

The Preservation and Protection of Medieval Parchment Charters in Slovenia

Jedert Vodopivec

The Slovene archives include charters, the oldest and one of the most valuable kinds of archival material. A charter is, to simplify, any document proving a legally relevant fact or circumstance. The oldest, most beautiful and usually the most valuable charters are written on parchment, which is the noblest writing material. Valuable wax or metal seals are extant on numerous charters

As charters require specific protection due to their special materials, several years ago we started to think about a better way of preserving, protecting, and using them.

We actually began the project only a few years ago and were supported by some happy coincidences: the preparation and mounting of an exhibition on medieval charters in Slovenia, which was well visited and met with a wide response, the acquisition of more suitable premises and financial resources for purchasing adequate equipment for the central archives. There was also the chance to acquire permanent paper, production of which started in Slovenia at that time.

As the restoration and conservation treatments of parchment and seals are limited, we have to be even more aware of the causes of parchment damage that can be prevented by proper preservation and protection.

This paper describes concrete cases of the most pronounced damage to parchment and seals, as well as the method of preservation and protection of parchment charters in two Slovene archives: the Archives of the Republic of Slovenia and the Ljubljana Historical Archives.

Damage to Parchment

Damage is usually divided into what is caused by external influences and by the natural ageing of the material. Over the centuries parchment has proved to be an extremely lasting and durable material. Many charters and manuscripts have been preserved in an excellent condition so far, almost without any signs of ageing (fig.1.), as though several centuries had not passed. We can therefore affirm that parchment is one of the rare writing media which naturally ages very slowly and damage is, in most cases, of external origin. Unfortunately, most damage has been inflicted by people, by their ignorance and carelessness.

The most common damage is of mechanical nature. Tears on edges and folds are a result of frequent and careless handling. Such damage does not cause further changes in the structure of the material. Restoration treatments are more or less of a cosmetic nature in such cases, and are not always urgently needed.

Parchment requires stable environmental conditions, not too humid and not too dry. The change of humidity, irrespective of its source, from the air or elsewhere, brings



Fig.1.: the seal of Archduke Rudolph IV on a charter issued in the Carthusian monastery of Bistra in 1360.

about deformations, such as swelling, expansion, contraction, changed opacity, flexibility and shape. It is very important to ensure constant relative humidity in the premises housing parchment, to avoid deformations.

In a humid environment, parchment absorbs excessive quantities of water, which brings about or accelerates physical and chemical processes. Exposed to increased humidity and slightly higher temperatures, all organic materials, especially those of animal origin, develop mould, which causes decay and stains (fig.2). Preserved in a too dry environment, parchment dries out and grows hard and brittle.

Frequent microclimatic changes in storage areas and the transportation of records from stores to the premises with different conditions may cause contractions and expansions resulting in micro-cracks on the surface that give rise to loosening of lettering and colour layers (fig.3). This presented no problem in past centuries, because the environmental conditions of workshops, where parchment was manufactured, of libraries, scriptoria, and archival premises were stable as compared to conditions encountered for the preservation and use of this material nowadays.

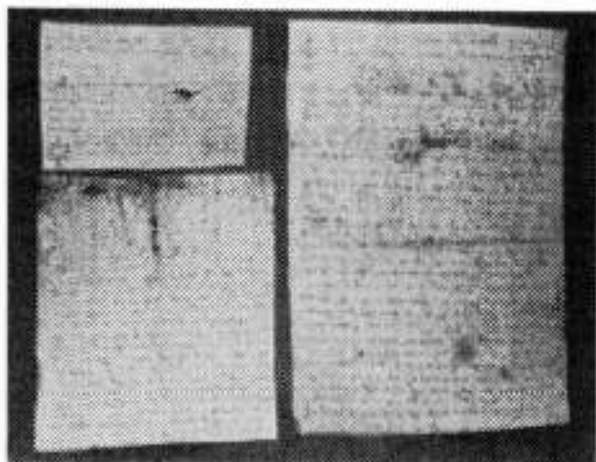


fig.2: charters from the Archives of Piran 13th century.

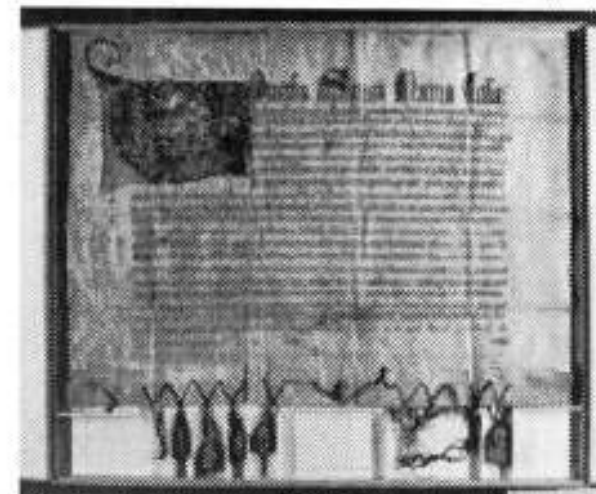


fig.3: charter, 6 November 1347, Cistercians - Kostanjevica.

Parchment is extremely susceptible to direct and high intensity light, whether natural or artificial. In particular, shorter wavelengths light causes chemical changes in collagen albuminous molecules, as well as in other components of parchment; it is thus recommended to preserve it in complete darkness.

The exposure of records to higher temperatures (e.g. in the vicinity of heat sources) results in drying out; at high temperatures there is coagulation of albuminous molecules, thus causing permanent changes in structure and, indirectly, in shape as well.

Lasting damage may be caused by dust and the accumulation of greasy and acid substances induced into records by handling them with bare hands.

The treatment of parchment in a lime bath and the application of lime powder cause alkalinity in parchment, making it more resistant to acid substances in its surroundings and to microorganisms requiring an acid medium.

Iron gall inks and some green pigments containing copper ions cause a burning effect in parchment and paper. Currently used conservation and restoration treatments can only slow down the chemical process, but cannot stop it completely.

SEALS

A seal is an integral part of a charter. The date of origin and particularly the contents of a charter determined its material as well as its external image. The most common sealing material in the Middle Ages was natural or coloured beeswax. Metals were less frequently used. As to appearance and variety, wax seals have a special position, while metal seals, with a few exceptions, remained unchanged in shape (round) and size (3-4 cm).

LEAD SEALS

Most metal seals are made of lead and only exceptionally of noble metals.

Metal seals were used by the Popes and some temporal rulers (e.g. Venetian Doges).

Our archives have only lead seals, and even these are comparatively rare.

LEAD SEAL DAMAGE

Corrosion is the most common form of damage in metal seals (alkaline lead carbonate). It is visible on the surface as a hard, white, granular layer, most obviously on convex areas (fig.4, and fig.5).



fig.4: lead seal on the Popes charter, 7 April 1257

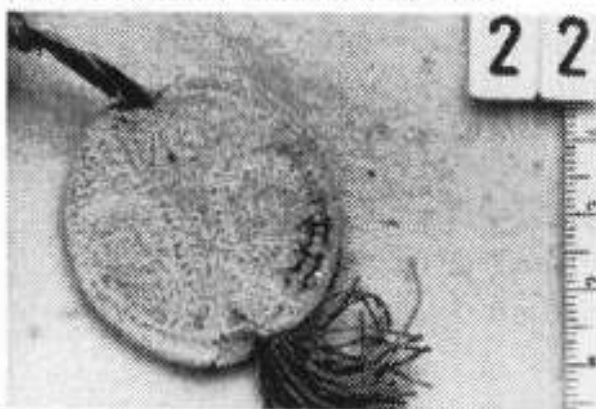


fig.5: lead seal on the Popes charter, 30 March 1255.

The corrosion layer arises when the protective layer of lead oxide (PbO) under the influence of weak organic acids, carbon dioxide and humidity, turns into white alkaline lead carbonate ($Pb(OH)_2 \cdot 2PbCO_3$).

Lead seals are thus above all susceptible to weak organic acids and their gases. In archives they are to be found primarily in cabinets and shelves made of unseasoned

wood (especially walnut). Corrosion vapours may originate from adhesives in protective boxes, folders, labels with identification codes, from various fresh protection or colour coatings of walls, flooring, furniture and other equipment, from hand sweat etc. Charters with lead seals should therefore be kept in equipment made of seasoned wood (preferably mahogany), protected with inert coatings. Boxes and wrappings should be made of permanent acid-free paper and cardboard.

WAX SEALS

Wax seals vary more in colour, size, shape and means of attachment than metal seals. Knowledge of these differences within the seemingly uniform group of wax seals is important for proper conservation, preservation, and protection.

WAX SEAL DAMAGE

The oldest wax seals were made of beeswax without additives, but soon colophony, turpentine, and linseed-oil were added to improve mechanical properties.

The type of additive determines the shades of uncoloured seals, which range from dark brown to practically translucent yellow.

Coloured wax appeared in the 12th century; first red was used, then green, black, and dark blue. Until the 14th century or Slovene territory seals were mainly of uncoloured wax. Seals in red, green, and black can be traced back to the first half of the 14th century, becoming increasingly common (especially red ones) in the second half of the 14th century; seals made of natural wax were already a rarity in the 15th century.

The composition of wax in uncoloured seals frequently changes, whereas this phenomenon never occurs in coloured wax. Seals have been preserved in various conditions. Some show no changes in the wax structure (fig. 6, fig.7).



fig. 6: the seal on the charter, 15 February 1405, Cistercians - Kostanjevica

Current research has not been able to completely identify the causes of such compositional changes in uncoloured wax. All the beliefs on the causes of these changes are based mainly on observation, not on detailed analyses. The most likely causes of these changes lie in additives

(various natural resins) and impurities in the wax (residues of honey, resins, and fat) causing chemical processes or microflora growth.

There are no visible changes in coloured seals, though the seal base and edge (Siegelschale), being always made of uncoloured wax, show severely changed composition. Why coloured seals have not deteriorated may lie in the pigments added, which contain metal ions (e.g. lead, copper, iron, mercury) which impede microbio processes.

Due to the softness of wax, mechanical damage is the most common. Damage is even more noticeable in larger seals and those without a base and edge (Siegelschale).



fig.7: the seal on the charter, 7 June 1338, Carthusians - Bistra

The base and edge are always made of uncoloured wax, their composition is therefore frequently changed, even if they contain and protect a coloured seal image.

Inadequately stored seals or those kept with accompanying written material are often broken or crushed.

Cords and parchment bands may also cause mechanical damage if carelessly handled. Damage is especially pronounced if the image-bearing layer is thin. This is evident in a number of cases. Cords and bands usually enable the penetration of humidity and microorganisms into a seal.

The brittleness of coloured and uncoloured sealing wax is presumably increased by the leather or linen bags used as protection against damage (fig.8).

Damage may also occur during the making of silicone negatives, used for the production of casts. Areas around bands and cords are especially vulnerable. Damaged seals should not be used for the making of negatives for casts.

THE SYSTEM OF CHARTER PRESERVATION IN SLOVENIA

According to current data the Slovene state and ecclesiastical archives house approx. 15000 charters, half of them dated prior to 1500.

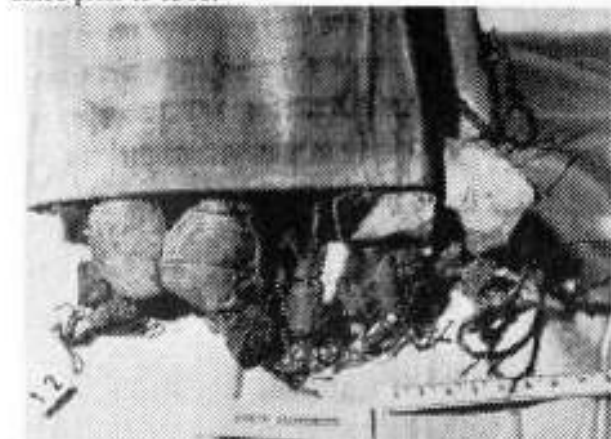


Fig.8. seals on the charter. 6 November 1347, Cistercians - Kostanjevica.

The oldest charter collection belongs to the Piran Archives, now a part of the Koper Regional Archives; the oldest charter is kept in the Archdiocesan Archives in Ljubljana and dates back to 1141.

Many charters and other archival materials, referring to Slovene territory and its settlements, were transferred to Austrian archives and libraries, mainly to Graz and Vienna, after the dissolution of the monasteries at the end of the 18th century. A number of valuable, beautiful and important charters concerning monasteries of the Slovene Littoral are preserved in Italian archives. From 1977 to 1986, 2912 charters were restored from Austrian to Slovene archives on the basis of an international agreement in 1923.

The current charter collections were founded in Slovene archives in the second half of the 19th century when the principle prevailed that charters should be kept separate from other material. Arrangement and storage has remained the same, with small corrections, adjustment changes and additions, in almost all of our archives.

Nowadays charters are kept in microclimatically suitable premises. Archives with smaller collections of charters have more appropriate equipment and protection packing, at least for charters with larger seals and those requiring conservation.

The Ljubljana Historical Archives have probably the best arranged collection. All charters are described and electronically documented, conserved and restored if necessary; most are kept in four flap enclosures made of permanent paper; charters with seals are kept in purpose-made boxes. All charters are placed horizontally in metal

cabinets and cupboards. The repositories have the right natural microclimate and are secured against flood, fire, and burglary.

The Slovene central archives, the Archives of the Republic of Slovenia, houses the biggest collection, with 7133 units; 3437 units are dated prior to 1500. A smaller number of charters are dispersed also in other archive groups.

Our technical arrangements have stayed the same, with minor changes and additions, since its foundation until recently. The charters were kept in suitable microclimatic premises, but in inadequate equipment and on three different locations.

The charters of smaller format were originally folded and, along with the seal (or seals), wrapped into durable wrapping paper of indefinite quality, or kept vertically like books in wood cupboards. This is unacceptable for the protection of charters, because the handling of one charter may expose the neighbouring charters and seals to pressure and cause mechanical damage.

The charters of larger format were kept as originally, folded, wrapped in wrapping paper like the smaller charters and placed on shelves in cardboard boxes with lids. This was supposed to be temporary, but it finally turned out to be permanent. As they were placed according to an accessible filing system, they were less exposed to mechanical damage. The charters returned from Austria were kept on a third provisional location in the condition in which they had been taken in i.e. folded in the original format and inserted into protection envelopes.

The collection urgently needed rearrangement and more suitable equipment. While seeking a new common location and equipment, we decided on a pragmatic solution providing the best possible protection for the collection at the moment, being feasible in terms of available financial resources as well as storage areas.

The storage areas were chosen from microclimatically acceptable premises in the older part of the repository. The choice was partly determined by its distance from potential dangers e.g. water supply installations, drainage, chimneys, central heating installations, the location of windows, the possibility of darkening, and by its accessibility.

The newly allocated storage area is separated from other premises by a fireproof door. The door and window are additionally protected against burglary.

Due to a lack of space we had to adopt the vertical preservation of charters though nowadays horizontal storage is preferred by many experts, as it has many advantages, especially for charters with large seals or those with many seals.

We decided to use metal cabinets enabling the smooth and safe opening of only one drawer out of four at a time. Protection wrapping in permanent paper was planned for all charters; for those with larger seals, however, purpose-made acid free boxes, made of buffered board and permanent paper, are used (fig.9).



fig.9: protection box for the seal and charter, 7 June 1338, Carthusians - Bistra.

In the cabinets they will be inserted into rigid cardboard hanging file folders giving the charters mechanical protection against possible pressures. Each folder can contain one charter with a larger seal in a protection box, no more than three charters with smaller seals in protection four flap enclosures and no more than five charters without seals placed in adequate protection wrapping. Only damaged charters and those of large format that cannot be or are not allowed to be stored otherwise, will be kept horizontally.

The making of boxes for charters with seals, and of protection wrappings for those without seals is underway according to a priority list. Boxes have already been made for the most endangered charters with seals.

The use of originals is limited to the most urgent cases: users are provided with quality photoreproductions (microfilms or prints).

As to the use and display of archival materials, we are trying to follow guidelines, which due to deeply rooted habits and opinions, are often more difficult to be carried out than to be written about.

REFERENCES

1. Michael Gullick: From parchment to scribe, v: Pergament Geschichte- Struktur- Restaurierung- Herstellung, Jan Thorbecke Verlag Sigmaringen, 1991, 145-149.
2. Michael L. Ryder: The Biology and History of Parchment, v: Pergament: Geschichte - Struktur - Restaurierung - Herstellung, Jan Thorbecke Verlag Sigmaringen, 1991, 25-33.
3. Susanne Pollent: The German Archives, Archives for Millenia-International Seminar on Long term Record Keeping, Wennergren Center, Stockholm 1992.
4. Christopher Clarkson: Rediscovering Parchment: The Nature of the Beast, v: The Paper Conservator, 16 (1992) 5-26.
5. Hanna Szczepanowska: The conservation of 14 th century Parchment documents with pendant seals, The Paper Conservator, 16 (1992) 86-91.

6. Melvyn J.: Seals Repair, Moulds and Casts, The Paper Conservator, Vol.1 (1976) 12-18.

7. Joze Mlinaric: Opremljanje in hramba listine, Modern Archives, Vol. I, Maribor 1979.

8. Basic Conservation of Archival Materials: A Guide, Canadian Council of Archives, 1990, 32.

10. British Standard Storage and Exhibition of Archival Documents - B.S. 5454, British Standard Institution, London 1989, 13.

11. Irmgard Kalfi: Das Wachssiegel und Seine Restaurierung, Wien (1975) 66-68.

12. Bozo Otorepec: Srednjeveski pecati in grbi mest in trgov na Slovenskem, Slovenska matica SAZU, Ljubljana (1988) 245-275.

13. France M. Dolinar: Samostani v srednjeveskih listinah na Slovenskem, Catalogue to the Exhibition Slovenian Monasteries in Medieval Charters, Archives of the Republic of Slovenia, Ljubljana 1993.

14. Cernic L. M., Vodopivec J.: The use of Permanent paper, Modern Archives vol. XVII, Maribor (1995) pp.17-29.

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ABSTRACT:

As the restoration and conservation treatments of parchment and seals are limited, we have to be even more aware of the causes of parchment damage that can be prevented by proper preservation and protection.

Paper describes concrete cases of the most pronounced damage to parchment and seals, as well as the method of preservation and protection of parchment charters in two Slovene archives: the Archives of the Republic of Slovenia and the Ljubljana Historical Archives.

KEYWORDS:

seals, parchment, charters, damages, protection, preservation, permanent paper, Slovenia.