

PAPER

Paper is a tangled web of vegetable fibres. These are biodegradable cellulose materials and by conserving them, we are opposing the laws of nature. The first rule of paper conservation is to place paper supported works of art into the best possible environment.

There are several major factors which will affect the longevity of a work of an art on paper that should be of concern to the picture framer and their client, and / or the owner of that work of art.

The picture framer and their client should consult a qualified Conservator if any damage has occurred to the original artwork, or if the work is old and is in need of attention.

RELATIVE HUMIDITY

Paper is sensitive to changes in Relative Humidity (R.H.) It will expand with an increase of R.H., and shrink with a decrease. Consequently, it is difficult to make paper permanently flat because it is constantly changing. Paper should be stored in a humidity of between 50% - 60%. In higher humidities, mould will grow. Mould spores are in everything, and are floating freely in the atmosphere. Paper sizing agents, gums, pigments on the paper, and pastels all attract moisture, and consequently help the growth of mould (Hyphae).

Air-conditioning on it's own is not sufficient to prevent the build up of moisture, it must include a dehumidifier which can keep the humidity levels between 50% and 60%. If air-conditioning is not available, the creation of a suitable micro climate, or the flow of ample fresh air will help maintain the artwork.

A micro climate provides a contained area around the artwork. This will buffer sudden changes in the climate at the surface of the work.

The micro climate will slow the increase of R.H. It will actually reduce the amount of moisture at the surface and lower the impact of any sudden rise.

The free flow of fresh air will help in the control of mould growth. A constant change from moist air to dry air will move the air and mould spores carried in it. Air and moisture are at their most damaging when they are stagnant or uncycled.

All air-conditioning units, to be effective in atmospheric control, must be in use 24 hours per day. Units that only operate during office hours create more problems for artworks, as there are two completely different environments within 24 hours, which the work has to adjust to.

ATMOSPHERIC POLLUTION

Although this is only a new factor in the conservation of artwork in Australia, it is becoming a factor of concern. The major air pollutant is sulphur dioxide. When this gas comes in contact with a moisture retentive material such as cellulose or paper, it can form sulphuric acid. Apart from the natural deterioration of the cellulose, this additional acidity should be avoided.

Correct air-conditioning, the creation of micro climates, and good proper circulation of fresh non-acidic air will help in the preservation of your artwork.

INSECT AND VERMIN ATTACK

Many hungry insects and animals find the glues, paints, and supports of art to be a valuable source of protein. The answer of course, is good housekeeping and cleanliness immediately around the artwork.

If the problem persists, sticky traps using baits should be used. Poisons should never be used to control insects or vermin.

LIGHT AND ULTRA-VIOLET RADIATION

Light causes fading of paints and pigments, as well as causing the deterioration of the cellulose support. Light energy can also causes oxidation of the paper support. Cellulose deteriorates with light energy. These two factors, light and ultra-violet radiation, are sometimes thought of as separate. They are not and combined they cause an enormous amount of damage to paper.

Paper-based artwork should be exhibited and viewed with low light levels.

Ultra-violet filtering acrylic and glass products are available and should be used when deemed necessary. These products will become more widely available, and cheaper. As the need is fully realised, demand will increase.

HEAT

High heat levels will increase the causes of deterioration. High temperature usually means higher humidity, increasing mould growth, insect and vermin attack, and light deterioration. Heat on it's own will increase the embrittlement of the cellulose based support.

The optimum temperature for the storage of collections is a constant 21 degrees Celsius -- not a possibility for most collectors. The creation of a micro climate within the picture frame, the immediate surrounds, or storage area, will however reduce sudden changes in humidity and temperature.

HANDLING

Much damage to artwork is caused by negligence in handling, dirty hands, smoking, eating over a book, objects loosely placed in drawers, and photographs stored in inadequate folders.

Inadequate packaging during transportation can cause serious damage. Also, many artists may have used inferior materials early in their careers. Good housekeeping and common sense will reduce the potential damage caused by human interaction.

—THE NATURE OF THE MATERIAL—

As stated before, paper will naturally deteriorate and become acidic over time. Inks, pigments and paints will fade. Iron gall inks will actually eat through the paper. Insects will eat, and mould will grow on paper. Sizes in paper can damage the structure of the paper itself.

—————IN CONCLUSION—————

The owner of a work of art is really only the custodian. The work itself should survive long beyond one life span. It should be treated with respect.

The artwork, if being framed, should never be glued down. It should be hinged to the mount – preferably with Japanese tissue and wheat starch paste. Methyl cellulose paste is good second choice. The matt and the mount should be 100% rag-board, or at worst buffered acid free board.

The backing board should be a product that does not absorb moisture from the atmosphere. Customboard and Masonite should never be used for objects of worth. The backing should be sealed with brown paper tape, or brown paper. The brown paper still allows air to move in and out of the frame, thereby allowing any build up of high humidity to disperse.

Bumpers should be placed on the back of the frame to allow air circulation around the framed artwork.

Ordinary non-reflective glass should never be used. The small pits in the glass hold moisture and provide an environment suitable for mould growth.

Ultra Violet filtering glass or acrylic should be used for all items of value. However, acrylic should never be used for pastels, chalk or charcoal drawings, as the static will attract pigments away from the paper support.

If the items are being held in storage, they should be matted with acid-free board or wrapped in tissue, placed in acid free boxes, and kept in an airy, dry and well-ventilated storage area.

Special folders made from polypropylene and mylar, or archival sound polyethylene, are available for photographs.

With the best possible framing techniques, and the best environmental controls, the artwork should last as long as its composites will allow.

Be ever vigilant to notice mould growth on the glass before it gets into the paper or support.

This vigilance will be rewarded, as the damage can usually be reversed in those early stages by a qualified Conservator.

**One of a series of leaflets written by
Richard McDonald and Vicki Locke
which are available free of charge as a service to the
arts industry. Further copies may be obtained by
contacting RSM Art Conservation at
Unit 2 18 Bimble Street Albion QLD 4010.
Telephone 07 3862 4665
Facsimile 07 3262 7075
info@rsmconserve.com.au**



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ART CONSERVATION
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THE CARE OF ARTWORKS ON PAPER

A GUIDE FOR ART GALLERIES
COLLECTORS OF ART
AND
PICTURE FRAMERS

College Road Mapleton QLD 4560
Telephone 07 5445 7298
Unit 2 18 Bimble Street Albion QLD 4010
Telephone 07 3862 4665 Facsimile 07 3262 7075