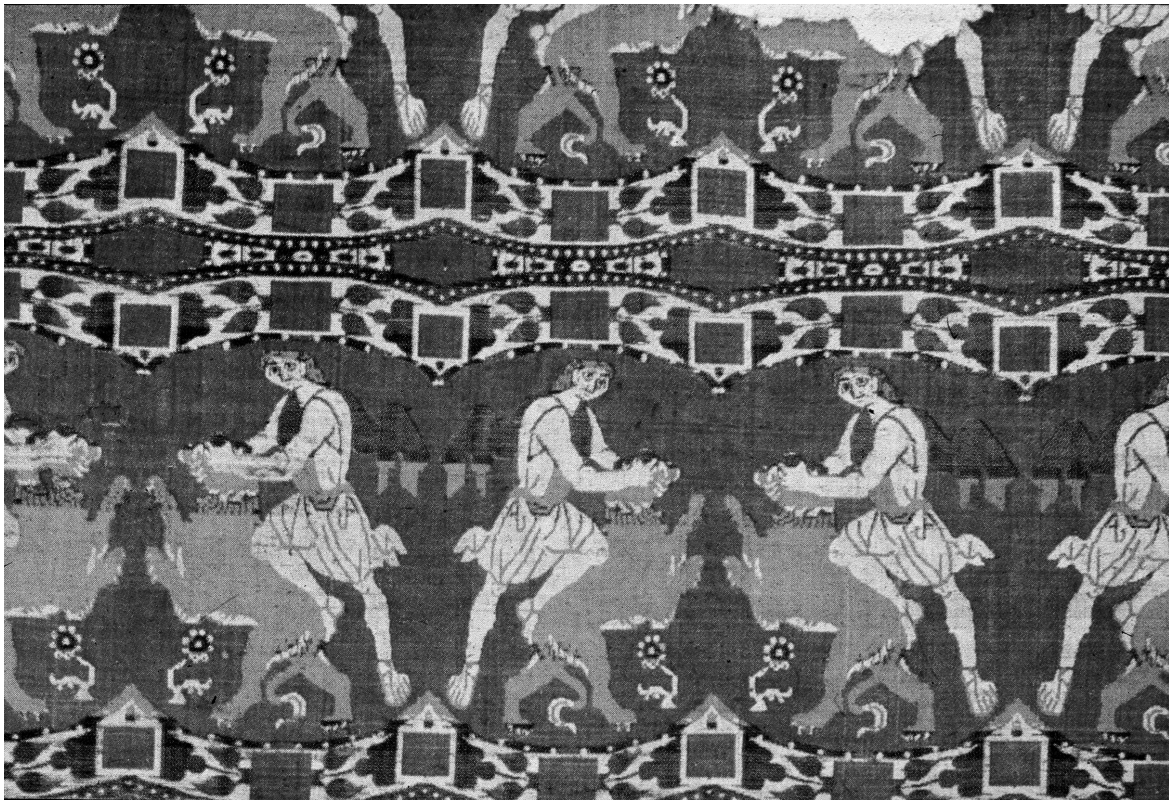

Fig. 10. Chur Cathedral treasury. Samson and the Lion silk, detail, eighth to ninth century, Byzantine.

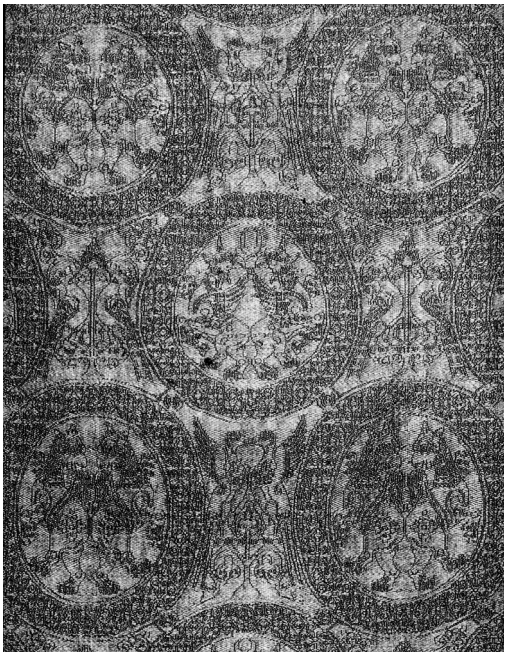

Fig. 11. Berne, Abegg Stiftung. Chasuble of St. Vitalis, detail, eleventh to twelfth century, Byzantine.

example)[101]. Also the Byzantine concept of colour as brightness and saturation, as against pure hue, would have played a part. This more mystical approach to colour may have found a later parallel in religious thought centred on Hesychaism, and been reflected too, on court costume, religious attire and church furnishings of the Palaiologan period[102].

What certainly is reflected by documents is that the influence of imported cloths and of foreign fashions was prevalent right through the Byzantine period, but

[101] For Fatimid and Abbasid robes in historical context see the following two papers: P. Sanders, «Robes of Honor in Fatimid Egypt», and D. Sourdel, «Robes of honor in Abbasid Baghdad during the eighth to eleventh centuries», both in, *Robes and Honor. The Medieval World of Investiture*, ed. S. Gordon, New York 2001, see 225-239 and 137-145, respectively.

[102] On definition of Hesychaism see *ODB*, II, 923-924. For detailed discussion of the movement see, G. Podskalsky, «Zur Gestalt und Geschichte des Hesychasmus», *Ostkirchliche Studien* 16 (1967), 15-32. Note also, J. Meyendorff, *Byzantine Hesychasm: Historical, Theological and Social Problems*. London 1974.

it is significant that foreign fashions were not a cause for concern early on. There were Chinese silks at Dura Europos, Syrian and Cilician garments and Egyptian tunics on the open market in tenth century Constantinople, but it was not until the post Latin conquest period that imported Italian silks and fashions were seen as a threat to Byzantine identity. These foreign imports were entirely banned by the Emperor of Nicaea, where the system of social control embedded into the exclusive use of Imperial dress, was extended to fashion control lower down the social scale. What effect later splendid Italian satins and velvets may have had on Byzantine colour sensibilities is a question beyond the scope of this paper, but Frankish attempts to curb imports of Italian silks were soon abandoned. The era of social self-determination was dawning in Byzantium, but too late to save the Empire.

Provenance of the figures
Figs 1-11: Private archive of Anna Muthesius.

Anna Muthesius

ΤΟ ΥΦΑΣΜΑ, ΤΟ ΧΡΩΜΑ, Ο ΣΥΜΒΟΛΙΣΜΟΣ ΚΑΙ Η ΣΗΜΑΣΙΑ ΤΟΥ ΣΤΟ ΒΥΖΑΝΤΙΟ (4ος-15ος ΑΙΩΝΕΣ)

Στο άρθρο εξετάζεται, μέσω της μελέτης των βυζαντινών χρωματιστών μεταξωτών υφασμάτων, η σχέση ανάμεσα στην πολιτισμική διαμόρφωση στο Βυζάντιο και την ανάπτυξη της τεχνολογίας. Διερευνάται σε ποιο βαθμό η αντίληψη του χρώματος αντανακλούσε και επηρέαζε άμεσα τη δημιουργία κοινωνικών αξιών και πεποιθήσεων κατά τη βυζαντινή εποχή. Το άρθρο αναπτύσσεται σε τρία μέρη: α. χρωματικοί κώδικες ως θεσμική και κοινωνική αλληλεπίδραση, β. η οργάνωση της βιομηχανίας της βαφής ως διαδικασία και ως κοινωνικός έλεγχος και γ. η αντίληψη του χρώματος, ως συμβολισμός, κοινωνική αλληλενέργεια και η δημιουργία νοήματος στο Βυζάντιο.

Στο άρθρο, κατ' αρχάς, αναλύεται το πώς συγκεκριμένοι συμβολικοί χρωματικοί κώδικες είχαν υιοθετηθεί στο Βυζάντιο και ανιχνεύεται η ανάπτυξη των αντιλήψεων που περιβάλλουν τη χρήση ειδικότερα της πορφύρας. Επιπλέον, συνεξετάζονται τα επιστημονικά τεκμήρια για τις βαφές και την τεχνική της ύφανσης των μεταξωτών, και οι πληροφορίες των γραπτών πηγών προκειμένου να ανασκευασθούν άστοχες μεταφράσεις τεχνικών όρων στη σύγχρονη βιβλιογραφία. Ακόμη, η προσοχή στρέφεται στους βαφείς, στις βαφές, στην παράδοση και στις πρακτικές τους, από τις οποίες άλλες ενίσχυσαν και άλλες επέδρασαν αρνητικά στη βιομηχανία. Εξάλλου, το κόστος των βαφών και ο συμβολισμός τους μελετώνται για να δείξουν πώς ένας πολύ συγκεκριμένος και επεξεργασμένος χρωματικός κώδικας δημιουργήθηκε στο Βυζάντιο. Στη συνέχεια, η έρευνα στρέφεται σε σωζόμενα μεταξωτά και στην ανάλυση των βαφών τους με επιστημονική μέθοδο. Η εξέταση κάποιων από τα σημαντικά αυτά υφάσματα αποκαλύπτει την ευρεία χρήση διαφόρων βαφών και την πιθανή μέτρηση του βάρους της πρώτης ύλης, καθώς και ότι οι βασικές βαφές της αρχαιότητας παρέμεναν δημοφιλείς στο Βυζάντιο.

Τέλος, στο άρθρο εξετάζεται πώς το φως και οι χρωματικοί κώδικες περιγράφονταν και γίνονταν αντιληπτοί στο Βυζάντιο και αναλύονται οι κυριολεκτικές και μεταφορικές συσχετίσεις των βαφών, καθώς και τα κυριολεκτικά και τα πνευματικά νοήματά τους. Μελετάται ακόμη η ανάπτυξη αλληγορικών συμβολισμών μέσω του χρώματος, ο συσχετισμός του χρώματος με την έκφραση συναισθημάτων, καθώς και ο παραλληλισμός ανάμεσα στη διαδικασία μετατροπής του βαμμένου υφάσματος και στην ιδέα ότι η χριστιανική πίστη μπορεί να αλλάξει και να σώσει την ανθρώπινη ψυχή.

Στο άρθρο συμπεραίνεται ότι το φως και το χρώμα στο Βυζάντιο διαδραμάτιζαν τεράστιο σημειολογικό ρόλο στη διαδικασία της μετατροπής της φυσικής μορφής σε πνευματική. Ως χρωστική το χρώμα απέδιδε το φυσικό αποτύπωμα της μορφής, ενώ μέσω του συμβολισμού το χρώμα μετατρεπόταν σε έννοια. Αλλαγές στο χρωματολόγιο και στις προτιμήσεις στα βυζαντινά μεταξωτά κατά τη διάρκεια των αιώνων υποδηλώνουν ότι η σημασία του φωτός και του χρώματος στο Βυζάντιο είχε μια ενεργή και όχι στατική δυναμική.

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