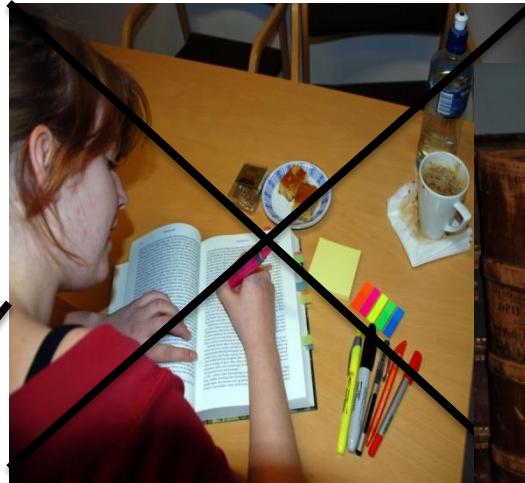


# How to make digitalisation a way of preservation



# The National Archive social assignment

- Make the archives available - present
- Preserve - future

Preservation of the physical object

Preservation of the information/the written words

**Preventive measures**

**Conservation**

**Digitalization**

**Preservation**

**Handling and  
use**

**Climatic conditions  
in the repository**

**PRESERVATION?**

Make sure that degradation occurs as slowly as possible

Prevent new damages

# Conservation treatment before digitalization

- The active intervention of conservation should be as little as possible
- Target: Make the document manageable in the actual scan.
- Conservation of damages must be seen in context with the absence of use after scanning

# Damages

Damages are divided into three categories:

- Comprehensive damage; Requires active intervention from conservator
- Smaler damage; Can be remedied as part of the scanning
- Damage caused by the digitization process

# Physical damages

- General condition of the document, and to which extent the damage goes beyond the screen image, is decisive for the assessment of the damage
- A document may have a rather big damage, but if it does not go beyond readability the document is depicted with care and put in a cover in such a way that the damage does not worsen

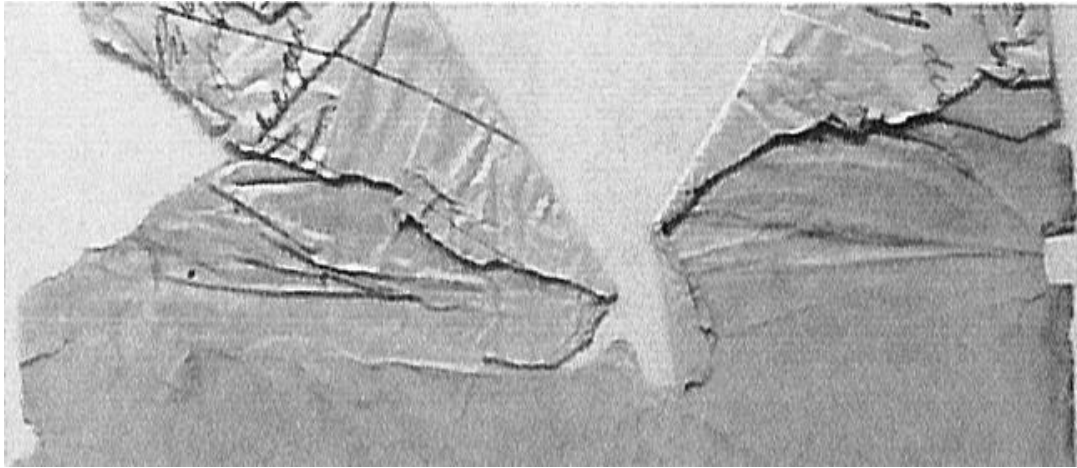
# Damages

- All damage that requires the use of preserving tools to be remedied shall be carried out by conservator
- Damage that does not enter the writing should not be processed if the document can be handled without causing further damages
- Damage that goes into the writing will be assessed in accordance with the need for treatment
- Moisture damaged or molded documents shall always be treated before digitalization

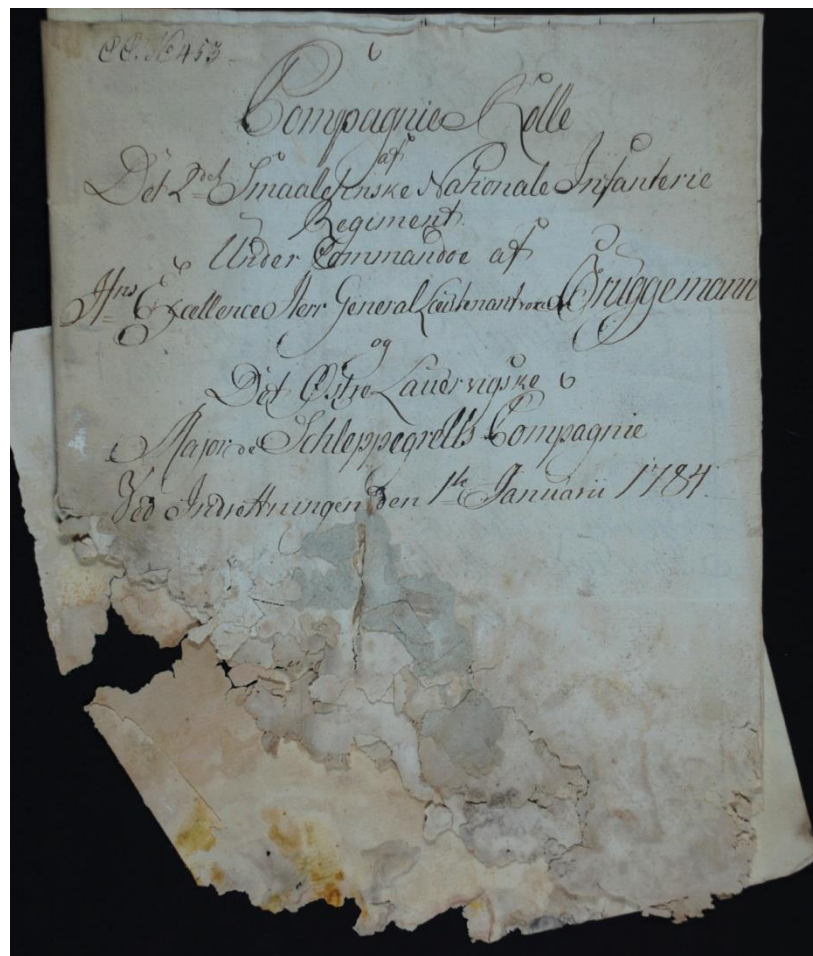
# Comprehensive damages

- Many big folds in the paper that go into the writing image
- Large tears that enter the scripts
- If papers are stuck to each other due to moisture or other

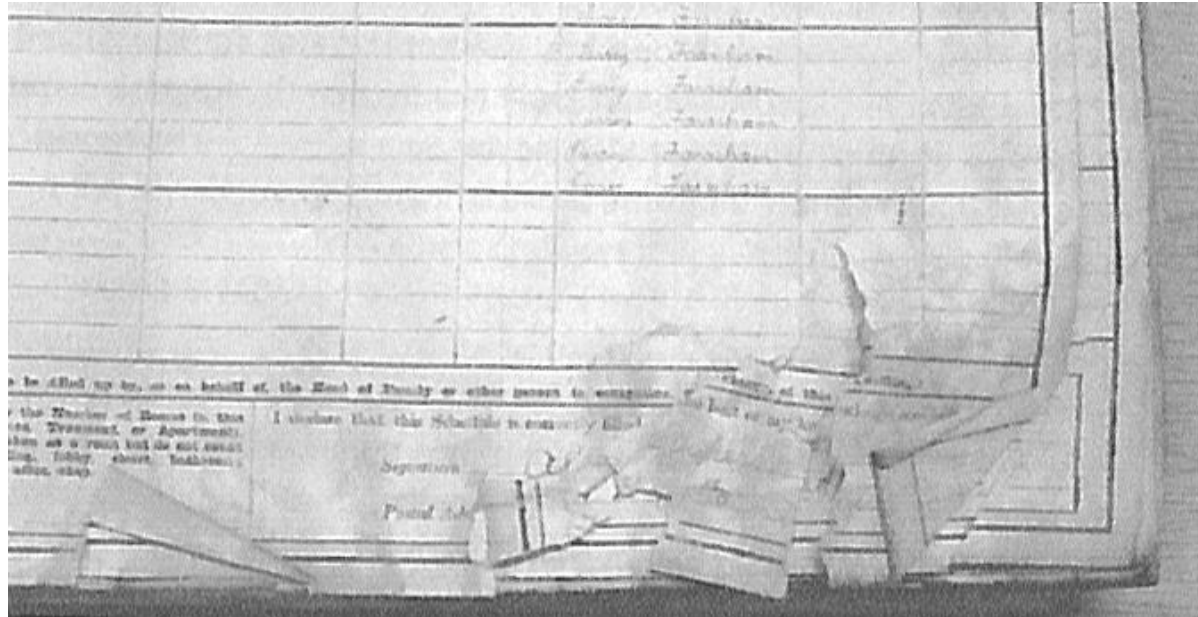
# Comprehensive damages



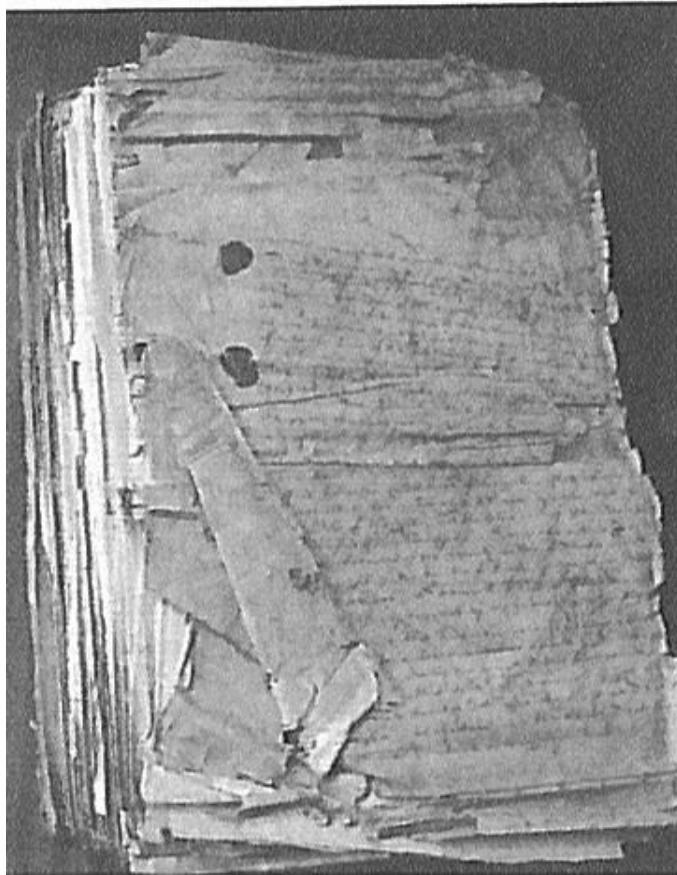
# Comprehensive damages



# Comprehensive damages



# Comprehensive damages



## Other factors relevant to the scan where conservation should be contacted:

- Broken paper of poor quality where the paper is crisp and breaks when handling
- Tight binding and writing all the way to the back
- Previous repairs that cover writing
- Ink corrosion

# Minor damages

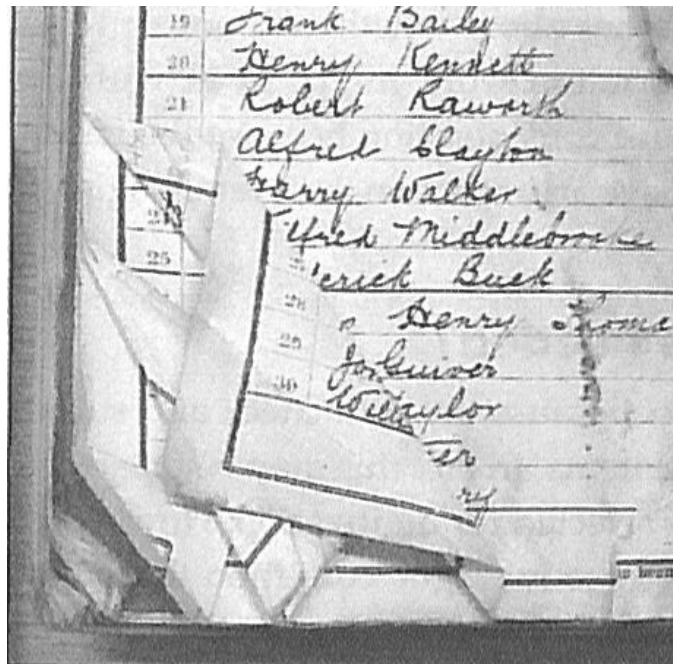
Do not need conservation but careful handling,  
and can be remedied as part of the scanning  
process of digitization

- Bring out corners
- Put tears together
- Put document in polyester pockets for handling during scanning

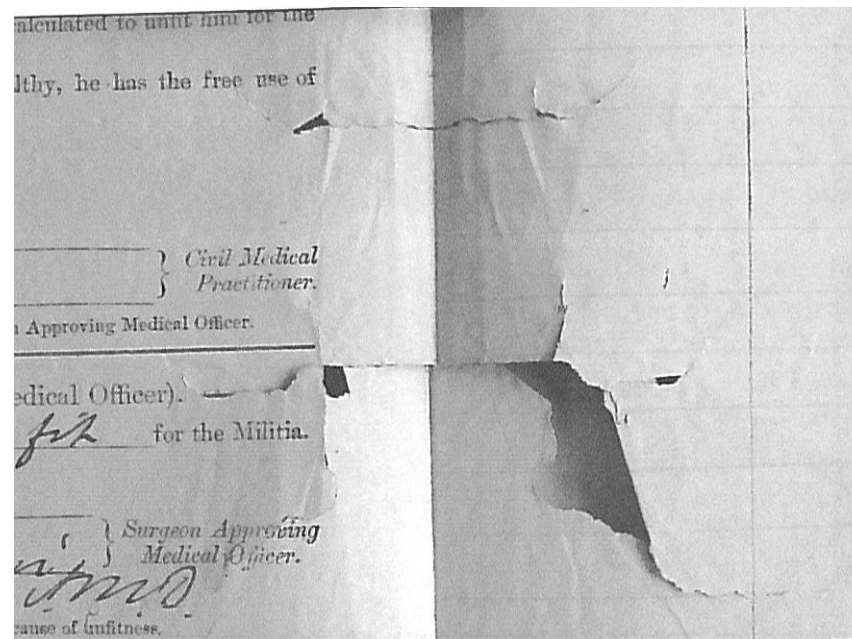
# Minor damages

- Folded corners
- Curled paper where the paper itself is in good condition
- Tears less than 5 cm that do not entered in the image

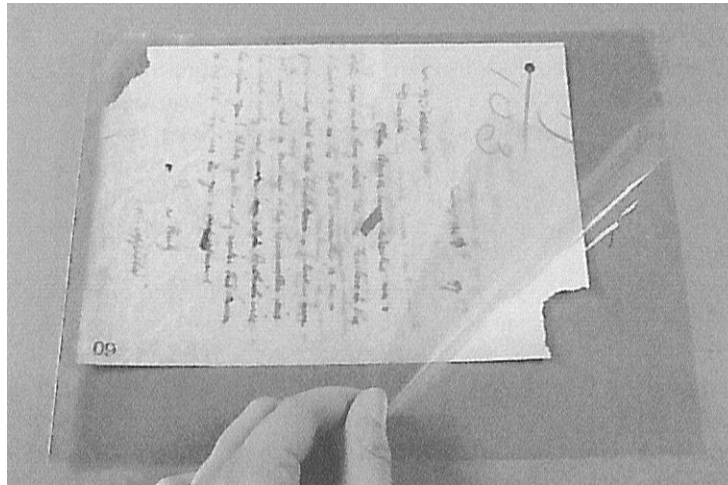
# Minor damage



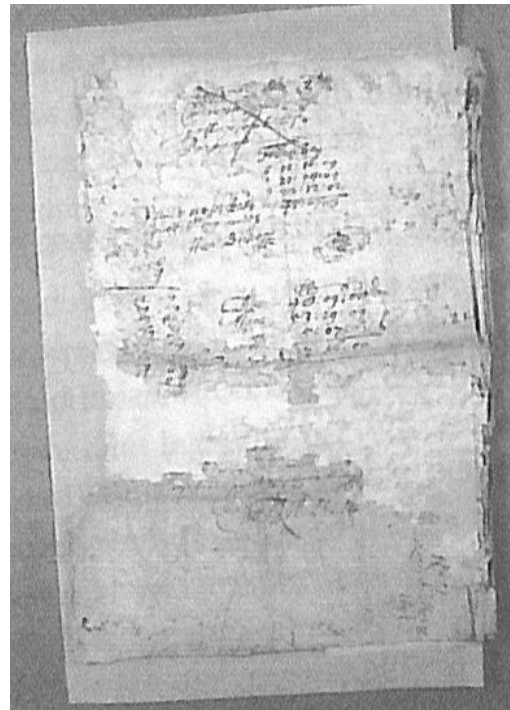
# Minor damage



# Documents can be scanned through polyester pocket



If the paper is severely broken, paper /polyester should be used as support sheet for handling



Digitalization



# Digitalization

- The digital copy can never replace the original

When we build a digital collection, we need to take care of two collections, both the digital and originals

# How can digitalization promote preservation?

- The employed doing the digitalization are important practitioners in preservation
- Handles the material directly
- Digitization must result in the absence of use
- Systematic overview of the material
- Can perform active preservation
- Can notify conservation if need for active intervention

# What can be done as part of digitization?

- Discover reasons for active decomposition
  - Mold
  - Pests / vermin excrement
    - Harmful packaging
    - Box for full / empty
  - Post-it tags
  - Paperclips
  - Detect mechanical damage

# Training in preventive preservation

- The archival material is the memory of the Nation
- Archive material aesthetical and Socially importance

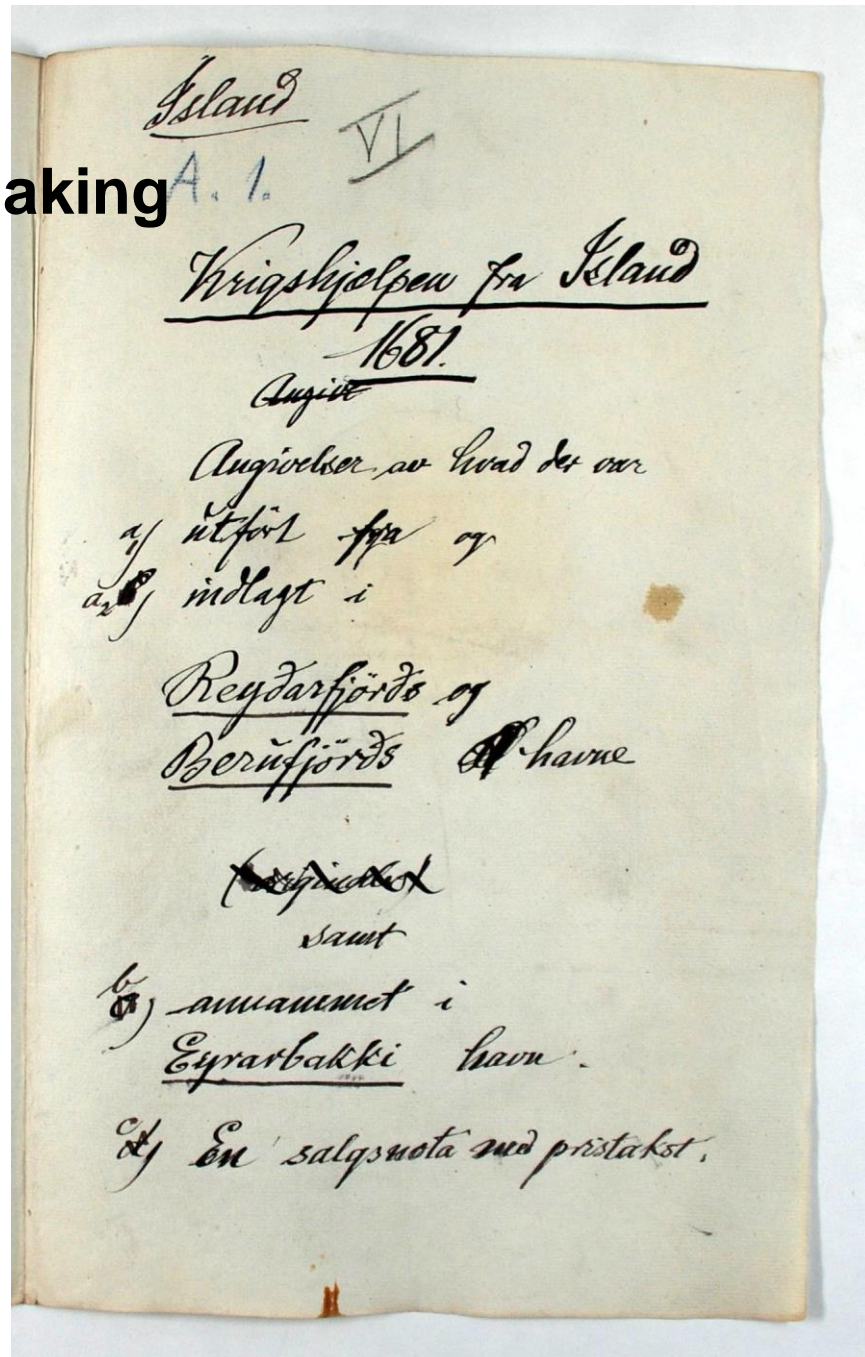
# The Sleeping Beauty



- Bates, Katharine Lee, editor. *Once Upon a Time: A Book of Old-Time Fairy Tales*. Margaret Evans Price, illustrator. Chicago: Rand McNally & Company, 1921.

# The history of papermaking

Paper from The 16.century

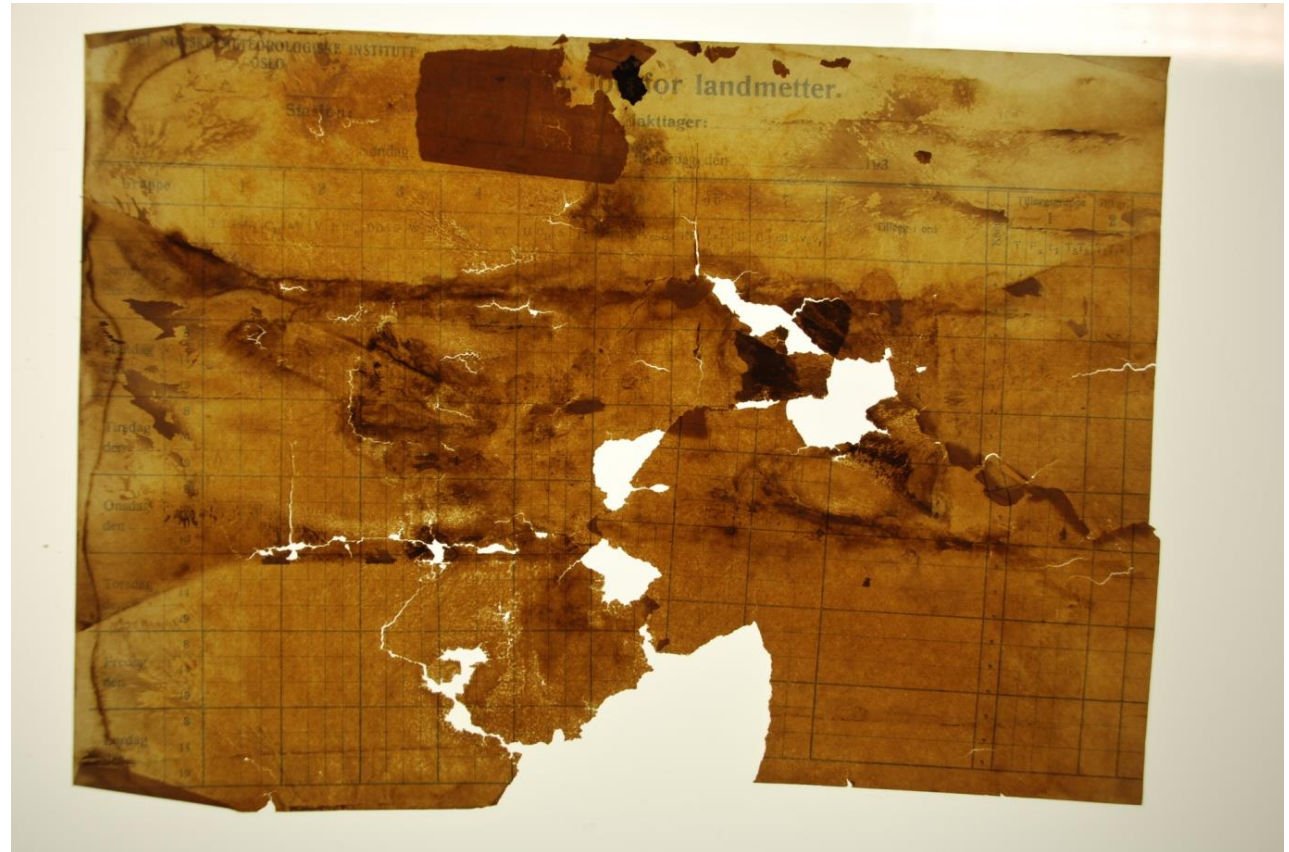




# Watermarks



# Degradation of paper



# Climatic influences

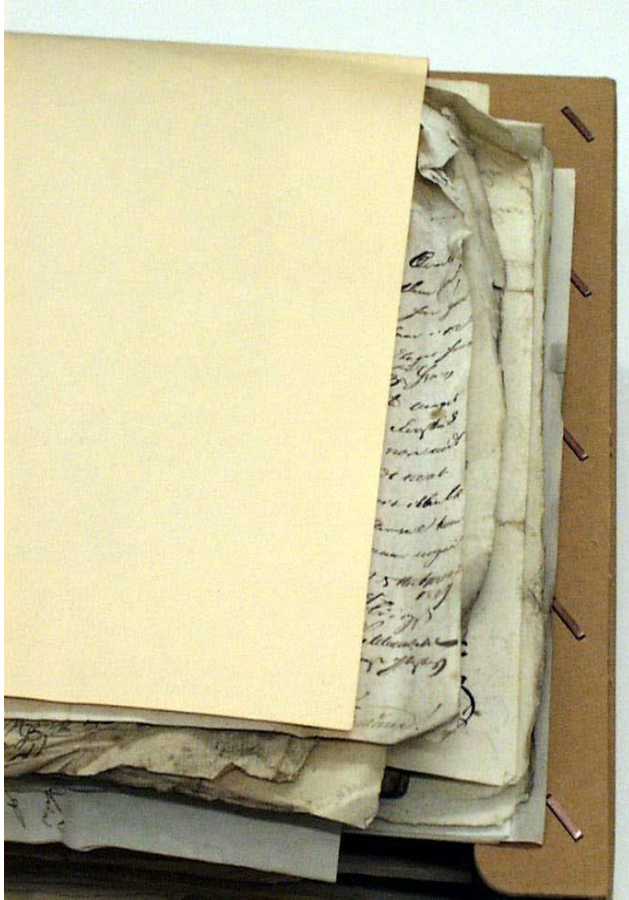


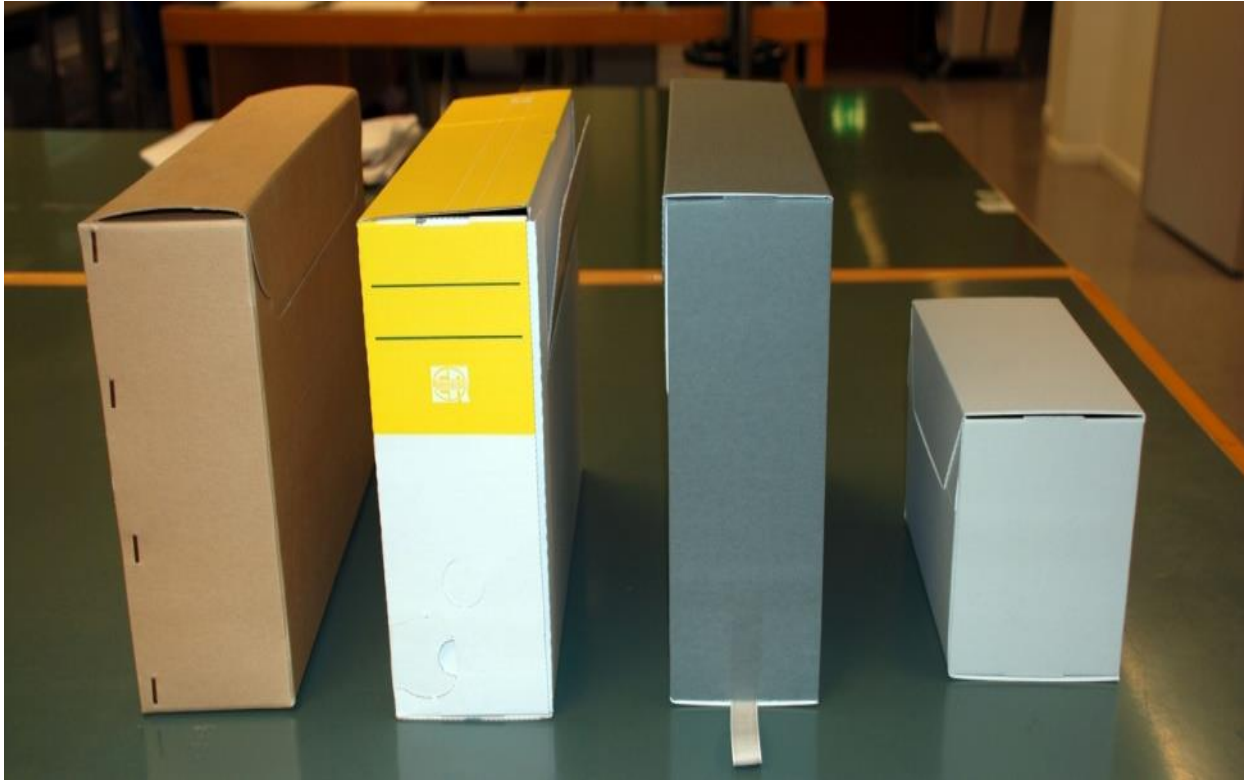
# Permanent papir:

## Internasjonal standard ISO 9706



# Housing materials

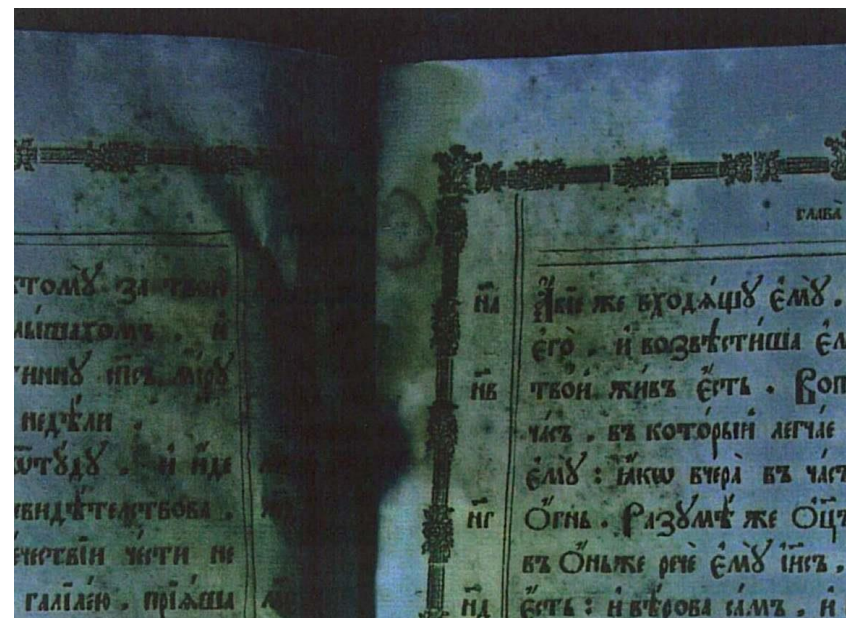
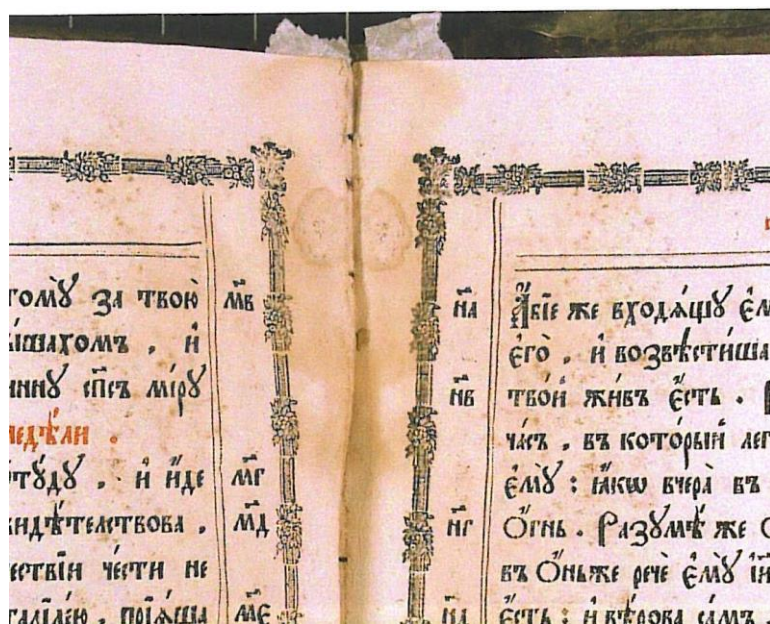




# Biological degradation



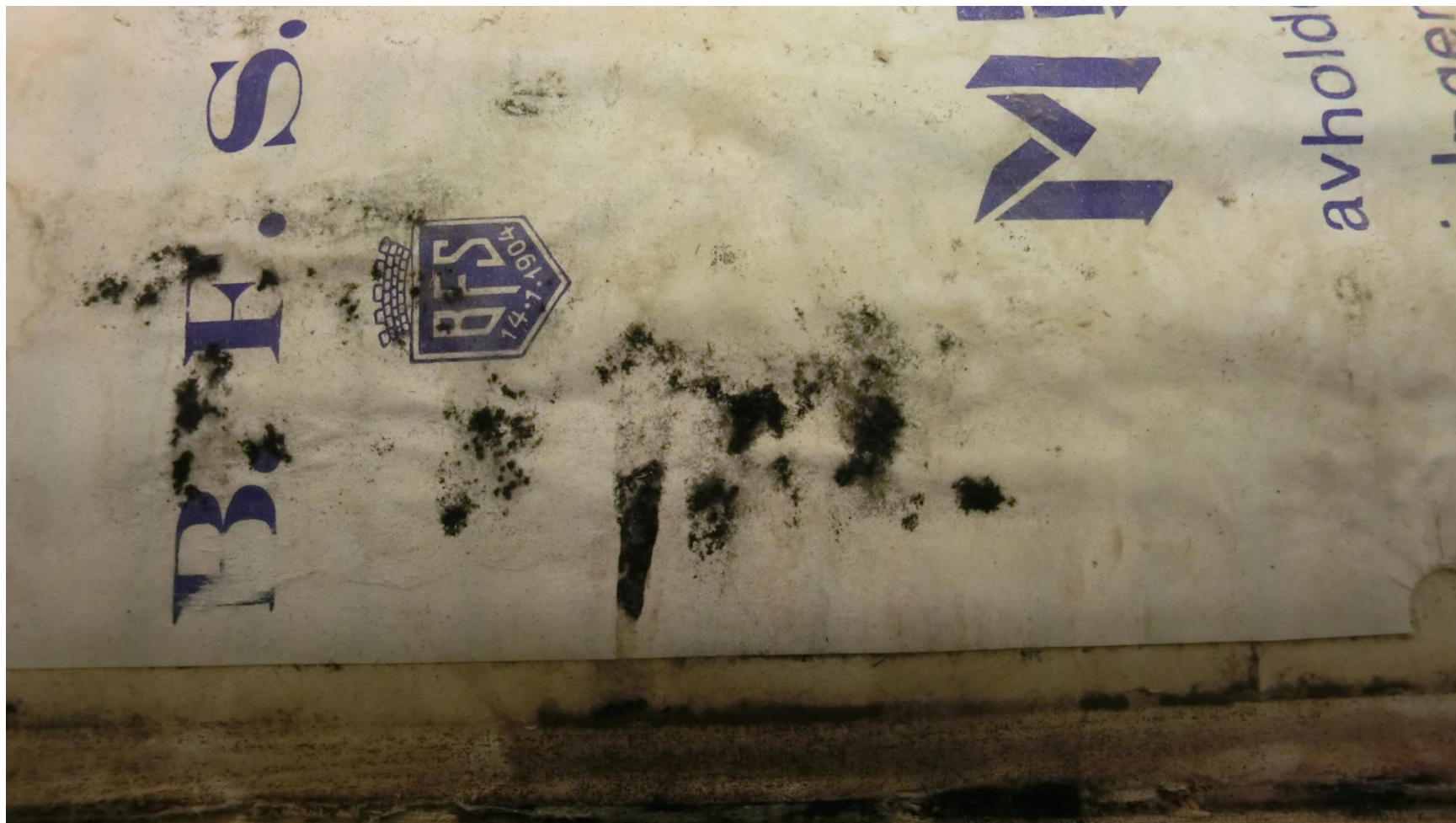
# Identification of mold













# Insectes



# Ctenolepisma longicaudata

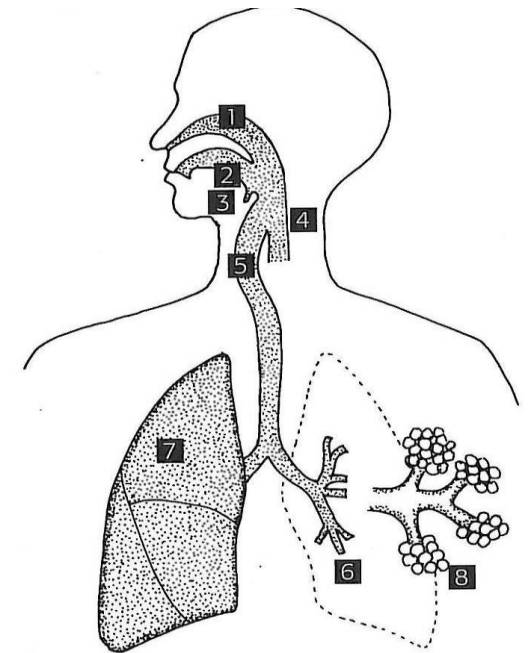


# Health risk associated with handling infected material

Atopic allergy: Microorganisms adhere to the trachea and disturb air passage. Asmatic reaction is triggered for up to 10 minutes. After contact with the algae

Allergic alveolite: The microorganisms enter the lungs and cause an inflammatory reaction in the alveolar. Influenza symptoms 6-8 hours after exposure, fever, difficulty breathing, decrease after 1-2 days

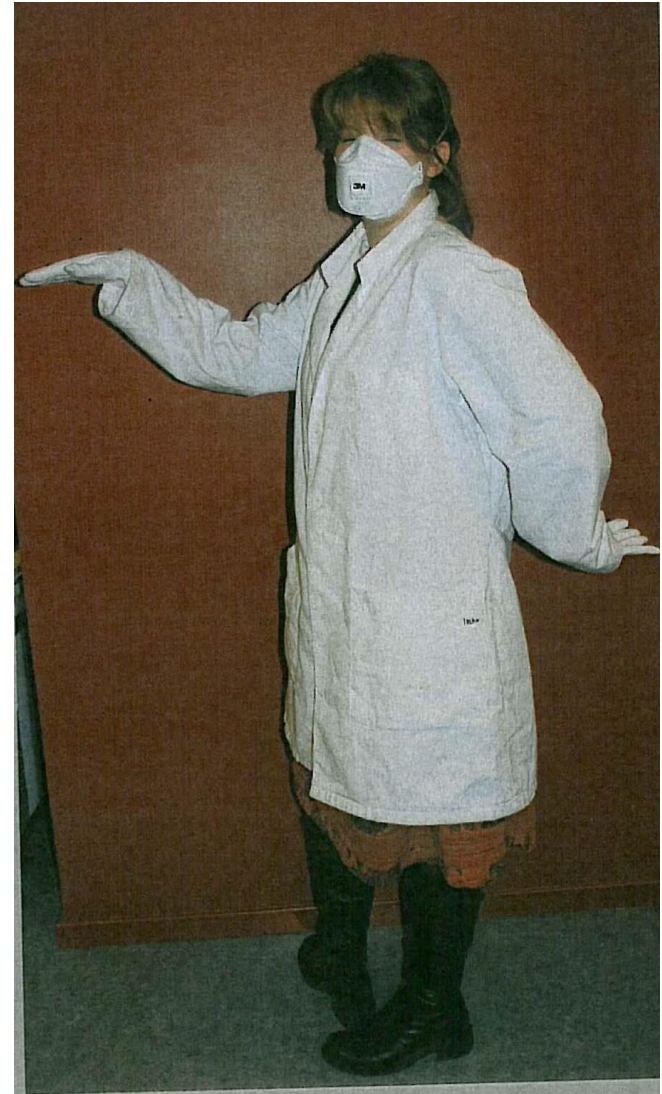
Allergic reaction to mold smell:  
When mushrooms and bacteria grow, they emit volatile organic gases that can give rise to gnome unevenness, fatigue, headache, skin irritation and runny eyes

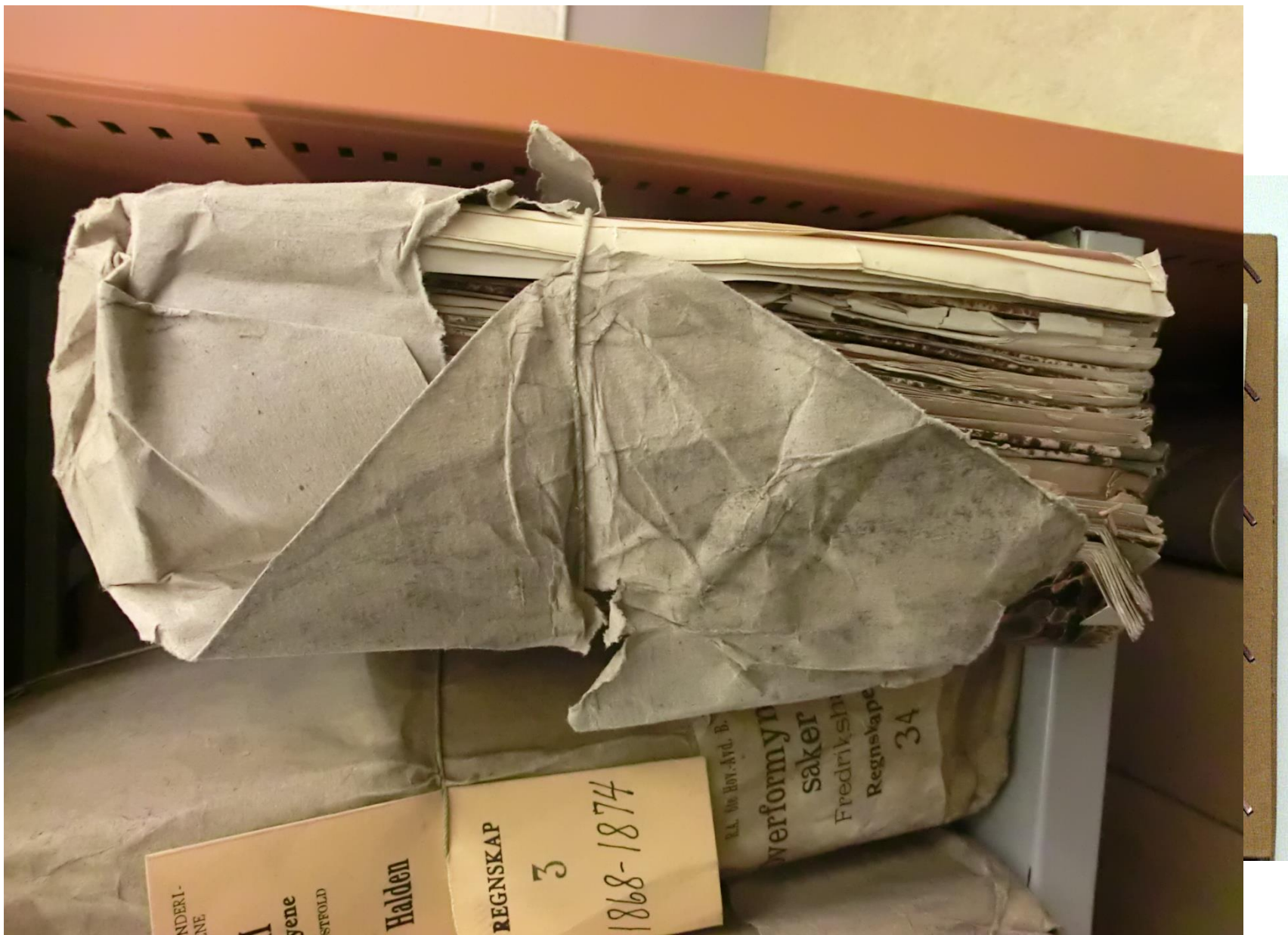


Schematisk bild av andningsvägarna.

1. Näshåla
2. Munhåla
3. Struplock
4. Matstrupe
5. Luftstrupe med stämband
6. Bronker
7. Lungor
8. Lungbläsor (alveoler).

# Protective equipment







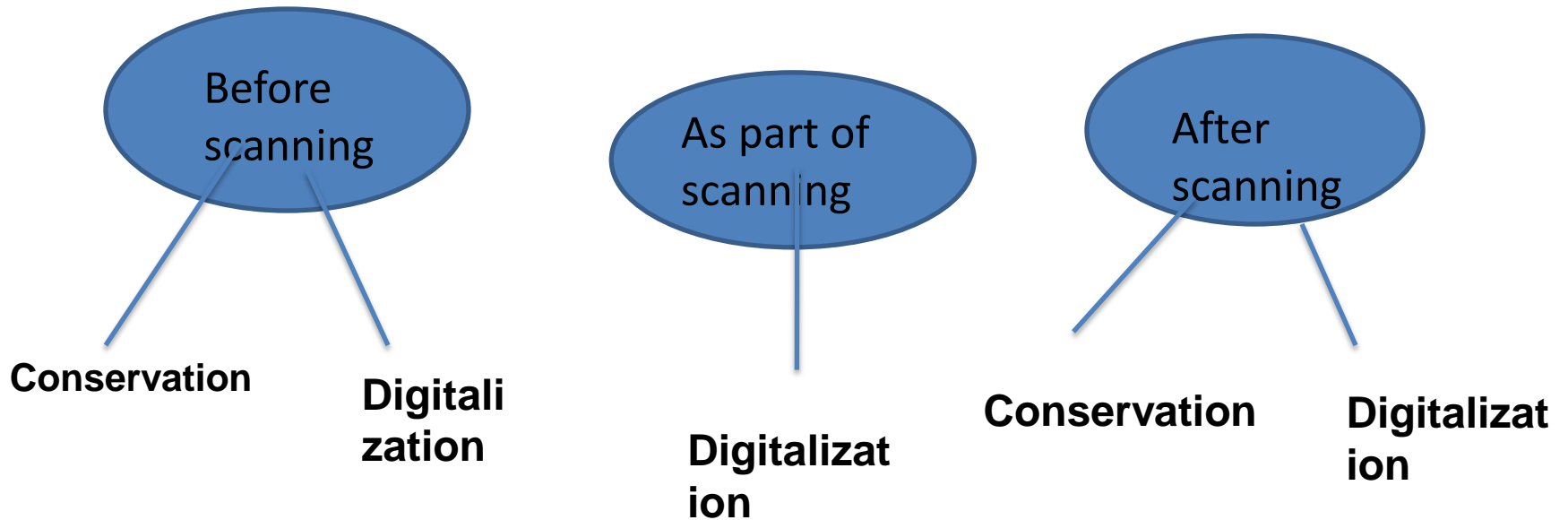




# Routines for cooperation

- How can we cooperate on preserving?
- How to facilitate digitization?
- What is needed for digitization to carry out preservation measures as part of natural management?
- How to prevent material from being damaged as part of the digitization process

# Cooperation



# Organization for digitization

- Make the material manageable for scanning
- Detect the need for active preservation prior to digitization
- Determine the need for post-digitization measures - repackaging or, for example, change localization magazine

# Assessment prior to digitalization

- Collaborate conservation-digitalization of the assessment of the archival material to be digitized prior to the digitization process, e.g. decide the use of scanners
- Ensure that the documents does not get damaged in the scanning process
- Ensure that simple conservation measures are implemented as part of handling items ex. rehousing

# Assessment of the materiel prior to digitalization

- Each catalog unit is considered an object, meaning that each object under investigation can be easily identified
- The examination of individual objects (eg in a box with loose document) will mean the examination of many documents and a rating of average state

# Purpose of the survey

- Identify damage and potential problems, such as documents that have many tears that destroy the script image, or that the documents are attached to each other.
- Estimate how long it will take to prepare the documents for digitization
- Schedule the procurement/adjustment of new housing materials

# Estimation of time and calculation of resources

- Paper form for use in situ
- Database or Excel spreadsheet
- Use of damage codes 0-4  
With estimated time related to injury codes

## Example of survey form

Arcival ref.	Format	Loose inserts	Pasted inserts	Paperclips /pins	Early repairs	Mold	Big tears	Lot og folds	Rehouse	Code
4a-219-4.1	Loose sheetsA4 i box/legg	yes	yes	yes	yes-tape cover writeing	ja	nei	ja	Box and folder	4
3a-002-1.1	protokoll	nei	nei	nei	nei	nei	nei	nei	nei	1
1a -014-2.2	Loose sheet, folio i package	nei	nei	ja	nei	dirt	nei	nei	ja	2
3a-023-2.3	Løse ark A4 i pakke	nei	nei	ja	Yes, but does not interfair writeing	yes	nei	nei	ja	3

## Exemple of damage code

Damage codecode	Estimated preparation time	Degree of treatment
Code 0	No preparation needed	The documents are ready for scanning, only minor damages that do not need treatment
Code 1	Untill 30 min.	Unfolding folds, some crunched corners, one tear for restaurationen
Code 2	Untill1 hour work	Unfolding og corners, some tears to reapiir, simple surface cleaning
Code 3	Until 3 hours worke (half a day)	Same kind of damages as code 2 but more severe, rehousing and mold cleaning
Code 4	Until 6 hours (one day )	Same kind of damages as code 3, buy more severe. The document has major specific issues and the need for comprehensive measures must be considered, for example, curled parchment with moisture damage

# Ethical assessments

We as professionals can make ethical assessments

Knowledge of the archive material as a physical object

We can allow ourselves to ask questions, and disagree with irreversible interventions to facilitate digitization ex. cutting of sewing thread, breaking of the seal, cutting of the back

# Conservation of damages

If the material can not be scanned without damage, we will try to stabilize the material

- Change scanner
- Use of support material, melinex
- Restore the tear

# The goal of preservation ahead of digitization

- Make the material possible to scan
- After scanning, the material will be handled to a very small extent and the restoration must therefore be minimal
- Restoration must follow ethical guidelines for preservation, ie it must be reversible

# Damages caused by digitalization

- Damage caused by scanners
- Damage due to handling
- Damage caused by the desire to photograph the writing  
Ex. Hard bound protocol
- Damage to materials that are already digitized will not be conserved but rehoused/housed