

**Estonian Academy of Art
Department of Conservation and Cultural Heritage**

Master Thesis

**The textile environmental conditions and the resource needs building
up shared storage facilities for museum collections**

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1 Introduction

2 Textiles

2.1 *Technology of textiles textiles*

2.2 *The textiles in Estonia*

Estonia has a big tradition in the textile items- from clothing until home textiles. The creation of textiles was always a work for the women. Until the beginning of the 20th century, the clothes were mostly handmade. From the feedstock until the colouring the women were making them selves. The threads were mostly natural. After the 1920 appeared also industrial made threads. They same apply also for the dyes.

The archaeological investigation has shown that, Estonian clothes are mentioned from the 11th-13th century¹. The periods of Estonian textiles can be separated to:

- until 18th century
- 19th century
- 20th century

Generally, the most common type of clothing for the women and girls was woollen wrap-skirt and linen shirt, which survived until 19th century.

At the end of 19th century except the folk costumes, appeared also the peasants clothes, from the tzar's period. Some of the elements of those were adopted from the country people.

In the 20th century the folk costumes started, slowly to disappear in the biggest part of Estonia. The urban style adopted and then the clothes from the communistic period.

¹Estonia Culture, http://www.estonica.org/eng/lugu.html?menyy_id=100&kateg=41&alam=55&leht=9 (18/5/2010).



Photo 1: Estonian folk costumes from different regions.

2.2.1 Type of textiles (three-dimensional objects & flat)

Until the 18th century we are speaking about national costumes and the handmade textiles for every occasion of Estonian life. The mention of the folk costumes relies to the clothes, which were worn by peasants in the feudal period. The costumes improved according to the economy and the technical skills. The Estonian folk costumes were influenced by the neighbours costumes and by the fashion of higher classes². More specific in 17th century some elements from the central Europe and Scandinavian fashion, were adopted by Estonian people³.

The type of the changes, were made, depending to the region that belong to. There are four main groups that someone, can divided them. The South Estonia, West Estonia, North Estonia and the islands (photo 1&2). However, between of them there are also differences depending on the tribes⁴.

²Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.21

³Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.22

⁴Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.21



Photo 2: Stamp which shows folk costume from Seto



Photo 3: Stamp which shows folk costume from Ruhnu island.

The clothes are separated to the festive, second-best and work clothes⁵.

The folk costumes depending on different parts for women and men. Briefly, we can notice them.

For the women,

- shirts(long and short) with long or short sleeves, it depends from the tribe. The short shirt was worn upper the long shirt mostly at the festive time⁶.

- The skirts depending of the period and region are different types. The most archaic was narrow and without a colour. It was trimmed with an ending or a band like wrap-skirt. In the 18th century the skirt started to be wider and colourful. Characteristic of most of them is the appearance of stripes, which had different colours to every region⁷.

- The aprons were worn in celebrations.

- The belts were used from 14th century until the 19th century. Except the usage it had also magic meaning, as it protected from the bad energy⁸.

- Important accessory were the pockets and purses⁹.

- Bodices.

- The jackets during the centuries changed also and follow the fashion of the abroad, without losing its national character¹⁰.

- Neckerchiefs (kerchiefs, stoles, shawls).

- Wraps (plaids, shawls) are an archaic cloth. They were worn it until 19th century under the jackets. They had winter and summer¹¹.

- Hairdo, hairdressing, chaplet, veils, kerchiefs, coifs, pot and hoof shaped caps, knitted caps- stocking caps and disk caps and winter caps¹².

The men clothes were

- The men shirts were usually tunics with T-neck. In same areas the shirts did not have sleeves and have low stand up collar. However, that elements change from each region. In the 19th century they started to adopt characteristics from the urban fashion. The collars became high, the corners were rounded, the fastening was hidden¹³.

- The short coats were used only from few regions, like Saaremaa. Generally, it was mostly adapted at the 18th and 19th century. In most of the regions the men wore long

⁵Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.22

⁶Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.74-75

⁷Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.75

⁸Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.76

⁹Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.76

¹⁰Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.77

¹¹Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.77

¹²Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p. 77-79

¹³Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p. 80

coats¹⁴.

- Trousers and breeches. The breeches appeared in Estonia at the 17th century and they were mostly made from lather. However, they were worn until the middle of 19th century and were used different materials.

- The vests appeared at the 19th century¹⁵.

- The neckerchiefs appeared also at the 19th century. They were worn mostly in islands, west and north Estonia. They had blue and white colour or red and white¹⁶.

- Belts.

- They were different types of hats. The stiff felt hat for the celebrations, the summer hat which was less festive and the winter hats¹⁷.

Furthermore, there were clothes that were worn by men and women. These were

- long overcoats were worn from both women and men. The difference was in their ornaments. The “robe” type was in the 17th and 18th century. In the 19th century started to appear the “full skirts” and tight-wasted type. Moreover, in the third quarter of 19th century the short and tight-wasted coats had ruffled or pleated skirts, became more spread among the women¹⁸.

- Mittens and gloves.

- Stockings. The foot-cloths and blanket-socks were found still in the 19th and the begging of 20th century. The pasterns of them are staging also here, depending with the region.

- The garters were fish-bone usually, and were worn under their breeches¹⁹.

Finally, there were the children clothes.

Except from the clothing in Estonia there are zillion of every day use textiles and not only. Most of them they were hand made. These items are, carpets, blankets, tapestry, towels, bedsheets and all the needful textiles that need a house.

Moreover, there are also some church textiles, which are used during the ceremony.

2.2.2 Materials

The materials of the clothes were changing depending on the occasion. The main materials that were used, were wool, cotton and linen. In some occasions was used a combination of them. However, very often was use silk, especially at the festive clothes.

¹⁴Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.80-81

¹⁵Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.81

¹⁶Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.81

¹⁷Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.81

¹⁸Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.82

¹⁹Melanie Kaarma, Aino Voolma, *Eesti rahvarõivad*, Eesti Raamat, Tallinn, 1981, p.82

There is also viewable the use of leather and especially at the winter coats the use of fur.

For the decoration of the clothes were used different materials, like metal threads, ceramic or glass beads, buttons, colourful threads woollen or cotton, and other pieces of textiles (Photo 4).



Photo 4: Hat decorated with different materials.

Until the end of 19th century and in some occasions at the beginning of the 20th century most of the clothes were handmade by the women. Depending of the item they were knitted or weaved in the loom. Few materials were bought like the silk.

The home textiles are made from wool, cotton and linen. Depending from their importance some of them have been decorated with cotton threads and beads. It has to be mentioned that for example, in some carpets was used a combination of cotton and wool, or in some towels cotton and linen.

Church textiles are also mainly made from wool and cotton. Quite often was used silk, as well. For the decorations was used very often metal threads.

2.2.3 Dyes

The woolen threads were dyed by putting them firstly in a hot water for 2-3 days, in order to be cleaned. After the thread was dried and was put it again to a water which was added flowers, leaves, tree cortex or cone of trees. These were staying there for 3-4 hours. Before putting the threads inside, the dyes had stayed , until to give the right color. After the item was washed, in order to leave the muchness of the color ²⁰. The tone of the item depends how long it would stay inside the dye solution. The animal threads (wool and

²⁰Eesti Rahva Muuseumi, Aastaraamat XIV, Tartu, 1939

silk) colored easier than the plant threads like cotton and linen .

The basic colors that Estonians used for their textiles were white, black, yellow, green, brown and gray. The color were taken mostly from plants, especially before the 20th century. The light blue color was taken from indigo, which was imported. Afterward, appeared to the market the Heamatoxylon campechianum, which gave same tones of blue, but mostly gives purple. Moreover, the colors were taken from different plants like

- red: madar (Galium), maitsepunane, marane (Potentilla), tedre-madar, punejapunane, õunapuu (apple tree), paburitskipunane, kasekoorepunane, puupunane
- brown: paaskpuu, pohlavarrepruun, kivisamblapruun, männikäbipruun, samblapruun, katu-sesamblapruun,
- green: oraseroheline, samblaroheline, kanarbikuroheline, koerputkeroheline,
- yellow: kaselehekollane, karikakrakollane, lepakaskollane, koerputkollane
- blue: rukkilillesinine, rüääninnisine, puusinine
- black: maakemust, lambavillamst jne²¹.

They dyed also with bushes and trees like

- leaves from *Betula verrucosa* (Kask), which gives mostly yellow colour and could coloured well wool and linen.

- *Alnus* (Lepp), *Alnus incana* (harilik lepp), *A. glutinosa* (sanglepp) which give different tones of brown, pink-if it is boiled long time and black

- *Rhamnus frangula* (Paakspuu) and with beetroot can get red colour, and different berries can get brown colour. In Kihnu island got light yellow by using it with leafs from pahas-, kase-, õunapuu.

- With leafs from *Rhamnus cathartica* (Türnpuu) and berries, they got green colour.
- *Prunus padus* (Tooningas), could give brown, yellow or green.
- Apple tree (Õunapuu), from its leafs they got red colour.
- Cheery tree (Kirsipuu). It was not used a lot but in Saaremaa they got from its leafs green colour and from the tree red.
- *Quercus robur* (Tamm) they coloured mostly black or brown.
- *Fraxinus excelsior* (Saar). It was not used widely but they could get green colour.
- *Salix* (Paju) could coloured yellow or brown the clothes.
- *Corlus avellana* (Sarapuu) they could get green colour.
- *Sorbus aucuparia* (Pihlakas) with some berries and more time to the boiling they had brown, red and black colour.
- *Populus tremula* (Haab) they had light green colour.

²¹Eesti Rahva Muuseumi, Aastaraamat XIV, Tartu, 1939, p.8

- *Tilia cordata* (Pärn) they could have red.

3 Storage

The storage of the items is one of the most important principles, about the survival of them. Every museum should pay attention in the storage of its exhibits. The wrong storage can be dangerous for the items, and in extreme situations can lead in the disappearance of them.

However, when an item arrives to the museum, the first step it is to document it. More precisely, the Museums & Galleries Commission has written²², that the documentation of textile item should include:

- when, why, where and by whom it was designed and made,

²²Museums & Galleries Commission, *Standars in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998

- where, when and by whom it was originally sold,
 - who bought or order it, and how much they paid,
 - where, when and how it was worn or used,
 - details of subsequent owners, who they were, their lives and social background,
 - when and why they acquired, used or wore it, what they felt about it, why and when they stopped wearing or using it,
 - items, associated with it,
 - the social and economic background of the object,
 - the technical and artistic background of the object
 - the condition of it
 - finally, it should be included photos and sketches
- After, that the item can be stored in the museum.

3.1 General storage principles of textile items

Before to start any stabilization of the store room, it is important to evaluate the condition of the building. The building should be this way, that does not allowed the fluctuations of environmental conditions. It should protect the textiles collections against the weather hazards, pollution, dust sand dirt. For that reason, should the shell of the depository house is important to be planned carefully, e.g. walls, roof, floors and foundations. It should keep away the outside atmosphere conditions from the inner of the house.

The heating, ventilation and air-condition system should be checked regularly and a program of monitoring should be kept. In order the storage to be appropriate for the items, should exist specific conditions. The air- conditioning is important not to be vulnerable to mechanical failure and power cuts. This can cause suddenly changes to the inner climate and more specific to the Rh.

All the doors should open towards the outside, so not to damage any item and aloud the use of space. It is suggested to have two doors, one small that is used for entrance and one bigger for the use of transporting. The second one should be widely open (180°). This means that the corridor should be wide, so to prevent any damage of objects ²³.

Furthermore, it is important the finishes of the walls and floor should be smooth, so to be cleaned also easier. The concrete and wooden flour should be covered durable varnishes, ceramic plates or synthetic materials. About the last should be materials that

²³Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, Lomdon, 2007,p.82

does not get out pollutants.

The walls is preferably to be in a white colour for two reasons. The white helps to the cleaning and gives more light. So can be used less lamps.

3.1.1 Relative humidity and temperature

To begin with, the good condition of the building helps to the maintenance of relative humidity and temperature, in the right levels. In the depository house should be for the relative humidity 55% +/-5% and for the temperature 18 °C +/- 2 °C. The relative humidity should be under the 65% so the creation of fungal to be avoided, and upper the 35% so the desiccation and shirking to be prevented²⁴. The big fluctuations are not allowed, because they can cause more damages to the items. To avoid that, the staff should not work long period inside of depository house. For that reason, the storage rooms should be water right – with damp proof membranes, leaking pipes or water tanks which keep the water to enter the house²⁵.

Moreover, attention should be paid to the good ventilation system- air conditioning. A decision to install air conditioning should be based on:

⑩ A demonstrable need for regularly control of relative humidity and temperature for the collection.

⑩ How the system is economical affordable from the museum, including its running and maintenance.

⑩ How the staff is capable to use it and maintenance it in a right way, so not to create damages in the items²⁶.

3.1.2 Light

The light can cause big and irreversible damages in the textile items. The daylight in the depository house should be avoid it. The best is the in-existence of windows in these places. However, if there are then they should be covered with UV filters and should be hermetically closed. The store rooms should be totally in dark, when are not in use. On the other hand, it is suggested to divide the light in sectors. This could help to open the light only at the place that is needful. Good solution is the use of special sensors for movement, that turn off the light aromatically. Moreover, the lights for the emergency exits and lighting

²⁴Foekje Boersma, *Unravelling Textiles- ahandbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.81

²⁵Museums & Galleries Commission, *Standars in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998,p. 36

²⁶Museums & Galleries Commission, *Standars in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998, p.36

should be away from the objects that are stored in the selves²⁷.

With these general principles, the big fluctuations of relative humidity and temperature are avoid it.

3.1.3 Dust, dirt, pollutants and pests

Big attention should be paid for the protection of the items from dust, dirt, pollutants and pests. The depository house should be kept clean and tidy. Regularly should be investigated for deterioration of pollutants and pests by fully trained and experience people. Dust, pollutants and pests could damage the items. Moreover, should be protected from contact with harmful substances such as gases, fumes or other pollutants²⁸.

Dust and dirt

In order to prevent from the dust and dirt in the entrance of the depository house and all the inner doors is suggested the use of large loop- piled doormats and under-door brushes. If there are windows should be kept tightly closed. The cleaning of the rooms should not be done with wet cleaning, as can rise the humidity. It is preferably to be done with vacuum. In the vacuum should be used specific filters that do not allow dust to come out. The filters should be cleaned regularly and big attention should be paid in order the pests are not spread by it. The Museums and Galleries Commission suggest specific filters- they should be extra fine, they should comfort to Section 2.2 Supplement 1 in BS 5412: Specification for Type H Industrial Vacuum Cleaners for Dusts Hazardous to Health²⁹.

The dust and dirt can cause deterioration by keeping the moisture. It encourage the fading of colours, photo-deterioration of fibres and metal corrosion.

Pests

The depository houses should set aside the existence of mice, rats, birds, insects. For that reason, traps (for mice and insects) should be put and checked regularly. The items should be controlled, if they have damages from insects. Before an item is stored should firstly treated this way that eliminates their existence. During the years, have been found out that different anti-pests that have been used. are dangerous for the health of the workers. Such as, are dichlorodiphenyltrichloroethane (DDT), lindane (HCH), pentachlorophenol (PCP) and naphthalene. Less dangerous are the permethrin and

²⁷Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007, p.82

²⁸Museums & Galleries Commission, *Standards in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998, p.47.

²⁹Museums & Galleries Commission, *Standards in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998, p.47.

deltamethrin. Nowadays, these have been replaced by treatments, like heating, freezing, and the use of gases-carbon dioxide or nitrogen. Generally, should be methods according to the IPM³⁰, that are not harmful for the human and environment.

The IPM is divided it in five steps, that if will be follow the appearance of insects and fungi is avoid it. These are:

1. the low temperature and relative humidity are not good conditions for their development and reproduction. Also, should be avoid it the creation of microclimate by the good ventilation and air circulation. The water reservoirs in the dehumidifiers and humidifiers should be regularly observed. The store rooms should be always clean and strict rules should be kept, like the prohibition of eating in these places. Finally, the maintenance of the building should provide the remove of birds' nests, plants and rubbish that are close to the building³¹.

2. All the holes, cracks in the walls, seal openings around the pipes and ducts should be repaired. In the ventilation holes should be put filters or five screens. These places should be inspected every autumn and spring. The filters should be cleaned. Bags and coats should not be allowed to the visitors to bring inside. Finally, for the store should not use cardboard boxes, crates and pallets.

3. Pest traps should be put in the store rooms. In the case that an insect or fungi is found, then should be identified.

4. If an object is defected, so should be immediately removed and put to 'caradine'. The items that were also close to the detected item, should be removed.

5. The place that the insects found should be cleaned very carefully. It would be better, not to use toxic materials. However, that it is some times impossible.

Pollutants

As for the pollutants should be always consider. Except the pollutants of the air there are also these which comes from the paint, wood, metal and can deteriorate the textile items.

At the begging we should maintain that or the air pollution it is important the good ventilation. This can help to the elimination of this danger. The good ventilation refresh the air. The new air air is filtered so most of them are not entering in the tore rooms.

The second type of the pollutants comes from the interior places. When the depository house is new, before the storage of the items, it should be cleaned and

³⁰Integrated pest management (IPM) is the strategy that its aim is to reduce the harmful pesticides wit alternative ways. It is applied mostly in agriculture.
(http://en.wikipedia.org/wiki/Integrated_pest_management) (17/5/2010)

³¹Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.69-70.

ventilated. This could take some months. The building and the new materials can give off particles like sawdust and concrete dust. Also inorganic and organic materials that can be used for the storage gives out some dangerous pollutants like, gases, organic vapours and other compounds. These could be wool felt, fire-retardant coatings, recently applied paint and adhesives, and some hard woods including oak. Before the use of that places it is suggested to apply the 'Oddy' tests ³².

On the other hand materials that consists the textile item can deteriorate themselves. Such as are:

- Degraded rubber- that appears as carpet backing, in elastics, in some raincoats and shoes and some times hidden in the costumes. These can release sulphur into its surroundings and deteriorate fibres and corrode metals.
- Plastics- that consist dolls, buttons, modern clothing, shoes. These can loose the plasticizers and released them to the surrounding items.
- Metals- appeared in the clothes like buttons, zips and metal threads. These can tarnishing and corrode, and they can create even a lose of the fibre.
- Some buttons, combs, buckles and purse-frames can contain cellulose nitrate, which can cause the same damages as already are mentioned.
- Finally, glass could be dangerous for textile items, as could be chemically unstable , easy to break and can release its colour to the textile ³³.

3.1.4 Physical disasters

The depository house should protect the items from physical disasters like fire and flood. About the fire specific rules should be valid. The smoking should not be allowed in the house, the anti-fire system should be established in the store rooms and of course sensors of smoke. Fire extinguishers should be places everywhere in the depository house. However, the fire hoses should be outside of the room, in the corridor, and not inside. The carbon dioxide(snow) is better than the water, that can cause big damages to the items. Some materials that are made from cellulose nitrate-belts, buttons, handbags, fans, etc.- could be hazards for the starting of a fire. So these materials should be stored under good ventilation, like use of activated charcoal filters. However, the store rooms should be conditioned at low levels oxygen.

³²It is a test that uses reactive metal coupons and by closing them, in glass bottles, with textile samples (or the material we want to investigate), we can see the reaction. If there are corrosive gases, such as acetic acid and formaldehyde.

<http://www.icn.nl/en/kenniscentrum/onderzoeksmethoden/oddy-test> (16/5/2010)

³³Museums & Galleries Commission, *Standards in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998, p.48.

The low levels of oxygen in the atmosphere, means that the oxygen is so low that cannot a fire start. Preferable, is to maintain in the 15-17%. Also, there is the benefit that in these levels cannot be created biological activity, the oxidation of items does not happen, the pigments in nitrogen atmosphere does not fade. Finally, the amount of the oxygen that exists in the room, is in that level the human can breath ³⁴.

Furthermore, attention should be paid in the electricity and gas. The electrical wiring and equipment should be installed according to the standards of the country. In any case should not be responsible for the starting of fire. For that reason the regular control of them is needful. The same should be taken care for the gas, oil and mechanical equipment. Finally, it should be mentioned, that in the case of a fire the water that would be used should be checked to be clear. It should not contain any oil or other harmful ingredient ³⁵.

In order to protect the building from floods, the water pipes or tanks, should be controlled very often and in the winter regularly. The water pipes should not running through the store. The items should not be stored in the ground, but at least should be higher than 15cm. Finally, here is also needful sensor system for flooding ³⁶.

In both circumstance the employees should be trained, in order to react correctly in this kind of situation. However, in any case should not put in danger their lives.

3.1.5 Anti-thief system

The protection from theft is also very important. The depository house should secure the stored items from that possibility. First of all, it is needful to secure all entrances in the building like doors, windows and ventilation system. The doors if are wooden should be at least 50mm thick. However, for many reasons that already have been mentioned is preferably not to be made by wood. The locks should be secured. The alarm system should be put in every room and every possible entrance. The alarm code should be not be known from a lot of people. The items with high-value, such as jewellers should be kept in a separate, secure storage cabinet. Finally, should not be allowed into museum stores the entrance of different people, unless supervised by an authorized person at all times ³⁷.

³⁴Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.82-83.

³⁵Museums & Galleries Commission, *Standars in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998, p.51-52

³⁶Museums & Galleries Commission, *Standars in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998, p.54

³⁷Museums & Galleries Commission, *Standars in the Museum Care of Costume and Textile Collections*, Printed by Spin Offset Limited, 1998, p.40

3.2 *Storage facilities*

3.2.1 **Materials which are used**

The storing materials should protect the items and not cause them further damages. For that reason the selves, cupboards is suggested not to use materials that vapours gases ³⁸.

These are:

- Formaldehyde, that appears in wood and wood products, paints and coatings, Formica, Masonite, fibreglass, paper, textiles with formaldehyde finishing. It reacts with the oxygen and moisture and vapours formic acid (HCOOH)
- Acetic acid, can be released from wood, polyvinyl acetate adhesives, plastic, polyester, non-vulcanised rubber, sticky tape like Sellotape or Scotch. It is not so harmful as a solution than as gases.
- Gases that contain sulphur like, sulphur dioxide and hydrogen sulphide, can be vaporised from vulcanized rubber, paint, wool felting, parchment, leather, bone animal glue, ply-sulphide adhesives and plastics.
- Nitrogen oxides are released from cellulose nitrate adhesives and imitation of leather.
- Ammonia is mainly omitted from organic materials depending its age.

Wood is the most common and cheaper material for the storage of items. However, as already have been mentioned can expose acids that can cause discolouration to the objects. The acids are omitted under specific circumstances. It depends upon the temperature and humidity. Woods that have low levels of free acids are the mahogany, pine, meranti and birch (kask). Moreover, products of wood like, MDF, plywood, chipboard and hardboard will release less acids but more formaldehyde, as are laminated with sheets of Formica. There are different types of sheets. The phenol-formaldehyde is the most harmful. The ZF (zero formaldehyde) is especially design for the museums because is used a formaldehyde-free binding agent. It has lower formaldehyde but high acetic acid emission.

On the other hand, the advantage of wood is that has hygroscopic nature, so it is benefit to use it in constantly changing of RH, as it is a natural buffer.

Generally, wood and wooden products can be very dangerous for the stored items. However, the decision of their choice, should be under careful consideration. Additional, the items is better to be isolated from wooden surface. For example, could be used acid free card or tissue or Melinex. If metal is used then should be steel or a metal that does

³⁸Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.85.

not get rusty easily.

Another material that is in high use in museums , is the metal. Metal has a lot of advantages. Some of them are:

- it provides good finishes, so the mechanical damages to the objects are avoid,
- it will not release harmful products,
- it needs less maintenance than the wood,
- it does not affect to the insects,
- and, it does not affect to the changes of Rh and temperature, so will never crack or loose its shape.

The main disadvantage is that metal does not provides buffer to the changes of humidity. So, it is possible the existence of fluctuations of absolute humidity, the condensation to create chemical reactions. For that reasons, the items should always be isolated from the metal surface with materials that already are mentioned above.

Nevertheless, it is preferable to choose metals that have be enamelled or its particles of the finishing product an electrical charge. The galvanised steel is used a lot in depositories house and also anodised aluminium ³⁹.

The storage facilities should be suitable for the items which will be stored. Cupboards are always good solution to store not only items, that will be hang but also flat items and that will be rolled. The cupboards keep the dirt and dust away, and also prevent the objects from mechanical damages.

The disadvantage of cupboard is that their shape is fixed and cannot be flexible, depending from the type of item. The depth is at least 70cm. However, nowadays there are the compact storage, that the cupboards could be packed and unpacked, whenever is needful, by rolling (photo 5&6). It should be paid attention not to create a non-controllable microclimate between of them. This is also one big disadvantage because when they packed do not allow air to go through⁴⁰. Another disadvantage is that this kind of store system is that are quite expensive.

³⁹Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.87.

⁴⁰Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.83.

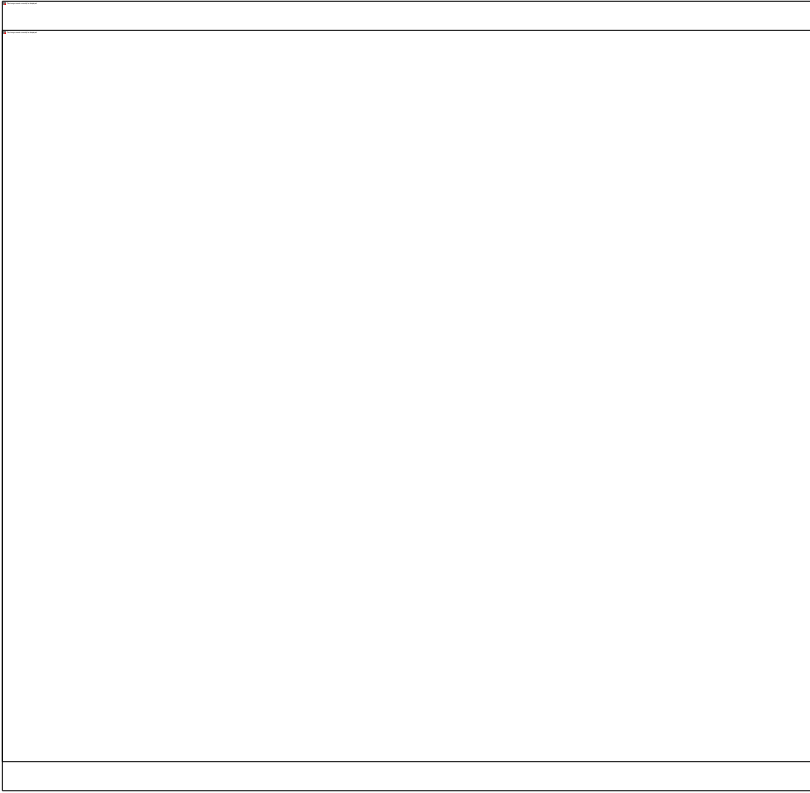


Photo 5: Hanging cupboards that can be put selves or drawers.

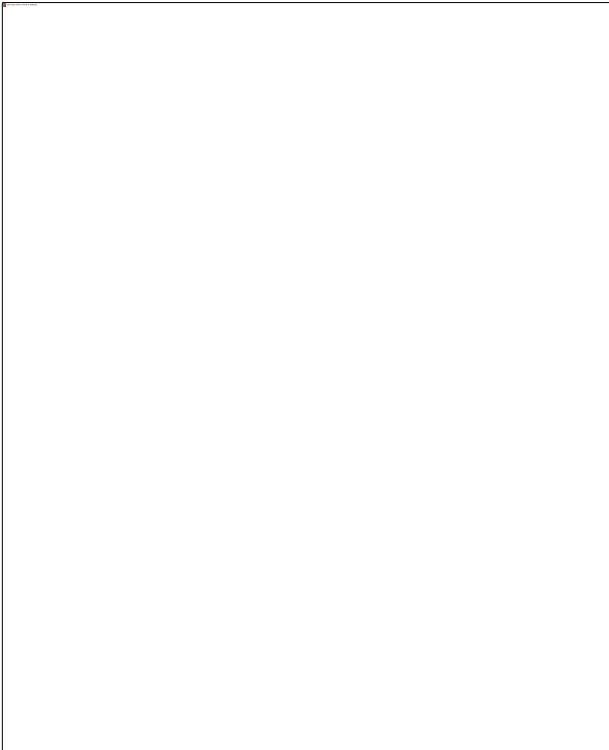


Photo 6: Compact cupboards that rolling ⁴¹.

For flat items or some two dimensional objects can be used also drawers. Important is to

⁴¹<http://www.montel.com/eng/applications/museums/museums.htm> (24/5/2010)

have the correct depth for its item, so it will not have any reaction when it opens or close. The item should be stored steadily, in order to minimize the mechanical damages.

An other easy and cheap way of storage is the use of racks with shelving. It is very flexible and good solution if there are not lot of money to spend. On the other hand, the biggest disadvantage is that is open and lows the dust to lay on the items. However, there are some solutions, like the creation of some kind of curtains. That which should be noticed is the curtains to close this way that do not allow dust enter inside. A U shape is a good option, the Venetian blinds that has the advantage to protect the items from mechanical damages, curtains or dust covers. The last ones, can be made from different materials, like fabric – woven cotton (calico) is suggested – and synthetic non-woven like polypropylene and polyethylene. The first one, is preferable as it is an organic material, so can buffer the changes of relative humidity. As for the synthetic materials, should be paid attention that can be used only in well stabilized environment, because there is a risk of fungi and pests appearance.

An other type of storage, is the rolling (photo 7). The roles depending of their size can be stored in draws, cupboards or on stands which are open. For the last one should be again invented something like cuttings for the racks.

At last but not the least, objects could be stored in boxes made from specific acid free carton.



Photo 7: Rolling storage of textile items ⁴²

Before the creation of a depository house should be taken under consideration,

⁴²<http://www.montel.com/eng/applications/museums/museums.htm> (24/5/2010)

what kind of storage will be used, and how big is the collection. It is important to have some specific space between the store facilities, in order the access to items to be easy and not to create mechanical damages to the objects. For that reason is suggested the cupboards to have at least 1m space between of them. As already has mentioned in the part of physical disasters the items should be stored 12cm higher from the ground. For the objects that are stored high should be used secure steps.

All the materials that are used for the storage should be acid-free. They should be stored this way that dust do not react to them. Objects that are stored open should be covered individually with sheets. Every time that an item unpacked is good to notice about insects. Items that often are not packed should be once a year observed. Finally, items that have big dangerous to be attract by insects -wool, fur, feather,dirty items- should observed carefully.

3.3 Correct way of storage

It more helpful if the objects are separated at least to three types⁴³. So could be:

- Flat textiles
- Two dimensional objects
- Three dimensional objects.

Furthermore, these categories could be more wide. The flat textiles we can separate them, a) to these which have a pile, such as knotted carpets and velvet or church textiles for the ceremony, and b) to the composite textiles, like flags, banners and frame textiles. The two dimensional objects can be separated to a) large and/or long such as tapestries, ribbons, length of fabric, etc., and b) to smaller ones, like archaeological fragments and fabric samples. At last but not the least, the three dimensional objects can be a) textiles like costumes, etc., and b) these which combine materials, like accessories, hats, doles, etc.

⁴⁴.

Depending from the type the items should be stored these way that will not harm it. The main types of storage are rolling, hanging, laying in the drawers, putting in boxes and items of special storage. Of course, a conservator could invent newer type of storage that could be also acceptable.

⁴³Kousoulou T. *Notes for the lesson Conservation of textiles*, Technological and Educational Institute of Athens, Greece, Athens, 2003, p.68-70.

⁴⁴Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.89.

3.3.1 Rolling storage

The rolling storage is usually used in the long and/large two dimensional objects, some of small two dimensional-that their length does not allow them to be stored in boxes- and flat textiles with a pile.

The benefits of the rolling storage is that big items can be stored without taking a lot of space. Although, it seems a easy procession, a lot of attention should be paid, because can create further damages. The materials that are needful are tubes from acid free paper, that should be quite big in order not create bigger tension to the item. The diameter of it should be 100 or 200 times bigger, from the thickness of the fabric and the length should be 10cm bigger to each side ⁴⁵. It should be mentioned that if the tube is not acid free, then could be used Melinex or acid free paper and pre-washed cotton to isolate I t⁴⁶. Other materials that will need, are acid free papers and a pre-washed cotton that will applied after the rolling, in order to protect it from the dust. However there is the option to store it in drawers if it is not so big.

The item that is prepared for rolling should not have any sharp creases or crumpling, because they will crash during the procession. If the object has, then the conservator should make it flat. If the item has painting layer which crackling is better not to roll it or it could be rolled if will be used silicon-release paper.

The best way to roll items which have painting, ornaments or pile is from the back side, so the decorations to be outside. This happen not to damage the micro-anaglyph ⁴⁷. The woven fabrics are usually rolled in the direction of warp. During the rolling should be applied some interleaving acid free tissues or pre-washed cotton, in order to prevent mechanical damages (photo 8).

⁴⁵Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.90.

⁴⁶Landi Sheila, *The textile conservator's manual*, Butterwoth-Heinemann, Oxford, 1992.

⁴⁷Kousoulou T. *Notes for the lesson Conservation of textiles*, Technological and Educational Institute of Athens, Greece, Athens, 2003, p.68-70.

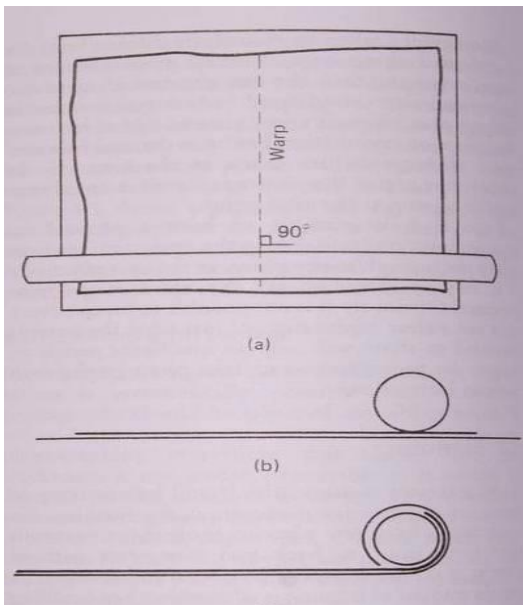


Photo 8: Way of rolling textile objects⁴⁸.

Moreover, the equal tension should be exercised to the textile, during the process and it should not be stretched. The rolling should not be too tight. At the end, the textile should be stored horizontally from blocks or pads, to eliminate the tensions. Because the gravity will continue to react, the textile should turn occasionally, so it will not be compressed.

3.3.2 Hanging storage

The objects that can be hung are usually, three-dimensional objects, like costumes. It should be very careful to decide which textile will be hung. Costumes that are in bad condition are preferably not to be hung, because the gravity will cause more damage (photo 9&10). Also items in poor condition for example costumes of weighted silk, dresses made from flimsy, fragile lace or silk organza with heavy embroidery. These items are better to be stored horizontally. Also if we decide to hang a very heavy costume (e.g. wedding dresses), then should be supported in order to minimize the creation of strains and stretching the textile. In this situation, it is again advisable to store it horizontally or in a box.

⁴⁸Landi Sheila, *The textile conservator's manual*, Butterworth-Heinemann, Oxford, 1992



Photo 9: Hanging costumes.⁴⁹



Photo 10: hanging costumes in composite cupboards⁵⁰.

For the hanging should be used plastic hangers. The hangers should be accordingly to the size of the textile. There are available in different sizes, like 26,33,38 etc. Attention should be given to the use of them, the plastic should be chemically stable type, like polyethylene or polypropylene and should not contain any plasticizers. In the shops there are also hangers from recycled plasticizers, that should be avoid it, as is not known what kind of plastics have been used⁵¹. Also wooden hang can be used, when they are varnished. That which should be avoid it is the wire hangers, because they are not stable⁵². For costumes

⁴⁹<http://www.wornthrough.com/blog/wp-content/uploads/2010/02/compact-storage-4-225x300.jpg> (24/5/2010)

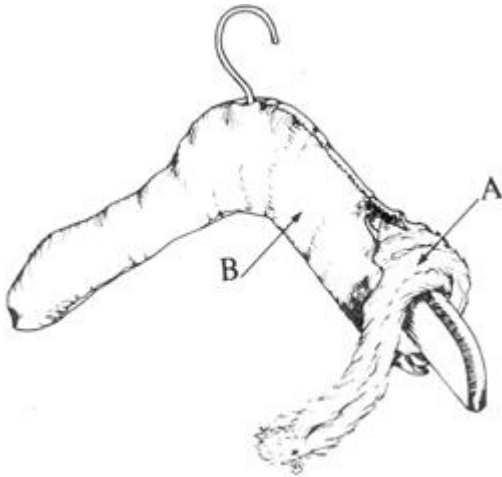
⁵⁰http://www.philamuseum.org/images/pagelimages/conservation/costTextMove/6_17a_move.jpg (24/5/2010)

⁵¹Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.94.

⁵²Museums & Galleries Commission, *Standars in the Museum Care of Costume and Textile Collections*,

with high collars, should be used hangers with long necks.

Before the use of them, should be padded to fit. The size which will be used should be smaller from the width of the shoulders, as it will be wider after the filling. Firstly is filled with Polyester Batting. Outside is applied, Tyvnek 1422A or with pre-washed, unbleached and non-dyed fabric. The fabric could be cotton-calico, stockinette or towelling (photo 11). The last two are suitable for the hanging of heavier costumes, as it prevent it from friction.



*Photo 11: Padding a hanger. A) is the polyester and B) the covering of it.*⁵³

For the costumes with high neck (e.g. military uniform) should be put support to the collar, in order not to sag. These that are very heavy, in order to relieve the tension from the shoulders, is advisable to stitch pre-washed, unbleached and non-dyed cotton stripes around the waistband. The stitches should be hidden, should not be done in damage areas, and should be to the inner side of the costume. The stripes should be tied around the hanger. With these kind of stripes is good to haggle shirts and trousers (photo 12).



Photo 12: Hanging by the use of stripes. ⁵⁴

Furthermore, for some costumes, mainly women coats of 19th century, is needful in order to keep their shape and to relieve from tension, to create a hanger with a body that supports the waistband. Also priest clothes, have often a slant on the sleeves and are heavy decorated. In these situation, the commercial hangers are not suitable. Is better to create an hunger by using a wooden one. For the shoulders can be put rolled acid-free cardboard rollers, which after will be covered with coverings that mentioned above.

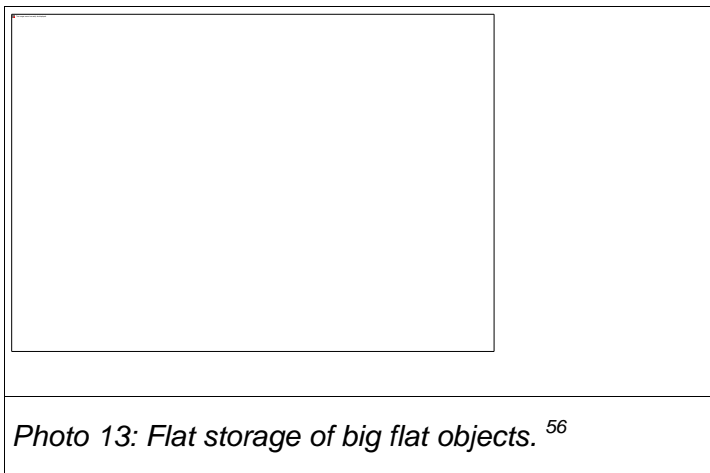
Finally, the hanged objects is better to covered with dust-free cover. Especially, if will not sore them in cupboards. Materials, that can be used for the covering are pre-washed Tyvek or pre-washed, unbleached and non-dyed calico⁵⁵.

3.3.3 Flat storage

Flat can be stored, flat composite objects, costumes that cannot be hanged and small two dimensional objects. The perfect is to use one draw for its item. However, this is most of the time luxury because of the lack of space. Again here the conservator should decide which items can be stored together and which cannot, depending on the condition of it. For example, some flags and banners are heavy decorated, with thick cardboard of metal fibres. These is advisable not to store them with other items as the result is to cause mechanical damages. The same applied for some costumes. For the small two dimensional objects the storage in drawers, could be with limited number of layers (photo 13).

⁵⁴http://www.cci-icc.gc.ca/crc/notes/html/images/13-05/13-05_image2.gif (24/5/2010)

⁵⁵Landi Sheila, *The textile conservator's manual*, Butterwoth-Heinemann, Oxford, 1992.



More precisely, the small two dimensional objects, can be placed on rigid acid-free boards, which are covered with pre-washed, unbleached and non-dyed cotton textile. These panels can be fitted in the drawers and between of the can be put acid-free tissue paper. The three-dimensional objects. that are stored in drawers should be put this way that the creases are avoid it. For that reason the sleeves and the places that are fold should be filled with soft un-buffered acid-free tissue paper, which are rolled (shape of 'sausage'). Of course the same should be done to every textile that is folded.

3.3.4 Boxes

In boxes can be stored, small two-dimensional and some three dimensional textiles. The boxes should be made from acid-free cardboard. In commercial can be found several sizes. However sometimes is needful to be constructed by conservators, if the item is too big, for example costume. It is advisable not to over fill the boxes because can be torn. Again here should be mention that if the object is too big and should be hold, is importation to put rolled acid-free paper. Generally, the folding should be avoid, however if these cannot be done then occasionally the items should be opened in order not loose its shape.

3.3.5 Three-dimensional objects with combined materials.

These objects will mentioned individually because their store needs different constructions. In this category are the accessories of costumes (bags, huts, gloves, shoes, umbrellas, parasols), objects like, dolls, fans, masks, headdresses.

To begging with, the shoes should be supported in order to lose their shape. For that reason is created a model of a foot. Important is to separated the area from the toes and ball, from the ankle. For the last can be used plastic foam, covered with smooth textile. The two other places can be filled with cotton. However. Good result have also a creation

⁵⁶http://www.mnhs.org/preserve/conservation/reports/textiles_storage.pdf (20/5/2010)

of cotton socks, which are filled with poly-fibre. They can be stored in boxes or in drawers, after the creation of specific places, from acid-free paper.⁵⁷.

The hats is better to store them by creating a head model. This can be made from lot of polyethylene foam sheets covered with cotton stockinette or models which can be found in commercial. Soft hats can be filled with pads made from cotton stockinette filled with soft padding. The hats is preferably to be stored isolated to boxes. Especially for the hats which are from fur, or decorated with feathers.

The bags and the gloves need softer support. The gloves should not forced to be filled the fingers also because can be caused damages. The pads could be filled with cottons or again acid-free tissues could be used. For the bags the same method could be used. Gloves could be stored in the drawers and bags depending their size could be store in drawers or boxes.

The fans is better not to be stored closed if they do not have any damage. It is better to store them semi open. For that reason should be created a support, which will not cause damages. This support could be done from layers of acid free card or inert foam. The model should be pitched so to support totally the fan. After can be stored in drawers or boxes.

The dolls can be stored in boxes upright or laid, depending from their condition. If are stored laid should be filled with acid-free tissues so to prevent creases. The upright could be done by putting cotton stripe around the waist and from that to stitch four cotton stripes. The strips could be supported at the top of the box. Finally, a base could be created, in order the item to be more stable⁵⁸.

3.3.6 Labelling

The labelling is very important for the conservators and people who need information about an item. It helps to the control of the collection. It should be done this way is complicated. The general rules of the labelling from CIDOC are:

- “Numbers (e.g. inventory or accession number) are the connection between objects and documents related to them. They must therefore be physically attached or applied to the objects.
 - When an object is or becomes part of the collection, it receives an accession number. To apply the number to the object a secure method should be used, which

⁵⁷Sherelyn Ogden, Ann Frisina, *Storage of textiles*,
http://www.mnhs.org/preserve/conservation/reports/textiles_storage.pdf (14/5/2010)

⁵⁸Foekje Boersma, *Unravelling Textiles- a handbook for the preservation of textile collections*, Archetype Publications, London, 2007,p.98.

means the method should be safe for the object while ensuring that the number cannot be accidentally removed.

- If a temporary number (e.g. a loan number) has to be associated with an object, tags can be used.
- Labelling and marking of objects should be done in a consistent manner, by trained employees. Enough time should be allowed to examine the object, to clean the surface using a suitable method and to apply the number.
- When doubt about the right method arises, a restorer should be consulted. It should be noted that no given method can be considered entirely safe and that some of the products and methods most frequently in use have not yet been systematically tested.
- A number should be applied without causing damage to the object. At the same time it should be possible to remove the number safely, even though for security reasons museums like to consider using a permanent mark.
- The number should be easy to locate without unnecessary handling of the object and at the same time without defacing any aspect of the object likely to be displayed or photographed.
- Although different types of objects have their own requirements for numbering, it is recommended that the range of methods and materials in use be kept to a minimum.
- When an object is made of several materials (e.g. paintings, uniforms, furniture), the number should be applied to the most secure place, given the method used.
- When an object consists of several components likely to be dismantled or separated, each part should be numbered. The same applies to fragments of a broken object.
- A museum should set out its numbering rules (including rules for number formats) in a report that is made available to all relevant staff members"⁵⁹.

For the textiles, the should not lead to further damages. The labels that are use should be from pre-washed, unbleached and non-dyed cotton or nylon. The label should be stitched on the item and never glued, pinned or ironed on. The ink that should be permanent, chemically inert and non-toxic. Before its use is needful to make test of water resistance⁶⁰. Except the items the labels is useful to be put on the storage, boxes, covers, panels,

⁵⁹Cidoc, *Fact Sheet No2- labelling and marking objects*,
<http://cidoc.mediahost.org/FactSheet2%28en%29%28E1%29.xml> (10/5/2010)

⁶⁰Museums & Galleries Commission, *Standars in the Museum Care of Costume and Textile Collections*,
Printed by Spin Offset Limited, 1998, p.22.

drawers and cupboards. Moreover is very useful to be placed also photos of the item outside of the storage, so to avoid the often opening of it.

3.3.7 Equipment for the control of environmental conditions.

4 Open Air Museum

4.1.1 Items

The open air museum has a big collection of textile items, flat, two and three dimensional. The collection contains:

- ⑩ national costume textiles,
- ⑩ costumes from the end of 19th century until the period of soviet union,
- ⑩ children clothes,

- ⑩ accessories of the costumes like hats, gloves, scarf, belts, hair dresses, etc.,
- ⑩ Home textiles like carpets, sheets, table sheets, towels, etc. .

Precisely, is not possible to say how many of these items are, because yet is not ready the electronic catalogue. The items are been catalogue with their number and photo to a database, which will be ready at the July. However, there is a general small list about the museum objects, that have been recorded until now.

Flat items	Number
Fragments of blankets	43
Blankets	317
Hand towels	272
Carpets	28
Bed covers	37
Bedsheets	30
Three-dimensional items	
Women costumes and dresses	62
Skirts	15
Women blouses and short jackets ⁶¹	37
Women coats	25
Men suits	30
Men uniforms	6
Men coats	17
T-shirts	6
Girls baptist dresses	12
Dolls	18
Traditional gloves	37
Scarf	40
General accessories	165

4.1.2 Condition of the depository houses

There are two depository houses. The oldest is a wooden house which is located close to the conservation laboratory. It has two floors. The storage rooms are four. Two at the first floor and two at the second floor. The textile items are stored in two rooms of the first floor. The walls are painted with a dark paint and the floor is covered with a plastic covering. The space of the room is few. In the first room, there are three rows of two flour cupboards, which are parallel to the entrance and one which is vertically to it. There are

⁶¹jakid

three corridors between of them around 1 m width. The upper part of them is reached with leader. In this store room are stored only textiles. In the second store room, there are two smaller rows of cupboards which are connected in the centre of it. Around them there is a corridor 1m width. In this room are stored in shelves other also materials, like wooden and metallic. The main entrance of the depository house is a double(inner and outer)two door. The door to the store room is also double. In the building there is anti-theft system and also fire alarm.

The second store room of Open Air Museum is located inside the forest away from the exhibitions. It is a two flour house. The depository is at the second flour and the items that are stored are mainly textiles. It is separated in three rooms, which communicate to each other, with doors. The walls are coloured white. The space between the storage facilities is big and someone can move easily. In the first rooms there are drawers, in the second are stored the rolled items in stands. There are two rows of stands. In the third room are stored the costumes in stands. The entrance door of the depository house is double and metallic. The door of the store room is single and again metallic. The depository house has anti-theft system and fire alarm.

4.1.3 Materials and way of the storage

In the old depository house the textile items are stored in wooden old cupboards. The items are mostly national costumes and some of their accessories, home textiles (carpers, sheets, table clothes, etc.) and the few dolls of the museum collection.

The costumes are mostly hanged. The hangers are wooden. Some of them are padded. However, most of skirt hangers are not. The skirts are hanged from the metal hooks, that already have. All are stored in the cupboards. Some children costumes, are stored folded in the shelves. Baptist dresses are kept in boxes. However, are not acid free boxes and in order to isolate them, have been used acid-free tissues.

Most of the flat level items, like carpets, are fold and stored on wooden selves, inside the cupboards. In order to isolate them from the wood surface, has been put acid-free cardboard. The other flat smaller items, are holed it also in selves. Because of the lack of space they are stored one above the other, between of the is used acid-free tissue. Although are stored in the cupboard, to make more dust free have been put acid-free tissue. Some flat items have been rolled and put in stands inside the cupboards. For the rolling has been used acid free cardboard tube, which stands in wooden bar. For dust free are covered with pre-washed, unbleached and non-dyed cotton. Silk scarf from the

traditional costumes, are stored in the doors of the cupboards vertically.

Finally, the dolls are stored in the one shelf and are covered with acid free tissues.

At the newer depository house, the items are stored in wooden drawers, hangers, rolled and acid free boxes. The items that are stored there are mostly textiles from different periods and different types (national costumes, costumes from tzar period, from the twentieth century and their accessories).

Flat big items, like carpets are rolled. For the rolling has been used acid-free cardboard tube and acid-free tissues. In order to protect from the dust are covered with pre-washed, unbleached and non-dyed cotton. Small flat objects, fragments, belts are stored in the drawers. To isolate the items from the wood has been used layers of acid-free cardboard and acid free tissues.



Photo 14: Carpets stored rolled

Three-dimensional objects are stored in the drawers and on the hangers. In the drawers there are mostly accessories of the costumes. The hats are stored or by giving them the shape or flat. This is because there are not a lot of deep drawers. These that are stored in deep drawers are filled with acid-free paper. Some pot hats are stored one inside to the other, in order to eliminate the space. The hats are not very stable as in every movement of drawers are moved. These hats that are stored in smaller drawers are covered with acid free paper. Furry hats are stored in other drawers alone.



Photo 15: Hats stored in the drawers



Photo 16: Hairdress stored in drawers

Other items that are stored horizontally are gloves and socks. Between of each of them has been kept distance so not to affect to each other. Hair accessories and some pins are stored also there. It is characteristic, in order to keep distance between of them has been created small squares from acid free cardboard.

Some silk blouses are also laid in the drawers. For the filling of them have been used acid-free paper. Because again of lack of space, the blouses are packed one above the other.

The three-dimensional objects that are hanged are usually, costumes. Most of the hangers are padded. These that are not are hanging skirts. The items are not stored in cupboards and for that reason are covered with Tyvek . Are hanging in metal bars.



Photo 17: Storage of the costumes

4.1.4 Way of labelling

The labelling system of the museum is to put the number of the item on it. It follows the rules that have been written in the chapter three. The label is cotton and is stitched on the item. For writing has been used pencil. The items that are rolled, the label is hanged from them. In the newer depository house there is also a photo of them. The items that are in boxes the code is written outside of them.

Furthermore, outside of the cupboards and drawers there is written what items are inside. Generally the items are separated to types, e.g. Gloves, blankets, carpets, hats, etc. In the old depository house in each cupboard there is a catalogue of the items that it contains with their codes. In the new there is a book with all the items and codes there are

inside.



Photo 18: Labeling of the drawers

4.1.5 Conclusion

The Open Air Museum is quite small but it has very rich and important collection. Not only in textile objects but in other ethnographic materials as well. Although it has two depository houses, non of them can be characterize as perfect. Of course, the conditioning in the newer are better, but the lack of space does not allow the storage of all the textile collection.

Moreover, some materials that have been used for the storage are not all the time the preferable. For example, non acid-free cardboard. However, the conservators are trying to make their best, as there are economical problems.

To sum up, it would be suggestible, the creation of store rooms that can be all the collection in one place. This would have also the advantage of the better control of the textile objects and easier mapping of it.

5 Suggestions

6 Conclusion

This part of the thesis was based in the collection of general information, about the correct storage of textile items. However, this does not mean that is finished. Some parts are missing and will be filled in the future.

The point, of this part was to give a taste about historical information of Estonian textiles and how they can be preserved. The visit at the Open Air Museum helped, also, categorise the national textile items. Also it was helpful to see in reality the storage of them.

In the future, the steps of the works will be:

- investigation literary and practically, of the equipment that can be used in depository houses, in order to have a stabilised environment,
- information about the catalogue of museum objects. How it can be this way that is useful, no complicate it and the conservators and investigators can use it easily,
- labelling of the items, so to be easy for use,
- visiting at least to two more museums and collecting information.

At the end I would like to thank the conservators and the collection's manager of Open Air Museum.

7 Photographical documentation

7.1 *Open Air Museum*



Photo 19: Traditional belts stored in the drawers



Photo 20: Decorations of the traditional costumes



Photo 21: Storage of traditional gloves in drawers



Photo 22: Storage of the end of 19th century gloves, in drawers



Photo 23: Storage of traditional socks in drawers



Photo 24: Storage of socks with the hangers, that were used in drawers



Photo 25: Storage of socks from the 20th century



Photo 26: Storage of women accessories, from the beginning of 20th in drawers



Photo 27: Storage of women decorations from the begging of 20th century in drawers



Photo 28: Storage of men decorations, from the begging of 20th century in drawers.



Photo 29: Storage of men' accessories from 20th century, in drawers



Photo 30: Storage of traditional hats in drawers



Photo 31: Hat filled with acid-free paper, in order not to loose its shape



Photo 32: Hats covered with acid-free paper, in order to protect them from mechanical damages.



Photo 33: Storage of traditional hats in drawers. To protect them from movements have been used acid-free cardboard.



Photo 34: The same as the above picture.



Photo 35: Storage of hair dresses mostly from 20th century, in drawers. in order to protect them from mechanical damages has been used also here, acid-free cardboard.



Photo 36: Storage mainly of carpets. for labeling has been used also picture of it.

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