

# Conservation treatment of medieval parchment documents damaged by heat and water

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## Zusammenfassung

Die Restaurierung stark geschädigter Pergamenturkunden mit Siegeln aus dem Mittelalter wird an einigen Beispielen dargestellt. Die Urkunden sind durch Feuer- und Wassereinwirkung erheblich verschmutzt, geschrumpft, spröde, verhärtet und deformiert. Sie weisen zahlreiche Fehlstellen und Risse auf, geschmolzenes Wachs und sonstige Flecken beeinträchtigen ihre Lesbarkeit.

## Introduction

The Landesarchiv Speyer owns a valuable collection of manuscripts on parchment of the 9<sup>th</sup> to 19<sup>th</sup> century under the signature "Bestand F7 (Gatterer-Apparat)".

The collection had been built up by J.C. Gatterer (1727-1799), one of the most important German historians of the 18<sup>th</sup> century. He had used approximately 400 parchment and paper documents for his lectures in historic sciences, paleography, sigillography and diplomatics. His son, C.W.J. Gatterer (1759-1838) expanded the collection to about 4500 items. Part of the collection was severely damaged by a fire in 1729. The concerned parchment manuscripts are now to be treated in the conservation workshop. The single documents are identified by the letters GA and a current number written in black ink on their back and a violet or red stamp.

## Condition of the damaged parchment manuscripts

- soiled by dust, soot, flyspecks, melted wax, water-, ink- and other stains (see fig.1-9)
- weakened by microorganisms (see fig.8c)
- creased, shrunk, pleated, distorted, torn, with losses (see fig.1, 9)
- partly gelatinized and carbonized by heat and fire, brittle (see fig.4, 9a)
- faded, decayed, bleeding ink, missing text (see fig.4, 8b)

## Aims of the conservation treatment

- give access to the information of the document
- improve the readability by cleaning and flattening

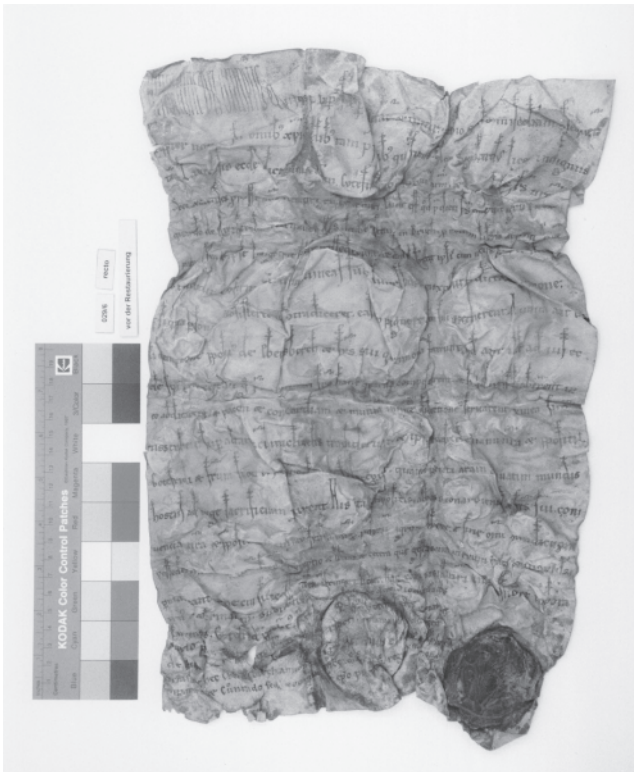
- improve the handling by mending tears and filling in losses
- secure broken and otherwise damaged seals, give access to wrapped seals (see fig.8d)
- improve storage conditions by mounting and boxing

## Treatment

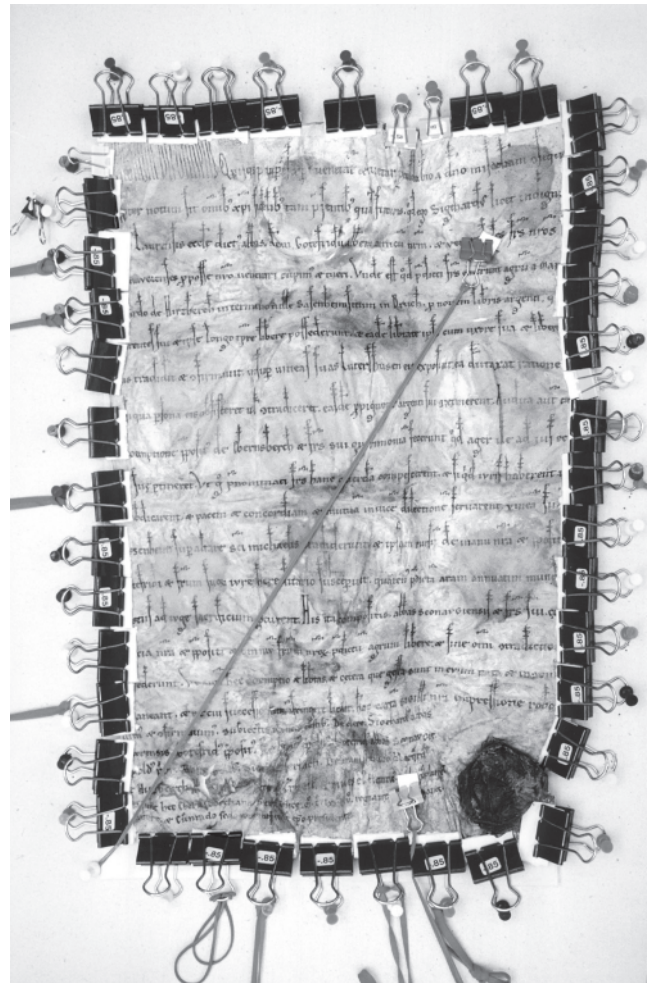
- surface cleaning with brushes, vacuum cleaner, scalpel, erasers, moist cotton swabs
- wax stain removal with poultices of white clay (bolus alba) and white spirit (100-140°)
- relaxing in a humidity chamber at 92% relative humidity over a period of 1 to 50 hours or locally in a Gore-Tex-Sandwich
- flattening by suction, by stretching or by pressure under weights
- mending tears with parchment shavings and isinglass glue or Japanese paper and wheat starch paste
- filling in losses with new, matching parchment, cut to shape and pared around the edges and isinglass (see fig.6) or with Japanese paper (see fig.7c, d)
- air-drying under tension (see fig.2), by air flow on a suction table or by frequently exchanged blotting papers under weight
- retouching complements with pastel chalk or watercolors
- mounting loose between two acid free boards using mounting corners made of paper or cardboard, protecting the seals by shells made of cardboard
- housing in storage boxes or preservation folders
- consolidating wax seals with a mixture of beeswax and resin (dammar), dyed with pigments (see fig.3)

## Arising problems

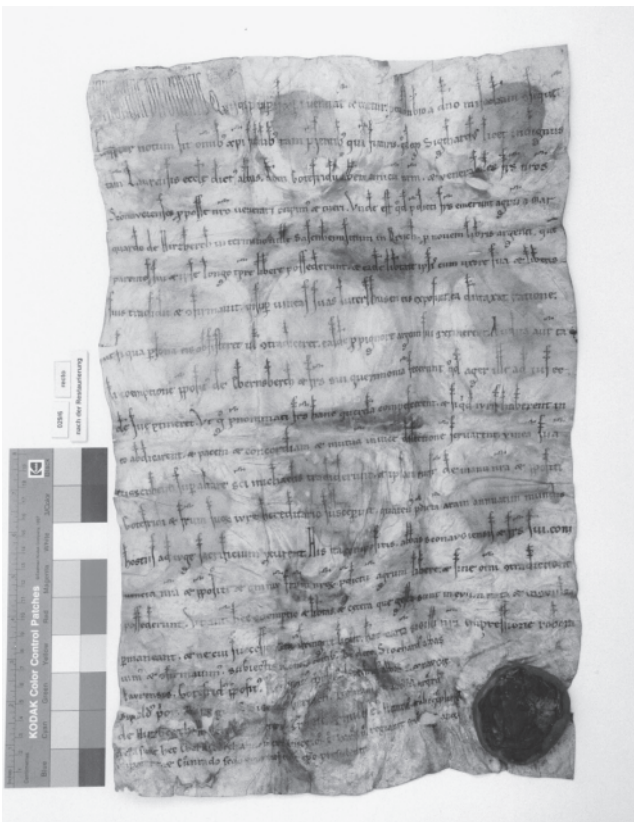
- stretching when tears and losses can not be secured beforehand due to distortions
- stretching of severely contracted, brittle areas (see fig.7a, 9a)
- flattening when shrinkage is restricted to small areas within undamaged parchment (see fig.7a, b)
- adjoining torn edges and aligning text of differently shrunk and distorted material (see fig.5, 7d, 8)
- adhering carbonized edges to complement (see fig.5)
- partial treatment on suction table



*Fig.1: Document GA 25, dated 1185, recto before treatment  
Shrunk, horny areas next to almost unaffected parchment have caused pleads and creases, the text is not readable. The fragmented applied wax seal on the bottom right has left its imprint while the document has been folded, wax deposits are on the surface of the manuscript and in the parchment structure.*



*Fig. 2: Document GA 25 recto during treatment  
After surface cleaning the document has been relaxed in a humidity chamber and is now dried under tension by pinning the attached Maul foldback-clips to an underlying cardboard. Tears are secured by pins or smaller clips, blotters protect the document from imprints of the clips. The relaxing and drying procedure has been repeated several times.*



*Fig. 3: Document GA 25 recto after treatment  
Most of the distortions are straightened out already, remaining pleats have been worked into areas without text. The dimensional enlargement is remarkable (up to 7cm). The seal is consolidated around its edges, tears and missing areas are mended with pared parchment and isinglass glue.*



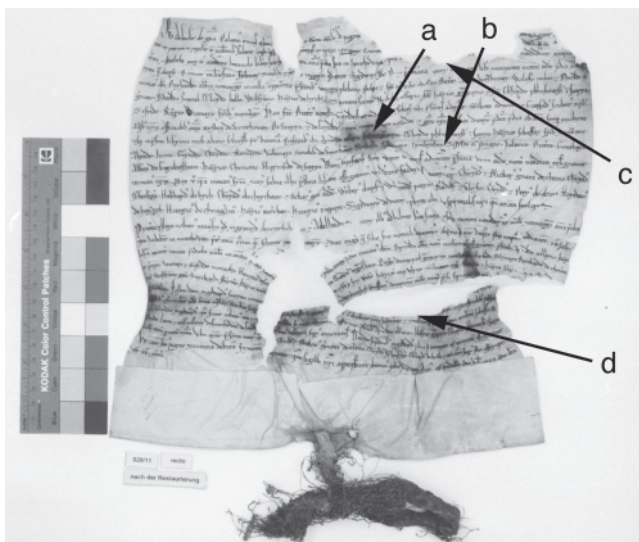
*Fig. 4: Document GA 65, dated 1240, recto before treatment  
Melted wax is sitting on the surface and has migrated into the parchment causing dark yellow stains. In the lower left corner text has been removed by pulling the document off another wax- stained parchment. The brittle and horny edges around the missing area have been contracted by the influence of heat.*



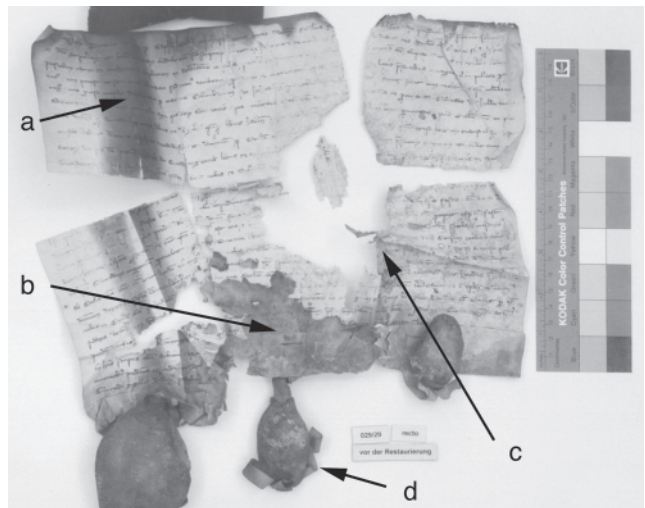
**Fig. 5: Document GA 65 recto after treatment**  
 After the wax has been removed from the surface mechanically, a poultice of powdered clay and white spirit has been used to dissolve and remove the melted wax. The edges of the missing area have slightly been moistened and straightened out.



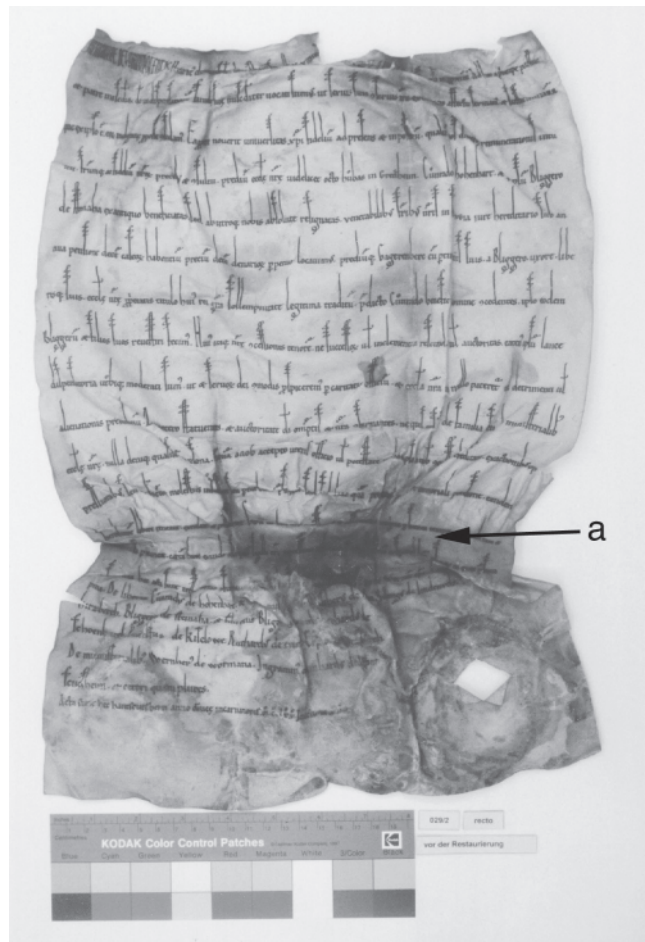
**Fig. 6: Document GA 65 verso after treatment**  
 Pared parchment, cut to shape, is glued to the back edges of the hole with isinglass. Soot stains could not be fully removed in order to avoid the risk of loosing any text.



**Fig.7: Document GA 47, dated 1227, recto after treatment**  
 7a: small, shrunk area within undamaged parchment cannot be stretched to the dimensions of the surrounding parchment  
 7b: pleats and distortions cannot be straightened out  
 7c: damaged edges can only be secured, not be completed due to wrinkles  
 7d: the lower section shrank more than the upper section, text cannot be matched together



**Fig.8: Document GA 212, dated 1285 recto before treatment**  
 8a: soot stains  
 8b: liquid stains, ink dissolved  
 8c: mould stains, degraded, powdery consistence of the parchment and ink  
 8d: wrapped seals, affected by microorganisms and heat



**Fig. 9. Document GA 17, dated 1165, recto before treatment**  
 9a: severely shrunk area, dark from soot and wax, gelatinized

## Biography

**Barbara Hassel** absolvierte 1986 die Meisterprüfungen für Buchbinder und qualifizierte sich anschliessend in verschiedenen Weiterbildungsprogrammen zur Buch- und Graphikrestauratorin. Bis 1993 leitete sie die Restaurierungswerkstatt der Badischen Landesbibliothek in Karlsruhe. Von 1993 bis 1998 war sie Werkstattleiterin im Studiengang "Restaurierung und Konservierung von Graphik-Archiv- und Bibliotheksgut" an der Staatlichen Akademie der Bildenden Künste Stuttgart. Sie liess sich 1998 für 3 Jahre beurlauben und arbeitet seither als freiberufliche Restauratorin in eigener Werkstatt.

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