

## **Introduction**

Glass and ceramic objects have been produced for thousands of years, and are quite durable. They are less sensitive to light, humidity, and temperature than many other materials, but they are very hard and brittle and can easily crack or break on impact. They require very simple care, the most important precaution being to avoid situations and conditions that could cause damage.

## **Causes of Damage**

### *Glass:*

The stability of glass is largely determined by how it was made. Improper proportions of its ingredients (i.e. silica, fluxes, colorants, and stabilizers) can weaken the glass and make it prone to various kinds of deterioration.

Lead crystal contains high proportions of lead which can leach into any liquid contents of a crystal container. The loss of lead from the glass can make the inside of the container cloudy.

### *Ceramics:*

Discoloration or staining can be caused by improper use or unsuitable cleaning methods. The absorption of coloured material from food or corrosion from contact with metal objects can also cause staining, as can old adhesives used for repair work. Exposure to high heat can darken stains.

Many ceramics have glazes or enamelled decoration over glazes (e.g. gilding or silver bands). These can be easily damaged if they were not properly fired onto the glaze.

Ceramics such as majolica, delft, and faience have soft, white glazes (called tin-glazes, although they contain both tin and lead) painted in colourful designs. These glazes are thick, chip easily (especially around the edges and rim of plates, bowls, and cups), and can be scratched by metal cutlery.

## **Handling**

Always handle glass and ceramics carefully. Make sure your hands are clean but do not wear gloves, which can be slippery. Your skin can grip properly, and you need your sense of touch to hold a slippery object. Use both hands to lift objects, and do not pick them up by their handles or spouts, which may not be well attached. When stacking glass or ceramic items for storage, place a cushion of soft material between each piece. Do not store or display ceramics or glass where there are extreme or rapid changes in temperature and humidity.

### *Glass:*

Liquids can be served in lead crystal decanters, but do not store them in this manner for long periods of time (lead in the crystal will leach into the liquid contents, where it is poisonous to humans).

### *Ceramics:*

Ceramic items can be displayed on wood or plastic plate stands but do not use spring-type metal plate hangers, which can exert too much stress and could lead to cracking, chipping, or breakage.

Use antique tin-glazed objects for decorative purposes only; they are not suitable for food service. Avoid putting anything acidic (e.g. vinegar or lemon juice) in these items as it will react with the lead in the glaze.

## **Cleaning and Repair**

Before cleaning an object, inspect it carefully (including any applied decoration such as paint or gilding) for signs of damage. A gentle tap with a fingernail should make a 'ping' sound; a dull-sounding tap is an indication of a crack or fracture that may not be obvious to the naked eye.

If the glass or ceramic is in good condition, surface dirt can be removed with a soft brush. Be cautious using cleaning cloths; they can snag on rough surfaces or poorly attached decoration. Wash robust items in lukewarm water with a drop of liquid dish soap in a basin lined with a towel or soft mat. When finished, remove the excess water with a soft cloth and let items air dry. Fine glass or ceramic should not be put through dishwashers as detergents are extremely harsh (glasses that have been cleaned frequently in dishwashers develop an iridescent surface or look cloudy and scratched).

### *Glass:*

Iridescence, cloudiness, or milkiness on the surface are all signs that the glass has deteriorated, and should not be cleaned.

### *Ceramics:*

Do not attempt to clean unglazed, unevenly fired, or soft ceramics; these should be treated by a conservator.

Stains on a piece of pottery may be unattractive but they are usually not harmful. Therefore, if washing does not remove a stain, do not try bleach or acid; these may damage the glaze and will certainly be more harmful than the stain.

If a glass or ceramic object is broken, first make sure your hands are clean and then gather up as many pieces as possible. Wrap the fragments in facial tissue or paper towels to avoid further damage or chipping of the edges. Place the wrapped pieces in a clean plastic freezer bag or container and store them safely until they can be taken for repair work.

Repairs should be done by a professional conservator. Avoid the temptation to try to fit or glue the pieces back together as this will likely cause further damage. Even when repaired by a conservator, ceramic and glass objects that have been broken should be kept away from heat and they should not be used for serving food or beverages.

Some old repairs are of historical interest and may add value to the object. It was once common practice to repair ceramic breaks with metal rivets or wires. Sometimes, depending on the metal used to make the rivets (many look like oversized staples), surrounding areas become stained with corrosion. Always consult a conservator before trying to remove old repairs.