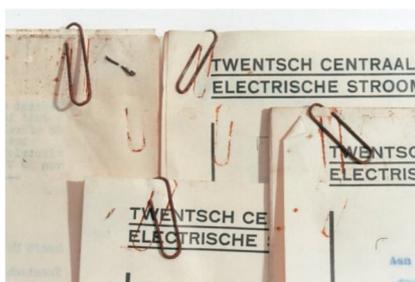




All materials change over time

This sheet will explain:

- what influences ageing;
- types of deterioration;
- characteristics of damage.



Damage and deterioration can only be slowed, not prevented completely. The physical nature of materials changes with time and in the context of historical collections, this change is usually undesirable. Good collection care practise will help extend the life of these items.

Ageing factors

Deterioration of materials is a complex subject. However at a basic level, the type, extent and rate of ageing are governed by:

- composition of materials (what it is made from);
- structure (how it is put together);
- environment and storage (what it is exposed to);
- use (what happens to it).

We can't always do much about the first two factors in collection care (composition and structure), but appropriate environmental conditions, storage facilities, packaging materials and careful use are fundamental to slowing the signs of ageing. Different materials have varying optimum storage conditions. Good collection care means finding a balance within this range.

Types of deterioration

Collection damage and symptoms of ageing can be grouped into three types:

- biological;
- chemical;
- physical.

These are interrelated and a combination of all three may be present.

Biological damage

This refers to mould damage and pest damage. Pests can include insects, moth and rodents. Archive collections contain many organic materials attractive to pests. Often, infestation is associated with damp conditions, past or present.

Mould may develop on surfaces, disfiguring and discolouring them. In advanced states, materials may be eaten away, for example paper can become soft and fragile. Exposure to concentrations of mould is also a health risk.

Insects can feed on many components of collections, adhesives for example which may be present in book structures. Damaged items may be covered in excreted frass, have damaged surfaces or have



holes in. There may also be insects present – dead or alive!

Rodents can chew and stain items. Sharp edges to missing areas can be a clue.

Chemical damage

This type of damage refers to chemical changes which occur within the material. These changes are accelerated by increased temperature, pollution and light, so items kept in cool, dark, dry storage will age more slowly. Examples include: acidity; discolouration; fading and brittleness.



Physical damage

An item may be more vulnerable to physical damage for example if it has been mould damaged and is also acidic. Tears, creases, missing or detached pieces are all examples of physical damage.

Slowing the ageing process

Collections care is all about identifying how a collection and the individual items within it are affected and at risk from these aspects of the ageing process. By planning strategies and putting preventive measures, the impact of ageing can be managed. Many initiatives can be simple and low cost, the main ingredients to success being prioritising, planning and effective communication, including endorsement and training in relation to new skills and practices.





West Yorkshire
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Service

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Ageing and deterioration of collections