

## *Coptic and Byzantine textiles found in Egypt: Corpora, collections, and scholarly perspectives*

*Thelma K. Thomas*

About 125 years ago, explorers, entrepreneurs, and fellahin in Egypt began to unearth astonishing quantities of textiles, mainly from burials in cemeteries at monasteries and cities, as at Panopolis and Antinoopolis (Figs. 7.1–3). The discoveries were variously categorized as late antique and early Christian, late Roman and Byzantine, and Coptic, and to this day terminology remains at issue.<sup>1</sup> The early textile finds were chiefly items of clothing and, to a lesser extent, furnishings executed in a range of materials and techniques; however, it was the ornamental tapestries of wool, understood to be local products, and the rarer compound weaves of silk,<sup>2</sup> understood to be imports, that especially captured attention in popular and scholarly arenas. The first private and museum collections, and collections associated with the textile industry, typically acquired these textile artefacts with little or no information about their archaeological contexts and in fragmentary condition (Fig. 7.4).<sup>3</sup> In 1971 one scholar estimated that there were 150,000 such textiles in collections worldwide.<sup>4</sup> By then the collection

<sup>1</sup> E.g., Schrenk 2004: 15–16; English translation, 455–6.

<sup>2</sup> In tapestry (e.g., Figs. 7.4 and 5b), the weaver's hand carries the weft across the warp to 'draw' individual motifs row by weft row, following a horizontal course creating a band or bands of colour or a more eccentric course of a shapelier, more complex motif. In tapestry, the weft is usually packed so densely as to hide the warp, and this weft-faced weave is often combined with supplementary weft-wrapping, a technique that picks out small details and outlines on the front of the cloth. Most of the tapestry finds have dyed wool wefts, on warps of linen or wool. Linen does not take dyes as easily as wool or silk and was usually used undyed or bleached. Tapestry-weaving was done on simple looms of two-beam vertical construction. Most of the silks – found mainly at Antinoopolis and Panopolis – were woven on more complex looms capable of mechanically repeating patterns for a weft-faced double-sided cloth (taqueté); that is to say, the pattern appears on both sides of the cloth (e.g., Fig. 7.6). Where tapestry-weaving is conducive to improvisation and can accommodate larger-scale motifs in lavish colour schemes, compound weaves have designs based on repeating patterns, usually of small-scale motifs in colour schemes limited by the complexity of the threading of the loom. For a weaver's perspective, see Hoskins 1992.

<sup>3</sup> On these early collections, see Renner 1981: 285–6. On associations between early collections and the textile industry, Roveri and Donadoni 1993, esp. Chiara Buss, 'The Antonio Ratti Collection', pp. 11 and 155 n. 3.

<sup>4</sup> Thompson 1971: 4–5.

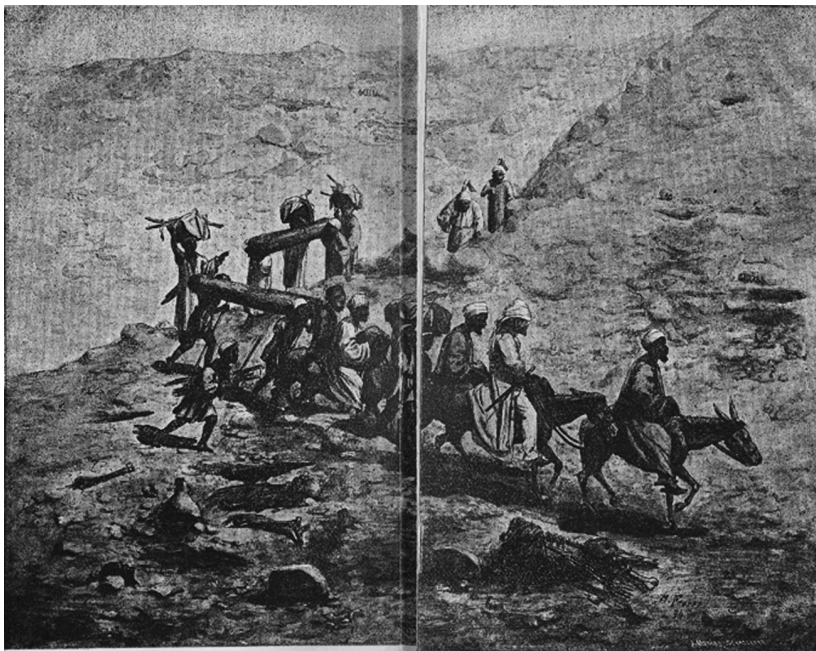


Figure 7.1 'Der Mumientransport'; R. Forrer, *Mein Besuch in el-Achmim: Reisebriefe aus Aegypten* (Strasbourg 1895).



Figure 7.2 'Les corps après le dépouillement. – Fouilles du cimetière romain'; A. Gayet, *Antinoë et les sépultures de Thaïs et Sérapion* (Paris 1902).



Figure 7.3 'Leukyoné'; A. Gayet, *Fantômes d'Antinoé* (Paris 1904).

catalogue had become the predominant mode of publication, overshadowing less frequent archaeological and technical studies. Collection catalogues established a strong tradition of physical description as well as art historical interpretation based on formal features, especially ornamental and iconographic motifs, and stylistic traits. Thus, textiles came to play an important role in developing characterizations of Coptic art.

Subsequent review of the archaeological evidence for the early discoveries, along with mounting archaeological, visual, and written evidence for textiles from a wider range of settings, including smaller towns and military camps, has drastically altered scholarly perspectives on this category of artefact. The larger, more diverse corpus of decorated *and* plain utilitarian



Figure 7.4 Plate 442, Dikran G. Kelekian Album of c. 1910. The Metropolitan Museum of Art, Gift of Nanette B. Kelekian, in honour of Olga Raggio, 2002 (2002.494.841-7). Image © The Metropolitan Museum of Art.

textiles in a wide range of materials reflects not only funerary practices but also the habits of everyday life and attests to extensive movement of textile goods within Egypt and beyond its borders, within the later Roman and early Byzantine empires and across broader trade networks. Moreover, the results of scientific analyses compel reconsideration of dating and attribution schemes based primarily on formalist readings. As the corpus has grown, and ideas about and approaches to these textiles have changed significantly over the years, it seems appropriate to consider developments from initial cataloguing efforts and the predominance of formal analyses to current multi-disciplinary, integrative approaches to materials, techniques, and object types, production, circulation, and use.

#### EARLIEST DISCOVERIES, COLLECTIONS, AND CATALOGUES

Most of the early digs, between about 1880 and 1930, pre-date rigorous archaeological investigation, and so most of the first textile finds established a corpus with little contextual evidence to assist analytical or interpretive efforts. From the best-known of the early find sites, the cemeteries of the Upper Egyptian cities of Panopolis and Antinoopolis, there is documentation that, typically, the dead were dressed in multiple layers of clothing, then wrapped in shrouds securely bound by diagonally crossing cloth tapes.<sup>5</sup> The preservation of a body with these layers of cloth intact after its discovery was rare, although there were notable exceptions. An early excavator at Antinoopolis, the flamboyant Albert Gayet, exhibited clothed corpses in dramatic installations and, in illustrations and even in live fashion shows, presented imaginative reconstructions of how the garments might have been worn (**Fig. 7.3**).<sup>6</sup> More commonly, a body was unwrapped after exhumation, then the better-preserved, more appealing pieces were removed for collection. Collectors prized colour and ornamental compositions and so pieces with these features were retained, whereas the plain-woven and less well-preserved portions of the items to which the decorations belonged were often discarded (as were the bodies). Not infrequently, the most legible, visually appealing part of an ornament has been

<sup>5</sup> For photographic documentation of more recent discoveries of burials at Panopolis, see Griggs et al. 1993; for excellent documentation of this tradition in monastic burials, Winlock et al. 1926.

<sup>6</sup> Gayet's dramatic presentations have been noted in recent surveys: e.g., Rutschowskaya 1990. His publications are more fully described in Rassart-Debergh 1997; del Francia Barocas 1998. For more recent bibliography on Gayet and nineteenth century artistic responses to his finds, see Hoskins 2004. On the popular and literary success of Gayet's tactics, see Cox 2000: 417–19.

freed from drab surroundings, leaving behind a puzzle with few clues as to the cloth's original overall appearance (**Fig. 7.5**).<sup>7</sup>

Thus, as a consequence of preservation conditions and collecting practices, most of the textiles from early digs survive as fragments. In early studies, the fragments were presented accurately as the ornaments from the garments and soft furnishings of burials, but their fragmentary character was not treated as problematic so much as serendipitous for organization by formal characteristics. These fragments were often stored on paper boards (**Fig. 7.4**), arranged much like plates in books devoted to the study of ornament.<sup>8</sup> Indeed, early collection catalogues tended to categorize the fragments by their motifs – as vegetal and geometric, or figural, with pagan mythological or Christian imagery, or some combination of the above – by their colour schemes and by materials and techniques.

Alois Riegl developed categories based on these traits in his 1889 catalogue for the collection at the Austrian Museum of Art and Industry in Vienna, which was composed mainly of fragmentary items from the cemeteries of Panopolis and the Monastery of Apa Jeremias at Saqqara.<sup>9</sup> Similar categories are still in use today.<sup>10</sup> Riegl's catalogue contained few illustrations; however, it was unusually comprehensive in its presentation of a notably wide range of materials and techniques, including cotton finds, for example, along with linen, wool, and silk, plain, twill, and compound weaves – including compound weaves (*taquetés*) in wool – as well as brocaded (plain weaves with extra wefts) and embroidered (chain-stitch) ornaments, sprang (a twining technique used for caps), knitting (for socks), and felt fabrics. One of the great contributions to ongoing debates made by Riegl's catalogue was his argument that the textiles, including the tapestries, were not exclusively Egyptian in their cultural orientation, but that the 'international character' of their motifs represented the wider worlds of Rome, Byzantium, and Persia.<sup>11</sup> The range of dates Riegl proposed, based mainly on his formalist reading of motifs, spanned the fourth to the

<sup>7</sup> As noted, e.g., in Carroll 1988: 4.

<sup>8</sup> T. K. Thomas, 'Coptic Textiles in the Dikran G. Kelekian Album of c. 1910' (in progress).

<sup>9</sup> Riegl 1889.

<sup>10</sup> Nearly fifty years later, Wulff and Volbach 1926 catalogued the collection of fragments from Saqqara, Fayyum sites, Panopolis, and other Upper Egyptian sites acquired by the State Museum in Berlin, and presented a more detailed scheme of seven categories similarly based on type of motif and colour scheme, materials, and techniques with an eighth 'Klasse' for silk. For a consideration of such categories, see Schrenk 1998.

<sup>11</sup> Indeed, Riegl 1992 (originally published 1893) argued against Gayet's notion of a particularly local, Coptic, style as distinct from an international Byzantine style (e.g., p. 260). Also representative of the strong interest in ornament during this phase of study is Dimand 1924.



Figure 7.5a, b Matching fragments of a tunic ornament, wool and linen, tapestry weave and weft-wrapping, 1940 purchase, Kelsey Museum of Archaeology 26606 A and B.



Figure 7.6 'Tunika mit Gürtel aus frühbyzantinische Zeit'; R. Forrer, *Mein Besuch in el-Achmim. Reisebriefe aus Aegypten* (Strasbourg 1895).

eighth centuries, the last two centuries accounting for Sassanian Persian developments.<sup>12</sup>

In contrast to Riegl's characterization of a formal internationalism reflected across materials and techniques was the divergent assessment assigning tapestry weaves in wool and linen to local production centres and attributing the presence of compound weaves in silk to trade with Hellenistic centres. Consider the instructive example of Robert Forrer, a polymath who discovered and published many of the early finds from Panopolis.<sup>13</sup> In 1891, Forrer published one catalogue on textile finds, mainly tapestry weaves featuring dyed wools,<sup>14</sup> attributing their production to Panopolis (**Fig. 7.6**),

<sup>12</sup> Riegl 1992: 264–5; due to finds of Sassanian coins as well as identifications of ornamental motifs, following Jones 1856.

<sup>13</sup> Schnitzler 1999.

<sup>14</sup> Forrer 1892. Forrer assigned dates according to motif, pagan (earlier) and Christian (later), and style, charting an increasing stylization over time.



Figure 7.7 Silk, weft-faced compound twill, Panopolis, 1910 purchase, Lyon, Musée des Tissus et des Arts décoratifs, 29.254; photo Pierre Verrier.

and another devoted to silk finds from the site precisely because he did not see them as local productions (**Fig. 7.7**).<sup>15</sup> To Forrer, Panopolis was a provincial city unlike the cosmopolitan Alexandria where, he suggested, the silks had been produced.<sup>16</sup> Forrer cited the relevant written sources, from Pliny to Procopius, describing how, until the introduction of sericulture into the Byzantine empire in the mid-sixth century, silk had to be imported through Persia from China. And so Forrer located the Egyptian silk industry in Alexandria, known to have had an imperial textile factory, and surmised the city's participation in an economic system extending beyond the Nile Valley, indeed, beyond the borders of the Roman and Byzantine empires. In other words, Forrer perceived a divide between local Egyptian or Coptic and imported Byzantine textiles. Other scholars noted a similar divide between Coptic and Hellenistic artistic styles.<sup>17</sup>

#### CHANGING PERSPECTIVES ON COPTIC, BYZANTINE, AND PERSIAN TEXTILE TRADITIONS

In studies of textiles found in Egypt, a tendency to separate out silks from other materials and the silk industry from production of and trade in wool, linen, and cotton persisted for nearly a century.<sup>18</sup> Distinct characterizations

<sup>15</sup> Forrer 1891. He included pure silk textiles as well as any textile with silk in it, identifying several combinations. Most numerous are examples combining linen and silk.

<sup>16</sup> Forrer 1891: 12 assigned the silks to the imperial factory in Alexandria, known through written sources. See also Abdel Aziz Marzouk 1948–9.

<sup>17</sup> E.g., Thomas 2000. For a consideration of key issues associated with this divide in historical studies, see Wipszycka 1992: 126 n. 129, on characterizations of Antinoopolis and Panopolis as Greek and Coptic by reference to their textiles.

<sup>18</sup> The tendency is apparent in both scholarly and popular publications on silk: e.g., von Falke 1922 and 1913; and Bunt 1967, which presents only silks and fragments, with finds from Egypt, Panopolis,

of Coptic tapestries and Byzantine silks are found, for example, in two state-of-the-field articles by the art historian John Beckwith, the first in 1959 on Coptic and the second in 1974 on Byzantine textiles.<sup>19</sup> Both of Beckwith's essays drew upon material found in Egypt; however, he chose not to discuss compound weaves, resist-dyed or embroidered works among the Coptic works.<sup>20</sup> Beckwith's main concern was 'the establishment of a stylistic progression' for the textiles.<sup>21</sup> However, he found useful tools in previous scholars' development of technical principles for yarns, weaves, and dyes and how they might be read for attributions to Egypt and elsewhere.<sup>22</sup> For Beckwith 'Coptic' described local Egyptian style and implied a stylistic progression from Hellenistic (third–fourth century) to not-so-Hellenistic (sixth–seventh century and later). A few known dated works, though, did not suit his project, being too poorly preserved, too plain, or deviating too much from the progression.<sup>23</sup> A similar style-based dating project was undertaken by Pierre DuBourguet in his studies of the collection of Coptic textiles at the Louvre. He developed a chronology with dates extending into the twelfth century in a bold attempt to chart a more rigorously determined stylistic progression.<sup>24</sup> He made an innovative effort to confirm his proposed scheme by <sup>14</sup>Carbon (radiocarbon) testing; however, many of the results were too early.<sup>25</sup> It has since become clear that what might be called devolutionary aspects of formalist, style-based chronologies, which emerged with the earliest discoveries<sup>26</sup> but became especially prevalent in the 1960s and 70s, have become untenable in light of scientific analysis and recent archaeological evidence. Thus, Antoine de Moor's

attributed to Alexandria or 'hither Asia'. For a fuller bibliography and overview of the state of research, see Muthesius 1997. The association of silk – especially purple silk – with imperial prerogatives and elite status may have widened even more the gap perceived between the luxurious material of the compound weaves and the materials of wool and linen associated with the Egyptian tapestries: e.g., Reinhold 1970.

<sup>19</sup> Beckwith 1989a and 1989b. <sup>20</sup> Beckwith 1989a: 5.

<sup>21</sup> Beckwith 1989a: 2. <sup>22</sup> Beckwith 1989a: 4–5.

<sup>23</sup> Beckwith 1989a: 2. The deviant was the boldly coloured, geometrically mannered wall hanging from a burial at Antinoopolis (Brussels, Musées Royaux d'Art et d'Histoire, Tx 2470) dated by coin and text finds to the mid-fifth century; compare to recent description in *L'Art Copte en Égypte: 2000 ans de christianisme* (Paris) 2000: 154, cat. no. 142. Beckwith's intention was to separate the material into two main groups – before and after the Arab conquest – primarily as an argument for post-conquest continuity of traditions.

<sup>24</sup> Du Bourguet 1964. This catalogue included other techniques as well. It is interesting that he assigned later dates to techniques resulting in more stylized renditions (see above n. 2): e.g., brocades to the ninth century and later and taquetés to the tenth century and later.

<sup>25</sup> Du Bourguet 1957 and 1958. Du Bourguet did not neglect other approaches to dating: Du Bourguet 1966 and 1956.

<sup>26</sup> Emile Guimet waxed lyrical: 'Hélas! Quel art de décadence' (E. Guimet, *Portraits d'Antinoe* 1912: 11, cited in Stauffer 1992: 13).

1993 catalogue of Flemish private collections reported the results of extensive <sup>14</sup>Carbon testing, including a range of dates beginning in the fifth and ending in the tenth century, for the type of woollen tapestry-woven tunic DuBourguet had dated between the tenth and twelfth centuries for stylistic reasons.<sup>27</sup>

Beckwith's 'Byzantine Tissues' looked mainly to silk textiles and took into account subsequent text-based histories of the Byzantine silk industry such as Robert Lopez's densely informative article of 1945 that explored the role of the silk industry during the middle Byzantine period of economic dominance and in symbolic political authority.<sup>28</sup> Beckwith grouped pieces in the growing corpus of silks, now including silks from Antinoopolis and Panopolis in Egypt and from Syria<sup>29</sup> as well as those in European treasuries,<sup>30</sup> according to structural categories standardized only a decade earlier.<sup>31</sup> Indeed, since the 1960s, the documentation and analysis of technical data have been fuelled by the publication of technical reference works, the establishment of organizations and institutions dedicated to the collection and study of textiles,<sup>32</sup> and the development of a specialization in archaeological textiles.<sup>33</sup> For those silks Beckwith assigned to the early Byzantine period, he gave attributions to unidentified eastern Mediterranean centres, regardless of original find site, explicitly bypassing Persia.<sup>34</sup>

<sup>27</sup> de Moor 1993: e.g., cat. no. 119 (p. 226) where <sup>14</sup>Carbon analysis yielded dates between the fifth and seventh century, a type assigned a tenth/twelfth century dating by Du Bourguet; cat. no. 85 (p. 185), dated between the sixth and eighth century by <sup>14</sup>Carbon testing, tenth century by Du Bourguet; cat. no. 88 (p. 188), dated between the eighth and tenth centuries by <sup>14</sup>Carbon testing, twelfth century by Du Bourguet. Assigning dates remains a chronic problem. Schrenk 1998: 360–2 provides a useful overview of attempted datings of works from unsystematic excavation of Egyptian city cemeteries by style, by <sup>14</sup>Carbon testing, and by contextual evidence from more recent excavations.

<sup>28</sup> Lopez 1945: 1–42. See also Jacoby 1991–2 and Muthesius 1993.

<sup>29</sup> Beckwith 1989b: 39, citing Syrian finds in Pfister 1934; 1940; 1951.

<sup>30</sup> Beckwith 1989b: 38. Textiles deemed 'Byzantine' are usually silk and relatively rare, preserved mainly in European treasuries instead of in Byzantine contexts: Kazhdan and Talbot 1991, s.v. 'Textiles'; Muthesius 1997.

<sup>31</sup> Centre international d'étude des textiles anciens 1964, adapted and expanded by Burnham 1980. Of particular interest for the present discussion are the terms compound twill and twill damask. See also Emery 1966.

<sup>32</sup> Centres include The Textile Museum in Washington, founded in 1925; CIETA at the Musée Historique des Tissus in Lyon, in 1954; the Abegg Stiftung in Riggisberg, near Berne, in 1961 (Flury-Lemburg 1988); and, in 1995, the Ratti Center at the Metropolitan Museum of Art in New York.

<sup>33</sup> Publication milestones include: Fiske 1975; Walton and Eastwood 1980; Cardon and Feugère 2000; and, testimony to J. P. Wild's central role in the training of specialists in archaeological textiles, Rogers et al. 2001. Schrenk (Riggisberger Berichte 13) is forthcoming.

<sup>34</sup> Beckwith 1989b: 39–41. Some of the Antinoopolis silks have also been attributed to Sassanian Persia: Pfister 1948 and Geijer 1963. Flury-Lemburg 1988: 423 points out that Beckwith's Byzantine attribution of the Antinoopolis silks must be reconsidered in light of Geijer's technical observation that the weft system of silks from Antinoopolis has a density of 20–9 picks per cm, while silks from court manufacturers have only 14–17.

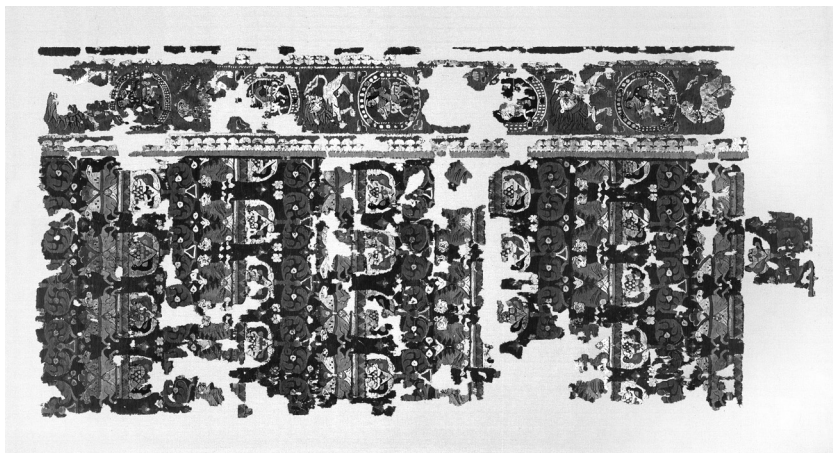


Figure 7.8 'Horse and Lion Tapestry', wool, tapestry weave, Dumbarton Oaks Collection, 39.13; photo Dumbarton Oaks, Byzantine Photographic and Fieldwork Archives, Washington.

Other studies, however, continued to credit Persia as a key player in textile, especially silk, production and trade with the early Byzantine empire, including Egypt. An extensive article by Ernst Kitzinger, published in 1946, on the polychrome wool Horse and Lion Tapestry acquired by Dumbarton Oaks in 1939 (Fig. 7.8), situated the *chôra* of Egypt within the Byzantine sphere through a consideration of ornament, as Riegl had done, as well as considerations of other factors.<sup>35</sup> That article explored affinities between 'Persian-Byzantine' wools *and* silks, partly as an exercise in correlating stylistic classifications with groupings by material and technique. Kitzinger deemed the Dumbarton Oaks hanging and related works to be tapestry copies or transformations of compound-woven silks, attributing a group of related works to a Persian vogue in fifth- to sixth-century Egypt.<sup>36</sup>

Similarly recognizing an intermingling of cultural traditions, Lenzen's 1960 interpretation of a neckpiece fragment from a Roman-style tunic representing the Triumph of Dionysos, probably from Panopolis, explored the Hellenistic side of Byzantine heritage in the *chôra*.<sup>37</sup> Lenzen's study

<sup>35</sup> Kitzinger 1946.

<sup>36</sup> Kitzinger 1946: 21 characterizes the Persian motifs as 'foreign to the Mediterranean world'. Since Riegl's 1889 catalogue, there had been forays into 'Persanerie-Byzantine', to borrow the phrase coined in Peirce and Tyler 1936. Their discussion, unlike Kitzinger's, bypasses Egypt. For a recent study of Persian silks within the Byzantine Egyptian context, see Martiniani-Reber 1986.

<sup>37</sup> Lenzen 1960.

also demonstrated the utility of treating certain figural motifs to sustained iconographical analysis: some of these compositions clearly reflect literary trends of the day, including, as Lenzen demonstrated, the epic poem on Dionysos by Nonnus of Panopolis. Jaroslav Pelikan's extended reading of the monumental wall hanging in the Cleveland Museum of Art revealed an iconic reflection of sophisticated discourses in Byzantine theology (Fig. 7.9).<sup>38</sup>

By the mid-1960s, the catalogue of Coptic textiles was an established genre, with its overview of post-pharaonic Egypt, its introduction outlining the history of the collection under discussion, brief descriptions (or glossaries) of materials and techniques with an emphasis on tapestry-weaving, and the ornamented Roman–Byzantine tunic, followed by catalogue entries for ornamental fragments from tunics and, more rarely, complete garments.<sup>39</sup> The format was reinvigorated in the 1980s by a veritable explosion of collection and exhibition catalogues that significantly altered the corpus of known works, both by increasing the number and kind of published works (reflecting continued activity on the art market and excavations of museum storerooms) with detailed analyses of materials, weaving techniques, and fabric structures, and by their characterizations of the works.<sup>40</sup> James Trilling, for example, in his 1982 catalogue for The Textile Museum, persuasively arguing against exclusively Coptic attributions for tapestries, situated the production and ornamentation of the textiles under discussion within a pan-Mediterranean setting and, reviewing the archaeological evidence for dating, assigned a range of dates corresponding to the early Byzantine period.<sup>41</sup> Notably, attention focused on Antinoopolis has resulted in two important exhibitions with catalogues, and publications of many previously unknown garments and other objects from Gayet's and other excavations at the site, including a nearly complete cloak of purple silk.<sup>42</sup>

As most textiles from the earliest collections were fragments from garments, they came to figure prominently in costume histories. Tunics dominated general surveys of Roman and early Byzantine costume,<sup>43</sup> and

<sup>38</sup> Pelikan 1990.

<sup>39</sup> Riegl 1889; Wulff and Volbach 1926; Kendrick 1920–2; Du Bourguet 1964; Thompson 1971; Baginski and Tidhar 1980.

<sup>40</sup> As suggested by the impressively extensive (but not exhaustive) listing in Schrenk 2004: 500–2.

<sup>41</sup> Trilling 1982; Carroll 1988 focused on loom technology as inferred from fabric structure and written sources and, again, through careful readings of written sources, supported the pan-Mediterranean setting for production and trade.

<sup>42</sup> Rassart-Debergh 1997; Hoskins 2004; del Francia Barocas 1998: cape, cat. no. 305. For Panopolis, see, e.g., Cortopassi 2003 and Martiniani-Reber 1989.

<sup>43</sup> E.g., Houston 1931, reprinted numerous times, and Wilson 1938, which made use of the Egyptian finds. See also Sebesta and Bonfante 1994.

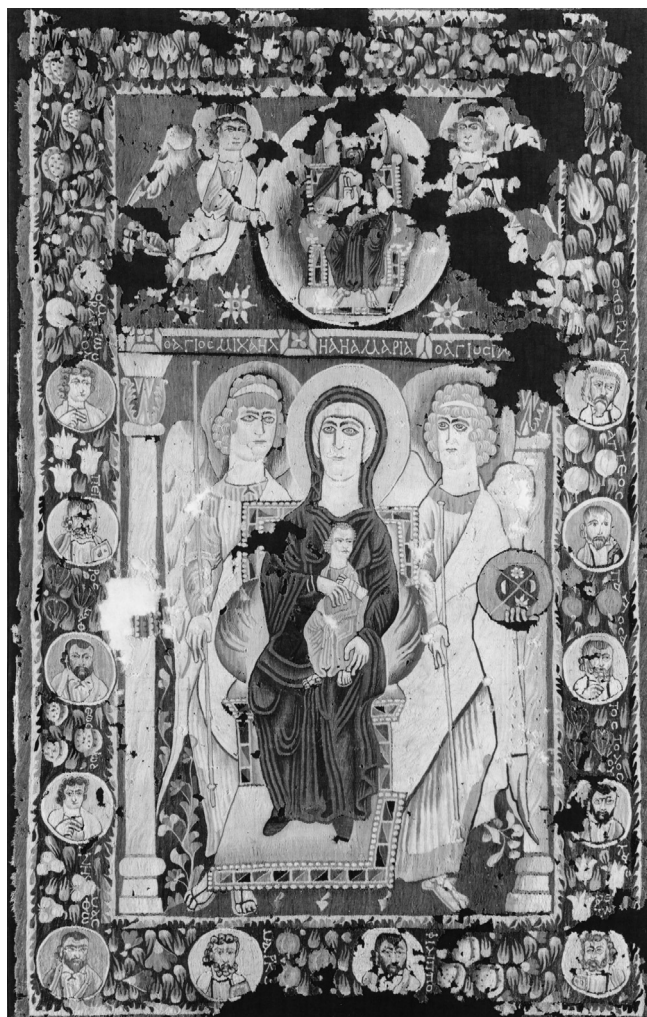


Figure 7.9 Icon of the Virgin, Egypt, Byzantine period, sixth century. Slit and dove-tailed tapestry weave; wool; 178 × 110 cm. © The Cleveland Museum of Art, Leonard C. Hanna, Jr, Bequest 1967.144.

variations on the tunic and shawl constituted the most common ensemble among the archaeological remains and visual evidence from Egypt. The tunic was simply constructed, loosely draped, variously coloured, and traditionally ornamented (**Fig. 7.10**). There were, as well, examples of fitted garments of Persian tradition, including an outer coat with a markedly

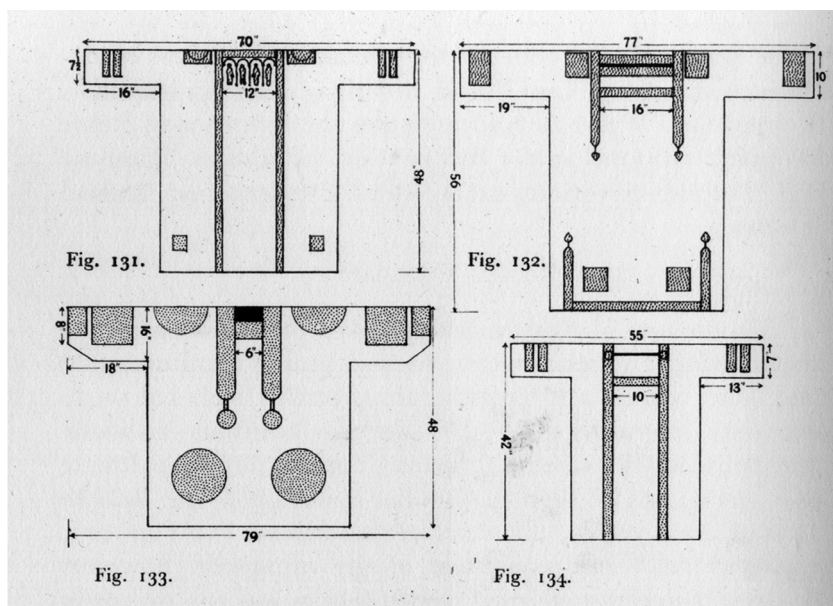


Figure 7.10 Diagrams of ornemented tunics; M. Houston, *Ancient Greek, Roman and Byzantine Costume and Decoration* (London 1931).

different silhouette, sewed to follow the contours of the torso, open down the front, with slender sleeves so exaggeratedly long they would cover the hands unless pushed up along the arms (**Fig. 7.11**). This type of coat is now recognized as one piece in the so-called Persian Riding Costume, of which several complete examples were excavated at the turn of the century from Byzantine-period graves at Antinoopolis.<sup>44</sup> Belonging to this costume were fitted leggings, some similarly trimmed, some more elaborately decorated.<sup>45</sup> It seems that Antinoites were able to acquire numerous cloth goods that were rare and expensive, perhaps understood to be exotic by their materials, dyestuffs, ornamentation, or type.

Alongside recognition of a wider range of garment types within the draped early Byzantine and tailored Persian traditions are focused, in-depth studies of garment construction, highlighting previously unremarked

<sup>44</sup> Excellent overview of this type of costume and range of costumes: Knauer 2004. <sup>14</sup>Carbon testing yields dates from the fifth to seventh century: De Moor et al. 2004.

<sup>45</sup> Linscheid 2004. See also Bénazeth 1991.



Figure 7.11 Persian coat, wool, tapestry weave, trimmed with silk, from Antinoopolis, fifth–seventh century, Lyon, Musée des Tissus et des Arts Décoratifs, Inv. 968, III.I (34872); photo D. R.

sophistication of weaving techniques for the shaping of garments. In her 1982 foundational article 'Weaving Clothes to Shape in the Ancient World', Hero Granger-Taylor pointed out how the Roman tradition of weaving curving and discontinuous selvages continued in Egypt throughout and beyond the Byzantine period.<sup>46</sup> A tour de force of multi-disciplinary analysis was commissioned by the Abegg-Stiftung, when a group of scholars was assembled to report on a single item, tunic no. 4219; John Peter Wild's brilliant contribution demonstrated how this sleeveless tunic in a weft-faced compound weave in wool should be seen alongside silk compound weaves, woollen taqueté furnishings, and cotton examples, all products of small workshops specialized according to technique and type of loom.<sup>47</sup>

#### EVIDENCE FOR THE VARIETY, PRODUCTION, AND CIRCULATION OF TEXTILES IN EGYPT AND BEYOND

As more systematic excavations were undertaken, contextual information began to enter archaeological reports and collection catalogues. Lilian Wilson's 1933 catalogue of textiles in the Kelsey Museum of Archaeology, for example, recorded locus information for textiles excavated by the University of Michigan at the Fayyum town of Karanis, the first habitation site to give significant numbers of textiles to the growing corpus. These were mainly rags from the unswept corners of houses and the town's rubbish heaps, again fragmentary but tremendously interesting for their wide range of materials, techniques, and possible uses. Discovered were samples of felt, weft-faced compound weaves (taqueté) in wool (**Fig. 7.12**), what appear to be tapestry imitations of taqueté, rags recycled into pads sometimes called rag amalgams (**Fig. 7.13**), dolls or perhaps amulets, utilitarian items, and furnishings made of goat hair in plain weaves and twills.<sup>48</sup> Most of the textiles were found in areas dated between the third and fifth century, that is, spanning the periods of Roman and early Byzantine rule. Although the evidence does not support the development of detailed chronologies, there is sufficient cause to reconsider the continuing vitality of Roman traditions at Karanis.

Documentary papyri from Karanis and other Egyptian sites provided the foundation for Ewa Wipszycka's monumental work of 1965 on the textile industry throughout the *chôra* during the Roman and late Roman

<sup>46</sup> Granger-Taylor 1982.

<sup>47</sup> Wild 1994; Rogers 1994; De Jonghe and Verheeken-Lammens 1994.

<sup>48</sup> Wilson 1933; Thomas 2001: 27–33 on House 124, which contained a variety of fabric types ranging from crude to rather fine in execution.

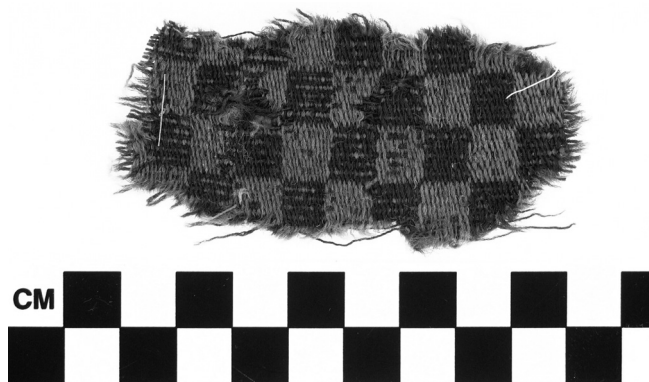


Figure 7.12 Fragment of a cover, weft-faced compound twill, dyed wools, Karanis 24-5016A, Kelsey Museum of Archaeology, 12798.

periods.<sup>49</sup> A text-based map of important production centres would include Alexandria, Antinoopolis, and Panopolis, in fact, just about every major habitation site for which we have significant numbers of documentary papyri. The documentary sources cumulatively describe a professionalized, imperially regulated industry spanning imperial factories and large privately owned workshops, which were rare, and more common smaller workshops and in-home ad hoc situations. The sources also point to numerous modes of consumption, such as hiring professional weavers to work in the home, commissioning goods from weaving establishments, purchasing ready-made items, and selling and buying already used items as textiles continued to circulate over time.<sup>50</sup> One of the largest, steadiest markets in Egypt, for which taxation was key, was the Roman military.<sup>51</sup> Documentary papyri from Karanis, for example, record individuals' acquisitions of textiles locally and via long-distance traffic.<sup>52</sup>

The longevity of Roman traditions is evident at other sites as well. Model reports by Rudolf Pfister and Louisa Bellinger, from the early 1930s to the early 1950s, of textiles excavated in Syria at Dura Europos (dated before AD 256), Palmyra (before 273), and Halabiyeh-Zenobia (before 610) not only set high standards for the technical description of textile artefacts but also provided useful comparisons for materials and techniques, ornament and dating.<sup>53</sup> Subsequent excavations in Israel and Jordan, and further

<sup>49</sup> Wipszycka 1965 and 1991 and van Minnen 1986. <sup>50</sup> Husselman 1961.

<sup>51</sup> Perhaps only for troops stationed within Egypt: Wipszycka 1965: 159. See also Sheridan 1998.

<sup>52</sup> Thomas 2001: 19. <sup>53</sup> Pfister 1934 and 1951; Pfister and Bellinger 1945.

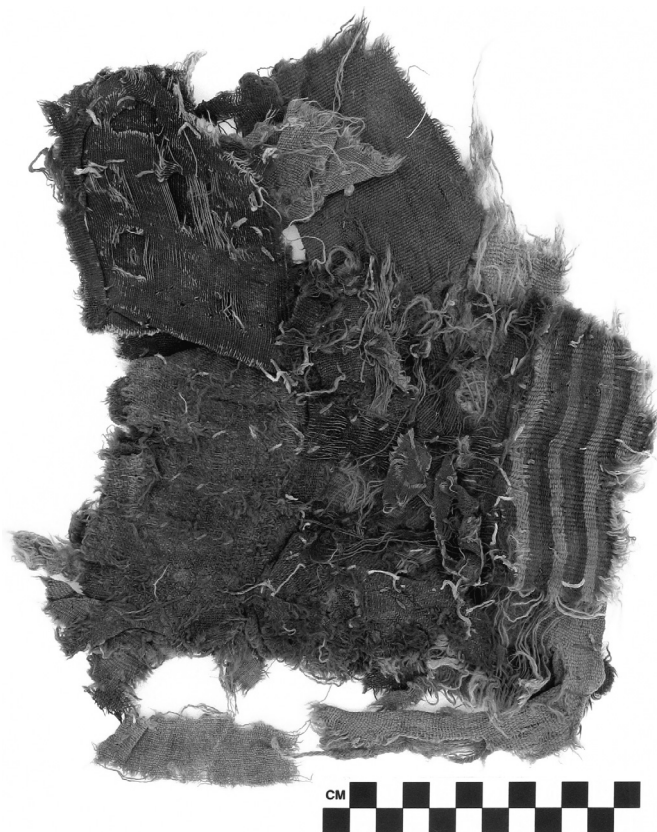


Figure 7.13 Karanis rag amalgam, fabric fragments sewn together in parallel rows of running stitches into a pad of multiple discontinuous layers, Karanis 25-4009A-L, Kelsey Museum of Archaeology, 10375.

south in Nubia at burial sites, forts, and other settlements have brought to light comparanda for Roman textile types known from Egypt.<sup>54</sup> Especially important are the many textile fragments found at the Red Sea sites in Egypt. Among the ‘tens of thousands’ of textiles found at Mons Claudianus are damask twills and resist-printed wool.<sup>55</sup> Among the finds at Berenike (early and late Roman) are rag amalgams, resist-dyed cotton, and a fragment of

<sup>54</sup> Bergman 1975; Williams 1979; Adams and Crowfoot 2001; Sheffer and Granger-Taylor 1994: 149–256; Yadin 1963; Granger-Taylor 2000.

<sup>55</sup> Described and illustrated in Jørgensen 1991: 83–95. Additional materials and fabric types may be found in Jørgensen 2000. Strategies for studying the tremendous quantities of textiles are outlined in Jørgensen 1991 and Jørgensen and Mannering 2001.

a cotton sail.<sup>56</sup> The cotton finds are, perhaps, most significant, for they provide archaeological evidence that cotton was commonly imported into Egypt from India, perhaps across the Red Sea, and from Nubia, much earlier than attested by previously known finds. There is also evidence that cotton was grown and worked in Egypt.<sup>57</sup> Moreover, the early resist-dyed cotton from Berenike can be compared to resist-dyed textiles in other materials from Berenike, Panopolis, and other sites.<sup>58</sup>

Consequently, the map of find sites for textiles in Egypt is now part of a larger map that includes Europe and the Mediterranean, Syro-Palestine and Mesopotamia, the Red Sea and, within Africa, the entire Nile Valley.<sup>59</sup> This wider conception of textile production and trade accords with written records for the circulation of silk, fine linens, cottons, and wools across the Red Sea and along land routes linking the Near East to Asia.<sup>60</sup> Already in 1987 John Peter Wild observed: 'A glance at the entries in the Edict of Diocletian shows that in the early fourth century a wealthy man could buy silk yarn, purchase [the appropriate loom], hire a skilled silk-weaver, and have the cloth made up anywhere in the Roman Empire.'<sup>61</sup> This statement has been supported by subsequent excavations and studies.<sup>62</sup> One could, it seems, enlarge this statement to include cotton and wool yarns and finished goods, as well as technology.<sup>63</sup>

<sup>56</sup> Wild and Wild 2000.

<sup>57</sup> Wild and Wild 2000: 271–4. In part due to textual attestations to cotton in Egypt, scholars expected to find cotton artefacts and began to compile rare early examples of cotton from Egypt: e.g., Greiss 1952. Lamm 1937 noted rare early examples from Egypt (Antinoopolis and Karanis) and Syria, and combinations of cotton with other materials, in a variety of techniques, including weft-faced compound twills and tapestries, as well as cotton embroidery. Wild 1997 describes the over 400 cottons from fourth- and fifth-century deposits found during the 1994 and 1995 seasons. He considers a range of evidence for their origin via Red Sea trade in cotton and trade from Nubia. See also Gervers 1990.

<sup>58</sup> And, just as Lamm had done in 1937, scholars continued to look east, across the Red Sea and beyond, for additions to the corpus of Roman and early Byzantine cottons: e.g., van der Borg, de Jong, McClintock, and van Strydonck 1994. See esp. Vogelsang-Eastwood 1990; and Desrosiers et al. 2001.

<sup>59</sup> For Mesopotamia (Iraq), see, e.g., Fujii et al. 1997; 1994. <sup>60</sup> Casson 1989; Wild 2002.

<sup>61</sup> Wild 1987: 471, who continues: 'The presumption remains, however, that his task would be the easier, the closer he lived to Syria.' On evidence for trade in materials, see Stauffer 2000.

<sup>62</sup> Muthesius 1997 in her studies of silk compound weaves, mainly from European treasuries, situated Egyptian finds within the Byzantine sphere, without specific attributions to Egypt or Syria or Greece. Carroll 1988, in a close reading of Diocletian's price edict of 301, noted that textiles are typically referred to by the name of their place of origin, even when referring to a copy of a copy of a textile type made elsewhere (12), in support of her argument 'that Coptic textiles were produced to compete, in both price and quantity, with textiles from other parts of the ancient world. For this reason, they are unlikely to have been greatly different from standard types of textiles made in other places' (8).

<sup>63</sup> E.g., a recent overview of Chinese origins and experimental archaeological developments of Persian and Egyptian developments of looms for compound weaves: Ciszuk 2000. See also De Jonghe

Scholars of Byzantine dress have developed a similarly broad geographical outlook.<sup>64</sup> Widespread use of the same types of ornamental motifs and compositions may have been due to circulation of woven textiles, similar motifs in other media, or, in some cases, to reliance upon the same or similar models painted on papyrus for weavers.<sup>65</sup> Consideration of these models can provide insight into how individual commissioners and/or weavers might have selected ornamental formats and devised their arrangement for articles of clothing, whether for liturgical or magical purposes or to suit personal taste. That is to say, these models encourage new insights into individual agency in the creation of garments and other textile goods.<sup>66</sup> Ornament remains a key subject for the characterization of textile traditions and practices and now ornament is enjoying a resurgence of art historical interest, as is Riegl's formalism.<sup>67</sup> Similarly, critical approaches to textiles look back to foundational works of early archaeologists and scholars, to the roles dealers, collectors, and artists played in the shaping of scholarly responses to the textiles' colours and motifs.<sup>68</sup>

## REFERENCES

- Abdel Aziz Marzouk, M. (1948–9), 'Alexandria as a Textile Center', *BSAC* 13: 111–35.  
 Adams, N. and E. Crowfoot (2001), 'Varia Romana: Textiles from a Roman Army Dump', in Rogers, Jørgensen, and Rast-Eicher (2001): 30–7.  
 Baginski, A. and A. Tidhar (1980), *Textiles from Egypt, 4th–13th Centuries CE*. Jerusalem.  
 Ball, J. (2001), *Byzantine Dress*. Ph.D. Diss., New York University, Institute of Fine Arts.

2001, based on third- to fourth-century silks found in Syria and Eastern and Northern Europe. Instrumental in initiating recent discussions of technology development and transfer is Barber 1991.

<sup>64</sup> Fluck and Vogelsang-Eastwood 2004; and Ball 2001.

<sup>65</sup> There have been several publications of weavers' models painted on papyrus; especially useful are Horak 1992 and Stauffer 1996. Moreover, the recent publication of textiles excavated at Palmyra, including those published by Pfister and Bellinger along with new discoveries of the 1990s, demonstrated correspondences in ornament type with European finds that may, possibly, help chart trade connections: for Palmyrene-type decorative bands (in gold and purple silk) found in Naintré (Vienna), see Cardon 1999–2000: 96, cat. no. 22; see also Schmidt-Colinet, Stauffer, and Al 'Asad 2000.

<sup>66</sup> Maguire 1990; Stauffer 1992: 15–21 and *passim*; Thomas 1997–2000. Ball 2001 and Kalamara 1995 are sensitive to the distinctions between the social and personal statements made by the wearers of garments, and both studies are very much aware of theoretical approaches to the study of dress. Parani 2003 explores the different kinds of expression intended by representations of garments.

<sup>67</sup> E.g., Trilling 1985: 46–7 on ornament of Byzantine Egyptian textiles; 2003: 57–60; on Riegl, 2003: 55. See also, e.g., Olin 1992 and Woodfield 2001.

<sup>68</sup> E.g., Schrenk 2004: 9–11, 451–2; see above nn. 3 and 6.

- Barber, E. J. (1991), *Textiles: The Development of Cloth in the Neolithic and Bronze Ages with Special Reference to the Aegean*. Princeton.
- Beckwith, J. (1989a), 'Coptic Textiles', in J. Beckwith, *Studies in Byzantine and Medieval Western Art*. London: 1–36.
- (1989b), 'Byzantine Tissues', in J. Beckwith, *Studies in Byzantine and Medieval Western Art*. London: 37–70.
- Bénazeth, D. (1991), 'Une paire de jambières historiées d'époque copte, retrouvée en Égypte', *Revue du Louvre* 41: 16–27.
- Bergman, I. (1975), *Late Nubian Textiles*. Stockholm.
- Bunt, C. G. E. (1967), *Byzantine Fabrics*. Leigh-on-Sea.
- Burnham, D. K. (1980), *Warp and Weft: A Textile Terminology*. Toronto.
- Cardon, D. (ed.) (1999–2000), *Teintures précieuses de la Méditerranée: pourpre, kermès, pastel – Tintes preciosos del Mediterráneo: púrpura, quermes, pastel*. Carcassonne.
- Cardon, D. and M. Feugère (eds.) (2000), *Archéologie des textiles des origines au Ve siècle: Actes du colloque de Lattes, Octobre 1999*. Montagnac.
- Carroll, D. L. (1988), *Looms and Textiles of the Copts: First Millennium Textiles in the Carl Austin Rietz Collection of the California Academy of Sciences*. Seattle and London.
- Casson, L. (1989), *The Periplus Maris Erythraei*. Princeton.
- Centre international d'étude des textiles anciens (1964), *Vocabulary of Technical Terms*. Lyon.
- Ciszuk, M. (2000), 'Taquetés from Mons Claudianus: Analysis and Reconstruction', in Cardon and Feugère 2000: 265–90.
- Cortopassi, R. (2003), 'Tissus de la cité égyptienne d'Akhmim au Musée de l'Homme', *Revue du Louvre* 51.3: 29–37.
- Cox, N. (2000), 'La Mort posthume: Maurice Heine and the poetics of decay', *Art History* 23.2: 417–49.
- De Jonghe, D. (2001), 'From the Roman Horizontal Loom to the 3/1 Damask Twill of the Early Medieval Period', in Rogers, Jørgensen, and Rast-Eicher (2001): 137–47.
- De Jonghe, D. and C. Verhecken-Lammens (1994), 'Le vêtement damassé 4219 de la Fondation Abegg à Riggisberg', in *Riggisberger Berichte* 11, *Varia*: 41–72.
- Del Francia Barocas, L. (1998), *Antinoe cent'anni dopo: Catalogo della mostra Firenze Palazzo Medici Riccardi, 10 luglio – 1 novembre 1998*. Florence.
- De Moor, A. (ed.) (1993), *Koptisch Textiel uit Vlaamse privé-verzamelingen. Coptic Textiles from Flemish Private Collections*. Zottegem.
- De Moor, A. et al. (2004), 'Radiocarbon Dating of Two Sasanian Coats and Three Post-Sasanian Tapestries', in Fluck and Vogelsang-Eastwood 2004: 181–8.
- Desrosiers, S., C. Debaine-Francfort, and A. Idriss (2001), 'Two Resist-Dyed Cottons Recently Found at Karadong, Xinjiang (Third Century AD)', in Rogers, Jørgensen, and Rast-Eicher (2001): 48–55.
- Dimand, M. S. (1924), *Ornamentik der ägyptischen Wollwirkereien: Stilprobleme der spätantiken und koptischen Kunst*. Leipzig.

- Du Bourguet, P. (1956), 'Datation des tissus coptes en fonction des mosaïques méditerranéennes: Précisions nouvelles', *Ars Orientalis* 3: 189–92.
- (1957), 'Carbone 14 et les tissus coptes', *Bulletin du Laboratoire du Musée du Louvre* 2, October: 1–31.
- (1958), 'Datation des tissus coptes et Carbone 14', *Bulletin du Laboratoire du Musée du Louvre* 3, June: 52–63.
- (1964), *Musée National du Louvre: Catalogue des étoffes coptes* 1. Paris.
- (1966), 'Technique of Coptic Fabrics in Connection with their Dating', *CIETA Bulletin* 28: 17–23.
- Emery, I. (1966), *The Primary Structure of Fabrics*. Washington.
- Fiske, P. L. (ed.) (1975), *Archaeological Textiles: Irene Emery Roundtable on Museum Textiles, 1974 Proceedings*. Washington.
- Fleury-Lemberg, M. (1988), *Textile Conservation and Research*. Bern.
- Fluck, C. and G. Vogelsang-Eastwood (eds.) (2004), *Riding Costume in Egypt: Origin and Appearance*. Leiden.
- Forrer, R. (1891), *Römische und byzantinische Seiden-Textilien aus dem Gräberfelde von Akhmim-Panopolis*. Strassburg.
- (1892), *Die Gräber und Textilfunde von Achmim-Panopolis*. Strassburg.
- Fujii, H. et al. (1994), 'Human-Figured Emblems by Tapestry-Weave Technique', *Al-Rafidan* 15: 77–89.
- (1997), 'Textiles from At-Tar Caves – Cave 17, Hill C – including Report on the Results of Textiles from the Ancient Iraqi Site – Part 5', *Al-Rafidan* 18: 311–60.
- Geijer, A. (1963), 'A Silk from Antinoë and the Sasanian Textile Art', *Orientalia Suecana* 12: 2–36.
- Gervers, M. (1990), 'Cotton and Cotton Weaving in Meroitic Nubia and Medieval Ethiopia', *Textile History* 21.1: 13–30.
- Granger-Taylor, H. (1982), 'Weaving Clothes to Shape in the Ancient World', *Textile History* 13: 3–25.
- (2000), 'The Textiles from Khirbet Qazone (Jordan)', in Cardon and Feugère 2000: 149–62.
- Greiss, E. A. M. (1952), 'Les plus anciens spécimens de tissus et de fibres de coton découverts en Égypte', *Chronique d'Égypte* 27: 321–3.
- Griggs, C. W. et al. (1993), 'Evidence of a Christian Population in the Egyptian Fayum and Genetic and Textile Studies of the Akhmim Noble Mummies', *BYU Studies* 33: 215–43.
- Horak, U. (1992), *Illuminierte Papyri, Pergamente, und Papiere*. Vienna.
- Hoskins, N. A. (1992), *Weft-Faced Patterns and Pictures: Tabby to Taqueté*. Seattle.
- (2004), *The Coptic Tapestry Albums and the Archaeologist of Antinoë*, Albert Gayet. Seattle.
- Houston, M. G. (1931), *Ancient Greek, Roman and Byzantine Costume and Decoration*. London.
- Husselman, E. M. (1961), 'Pawnbrokers' Accounts from Roman Egypt', *TAPhA* 92: 251–66.
- Jacoby, D. (1991–2), 'Silk in Western Byzantium before the Fourth Crusade', *ByzZ* 84–5: 452–500.

- Jones, O. (1856), *The Grammar of Ornament*. London.
- Jørgensen, L. B. (1991), 'Textiles from Mons Claudianus: A Preliminary Report', *Acta Hyperborea* 3: 83–95.
- (2000), 'The Mons Claudianus Textile Project', in Cardon and Feugère 2000: 253–63.
- Jørgensen, L. B. and U. Mannering (2001), 'Mons Claudianus: Investigating Roman Textiles in the Desert', in Rogers, Jørgensen, and Rast-Eicher (2001): 1–11.
- Kalamara, P. (1995), *Le système vestimentaire à Byzance du IV<sup>e</sup> jusqu'à la fin du XI<sup>e</sup> siècle*. Villeneuve d'Ascq.
- Kazhdan, A. P. and A.-M. Talbot (1991), *Oxford Dictionary of Byzantium*. Oxford.
- Kendrick, A. F. (1920–2), *Catalogue of Textiles from Burying Grounds in Egypt I–III*. London.
- Kitzinger, E. (1946), 'The Horse and Lion Tapestry at Dumbarton Oaks: A Study in Coptic and Sassanian Textile Design', *DOP* 3: 2–72.
- Knauer, E. (2004), 'A Quest for the Origin of the Persian Riding Coats: Sleeved Garments with Underarm Openings', in Fluck and Vogelsang-Eastwood 2004: 1–28.
- Lamm, C. J. (1937), *Cotton in Medieval Textiles of the Near East*. Paris.
- Lenzen, V. F. (1960), *The Triumph of Dionysos on Textiles of Late Antique Egypt*. Berkeley.
- Linscheid, P. (2004), 'Gaiters from Antinoopolis in the Museum für Byzantinische Kunst, Berlin', in Fluck and Vogelsang-Eastwood 2004: 153–62.
- Lopez, R. S. (1945), 'Silk Industry in the Byzantine Empire', *Speculum* 20: 1–42.
- Maguire, H. (1990), 'Garments Pleasing to God: The Significance of Domestic Textile Designs in the Early Byzantine Period', *DOP* 44: 215–24.
- Martiniani-Reber, M. (1986), *Soieries sassanides, coptes et byzantines 5<sup>e</sup>–11<sup>e</sup> siècles: Lyon, Musée Historique des Tissus*. Paris.
- (1989), 'Tissus façonnés d'Achmim (Egypte): Collection du Musée d'art et d'histoire, Genève', *Genava*, n.s. 37: 19–28.
- Muthesius, A. (1993), 'The Byzantine Silk Industry: Lopez and Beyond', *Journal of Medieval History* 19: 1–67.
- (1997), *Byzantine Silk Weaving AD 400 to AD 1200*. Vienna.
- Olin, M. (1992), *Forms of Representation in Alois Riegl's Theory of Art*. University Park, PA.
- Parani, M. (2003), *Reconstructing the Reality of Images: Byzantine Material Culture and Religious Iconography (11th–15th Centuries)*. Leiden.
- Peirce H. and R. Tyler (1936), 'The Prague Rider-Silk and the Persian–Byzantine Problem', *Burlington Magazine* 68: 213–20.
- Pelikan, J. (1990), *Imago Dei: The Byzantine Apologia for Icons*. Princeton.
- Pfister, R. (1934), *Textiles de Palmyre* I. Paris.
- (1940), *Textiles de Palmyre* III. Paris.
- (1948), 'Le rôle de l'Iran dans les textiles d'Antinoé', *Ars Islamica* 12, 14: 46–74.
- (1951), *Textiles de Halabiyeh*. Paris.

- Pfister, R. and L. Bellinger (1945), 'The Textiles', in M. I. Rostovzeff et al., *The Excavations at Dura Europos: Final Report* iv, Part 2. New Haven.
- Rassart-Debergh, M. (1997), *Textiles d'Antinoé, Égypte, en Haute-Alsace: Donation E. Guimet*. Colmar.
- Reinhold, M. (1970), *History of Purple as a Status Symbol in Antiquity* (Collection Latomus 116). Bruxelles.
- Renner, D. (1981), 'Stoffe tardoantiche e copte da tombe egiziane', *Corso di cultura sull'arte ravennate e bizantina* 28: 285–6.
- Riegl, A. (1889), *Die ägyptische Textilfunde im K. und K. Österreichischen Museum*. Vienna.
- (1992), *Problems of Style, Foundations for a History of Ornament*, trans. E. Kain, intro. D. Castriota (originally published in 1893). Princeton.
- Rogers, P. W. (1994), 'Report: Types of Wool in a Roman Damask Tunic, Abegg-Stiftung No. 4219', *Riggisberger Berichte* 11, *Varia*: 37–40.
- Rogers, P. W., L. B. Jørgensen, and A. Rast-Eicher (eds.) (2001), *The Roman Textile Industry and its Influence: A Birthday Tribute to John Peter Wild*. Oxford.
- Roveri, A. and M. Donadoni (1993), *Qibti, the Coptic Textiles of the Antonio Ratti Collection: Collezione Antonio Ratti* 11. Como.
- Rutschowskaya, M. H. (1990), *Coptic Fabrics*. Paris.
- Schmidt-Colinet, A., A. Stauffer, and K. Al 'Asad (2000), *Die Textilien aus Palmyra: Neue und alte Funde* (Damaszener Forschungen 8). Mainz.
- Schnitzler, B. (1999), *Robert Forrer (1866–1947): Archéologue, écrivain et antiquaire*. Strasbourg.
- Schrenk, S. (1998), 'Spätromisch-frühislamische Textilien aus Ägypten', in M. Krause (ed.), *Ägypten in Spätantik-christlicher Zeit: Einführung in die koptische Kultur*. Wiesbaden: 339–79.
- (2004), *Textilien des Mittelmeerraumes aus spätantiker bis frühislamischer Zeit*. Riggisberg.
- (ed.) (forthcoming), *Textiles in Situ* (Riggisberger Berichte 13).
- Sebesta, J. L. and L. Bonfante (1994), *The World of Roman Costume*. Madison, WI.
- Sheffer, A. and H. Granger-Taylor (1994), 'Textiles from Masada: A Preliminary Selection' in *Masada* iv: *The Yigael Yadin Expeditions 1963–1965, Final Reports*. Jerusalem: 149–256.
- Sheridan, J. (1998), *Columbia Papyri IX. The Vestis Militaris Codex* (American Studies in Papyrology 39). Atlanta.
- Stauffer, A. (1992), *Spätantike und koptische Wirkereien*. New York.
- (1996), 'Cartoons for Weavers from Graeco-Roman Egypt', *JRA Supplement* 19: 223–30.
- (2000), 'The Textiles from Palmyra: Technical Analyses and their Evidence for Archaeological Research', in Cardon and Feugère 2000: 247–52.
- Thomas, T. K. (1997–2000), '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* 12: 88–101.

- (2000), *Late Antique Egyptian Funerary Sculpture: Images for This World and the Next*. Princeton.
- (2001), *Textiles from Karanis, Egypt, in the Kelsey Museum of Archaeology: Artifacts of Everyday Life*. Ann Arbor.
- (in progress), 'Coptic Textiles in the Dikran G. Kelekian Album of c. 1910'.
- Thompson, D. (1971), *Coptic Textiles in the Brooklyn Museum*. Brooklyn.
- Trilling, J. (1982), *The Roman Heritage: Textiles from Egypt and the Eastern Mediterranean, 300–600 AD*. Washington.
- (1985), *The Medallion Style: A Study in the Origins of Byzantine Taste*. New York.
- (2003), *Ornament: A Modern Perspective*. Seattle.
- Van der Borg, A., A. de Jong, C. McClintock, and M. van Strydonck (1994), 'Early Cotton in North Arabia', *Early Archaeological Science* 21: 489–99.
- Van Minnen, P. (1986), 'Urban Craftsmen in Roman Egypt', *MBAH* 6: 31–88.
- Vogelsang-Eastwood, G. (1990), *Resist-Dyed Textiles from Quseir al-Qadim*. Paris.
- Von Falke, O. (1913), *Kunstgeschichte der Seidenweberei*. Berlin.
- (1922), *Decorative Silks*. New York.
- Walton, P. and G. Eastwood (1980), *A Brief Guide to the Cataloguing of Archaeological Textiles*. York.
- Wild, J. P. (1987), 'The Roman Horizontal Loom', *AJA* 91: 459–71.
- (1994), 'Tunic No. 4219: An Archaeological and Historical Perspective', *Riggsberger Berichte* 2, *Varia*: 9–36.
- (1997), 'Cotton in Egypt: Some Problems of Origin', *Festschrift Hideo Fujii = Al-Rafidan* 18: 287–98.
- (2002), 'Textiles of Eastern Promise', *JRA* 15: 675–80.
- Wild, J. P. and F. C. Wild (2000), 'Textiles', in S. E. Sidebotham and W. Z. Wendrich (eds.), *Berenike 1998: Report of the Excavations at Berenike and the Survey of the Egyptian Eastern Desert including Excavations in Wadi Kalalat*. Leiden: 251–74.
- Williams, B. (1979), *Ancient Textiles from Nubia, X-Group and Christian Fabrics from Ballana and Qustul*. Chicago.
- Wilson, L. (1933), *Ancient Textiles from Egypt*. Ann Arbor.
- (1938), *The Clothing of the Ancient Romans*. Baltimore.
- Winlock, H. E., W. E. Crum, and H. G. Evelyn White (1926), *The Monastery of Epiphanius at Thebes*. 2 vols. New York.
- Wipszycka, E. (1965), *L'Industrie textile dans l'Égypte romaine*. Wrocław.
- (1991), 'Textiles, Coptic, Organization of Production', in *Coptic Encyclopedia* VII: 2218–21.
- (1992), 'Le nationalisme a-t-il existé dans l'Égypte Byzantine?', *JJP* 22: 83–128.
- Woodfield, R. (ed.) (2001), *Framing Formalism in Riegl's Work*. Amsterdam.
- Wulff, O. and W. Volbach (1926), *Spätantike und koptische Stoffe aus ägyptischen Grabfunden in den Staatlichen Museen*. Berlin.
- Yadin, Y. (1963), *The Finds from the Bar-Kokhba Period in the Cave of Letters*. Jerusalem.