

THE STRUCTURE OF ARCHAEOLOGICAL TEXTILES FROM THE EARLY AND HIGH MIDDLE AGES IN FINDS FROM THE CZECH REPUBLIC (PART 2)

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1 PROTO-LAMPAS

Proto-lampas is a weave composed of a main warp, a binding warp and two weft systems - a ground weft and a pattern weft which, depending on the demands of the pattern, run either on the obverse or reverse of the fabric. The warp threads are often grouped in the ratio of two main warp threads to one binding warp thread. The ground is in an extended tabby weave and is composed of all warp threads and the ground weft, the pattern weft lies beneath the main warp and interlaces with the binding warp in a 1.2 twill S on the face. The pattern is composed of the pattern weft, which lies above the main warp and is connected by a binding warp in a 1.2 twill S on the face; the ground weft is in a tabby weave. The proportion of ground wefts to the pattern wefts in the following order is characteristic: one ground weft, one pattern weft, one ground weft, two pattern wefts (see 1.1). Other variants also exist (see 1.2).

Proto-lampas weaves appear at the turn of the 11th century, when in the Byzantine Empire, in a historical region in West Asia situated within the Tigris-Euphrates river system and in Persia, interest in monochrome patterned fabrics grew. Several weaving techniques emerged differentiating the ground and pattern structure, thus making it possible to emphasise the decorative motifs on monochrome fabrics. Proto-lampas was one of these techniques, as the grainy surface of tabby alternates here with the glossy surface of twills [1].

1.1 Fabric with pointed ovals (?) [2, pp. 461-462, 479]

Find circumstances: Prague Castle, St. Vitus Cathedral, graves of the Prague bishops, probably Bishop Cosmas (†1098)

Storage; inventory number: Church treasury at St. Vitus (held by the Prague Castle Administration); K 441

Dating: 11th century (?)

Provenance: Byzantine Empire (?), Syria (?)

Technical analysis (Figure 1)

Textile type: proto-lampas

Warp proportion: 2 main warps to 1 binding warp

- main: silk, z-twist, brown colour
- binding: silk, z-twist, brown colour
découpage: 1 main warp
count: 32 threads per cm (main warp),
16 threads per cm (binding warp)

Weft proportion (pass): 2 ground wefts to 3 pattern wefts (1 ground weft, 1 pattern weft, 1 ground weft, 2 pattern wefts)
- ground: silk, no visible twist, brown colour
- pattern: silk, no visible twist, brown colour
count: 30 passes per cm
découpage: 4 passes (?)

Characteristics of the weave: ground - extended tabby; pattern - 1.2 twill S; classic proto-lampas
Pattern: indeterminable, it is possible that it was conceived as pointed ovals
Pattern rapport: indeterminable
Original use: burial vestment

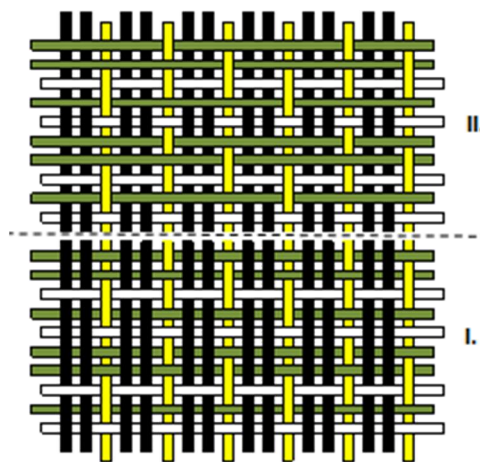


Figure 1 Fabric with pointed ovals (?): weave diagram: I. - ground; II. - pattern

1.2 Fabric with two patterns - birds in medallions and small connected medallions [2]

Find circumstances: Prague Castle, St. George's Basilica, reliquary tomb of St. Ludmila

Storage; inventory number: Prague Castle collection; PHA 35/03, HS 10999

Dating: about 1000 - first third of the 11th century

Technical analysis (Figure 2a, b)

Textile type: proto-lampas

Provenance: Byzantine Empire (?), Byzantine province in contact with the Islamic countries

Warp proportion: 1 main warp to 1 binding warp

- main: silk, z-twist, natural colour

- binding: silk, z-twist, natural colour

découpure: 1 main warp

count: 18-22 threads per cm (main warp),

18-22 threads per cm (binding warp)

Weft proportion (pass): 1 ground weft to 1 pattern weft

- ground: silk, no visible twist, natural colour

- pattern: silk, no visible twist, natural colour

count: 50-58 passes per cm

découpure: 3 passes

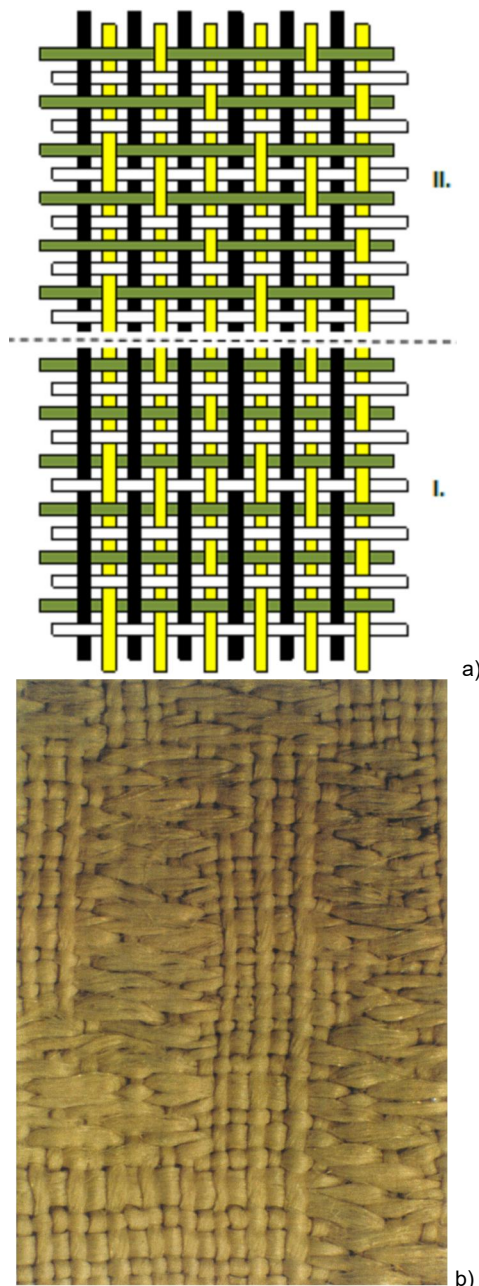


Figure 2 Fabric with two patterns: a) weave diagram: I. - ground; II. - pattern; b) fabric detail © Prague Castle Administration, photo: J. Gloc

Characteristics of the weave: ground - extended tabby; pattern - 1.2 twill S; unlike classic proto-lampas, there is a different ratio of warps and wefts in passes; an early variant of proto-lampas

Pattern (large): much of the preserved fabric is decorated with a large pattern with touching medallions formed by double rings; the space between the two lines is filled with tendrils; inside the medallions, birds sit in trees along the sides with their feet touching the pedestal in the shape of leaves; the connecting discs between the medallions form a double circle with pearl roundel; a flower is inside the circle; the spaces between the medallions are filled with flowers

Pattern (small): a smaller pattern in the lower strip of the preserved fabric features one row of medallions made from double circles filled with four small birds standing opposite each other in pairs; the second strip features medallions made from double lines with obliquely placed diamonds with inscribed squares; this octagon is filled with four birds standing opposite one another with flowing ribbons around their neck; in the upper and lower corner of the octagon are small discs; in the side corners are anchored crosses, and the round and octagonal medallions are continuously interconnected by loops

Pattern rapport (large): height 18-24.2 cm, height 24.3-28.2 cm

Pattern rapport (small): the full height is not preserved, the width is half the width of the large pattern

Original use: originally a dalmatic that was one of the wrappings for the relics of St. Ludmila

2 LAMPAS

Lampas is a term used for figured textiles in which a pattern composed of weft floats bound by a binding warp is added to a ground fabric formed by a main warp and a ground weft. The ground may be tabby, twill, satin, etc. The weft threads forming the pattern may be main, pattern or brocading wefts. They float on the face as required by the pattern and are bound by the ends of the binding warp in a binding ordinarily tabby or twill and which is supplementary to the ground weave.

Lampas was developed sometime in the 11th century, presumably in Iran or Iraq, from where production expanded around the year 1100 to the entire eastern Mediterranean, to Sicily and Islamic Spain. The application of this technique began in northern Italy in the 13th century. Lampas was the predominant weave in the 14th century [3, 4].

2.1 Fabric with a small medallion between larger medallions (?) [5]

Find circumstances: Prague Castle, St. Vitus Cathedral, graves of the Prague bishops, probably Bishop Bernard Kaplíř (†1240)

Storage; inventory number: Church treasury at St. Vitus (held by the Prague Castle Administration); K 435
 Dating: 12th century (?)
 Provenance: Byzantine Empire, Syria
 Technical analysis (Figure 3a, b)

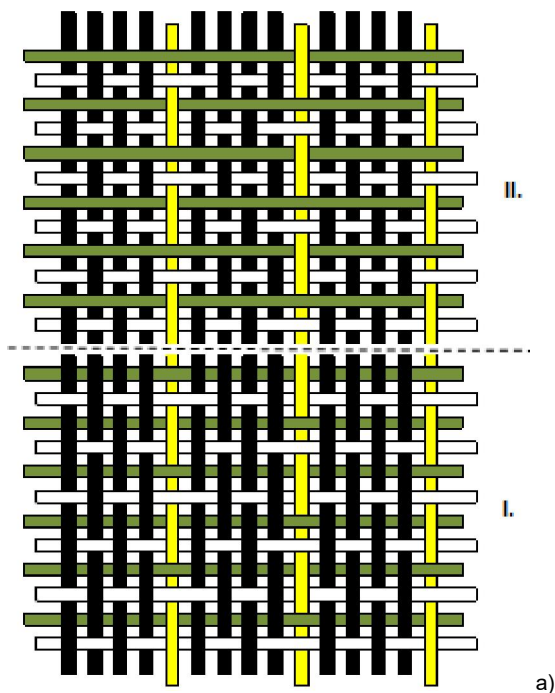


Figure 3 Fabric with small medallion between larger medallions: a) weave diagram: I. - ground; II. - pattern; b) fabric detail © Prague Castle Administration, photo: J. Gloc

Textile type: lampas

Warp proportion: 4 main warps to 1 binding warp
 - main: silk, z-twist, light brown colour
 - binding: silk, z-twist, light brown colour
 découpure: 4 main warps
 count: 68 threads per cm (main warp),
 17 threads per cm (binding warp)

Weft proportion (pass): 1 ground weft to 1 pattern weft
 - ground: silk, no visible twist, light brown colour
 - pattern: silk, no visible twist, light brown colour
 count: 24 passes per cm
 découpure: 1 pass

Characteristics of the weave: ground - tabby (main warp and ground weft); pattern - tabby (binding warp and wefts in passes)

Pattern: the ground is composed of vertically placed round medallions demarcated by two lines; the space between them is filled with pearl roundel; the centre of the medallions is a flower; two bands made of two lines are always connected to the medallion, again filled with pearl roundel and assembled in an angle who peak always touches the next round medallion

Pattern rapport: indeterminable

Original use: mitre stitched with gold thread

2.2 Fabric with palmettes and a diamond mesh [6]

Find circumstances: Prague Castle, Cathedral of St. Vitus, Royal crypt, possible coffin of Charles IV (†1378)

Storage; inventory number: Prague Castle collection; PHA 41/06, HS 25847

Dating: first half of 14th century

Provenance: Central Asia or north China

Technical analysis (Figure 4a, b)

Textile type: lampas

Warp proportion: 3 pairs of main warp to 1 binding warp
 - main, paired: silk, z-twist, blue-green colour
 - binding: silk, no visible twist, ochre colour
 découpure: 3 pairs of main warp
 count: 42 pairs thread per cm (main warp),
 14 threads per cm (binding warp)

Weft proportion (pass): 1 ground weft to 1 pattern weft I. to 1 pattern weft II.

- ground: silk, no visible twist, blue-green colour
 - I. pattern, interrompu: silk, no visible twist, ochre colour

- II. pattern: gold-plated animal substrate; preserved in minute remnants

count: 12 passes per cm

découpure: 1 pass

Characteristics of the weave: ground - warp-faced 5-end satin (interruption 2; main paired warp and ground weft); pattern - tabby (binding warp and wefts in passes)

Pattern: composed of wide horizontal strips filled with grid ornament; the background features rows of two alternating types of palmette blossoms moved by half of their spacing

Pattern rapport: height 12.6 cm, width 25 cm

Original use: perhaps a dalmatic (only one sleeve and several small fragments are preserved)

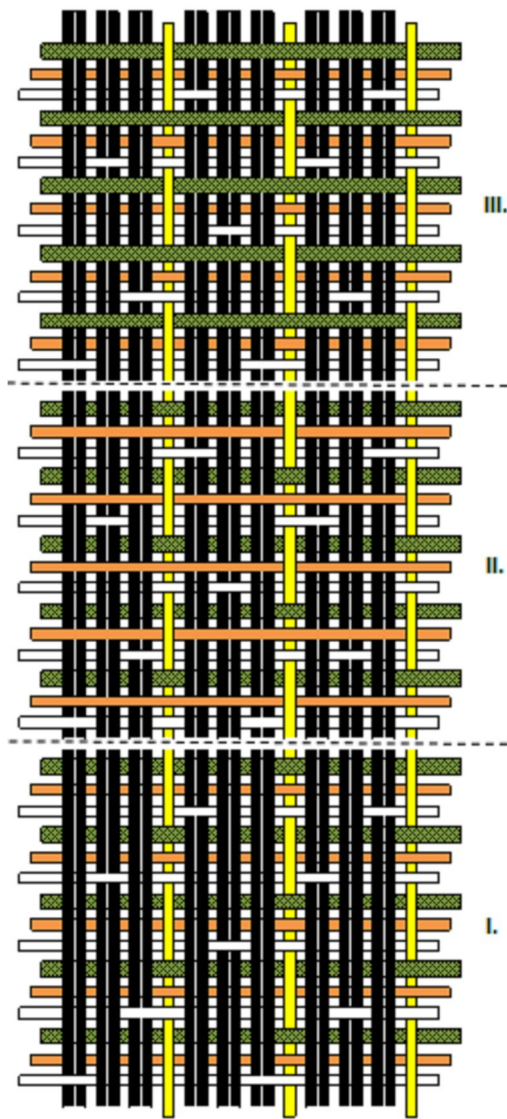


Figure 4 Fabric with palmettes and diamond mesh: a) weave diagram: I. - ground; II. - pattern - effect of weft I.; III. - pattern - effect of weft II.; b) fabric detail © Prague Castle Administration, photo: J. Gloc

2.3 Fabric with pairs of Chinese dogs, birds and a pseudo-Islamic inscription [7]

Find circumstances: Prague Castle, St. Vitus Cathedral, Royal crypt, coffin of Charles IV (†1378) or George of Poděbrady (†1471)

Storage; inventory number: Prague Castle collection; PHA 41/04, HS 21142

Dating: second half of the 14th century

Provenance: Italy

Technical analysis (Figure 5a, b)

Textile type: lampas, double weave in ground

Warp proportion: 3 pairs of main warp to 1 binding warp

- main, paired: silk, z-twist, green colour

- binding: silk, no visible twist, ochre colour

découpage: 2 pairs of main warp

count: 45 pairs of thread per cm (main warp),

15 threads per cm (binding warp)

Weft proportion (pass): 2 ground wefts to 1 pattern weft

- ground: silk, weak z-twist, green colour

- pattern: gold-plated metal strip wound around a silk core (S twist, ochre colour),

assembly S, couvert

count: 24 passes per cm

découpage: 1 pass

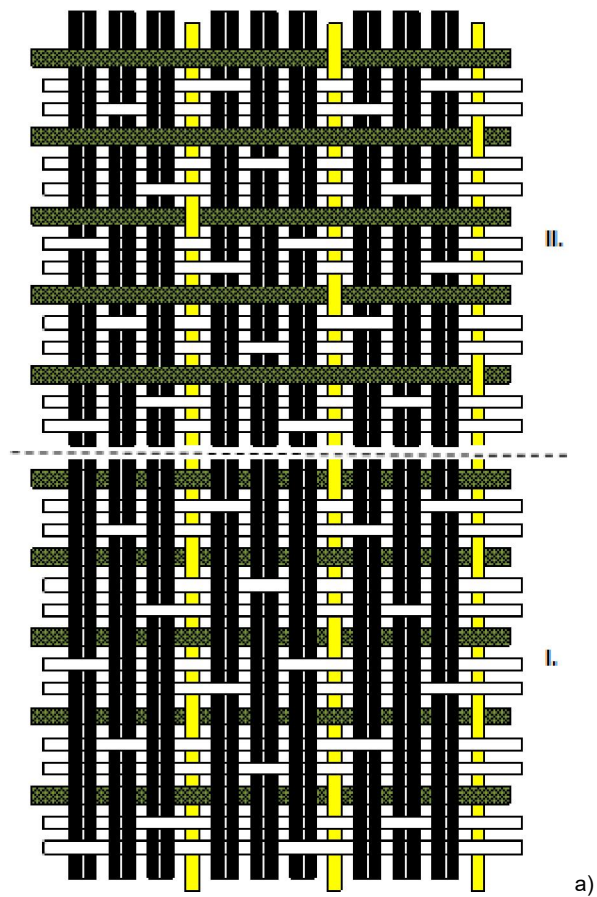


Figure 5a Fabric with a pair of Chinese dogs, birds and pseudo-Islamic inscription: weave diagram: I. - ground; II. - pattern

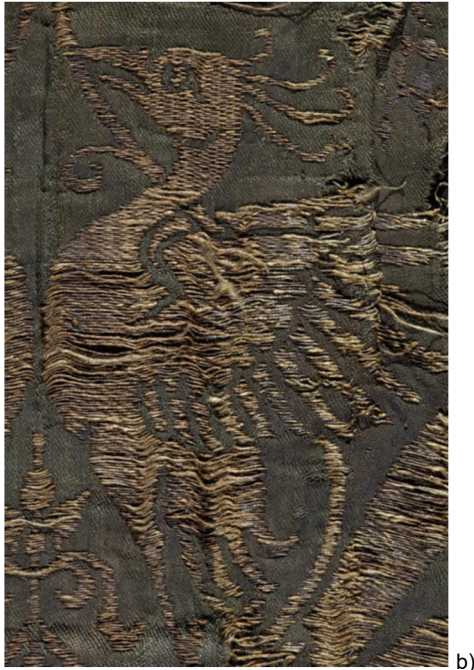


Figure 5b Fabric with a pair of Chinese dogs, birds and pseudo-Islamic inscription: fabric detail © Prague Castle Administration, photo: J. Gloc

Characteristics of the weave: ground - warp-faced 5-end satin (interruption 2; main paired warp and ground weft); pattern - 1.2 twill S (binding warp and pattern weft); where the pattern weft on the reverse is beneath the ground, it is connected to the binding weft in a tabby weave, but not connected in satin weave; in places with the pattern, the binding warp also runs beneath the ground wefts, thus binding the otherwise separate layers of the fabric

Pattern: a pair of Chinese birds flying towards one another from incomplete lotus palmettes connected below by a band with pseudo-Islamic characters; in their beak, the birds are carrying stalks from which a pair of leaves are growing, and between them is a pair of Chinese dogs

Pattern rapport: height 36.3 cm, width c. 9.2 cm
Original use: dalmatic

3 VELVET

Velvet is a pile weave in which the pile is produced by a pile warp which, by the introduction of thin metal rods during weaving, is raised in loops above a ground weave. Velvets can be classified based on the nature of the pile, e.g. in cut velvet the loops formed by the pile warp are cut, in uncut velvet the loops formed by the pile warp are left uncut.

The real velvet was woven in China and the Near East in the 13th and 14th centuries, despite the fact that knowledge of the loop pile warp technique is much older. The first European town to produce velvet was Lucca, Italy, at the end of the 13th century. Production then spread to other Italian towns, to Spain, France, Germany and England.

Velvet was initially monochrome; polychrome velvet and velvet with patterns were introduced later [3, 4, 8].

3.1 Unpatterned velvet [9]

Find circumstances: Prague Castle, St. Vitus Cathedral, Royal crypt, coffin of John of Görlitz (†1386)

Storage; inventory number: Prague Castle collection; PHA 53/09, HS 25824

Dating: second half of 14th century

Provenance: Italy

Technical analysis (Figure 6a, b)

Textile type: velvet

Warp proportion: 3 main warps to 1 pile warp
- main: silk, z-twist, brown colour
- pile: silk, no visible twist, brown colour
count: 45 threads per cm (main warp),
15 threads per cm (pile warp)

Weft proportion (pass): 3 wefts to 1 rod
silk, no visible twist, brown colour
count: 45 threads per cm

Characteristics of the weave: ground - extended tabby; cut velvet; cut pile warp interlaces with one ground weft identically over one and beneath two weft threads

Pattern: unpatterned; pile covers the entire surface of the fabric

Original use: cloak with a long and free cut composed of trapezoidal segments - 'houppelande'

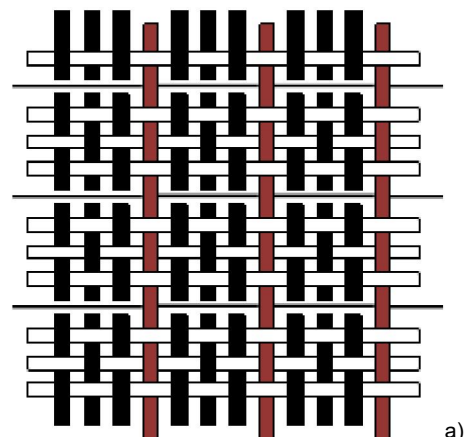


Figure 6 Unpatterned velvet: a) weave diagram; b) fabric detail © Prague Castle Administration, photo: J. Gloc

3.2 Velvet with a grape motif [7]

Find circumstances: Prague Castle, Cathedral of St. Vitus, Royal crypt, coffin of Charles IV (†1378)

Storage; inventory number: Prague Castle collection; PHA 41/03, HS 21141

Dating: second half of the 14th century

Provenance: Italy

Technical analysis (Figure 7a, b)

Textile type: velvet

- Warp proportion: 6 main warps to 1 pile warp
 - main: silk, z-twist, brown colour
 - pile: silk, no visible twist, brown colour
 count: 78 threads per cm (main warp),
 13 threads per cm (pile warp)
 découpage: 1 pile warp (pile warp effect),
 1 main warp (brocading weft effect)
- Weft proportion (pass): ground and pile warp effect –
 3 ground wefts to 1 rod
 ground and brocading weft effect - 3 ground wefts to 2 brocading wefts (2 ground wefts, 1 brocading weft, 1 ground weft, 1 brocading weft)
 - ground: silk, no visible twist, brown colour
 - brocading: gold-plated metal strip wound around a silk core (S twist, brown colour), assembly S, *couvert*
 count: 39 threads per cm (ground weft),
 26 threads per cm (brocading weft)
 découpage: 1 brocading weft (brocading weft effect),
 1 rod (pile warp effect)

Characteristics of the weave: ground - warp-faced 6-end satin (interruption 3-2-3-2-0-2); pattern - a) cut pile warp interlaces with one ground weft identically over one and beneath two weft threads; b) brocading weft binds in 1.3 weft-faced twill Z with each fifth main warp thread

Pattern: small, S-shaped twigs in oblique rows; each twig has two leaves turned to the opposite side (in cute pile) and one grape-shaped flower from a brocading weft

Pattern rapport: height 15.5 cm, width 15 cm

Original use: semi-circular cloak composed of either horizontally or vertically placed bands

4 CONCLUSION

In the period from the Early to Late Middle Ages, a wide variety of weaves and techniques were used to weave textiles. While only a small number have been preserved in archaeological contexts in the Czech environment, basic weaves, more complicated techniques and their variations testify to the advanced level of medieval textile production. Available finds document common household textile production as well as the ability of ruling dynasties, Church dignitaries and nobles to acquire luxury imported goods.

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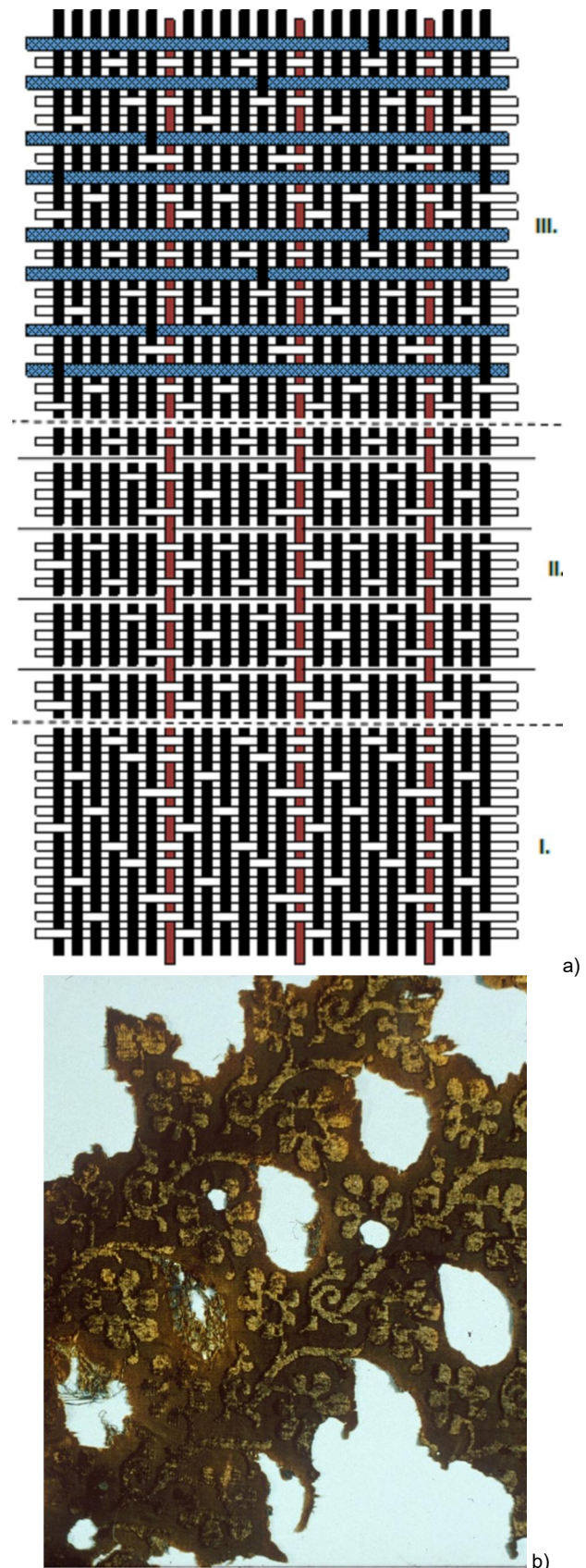











Figure 7 Velvet with a grape motif: a) weave diagram: I. - ground; II. - pattern - pile warp effect); III. - pattern - brocading weft effect; b) fabric detail © Prague Castle Administration

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Footnotes:

1) Illustrations of weave diagrams are processed according to the following key:

	main warp		brocading weft
	binding warp		brocading weft – metal thread
	pile warp		weft
	ground weft		weft II.
	ground weft II.		weft <i>interrompu</i>
	pattern weft		weft <i>interrompu</i> – metal thread
	pattern weft – metal thread		rod