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Department for Textile Conservation. From Preventive Protection to Conservation-Restoration Procedure

From its foundation in 1919, the largest part of the EthnographicMuseum fund has always been textile material. The task of museum workers is not only collecting and documenting the objects, but their protecting as well. The main assignment in the protection of museum objects is to assure adequate location and good micro-climate conditions, stable relation concerning temperature and relative humidity, protection from light and protection from pollution. Of all museum objects, textile material is among the most sensitive ones regarding the environmental conditions. It is permanently and inevitably subject to decay. The course of this process can be slower or quicker, depending on conditions and manners in which textile material has been exhibited and stored.

Keywords: Ethnographic museum (Zagreb) preparatory services for textile, textile restoration, textile conservation

Preparatory services from the Museum foundation until today

From its very founding, the Ethnographic Museum has employed qualified personnel who were responsible for the museum objects. The preparatory services for textile did not have separate offices until 1972. After the adaptation of the museum building, the preparatory services improved considerably, both in number and qualification (Gjetvaj, 1989:70). Apart from washing, textile (woollen material) was protected from moths with mothballs, globol and pantakan[1]; objects were also regularly exposed to air (Gjetvaj, 1989: 70). Objects often underwent a reconstruction procedure, which consisted in changing the damaged parts with new ones. In cases of restoration, damaged parts were fixed on the surface by imposition of vertical system of threads upon the damage.

[1] These are registered names of chemicals which were used for pest protection.

Preventive methods for protection of textile material

Methods of preventive protection are usually adopted as soon as the item has entered the museum: After the inventory number has been given to the object, it comes to the service where it is cleaned using a dry or a wet method, according the need, in order to eliminate all foreign matter. If it is infected by parasites, it undergoes the freezing treatment.[2] In case of the infection of the item with parasites together with mold and microorganisms, the treatment with gamma-rays is adopted[3], carried out at the Ruđer Bošković Institute.

After these preventive and curative measures of protection, the object is fitted out for the storage, what understands the usage of acid-free material, like acid-free wrapping tissue, Tyvek foil or non-impregnated cotton linen.

Conservative-restorative procedure

Objects which need a complete conservative-restorative intervention, are treated in such a way that they might remain in a state the closest possible to the original one. The procedure itself and the means which are used should be reversible. The way of the treatment is discussed and agreed about with the curator in charge. The future destination of the object is also important, together with the conduction of the complete documentation about the procedure.

Preliminary research and documenting

The procedure starts with preparations which encompass the description of the object as well the description of the state in which the object was found[4]. The next step is making photographs, graphic documentation and structural analysis of the object. Photographic documentation includes photographing the object before, in the course of, and after the intervention, also using microscopic photographing of textile fiber and possible damages. Graphic documentation understands a schematic outline of the cut, a schematic display

[2] Before the freezing process, the object is vacuumed in order to get rid of the dirt and fallen fibers, as well as of the traces of parasites and their eggs and larvae. The object is put into a freezer for fourteen days, at the temperature of -18°C. When it is taken out, it is left on a flat surface for one day, so that it can be gradually warmed up. Objects treated by such method should not contain wax, glass, synthetic fiber, varnish, bone or horny substance.

[3] Radiation disinsectization of objects made of textile fabric is carried out at the Ruđer Bošković Institute through applying the dose of 2 kGy if the object is infected with parasites, or with somewhat higher dose in case of contamination with mold or microorganisms.

[4] When describing the state of the object, along with the description of the damage, we also describe possible earlier interventions which took place before the object entered the museum. According to agreed procedure with the curator in charge, these interventions are removed if they additionally make damage to the object, or are left as they are in order to witness the life of the object.

of the embroidery, applications or other kind of ornament, and a schematic drawing of the damage on the object. Concerning the structural analysis, along with the photograph of the flat product and identification of the kind of fiber, a drawing of the unit of embroidery from the textile is enclosed, and the density of threads in the warp and the weft is measured. Through structural analysis of threads enclosed with the photograph, kind of fiber can be determined, also direction of coiling of threads, colour, purpose and kind of the sewing stitch.

Cleaning the object

After the research and documentation process, there follows the cleaning of the item. The safest method is the dry cleaning one, with a vacuum cleaner. It is used for objects which should not be wet cleaned. This category comprises objects made of wool, like some articles of clothing – čohe (overcoats), zobuni (sleeveless jackets), sadaci (long waistcoats), terluci (footwear), as well as housing textile – carpets, rugs, bags… Items made of various materials comprehending textile fibers as well, like carnival masks and the similar, and items dyed with non-fast colours are also included here. The best way of cleaning is, if it is allowed, the wet cleaning process using a solution of a neutral detergent and distilled water. The pH values of water during the process of washing and rinsing should be monitored constantly. Wet cleaning diminishes the acidity of the object and gives the object back its elasticity, gloss and pliability. Extensively damaged items are washed inserted in a tulle bag or a Melinex foil, in order to let the foil take the straining made by water (Petricioli, 1990:174). After the wet cleaning and drying in the air, the object is left to relax – by this method the object is given a certain amount of humidity in order to be manipulated with ease. Glass weights are used for straightening the object if it is flat, while bags with lead are used if it is in relief.

It is important to stress out that metal pieces on textile objects should not be cleaned with aggressive chemicals which destroy the fibers, while metal would oxidize again after some time.

Dry cleaning is a method which is also used for cleaning parts of garments made of wool. Objects are cleaned in a solution of perchlorethylene, with addition of greasing matter. Drying is done in a dry-cleaner's machine at the temperature of 55°C. Dry cleaning is executed with the recommendation from the Faculty of Textile Techology in Zagreb.

Conservation of the object with a needle and a silk filament

Objects in a ruined state or with damages like the missing parts of fiber, need additional underpinning. It is fixed to the fiber with a needle and a silk filament, using a restoring stitch, what is a very time-consuming work (Petricioli, 1990:174). As the underpinning material, a fiber similar in composition and structure to the basic cloth should be used,

dyed in the matching colour shade. With this method the existing parts are reinforced, while the restoration of the missing parts is not done, unless in agreement with the curator. Concerning the painted textile material, the object is placed on a mat treated with reversible glue. It is important to stress out that in the case of missing embroidery or application parts, reconstruction is not carried out. The point of conservative-restorative procedure is to consolidate the present parts of the object and ensure its good storage or exhibiting conditions.

Documentation on the realized operations

Keeping documentation evidence about the undertaken procedures has been a long-standing practice. Reports on the realized works of protecting, conserving and restoring objects have been written monthly, while an extensive report with enclosed photographs of all stages of procedure is written after having finished the conservative-restorative works. Since 2012, a computer program for secondary documentation (S– –) has been carried out. By entering the inventory number, the filled in form about realized conservative-restorative works is linked to the object described in the computer program for primary documentation (M– –).

Conclusion

Today the Museum service follows modern methods of protection and restoration of textile material. Every employee - Jasminka Vujičić, Ljiljana Vilus Japec, Marijana Najjar, senior preparators, and Mihaela Grčević, senior restorer, are responsible for a particular collection of textile and, along with a curator in charge of the collection, take care of the protection of material, which understands preventive protection as well as the complete conservative-restorative works on objects.

With the following presentation of chosen conservative-restorative works on objects from the museum storages, we wish to draw attention to the versatility of textile material in the Museum possession, and to point out the variety of techniques that are applied for its optimum maintenance and preservation.

Reports and documentation surveys on preparatory and conservative works are made by employees who made interventions on particular objects.

Translated by: Mirjana Randić

Mihaela Grčević, senior restorer
Marko Gašparić, restorer

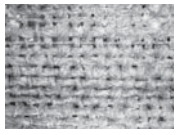
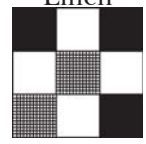
Conservative-restorative works on the object inv. no. 17001

Collection:	Collection of household inventory
Kind of object:	lantern
Date period:	first half of 20th century
Locality:	Bosnia, Bosnia and Herzegovina
Material:	copper, cotton linen
Technique:	embossing, incision, perforation, sewing
Ornament:	stylized herbal and floral

Description of the object

The lantern is made of two shallow round copper dishes, with a bellows, made of white linen, fixed in between, like in accordion. The copper dish is ornamented with techniques of embossing and impressing at the bottom side. In the middle of the inner side a double stand for the candle is fixed. The upper part of the copper dish is decorated with embossing and perforating, leaving a 6,50cm wide opening in the middle. The lid which fits the opening is raised, ornamented with the techniques of embossing and perforation, fixed to the handle at one end. The brass handle is of semicircular shape, fixed at two opposite sides of the opening, with a hook for hanging the lantern. In a stretched position the lantern is 37cm long. The ornament is stylized, herbal and floral (fig. 7.01, 7.02).

Structural analysis of the material

MATERIAL	COLOUR	BEARER	EMBROIDERY UNIT	THREAD DENSITYcm2
Cotton 	Beige	Basic cloth	Linen 	Warp=24t/cm Weft=24 t/cm

Structural analysis of the thread

THREAD	FIBER	COILING DIRECTION	COLOUR
	Cotton	S	Beige

The graphic documentation shows damages on the object (fig. 7.03). Microscopic photographs show a layer of dirt and mechanical damages on the object (fig. 7.04).

Description of the state of the object before starting the intervention
Copper dishes have partly corroded and are covered with a layer of dirt. The body of the lantern, made of metal rings coated with cotton linen, is substantially damaged through use. Metal rings have also corroded to a large extent, so that corrosion passed onto the textile and damaged it irreversibly. Together with damages made by corrosion, a series of cracks and two patches are found on the object. Patches cover the spots where the linen burned through. The material itself is covered with a thicker layer of soot at the inner side, resulted from the burning of candles and from dirt too.

Conservative-restorative works on the object
Separating parts of the lantern: in order to perform the conservative-restorative procedure on the object, it was necessary to separate the body of the lantern, made of textile material, from metal parts. Textile was fixed to metal parts with a wire. The seam which joined ends of the material has been unstitched and metal rings taken off. In the course of this phase of work, earlier interventions have been removed, namely patches which did not fit correctly to the object.

Wet cleaning of the object: before the wet cleaning procedure, a test in the solution of neutral detergent and distilled water was carried out. The test proved that the object can take the treatment well and that dirt is well cleaned out. Because of its bad condition, the object was sewn into a tulle sandwich in order to be manipulated with more ease and to prevent any damages during the wet cleaning procedure.

By wet cleaning of the object in a tulle sandwich, it was not possible to clean out persistent dirt. In the second phase of cleaning, the object was stretched on a clean, flat surface and partially cleaned with a solution of neutral detergent *orvus paste*, in distilled water. Persistent spots were cleaned with a soft brush. In the end, the object was sewn again into the tulle and rinsed out in baths of distilled water.

Closure of the damage with a restoring stitch; thin cotton linen of white colour was dyed in a solution of *marabou* dyes, distilled water, salt and vinegar into a matching colour. Cotton linen prepared in such a way was used to line a part of the lantern made of textile. After placing the object onto a new pad, damages were closed with a silk filament, using a restoring stitch (fig. 7.05).

Joining parts of the lantern: after having closed all damages, parts of the lantern were put together. First, the textile cloth was sewn to metal rings with *Gutermann Col. 124* cotton thread, on four places. The body of the lantern was then sewn to copper dishes using the same thread (fig. 7.06).

Corrosion and dirt from metal parts were eliminated in the Museum restoring services for wood, metal and ceramic products.

Deposition of the lantern
After the restoring procedure, the lantern was part of the exposition “Fire”. After the exhibiting, it was mechanically cleaned by vacuuming and deposited.

Mihaela Grčević, senior restorer

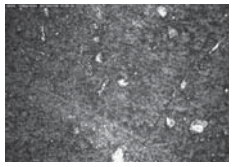
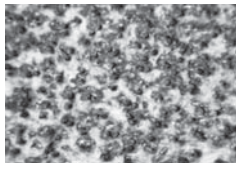
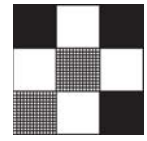
Conservative-restorative works on the object inv. No. 28846 a, b

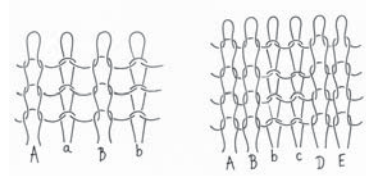
Collection:	Folk costume of the Adriatic
Name of the object:	female working footwear
Name in a dialectal form:	*škarpini*
Date period:	first half of 20th century
Locality:	Dugi Otok
Material:	leather, rubber, cotton thread, wool
Technique:	machine-sewn, sewn by hand, knitted

Description of the object

Škarpini are female working footwear, as a rule made by women themselves. They were worn during agricultural work or in winter. They are part of the costume of the Adriatic region. *Škarpini* are made of canvas in natural colour, with rubber soles and leather reinforcements on toes and heels. The upper part of the sock is knitted from brown wool and sewn into the footwear using the button-hole stitch. The part of the sock covering the foot is in right right plain knit, while the part on the calf is in right right ribbed knit 2+2. Leather parts of the footwear are machine-sewn to the canvas base, while the upper part is sewn by hand, using a strong cotton thread (fig. 7.07).

Structural analysis of the material

MATERIAL	COLOUR	BEARER	EMBROIDERY UNIT	DENSITY
Rubber 	Black	Sole		
Leather. 	Black	Basic textile		
Cotton 	Beige	Basic textile	Canvas 	10x10t/ cm2

Wool 	Brown	Sock	Plain and ribbed (2+2) knit 	

The graphic documentation presents damages on the object, as well as a stitch through (fig. 7.08, 7.09). Microscopic photos show surface damages on leather parts of the object (fig. 7.10).

Description of the state of object before intervention
Škarpini are damaged through use. The leather sole is worn out and partly unsewn from the upper part of the footwear. Leather parts on toes and heels are deformed and worn down, very hard and dry. The canvas part is in a good condition and, apart from dirt, shows no larger damages. The woollen sock is in a poor condition, moth-eaten to a large extent. When they arrived to the Museum, *škarpini* were completely covered with dirt and fallen-out fibres, while moth eggs were also present. Deformity and worn-out condition of leather parts came through wear, while damages on woollen parts are due to moth activity.

Conservative-restorative works on the object
Cleaning of the object: after the object was photographed, it was mechanically thoroughly cleaned by vacuuming. The next phase was freezing it in a freezer at the temperature of -18°C. This procedure is used to kill possible still alive moth larvae and eggs. The treatment lasted for 14 days, after what the object was left to temperate one day and then vacuumed again in order to eliminate the rest of the dirt.

Leather parts of the footwear were systematically treated through several weeks. In the first place, impurities were removed with a leather cleansing means called *Leather detergent* and by rinsing the object in distilled water. After the leather parts had dried, the treatment continued with softening the leather. Wooden lasts were used in this stage, together with a means for softening the leather, *Leather conditioner.* The procedure lasted for two weeks. After the finished conservative-restorative works, leather was additionally treated with a protective means *Leather saver*.

Closing the damages on the woolen part of** škarpini**:
In order to conserve the woollen part of footwear, a new pair of socks was knitted, using home-spun wool of adequate colour. The Museum employee Dragica Kuleš knitted the socks. Damages were closed after the earlier interventions, based on mending and sewing

with a black woollen thread, were removed. After preliminary works and the construction of lasts, closing the damages is effectuated so that damaged parts of socks are fixed with woollen thread to the new bearer.

Making lasts and storing the object
For an adequate storing of the object, wooden lasts were made, as well as an addition for the sock, wrapped in an acid-free Tyvek foil (fig. 7.11, 7.12). The box is also padded with Tyvek foil.

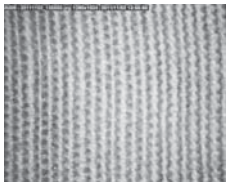
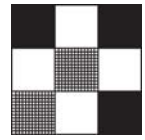
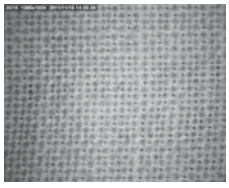
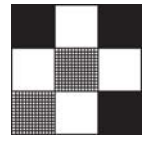
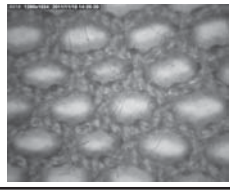
Conservative-restorative works on the object inv. No. 23496 a, b

Collection:	Collection of folk costumes of lowland Croatia
Name of the object:	female festive clothes – *nošnja zlatovezom* (gold-embroi dered costume) – *rubina* (skirt) and *oplećak* (bodice)
Name in dialectal form:	*ruvo zlatom*
Locality:	Donji Andrijevci, Slavonia
Date:	about 1939
Material:	home-made and factory-made silk textile, golden thread, factory-made lace with machine-made embroi dery
Technique:	machine-sewn, embroidered with golden thread *naskroz* (through) and *preko papira* (over the paper)
Ornament:	geometrical and stylized herbal, *katori*

Description of the object
The skirt, *rubina*, is made from seven halves of silk, home-woven thin material. On the back part it is largely gathered and sewn into a 5cm wide band. It is decorated with eight vertical stripes of golden embroidery 60 x 5cm large and a *vez ozdol* (embroidery underneath) which runs over the wide hem. The skirt ends with a 17 cm wide tulle lace, ornamented with applications of silk cloth in golden embroidery. At the inner side of the hem, a factory-made *šlingana podčipka* (under-lace embroidered in eye-hole stitch) is sewn on. It is only discreetly visible through thin silk fabric of the skirt.

The bodice, *oplećak*, also called *oplećko i rukavi*, is made of the same home-produced silk like the skirt. Its front part is slit through, so that each half is 33cm wide and bears no ornament. The back consists of two halves of material. It is widely gathered and decorated with three stripes of golden embroidery in the form of a vine with two pairs of twisted sprigs. Wide open sleeves are made of two halves of material each and gathered on the shoulder. They are folded by the length into three wide pleats which are decorated with golden embroidery of the matching but somewhat different vine pattern than the one at the back. Sleeves end with a 13cm wide organdy lace decorated with machine-made embroidery. White contours of the herbal ornament are filled with silk and pulice na bodove (metal plaques), *živo zlato* (“live” golden springs) and *šljokice* (sequins).

Structural analysis of the material

MATERIAL	COLOUR	BEARER	EMBROIDERY UNIT	THREAD DENSITY In cm2
Silk 	Ivory	Basic textile	linen 	Warp=28t/cm Weft=30t/cm
Cotton 	White	Eye-hole stitch	linen 	Warp=40t/cm Weft=40t/cm
Cotton 	Ivory	Tulle lace	Basic knit	

Structural analysis of the thread

THREAD	KIND OF FIBER	COILING DIRECTION	COLOUR
fig. 11. 	Cotton	S	Ivory
fig. 12. 	Metal thread		Golden

Graphic documentation shows the cut of the skirt and the bodice (fig. 7.13), golden embroidery on the skirt (fig. 7.14. a, b) and on the bodice, respectively (fig. 7.14 c, d).

Description of the condition of the object before intervention
The gold-embroidered costume was made around 1939, but it was purchased fort he Museum in 1971. It has been part of the permanent museum exhibition for about thirty years, what resulted in stretching out and breaking of silk threads caused by the weight of embroidery done in golden thread. Damages developed along the golden embroidery (fig. 7.15). Golden embroidery, lace on the skirt and eye-hole stitch lace are in good condition and do not need any conservative-restorative intervention.

Conservative-restorative works on the object
Conservative-restorative works on the skirt started with separating the parts: lace, eye-hole stitch lace and band. After this, the skirt was wet cleaned and dried in the air. A muslin silk toned in the matching shade of the skirt was used for underlaying. The skirt was partially relaxed and lined with silk over the whole surface (fig. 7.16). Damages on the skirt, splits, were closed with a silk filament in a restoring stitch. After having closed all damages, parts of the skirt were joined again. Lace, eye-hole stitch lace and band were machine-stitched to the skirt (fig. 7.17).

The conservative-restorative work on the bodice started with wet cleaning and drying the object in the air. The bodice was then partially relaxed and lined with muslin silk only on the damaged parts. Damages were closed with silk filament in a restoring stitch. After that, the bodice was again partially relaxed and gathered (fig. 7.18).

Storing the skirt and the bodice
After the conservative-restorative works, the skirt and the bodice were stored in an acid-free box padded with Tyvek foil.

Marijana Najjar, senior preparator

Conservative-restorative works on the object inv. No. 4/891

Collection:	Collection of lace
Kind of object:	pillow with bobbin lace
Date:	start of 19th century
Locality:	Sv. Ivan Žabno
Material:	hemp, cotton, wood
Technique:	lace making with bobbins

Description of the object
The pillow is made of coarse hempen home-made linen and filled with sawdust. The lace is made of homemade linen thread, with ornament in largely spaced out rhombi. The lace is fixed to the pillow partially with needles and partially with thorns. Threads are wound around bobbins, while lace is produced by intertwining them. Bobbins are short, made of hard wood, decorated with carved ornament (fig. 7.19).

Description of the condition of the object before the start of works
Threads got entangled and some broke, what caused the majority of bobbins to detach from the threads which were wound on them. A number of thorns, which were used for fixing the lace to the pillow, are missing.

Conservative-restorative works on the object
First, the object was photographed in the found condition. Then all the parts were set apart; first the lace was detached from the pillow, then flaxen threads were unwound from bobbins. Wet cleaning of the lace and the pillow followed, while bobbins were conserved in museum preparatory services for wood, metal and ceramics. The lace and the pillow were put to dry in the air (fig. 7.20, 7.21).

Lace was washed in a solution of mild detergent and water. Then the surface of the pillow wais sprinkled over with mild detergent foam. The foam was left to work for about twenty minutes, after what dust and dirt were gently taken off with a moist sponge.

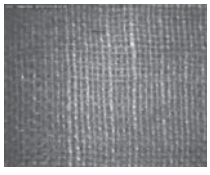
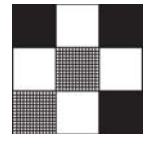
After having cleaned all the pieces, lace was put back onto the pillow and fixed with thorns along the rims. Threads of flax were disentangled and each was wound upon a bobbin. Pins were substituted with thorns. The object was stored in an appropriate box and wrapped up in an acid-free paper (fig. 7.22, 7.23, 7.24).

Conservative-restorative works on the object inv. No. 2/7711

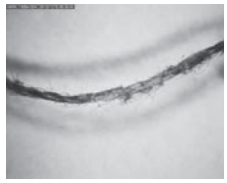
Collection:	Collection of lace
Kind of object:	bridal handkerchief
Date:	19th century
Locality:	Belgium
Technique:	bobbin-lace, machine-woven cambric

Description of the object
A handkerchief for the bride is made of flaxen batiste and flaxen bobbin-lace. The lace consists of a series of rhombi with curls, joined at the bottom with a double wavy line. Four small circles are placed between the rhombi. The upper brim is wavy, while the one at the bottom is serrated (fig. 7.25, 7.26).

Structural analysis of the textile material

MATERIAL	COLOUR	BEARER	EMBROIDERY UNIT	THREAD DENSITY
Flax 	Natural colour of flax	Basic material	linen 	Warp=45t/cm Weft=45t/cm

Structural analysis of the thread

THREAD	KIND OF FIBER	COILING DIRECTION	COLOUR
	Flax	S	Natural colour of flax

Description of the condition in which the object was found
Damages in the form of bigger and smaller holes, evolved due to mechanical handling, were discernible on the cambric. Tiny, hardly noticeable damages were found on the lace which borders the cambric.

Conservative-restorative work on the object
Separating previous interventions: in the course of primary usage, damages on the flaxen batiste were closed with non-adequate kind of thread. In accordance with the curator in charge, previous interventions were removed.

Wet cleaning: the object was wet cleaned in a solution of neutral detergent and distilled water. The surplus of water was eliminated with an absorbent, and then flattening of the object was carried out with the help of weights (fig. 7.27, 7.28).

Closing of damages with a restoring stitch: a square of cambric on the handkerchief was lined with *crepeline* silk of natural colour. Damages were closed with silk filament in restoring stitch (fig. 7.29, 7.30).

Ljiljana Vilus Japec, senior preparator

Conservative-restorative works on the object inv. No. 6006

Collection:	Collection of objects linked with customs and religiousness
Kind of object:	Christmas decoration in the shape of heart
Name in dialectal form:	*srce božićnje*
Date:	1926
Locality:	Vina Vas, Novo Mesto, Dolenjsko, Slovenia
Material:	paper, glass

Description of the object
Srce božićnje (Christmas heart) is a decoration made of paper, in the shape of a heart. The heart is cut out of thin cardboard, with a sheet of white paper glued to the surface. In the

middle of the heart a small holy picture is fixed, over it is placed a rectangular glass mirror, while many small paper cones with a floweret on top are glued all around. Cones are made of thin light-blue and white paper. The brim of the heart is decorated with two rows of flattened glued-on small cones made of thin pink paper. On top of the object, a string for hanging is pulled through the cardboard (fig. 7.31). On the reverse side, the text with the description of the object is glued on, containing the date of presenting the object as a gift and the signature of the donor (fig. 7.32).

Such hearts were made for Christmas by girls from villages around Novo Mesto. The heart was placed in a prominent place on the wall, where it used to stay over the Christmas holidays.

Description of the condition of the object before the working procedure
The whole surface of the object was covered with dirt. Layers of paper and cones were glued using organic, starch-based glue, which was, due to its composition, partly pest-infected (fig. 7.33).

Conservative-restorative works on the object
Dry cleaning: the heart was cleaned from the accumulated dirt by vacuuming with a restoring vacuum cleaner and brushing by hand using a soft brush.

Gluing: after having cleaned the whole surface of the heart and cones (fig. 7.34, 7.35), cones were glued back to places where they had previously been glued-on. Gluing was done using the *Klucel* glue. The mirror was put back to the adequate place, but without gluing it, in order to prevent additional damage to the holy picture beneath it (fig. 7.36).

Conservative-restorative works on the object inv. No. Ex 1407

Collection:	Collection of objects of non-European cultures
Kind of object:	mask
Date:	first half of 20th century
Locality:	New Guinea, middle course of the Sepic River
Material:	turtle shell, clay, human hair, feathers, cowry shells, grass blades
Purpose:	ritual

Description of the object
The mask is made in such a way that a human face is modelled on the turtle shell from clay and surrounded with wicker. Small bunches of black cassowary feathers are fixed to the wicker. Small white feathers of unknown kind of birds are tied to tops of bunches.

Face features are done in black and white pigment, in a Sepic-style. Eyes are represented with two cowry shells, while hair, eye-brows and beard are made from human hair. Ears are decorated with grass blades, which also hang down the nose (fig. 7.37, 7.38). Such masks of chiefly highly distinguished persons, were put in men's houses were rituals used to take place.

Description of the condition of the object before the start of intervention
The mask has been part of the permanent exhibition of non-European cultures, exhibited in a glass case, from 1972 on. Although well preserved, it is dry and fragile. Small cracks are discernible in clay on several places. Grass blades break at a touch, while hair falls out when handling the object. Feathers are in good condition. A few feathers fell out of bunches. White feathers are missing on several places. On the reverse of the turtle shell, still on New Guinea, insects made nests of mud in three places.

Conservative-restorative works on the object
Mechanical cleaning: first the mask was cleaned mechanically. The dirt was cleaned from the surface with a restoring vacuum cleaner (fig. 39).

Wet cleaning: bunches of feathers were set down on the absorbing band one by one, and brush smeared with solution of 95% ethyl-alcohol and distilled water in proportion 50:50. Then every bunch was transferred to a clean absorbing band and smeared with a brush dipped in a solution of neutral detergent *Restore Detergent* and distilled water in proportion one to two drops for 100ml water. The bunch was placed on a clean absorbent band and rinsed with a brush in distilled water (fig. 7.40). The procedure was repeated as long as traces of dirt remained on the absorbent band (fig. 7.41). After wet cleaning, bunches of feathers were dried with hair drier set on cool.

Gluing: after having finished mechanical and wet cleaning of the mask, broken grass blades were glued on at the right ear and right nostril. Grass blades were glued with *Mowilith 50 Polyvinylacetat* glue.

After the end of conservative procedure (fig. 7.42), the mask was put back into the case of the permanent exhibition of the Collection of non-European objects in the Ethnographic Museum.

Jasminka Vujičić, senior preparator

Conservative-restorative works on the object inv. No. 10628 f

Collection:	Folk costumes of the Adriatic region
Kind of object:	female hat
Name in a dialectal form:	*klobuk*
Date:	start of 20th century
Locality:	Orebić, Pelješac
Dimensions:	25 cm in diameter
Material:	panama straw, silk, brocade

Description of the object:
The panama straw hat is decorated with a wide silk band, lace and brocade band. It was worn by girls in ceremonial occasions (fig. 43).

Description of the object before the start of work
The object is old, damaged through usage. The straw became cracked and was missing at

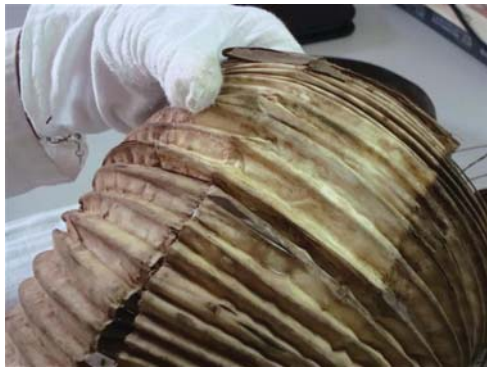
some places (fig. 44). Silk ribbon and lace were covered with dirt, but were well preserved. The weft was missing at several places on the brocade band (fig. 7.45).

Conservative-restorative procedure on the object

Both bands, the bow and the lace were taken down from the hat. Every part was treated separately, depending on the damage. The brocade band was lined with a brown *crepeline* silk (fig. 7.46), while damaged parts were closed in a restoring stitch.

The wide silk band and the bow were washed in a solution of distilled water and neutral detergent. During the process of drying, the bow had been lined with *polyester* padding, in order to keep it in shape. The lace was washed in the same solution, but before putting it back to the hat, it was placed between two layers of tulle (fig. 7.47). After washing, the hat was left to dry in the air, placed on the block. In the end, all parts were put back on the hat and stitched through with a cotton thread of the adequate colour (fig. 7.48.)

Translated by: Mirjana Randić



7.01 Predmet prije početka radova
Object before the start of works

7.02 Predmet prije početka radova
Object before the start of works

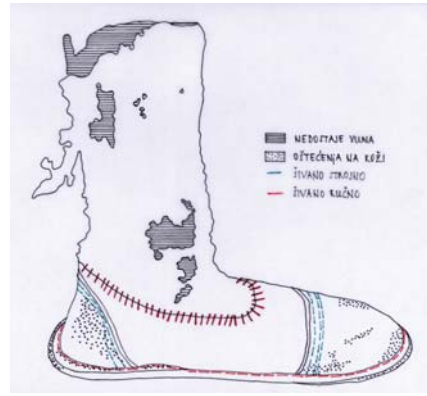
7.03 Grafički prikaz oštećenja na fenjeru
Graphical display of the damage on the lantern

7.04 Mikroskopski prikaz oštećenja na fenjeru
Microscopic display of the damage on the lantern

7.05 Zatvaranje oštećenja restauratorskim bodom *Closing the damage with a restoring stitch*

7.06 Predmet nakon završetka radova
Object after the intervention

7.07 Predmet prije početka radova
Object before the start of works



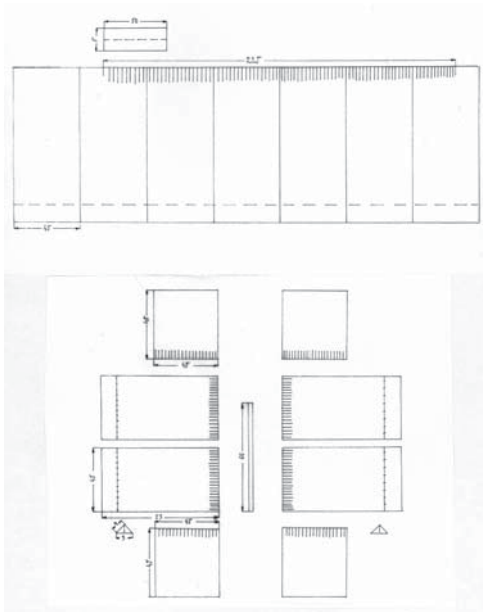
7.08 Shematski prikaz oštećenja i prošiva na predmetu *Schematic illustration of the damage and sewing through of the object*

7.09 Shematski prikaz oštećenja i prošiva na predmetu *Schematic illustration of the damage and sewing through of the object*

7.10 Mikroskopski prikaz oštećenja na koži
Microscopic display of the damage on leather

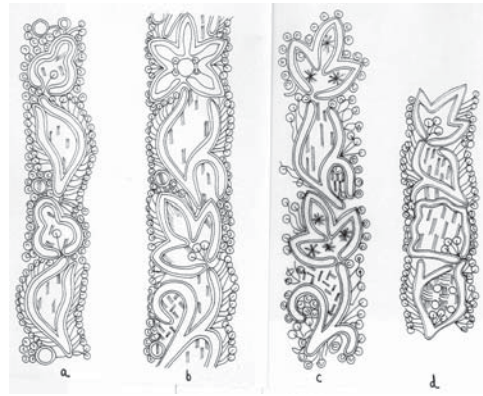
7.11 Kalup pripremljen za deponiranje
Last made for storing

7.12
Predmet nakon završetka radova
Object after the intervention



7.13 Shematski prikaz kroja rubine i oplećka
Schematic illustration of the cut of skirt and bodice

7.15 Oštećenja na rubini
Damages on the skirt



7.14 Shematski prikaz zlatoveza na rubini (a, b) i oplećku (c, d)
Schematic illustration of golden embroidery on skirt (a, b) and bodice (c,d)

7.16 Podlaganje rubine novim nosiocem
Lining the skirt with a new bearer

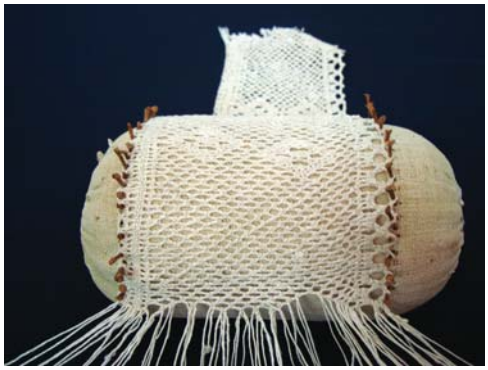
7.17 Predmet nakon završetka radova
Object after the intervention

7.18 Oplećak nakon završetka radova
Bodice after the intervention

7.19 Predmet prije početka radova
Object before the start of works

7.20 Konzervatorsko-restauratorski radovi
Conservative-restorative procedure

7.21 Konzervatorsko-restauratorski radovi
Conservative-restorative procedure



7.22 Predmet nakon završetka radova
Object after the intervention

7.23 Predmet nakon završetka radova
Object after the intervention

7.24 Predmet nakon završetka radova
Object after the intervention

7.25 Predmet prije početka radova
Object before the start of works

7.26 Predmet prije početka radova
Object before the start of works

7.27 Mokro čišćenje predmeta
Wet cleaning of the object

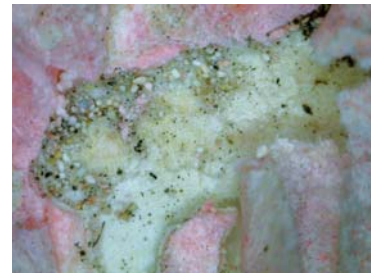
7.28 Relaksiranje predmeta
Relaxing of the object

7.29 Konzervatorsko-restauratorski radovi
Conservative-restorative procedure

7.30 Predmet nakon završetka radova
Object after the intervention

7.31 Predmet prije početka radova
Object before the start of works

7.32 Predmet prije početka radova
Object before the start of works



7.33 Mikroskopski prikaz oštećenja
Microscopic display of the damage

7.34 Predmet nakon mehaničkog čišćenja usisavanjem
Object after the mechanical cleaning with vacuuming

7.36 Predmet nakon završetka radova
Object after the intervention

7.35 Mikroskopski prikaz nakon čišćenja predmeta *Microscopic display after the cleaning*

7.37 Predmet prije početka radova
Object before the start of works

7.38 Predmet prije početka radova
Object before the start of works

7.39 Mehaničko čišćenje usisavanjem
Mechanical cleaning by vacuuming

7.40 Mokro čišćenje predmeta
Wet cleaning of the object

7.41 Mokro čišćenje predmeta
Wet cleaning of the object

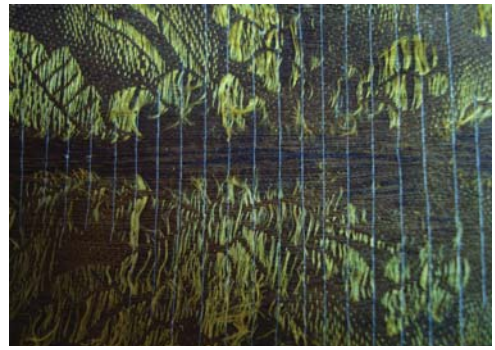
7.42 Predmet nakon završetka radova
Object after the intervention

7.43 Predmet prije početka radova
Object before the start of works

7.45 Oštećenja na predmetu
Damages on the object

7.47 Konsolidiranje čipke na novu podlogu
Consolidating the lace to the new pad

7.44 Oštećenja na predmetu
Damages on the object



7.46 Zatvaranje oštećenja restauratorskim bodom
Closing damages with restoring stitch

7.48 Predmet nakon završetka radova
Object before the start of works