

p 03 9882 0055
e issi.cco@pacific.nel.au
www.issinstitute.org.au

INTERNATIONAL SPECIALISED SKILLS

REPORT ON

TECHNOLOGY AND RELATED ISSUES OF

FRAME CONSERVATION

RESEARCH AND WORKSHOP PRACTISE
AT METROPOLITAN MUSEUM OF ART,
LONDON NATIONAL GALLERY AND OTHER
VENUES.

REPORT BY SANDRA COCKBURN

MARCH 1995, NEW YORK CITY, AND INFORMATION FROM PREVIOUS FELLOWSHIP TO LONDON NATIONAL GALLERY SEPTEMBER 1992.

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INTRODUCTION

This report covers my ISS sponsored five days included in my visit to New York City (fare and previous and additional time paid for by myself) During my time spent in New York. I was sponsored, by International Specialised Skills, to visit:

- 1. Metropolitan Museum of Art, where I spent time in the conservation department to see the basic setup of the facility and to gather information on the way in which the conservation department deals with the conservation of frames in the collection, the display of frames in the collection and documentation of treatments to frames.
- 2. Other venues dealing with conservation, restoration and reproduction of historic frames. Eli Wilner and Co. House of Heydenryk. Sepp Gold leaf Co. Other galleries and frame shops. I did this over a five day period from Monday 20th to Friday 25th of March 1995. I have included relevant information from other visits on the trip. I am also including information from my previous ISS fellowship to work at the London National Gallery, 1992. The comparisons between institutions overseas and here in Australia are interesting, issues of funding, development and training are treated sometimes quite differently. Treatment proceedures mandates and guidelines, both formal and informal differ, though with the same general outcome expectations.

This opportunity has enhanced and affirmed my skills, and I believe that a relevant training program can be implemented to serve the Australian framing industry at large. The need for both short and long term initiatives in training for the industry can begin to be addressed in the area of frame conservation and repair (for industry). Most importantly, a perspective view can be developed regarding what can be taken on by industry and when it becomes necessary to involve conservation trained expertise. I look forward to being involved in this .

I gratefully acknowledge the speedy and positive response to my fellowship application by ISS and in particular Ms Carolynne Bourne. Also the quick response of George Bisacca at the Metropolitan Museum of Art, Conservation Department.

AUSTRALIAN PERSPECTIVE

Conservation of historic frames in Australia is in its infancy in many major institutions and virtually non existent in industry. At the turn of the century Australian craftsmen were producing ornate frames for paintings and works on paper that were of world class. Makers such as Stevens, Thallon and Whitehead produced works to the specification of artists from the Heidlelburg school and many other now highly regarded artists. These frames have suffered badly at the changing of priorities in management of collections, especially in the fifties and sixties, when a new aesthetic meant the removal of original frames and replacement with an in voque "gallery" style of frame . Although this was not universal , poor storage of removed frames and constant haphazard treatment of frames still in place, lead to a general dilapidation of many of these historic frames. At the time a lack of interest in the old crafts meant a lack of young crafts people being trained. Now a situation exists where very few people have the skills needed to repair or rebuild ornate frames. Conservation training also has at some levels failed to produce people with all the skills needed to undertake treatments which can include conservation techniques, carving, casting, modeling, mould making, traditional gessoing and finer water and oil gilding.

Although some of these skills are available in other fields, that skill training is directed toward other areas, and often exists within apprentice type regimes, unsuitable for training needs of the framing industry. There is some availability in specific areas in short course/seminar form from time to time, but mostly these remain directed toward other industries.

Although there are a few people in this field with all of these skills, they generally are attached to a select number of institutions and have little if no available time to train a floundering outside industry. Where seminars are provided, as at the Queensland Art Gallery, they are of a general nature providing little specific information as to the the processes of frame repair. Thus they end up catering largely to the hobbyist rather than the industry.

With the increasing demand on galleries to turn out exhibitions in greater number to satisfy economic needs in a "freed up" government system, and the demands of a return to original aesthetics in display policies, and greater competition for space and resources in institutions such as the National Gallery of Victoria, 'outsourcing' projects are now a part of the present. Thus the increased need for better technology and workshop practice in the private sector.

It has been most valuable to see the workings not only of such distinguished institutions as the LNG and the MET but also private workshops and galleries . This report seeks to present a general overview of practices here and in the US and UK.

In Melbourne the workshop of Lloyd Reeve makes reproductions to a

high standard for galleries around Australia but conservation practices are limited in such studios as little information is available, and commercial practice demands different approaches when access to development of stratagies and treatment information (by institutions for instance) is unavailable or selectively available only.

In other states much the same status exists.

I emphasize again the need for specialised training development to bridge the gap between institutions and the private sector. Where occasional seminars are run by institutions like the Queensland Art Gallery, in gilding and conservation, these are not generally advertised or available to picture framers at large. Similarly where courses are being developed in general industry practices, little if no attention is focused on the area of frame conservation and repair, as the providers are unskilled in this field themselves, and the courses are focused on largely commercial concerns. At this point in time there is little recognition of the need to develop specific skills in industry dealing with this area.

Training overseas in frame conservation/repair comes through different traditions of practice. Traditions passed down, through schools of knowledge, families and business. The abundance of historical works in Europe, in institutions and private collections, makes clear the greater quantity of need for these skills, which provides institutions with the incentive to offer training, and business with no limit of work. As will be the case here in the closer future, if to a lessor extent.

Overseas, It seems that payment for courses by individuals is the norm, at institutions like the VCA in London tuition is quite high, and schools in America are higher (I am told). In Italy courses are comparativly cheap, but academic recognition is dubious, and the obvious pitfalls of accessibility are clear. In Australia, the need for development exists, how the 'payment / user pay system' works is not fully examined as yet.

The private sector in Australia would undoubtedly benefit from the availability of tuition in this field.

SCHEDULE OF VISTS AND RESEARCH

SEPTEMBER 1992. Visit to the London National Gallery, Frame Conservation Department. With thanks to David Bomford, John England and his team of conservators and technicians.

1992 - 1995. Continued development of techniques and practices of frame conservation and repair, both at the National Gallery of Victoria (as a contract Employee) and privately. Collation of various and articles pertaining to conservation of frames, gilding, mould making, materials used in both past and present and information relating to nomenclature.

MARCH 1995. Metropolitan Museum of Art, 1000 5th Avenue, New York . Four visits (conservation departments, Library and collections). With thanks to Ton Wilmering and George Bisacca.

House of Heydenryk. 437E 77th St, NYC. 1 visit to view collection of frames and reproduction and restoration department. Discussion with Alex Gagna, who had worked on a major project in collaboration with the conservators of the Metropolitan. Thanks to Alex Gagna.

Eli Wilner and Company. 1525 York Avenue NYC. 1 visit to view collection and discuss policies on frame reproduction, conservation and exhibition of frames. With thanks to Eli Wilner. Purchased two videos and a catalogue.

Kremer pigments INC, 228 Elizabeth St NYS. 1 visit to look at the range of restoration pigments both synthetic and organic.

Louis K. Meisel Gallery, Prince St NYC. Tour and following discussion with Louis about the gallery and it relationship to various art institutions over a twenty two year period.

Introduction by John Doherty, thanks to John and Louis.

OK Harris Works of Art. 383 West Broadway, NYC. 2 visits, discussion and tour with Barry Neuman. conservation framing and general art scene. Thanks to John and Barry.

Sepp Leaf Products INC. Centre for the Gilding Arts. 381 Park Avenue, NYC. 2 visits, viewing gold leaf range and other gilding and finishing products. Looking at course details and industry needs. Thanks to Bill Gauther.

Other visits included many well known collections (Guggenhiem, Frick, MOMA, Peirpont Morgan Library and NYC Library), as well as other related suppy companies.

NOTES FROM VENUES LISTED FOR NEW YORK CITY.

VENUE: METROPOLITAN MUSEUM OF ART

A major part of my sponsored time was spent at the Met, where I was able to look at the frame and furniture conservation studios and the paintings conservation studio, I was also taken on a guided tour of particular frames that were on display that had undergone major conservation treatments, and a tour of frames that were being hung for exhibition. George Bisacca and Ton Wilmering took time from their busy schedules to guide and show me through the gallery and to answer many of my questions. They were also helpful in directing me to research areas and other venues.

APPROACHES TO THE CONSERVATION OF FRAMES:

The overall direction of conservation treatments of frames is one of least possible interference with the intrinsic nature of the frame. This direction often means that, although a frame may be damaged, with losses to surface and structure, no treatment, or minimal treatment is undertaken.

For example, I was shown a carved tabernacle frame, from Florence, ca. 1550-70, which had losses to the side below the left volute. The loss was not deemed to interfere with the viewing of the frame and so was left. This is not to say that a number of scenario treatments are not considered, or that this is the case across the board.

TYPES OF TREATMENTS:

Treatments obviously vary according to the individual needs of different frames, the construction, upper layers and surface treatment of frames. Below I have listed out types of treatments used for each specific area.

Wormy Wood/ Borer.

Fumigation of borer ridden wood is necessary where activity is still a possibility. This area is best left to experts in this particular field. Treatments can include oxygen starvation (done in tanks) or chemical treatment.

In most cases worm holed wood is left untreated. Treatments used in England and Australia (and other institutions in the US, possibly) include saturation with resins such as Paraloid B72 and B67, Injection of the holes with epoxy resins, and injection of the holes with Poly Vinyl Acetates. The attitude of the Met conservation department was that these practices were not reversible, (it is proven that the reversal of B72 resin with solvent washes causes loss of free lignin in wood), therefore

rather barbaric, when new developments in treatment practice are moving into use. The increased weight of the object when filled with epoxy was also a concern.

In cases where a wormy frame or panel was to be displayed and there is concern that hanging may cause further damage to an already degraded structure, a ledge is built out from the wall to take the weight.

It is interesting to note that on my visit to London, the Frame Conservation Department was proceeding with a treatment of a frame involving injecting a worm hole ridden frame, (quite large-700 X 800mm) with epoxy resin. The conservation department of the NGV also uses more invassive treatments of worm holed wood.

Opening of joints/ looseness of structure.

Again , little interference is the approach taken. On one small C17th Bolognese frame the structural looseness had been dealt with by applying a fine metal clamping frame faced with felt, to hold the frame securely. It was screwed into the frame at only two points, with small brass screws. See Diagram 1. in the appendices.

Surface structure/gesso work and gilding, polycrome finishes.

Repair to surfaces is done using largely traditional methods. Rabbit skin glues, traditional gesso and gilding techniques. Again, repair work is only undertaken when viewing of the work would be disrupted by the damaged area.

Consolidation of surface structure, which is weakened by the loss of strength in glue size binding mediums, can be approached by using an alcohol swab followed by a re-application of glue size. Animal skin glues such as rabbit skin, hide or fish glues are used. Examination of existing materials by microscope, with the use of varying isolated light waves is essential. Samples are taken, set in resin and examined to determine the nature of the structure, what is original and what is additional.

Polycromed frames that are damaged are mostly left untreated in polychromed areas.

Gilding in traditional method is used to reform surface identity. patination and antiquing of bright surfaces is completed to give the appearance of overall integrity.

Replacement of lost parts/ carved wood and composition work.

Where it is necessary to replace parts, a number of different treatments can be called into practise. Where a part of a frame is missing that can be found on the same

frame or another frame, such as a matching pair, a mould can be taken from which a part can be reproduced in various materials, then applied to the loss area. It is important that shrinkage, surface appearance and reversibility are taken into account before a choice is made regarding the material to be used. Below are listed some material choices available.

- 1. Structual epoxy systems. Used either to create bridges between new and old carved wood pieces or to make complete parts.
- 2. fast cure styrene systems.

As above.

3. traditional compositions.
Additions to traditional recipes
can be made to minimise shrinkage.

Used to complete parts.

4. plaster systems.

Used where plaster has been used.

During my tour of the furniture conservation department, I saw in process a repair of a supporting member of a table, which had a piece of the member about 3cm long completely missing. A piece of wood had been carved to fit the loss, but short at each end. The piece was then positioned and adhered using structual epoxy to join it to the wood at each end, 4ml of epoxy at each end meant that if it needed to be reversed it could be cut through and the epoxy resin carved away with little trouble. This approach is also used on frames and many examples of the procedure were evident in the gallery. See diagram 2 in the appendices.

These treatments are consciously done with the least possible interference to the frame, panel or furniture. Reversibility is an essential part of most treatments. Consideration of the correlation between artwork condition and appearance, and frame condition is also a factor in treatment choice.

Making of moulds to reproduce parts.

Moulds can be made in various materials. At the Metropolitan three particular types are used:

1. Two part poly vinyl siloxane putty. Used to take direct moulds from existing ornament.

surface, and hardens in completed first.

It is pushed directly onto the 6 minutes. Consolidation should be

2. Flexible silicon rubber. moulds from models. Not used

Used to make flat bed direct to original ornamentation.

Used for reproduction composition ornament.

of plaster ornament, not

3. Epoxy casting resin. moulds for composition.

Used for making hard

Cleaning of frame surfaces.

Testing and surface analysis is essential to determine the most effective cleaning procedure. Below are listed some solvents and solutions used in cleaning frames.

1. De-ionized water.

Used to clean surface

dirt from oil gilt surfaces.

Used to remove

2. Acetone diluted with water overpainted bronze surfaces

often applied to old gilding in the

early C20th.

Also used in some

cases for general cleaning 3. Wolbers soap solution gels where controlled

Used for surface cleaning

solvent action

flow is necessary and control of

is required.

- 4. Methylene chloride and white spirit Used for removal of bronze paint/shellac surfaces.
- 5. Synperonic N, dilute solution. surfaces

Cleaning gilded

6. Triamonium citrate, diluted solution. surfaces.

Dirt on gilded

FRAMES ON VIEW

Whist I was at the Metropolitan an exhibition of frames only was being mounted. I was toured through the proceeding hang by Ton Wilmering and George Bisacca. From this hanging of frames in the collection I was able to understand that the frames themselves are given a position of importance in the gallery. I have not seen frame exhibitions in either the UK or Australia, which indicates perhaps a different approach to the idea of a 'collection of frames' as an independent collection like furniture. In Australia, though, it must be said that frames mostly belong with specific artworks and have not been available to collect for their own intrinsic value.

I have 8 slides of frames from this exhibition and additional slides from the European and American paintings collections. See appendices.

SPECIFIC TREATMENTS: DOORS FROM THE PALAZZO-CATALDI (CARVED MIRROR FRAME DOORS), FRENCH BAROQUE STYLE, DESIGNED BY LORENZO DE FERRARI 1680-1744.

These doors consist of intricately carved elements flowing over the mirror. The design is carved in lindenwood and attached to a pine core with a walnut panel backing. The mirror is in fact separate pieces cut to fit the pine core with the carved elements covering the abutting sections. The carving is of the highest standard, many gouges and other carving tools being used to create the flowing motion of the design. The gilding of the carving is a subtle play of highly burnished areas against matte areas. The underlying gesso work has been recut to give crisp definition to the elements.

A number of previous repairs to losses in the carving, and general degradation of the surfaces of the four doors made viewing less than satisfactory, so a conservation program was undertaken to address the issues.

- 1. The doors were cleaned with wolbers solutions to give an overall integrity . Consolidation was also necessary.
- 2. Re-carving of some parts was undertaken by Alex Gagna, a professional carver working outside the Metropolitan. (I spoke with Alex about the job and detail it later)
- 3. Re-gessoing of the repairs was executed in the traditional manor using calcium sulphate mixed with rabbit skin glue, layers of clay bole were then applied to give a tonal match with the original work. Re-cutting of the gesso/bole was completed by Alex.
- 4. Gold leaf specially matched to the tone of the original gold was applied (water gilding). Only minimal toning was required to match the surfaces.
- 5. After the doors were installed in the Gould gallery, final tonal adjustments were made under those specific lighting conditions.

Slides and an article in APOLLO are listed in the appedices.

OUTCOMES/KEY ISSUES

The time I spent in the Metropolitan was most valuable in affirming practices that I already use. Due to the pressure of heavy schedule demands and the limitation of time I had available in New York, I was a little disappointed that not more detail of exact treatment procedures and formulas was able to be demonstrated to me. However I found the visit extremely rewarding. The opportunity to view works of the calibre I saw, and to discuss treatment details with both Ton and George, gives me a wider view of the needs and objectives of the conservation of frames.

Other time was spent in the research library at the Met, and viewing specific parts of the permanent collection. This is an enormous collection, and with the limited time I had available, I looked to areas of the collection that related most directly to my work at the NGV. and private work. The following are areas that I concentrated on.

EUROPEAN COLLECTION C12TH- C14TH (NETHERLANDISH FRAMES, ALTER FRAMES FROM ITALY AND GERMANY)

This collection is largely genuine frames from the period. Mostly small in size , as the works tend to be small portraits and devotional works produced by the masters of the time such as Hans Memling, Petrus Christus and Dieric Bouts.

Construction of Netherlandish frames is somewhat different to Southern European frames. Lap jointing of three members of the frame, with the lower member slotting into the top three sides, creating a window appearance, and a pocket in which the panel fits. Usually flat squared sections with inner lips of simple ovelo shapes are used for the top three sides, and a flat angled section is used for the lower side. Natural timbers and gilt inner sections predominate. See Appendices slides.

DUTCH FRAMES FROM THE C17TH.

Ebonized ripple mouldings, some inlayed with tortoise shell and ivory. Intricate designs with eared corners and lustrous finishes. Frames to the great Dutch masters Rembrandt and Rysdael.

EUROPEAN FRAMES FROM THE C18TH & C19TH

Carved frames in the tradition of the Mirror frame discussed above, Also early Composition work frames and the natural extentions of the traditions of Renaissance frames and architectural design.

The Baroque period is perhaps the height of the 'golden age' in

gilding, and many frames show the superior level of the gilding trade of the time, flawless laying of leaf and intricate carving , gesso work and burnishing, all coming together to create frames of unparalleled quality.

VENUE: HOUSE OF HEYDENRYK.

Alex Gagna, an employee of the House of Heydenryk, (owned and run by Mr Henry Heydenryk Jr.) had been involved in one of the recent major conservation and repair projects at the Met. He had been bought in to do the recarving of missing parts for the mirror frame doors from the Palazzo Carrega-Cataldi 1740. I was able to spend time with him discussing the work he had done, the tools he had used the approach he took and other issues. We also reviewed other work shop practices in the House of Heydenryk.

Alex learned carving from his father, in Italy, when he was young. His traditional approach, skill with his tools and his years of experience, set him apart from many modern carvers. He is somewhere in his seventies, still working, and very sure of hand.

CARVING OF ORNATE FRAMES.

Alex was pleased to show me the various designs of hand carved frame lengths. These varied from narrow egg and dart motifs used as inserts to larger spindle produced mouldings, to quite complicated patterns of decoration in the French C18th century manor.

Each length comes as a 'rough' from the spindle moulders Its profile shaped to accomodate the subsequent carving.

CARVING RUNNING ORNAMENTS

Running ornaments on frame members are carved by first transfering the design from master drawings to the wood by carbon. Each element of the design is carved with the appropriate size and shape carving tool. Alex had a collection of hundreds of carving tools each with a specific use and each use in various sizes. Some he had designed himself for specific tasks. It is the correct use of tools that provides the basis for crisp and detailed carving.

CARVING CORNER AND CENTRE ORNAMENTS.

Blocks of soft wood are set into joined frame bases. Carving design is set out from the master using carbon traces and work is roughed out before further design marks are made and final carving is completed. Frames are cramped into jigs to hold them securely for carving.

On occassion, corners are carved in halves at the end of each frame member, usually in a softwood timber frame. See slides.

TOOLS.

Straight chisel. 50ml, rough work Skew chisel. an angle is desired.

bent, spade and flat

difficulty and

Gouge. 50ml.

varieties. Parting tool. work.

various sizes Veiner. parting tool. Macaroni chisel. recesses.

Fluteroni chisel. recesses.

Adz and large sizes.

Gesso recut tools.

gesso. Made from

milled steel, they have no handles and come in rounded, pointed, straight and hook shapes. Carvers knives. low relief work.

SEE DIAGRAMS 3-6, APPENDICES SEE SLIDE REFERENCES, APPENDICES

GILDING PRACTICES

Alex used basic traditional gilding practices, his methods and formula having been developed outside the conservation technology of institutions, vary according to his own taste and ease of use. They also reflect the needs of commercial industry, quickness, availability of the ingredients for his recipes and shelf life of the various made up recipes ie: gesso, bole and glues.

TONING PRACTICES

Alex used again traditional toning methods, using pigments and casien, waxes, oils and varnishes to achieve the various tonal and antique finishes required. He relied less on chemicals to obtain patination than other institutions I have visited.

For straight cuts, 1ml to

For straight cuts, where

Both come in fishtail, dogleg,

shapes for work of varying

accessibility.

For spooning cuts. 1ml to

Straight, fishtail and bent

For grooving and detail

Obtuse medium and acute shapes,

'U' shaped version of the

Squared 'U' shape for square

Straight and bent, multiple sizes. 'U' wide round contour, for rounded

Quite rare. Rough work tool like an axe, small

Used to recut detail into fresh

Short bladed knives for

TOOLS.

Straight chisel.

Skew chisel.

For straight cuts, 1ml to 50ml, rough work
For straight cuts, where an angle is desired.

Both come in fishtail, dogleg, bent, spade and flat shapes for work of varying difficulty and accessibility.

Gouge.

For spooning cuts. 1ml to 50ml.

Straight, fishtail and bent varieties.

Parting tool.

For grooving and detail work.

Obtuse medium and acute shapes, various sizes.

Veiner.

Macaroni chisel.

Straight and bent in multiple sizes.

Fluteroni chisel.

'U' shaped version of the parting tool.
Squared 'U' shape for square recesses.

'U' wide round contour, for rounded recesses. Quite rare.

Adz

Rough work tool like an axe, small and large sizes.

Gesso recut tools.

Used to recut detail into fresh gesso. Made from milled steel, they have no handles and come in rounded, pointed, straight and hook shapes.

Carvers knives.

Short bladed knives for low relief work.

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DESIGN AND REPRODUCTION

The House of Heydenryk produces reproduction frames from their stock frames, of which they have many hundreds in a storage area of about 1000 square feet. These reproductions are quite faithfull in appearance, though perhaps a little less refined in the detail on occassion. They also will restore and sell the original frames they have in the collection. They have also developed a selection of stylized frames, based on the old styles. See slides.

VENUE: ELI WILNER & CO.

Visiting Eli Wilner & Co. I was able to see a comprehensive collection of American historical frames as well as some European frames of various ages. Able to examine close hand the construction and finishing of these frames I came away with some new insight about the history and development of frames away from Europe. I have videos on American frames and in particular the frames of Stanford White. This material makes for interesting comparisons with similar development in Australia.

VENUE: SEPP LEAF PRODUCTS INC.

Bill Gauthier, the educational director of Sepp Leaf INC, spent time showing me through the range of gold leaf available though his company, as well as the many particular tools of the gilding and restoration trade. We also discussed the types of short courses the company runs for professionals and hobbyists. They also have a display area devoted to historical tools, many of which we are unlikely to see in Australia. It was an invaluable view of what is available and I have a comprehensive catalogue. Listed in the appendices.

GOLD LEAF TYPES

Gold leaf comes in many tonal and weight varieties. Matching tone of gold is essential to good conservation work. French, German, Italian, Japanese, Chinese and Australian brands all differ in tonal character and weights. Apart from these gold leaf varieties, schlagmetal, schlagaluminium, copper, silver and composition gold leaf varieties are available through Sepp Leaf.

OTHER MATERIALS.

Gold sizes, proprietry boles, chalks, glues, varnishes, crackle mediums, pigments, varnish tints, waxes and wood tints and dyes are available.

TOOLS OF THE TRADE.

Gilders tools include gesso cutters, tips, brushes, tongs, wheels, trimmers, agate burnishers, gilders pads and knives. Other tool selections cover carving, punch work in gold, finishing tools for architectual finishes and brushes for various uses.

COURSES.

Sepp Leaf INC have an education division 'Centre for the Gilding Arts' which offers courses run by experts including people like Giovanni Bucchi (from the Met) teaching traditional gilding techniques. They act as private providers to industry and hobbyists. Their courses range from 5 days of tuition in water gilding at a cost of \$1000. US. to 1 day courses in chemical patination at a cost of \$125.

VENUE: LOUIS K. MEISEL GALLERY.

I was on business in New York earlier and was able through one of my private clients to meet and talk to Louis Meisel about the changing relationship (over twenty two years) to major institutions that he has experienced. His gallery is one of the top galleries in NYC for realist artists. His stable includes such well known artists as Richard Estes and Chuck Close.

We talked about concerns of conservation standards for artists and the need to meet higher standards of presentation acceptable to institutions when being considered for purchase into collections. It was interesting to note that in fact Australia has high standards in comparison to that of the art world in NYC. I found this discussion most insightfull and appreciated the time Louis took to talk to me.

OTHER VENUES:

FURNITURE RESTORATION WORKSHOP, PINE HILL CATSKILL MOUNTAINS NEW YORK STATE

I visited the workshop of Peter and Shandra in upstate New York on my final weekend in the US. They were most accomodating in showing me various aspects of their work, which centred around restoration of mainly American furniture, and some European pieces. Working from a fairly traditional base of knowledge, they undertook carving and traditional joinery as well as matching in finishes to original parts. Although they had little experience in dealing with frames, they were interested in developing new technology and skills to take on such projects. In that part of the state they often came across ornate frames at auctions where they purchased furniture to restore, and via clients. Their specialization was in Shaker period furniture.

KREMER PIGMENTS.

Kremer pigments supplies conservation departments and artists all over the world with various grades of natural mineral pigments and synthesized pigments. Such rare pigments as high grade lapis lasuli (as made famous by Fra Angelico in the fourteenth century), a particularly intense blue mineral pigment made to the specification of the treatise by Cennino Cennini (@US\$2252.00 per 100gms!).

Many pigments are used in the finishing of frames both historically and in conservation treatments. It was a most valuable visit to see the range of pigments available and the process by which they are manufactured.

VENUE: TALAS SUPPLY COMPANY

Talas is a supplier of mostly bookbinding materials and tools, however my interest was in the range of gold burnishers and specialty tools. A catalogue is available.

VENUE: J. P. WEAVER & COMPANY.

Weavers is a company based now in Burbank , California., with whom I spoke on the telephone, from NYC. regarding their range of composition ornament, which they ship across America to traditional frame makers. The ornament range is quite vast and covers three centuries of design in composition material (a calcium carbonate and oil/resin dough used to press into carved moulds to produce ornaments applied to the wooden frame bases of historical frames and in some cases furniture).

The company is sending me a catalogue of their range, and as such a range is unavailable in Australia, it will be a useful adjunct to my work and that of the private and public industry. With new technology in hard mould making being developed both for reproducing parts and whole frames, and the increased need and demand for historically correct frames, easy access to prepared ornament could be valuable.

REPORT ON NATIONAL SPECIALIZED SKILLS PROJECT

TO VISIT AND STUDY AT THE FRAME CONSERVATION DEPARTMENT OF THE NATIONAL GALLERY LONDON, SEPT 1992.

The fellowship that I was awarded was to visit, and study the methods, employed by the Frame Conservation Department of the National Gallery of London, for 3 days in september 1992, whilst I was abroard this year.

The skills gaps that I hoped to address by doing this are in the area of frame restoration and conservation. The National Gallery, London (NGL) has a sub-department (forming part of the Conservation Department as a whole) that is entirely devoted to this area of conservation, with 7 full time conservators and trained restorers, headed by John England. I was extended a warm and open welcome to the department and was able to observe and record the various projects that were underway whilst I was there. I was also able to discuss various methods and materials that were employed with the staff. One very major outcome of this visit is that I have established a communication link with this department that I hope to will continue into the future and that will be an invaluable asset to my ongoing education and training in this area of conservation.

During the 3 days that I was there I was formally introduced by David Bomford (senior paintings restorer) to John England (head of the frames department) , with whom I discussed the history of the department and some of the types of treatments carried out as well as the general running and prioritising of work to be done by the

department. He also took me on a guided tour of the frames and artworks on display explaining the history and treatments of individual important works. In turn he introduced me to the members of the department. I have detailed out the various people and projects below.

Chistine Powell, furniture conservator, working on a project dealing with the restoration of a 16th century Italian Sansovino style frame which included over gilding layer removal, carving of new ornaments to repair losses, consolidation and cleaning of the frame. I have analysis diagrams and explaination of this project as well as photograghs of the work in progress. She showed me various techniques for the removal of an over layer of gilding, as well as cross sections and other investigative methods for anylising works.

Claire Keller, frame conservator, working on analysis and treatment proposals for a very rare 16th-17th century Dutch Lutma frame purchased at auction for the collection. The frame had been enlarged to accomodate a work in the 19th century, it had been overgilded and evidence of polychoming can be seen. There are 9 identifiable layers above the original water gilding. The frame extentions are in compo, (a linseed/ whiting/ resin putty used to make frames since the 18th century) where as the original frame was carved oak. Treatment proposals range from cleaning only to removing over gilding and additions to return frame to as close to possible to original state. Claire is going to send out the outcome of the treatment proposals, and further information as a follow up to my visit.

I have also discussed and arranged to send her and the department relevant information about a sister frame to one they have in pride of place in their European collection, that we have at the N.G.V., a Versailles frame (Louis XIV) around a Nicholas Poussin painting.

Hubert Baya, Restorer of frames, (from the Rijks Museum on Amsterdam) working on a small late 18th century Italianate frame that required loss replacement to the carved ornaments. He showed me how he would go about this type of work, what sort of block to carve from, where to start carving, when to afix the block and so on. I have a number of slides of this work in progress, and general notes on methods employed by him. We also have agreed to stay in contact to swap information and ideas.

Raymond White, a gilder, was working on a large 19th century pediment frame, spot gilding damaged areas and consolidating the structure. I discussed his methods and gilding materials and observed his practices at length.

Anthony Reeves, a gilder and restorer was working on repairing a very early set of 4 compo ornamented frames, I discussed materials, compo recipes and supply contacts with him. He spent time showing me some of his methods in dealing with compo. Again I have some slides of this work.

Brian, who showed me the machine shop and contents of the tool cabinets and materials stores at length. he also showed me how to

build a support stand for alterpieces and many other trade secrets. His input was invaluable.

I was also shown around the painting restoration laboritories by David Bomford to complete my overview of the department as a whole. Unfortunately I was unable to see the paper laboritories as time was short.

Over all I felt satisfied with the level of knowledge I have obtained given the time constraints, and feel that a number of outcomes will eventuate in the short term. I have listed below definate outcomes and some additional proposals that will require further discussion with the appropriate parties.

- 1. Slide presentation and talk, to my collegues in the conservation department of the National Gallery of Victoria. This will cover detailed presentation of the various projects outlined above and information about different practises in use at the N.G.L..
- 2. Slide presentation and talk to professional framers out side the public service. This will focus on methods and practices that are immediately transferable to the commercial world with some emphasis on correct and appropriate treatments and ethics. I would leave open a further possibility that a hands on workshop could follow this. This would depend on response and availability of materials to work with.
- 3. Creation of a suppliers list, information bibliograghy and

commercials practitioners list that could be distributed by the Australian Picture Framers Association, to commercial picture framers who may wish to offer a good basic knowledge of conservation of frames and an outside service to their clients rather than an inhouse service. Or they may wish to avail themselves of the suppliers list and learn the techniques themselves.

4. I would also like to pursue the idea of having a small didactic show at the N.G.V., displaying the Versailles Frame mentioned above and ancillary supports and photograghs of the brother frame in London. The purpose of this being to show the public a more international view of one work of art, its place in history of furniture/frames and what might go into the up keep and understanding of the work and frame. Importance could be placed on the notion of a 'collection' of frames with a seperate identity to the paintings collection. Perhaps a Versailles period chair could be included to help identify the frame as part of the history of furniture making.

This idea needs to be discussed with the appropriate conservation and curatorial staff before any further action can be taken.

I am hoping to be able to produce some further slides of cross section microscope work to include in my presentations. I am also awaiting the arrival of some follow up information from the conservation department in London, which will help give a cohesive and thorough

finish to my presentations.

This has been achieved previous to my visit to New York.

OUTCOMES

The opportunity to visit the Metropolitan and other venues to gather information on conservation techniques, policies and technology, has both affirmed some of my skills and provided the basis for further development of my skill base. It must be said that such a short trip has provided me with a general overview, rather than greatly detailed and technologies practiced under their supervision. However, this view together with my previous visit to London and other privately funded visits to institutions in Australia such as the Gallery of New South Wales and the Queensland Art Gallery, and my practical application of these skills and technologies in my work at the National Gallery of Victoria and privately, provides a good basis from which courses forindustry can be developed and run.

Being able to gleen a comparative view of practices in the US. and UK, which I can further compare to practices in Australia, has offered me greater insight into historical and ethical differences in approach to conservation of frames. Often we see ourselves as slightly behind in technology and development, but the evidence of my visits confirms that our conservation practices in institutions is more or less on pare with practices overseas. There are noticeable differences in approach to conservation issues, especially in the levels of interference with original condition frames, between the London National Gallery, the Metropolitan and the National Gallery of Victoria. Making some sense of these will help to develop strategies for training and on going development of policies in Australia.

Listed below are some particular areas I will expand on within a course structure:

COMPARISONS OF APPROACH TO:

STRUCTUAL PROBLEMS WITH FRAMES.
TREATING BORER RIDDEN FRAMES
REPLACEMENT OF MISSING PART
MATERIALS USED BY CONSERVATORS AND RESTORERS
AVAILABILITY OF HISTORICALLY ACCURATE REFERENCES
DOCUMENTATION OF TREATMENTS
DISPLAY OF FRAMES AS COLLECTION IN THEMSELVES
THE DYNAMICS OF EXCHANGING INFORMATION BETWEEN INSTITUTIONS AND PRIVATE

WORKSHOPS

Overall the trip was a success for me . I have made valuable contacts (as I did previously in the UK) with whom I hope to continue a dialogue invaluable to me in keeping abreast of technology and practices.

From this experience it is clear that both short and long term initiatives in training for industry are necessary. I am available to provide short courses in conjunction with ISS, in my private workshop.

FUTURE TRAINING PROGRAM OUTLINES

There is an identified need for training in the framing industry, focusing on conservation issues. Those issues are broader than historic frame conservation techniques alone, other areas being such subjects as ethics of conservation, basic understanding of conservation principals, and more specific areas of painting and paper conservation, safe keeping of artworks and documentation of treatments.

In dealing with only frame conservation, but acknowledging that the gaps above are not at this point being filled and available short course training is lacking, I have outlined a possible training program.

A manual providing detailed information covering recipes for gesso work, composition work, bole technique, gilding technique, conservation practices, toning and patination and other general information, would be provided for this course.

A SIX DAY COURSE DIVIDED INTO THREE SESSIONS, 9.30-12.00, 1.00-3.00 &3.30-6.00.

- DAY 1. SESSION 1. INTRODUCTIONS, COURSE ADVICE.
 - SESSION 2. HISTORY OF FRAMING/OVERVIEW. SLIDES & SHORT VIDEOS
 - SESSION 3. INTRODUCTION TO FRAME CONSERVATION MATERIALS & TECHNIQUES. SLIDES, OVERHEADS & ACTUAL EXAMPLES.
- DAY 2. SESSION 1. PRACTICAL WORKSHOP DEMONSTRATION OF SOME TOOLS &PROCESSES.
 - SESSION 2. DIVIDED INTO GROUPS, PARTICIPANTS WILL, UNDER SUPERVISION, SET ABOUT REPAIRING FRAMES PROVIDED. POSSIBLY BY THE NGV AS SO FAR DISCUSSED.
 - SESSION 3. CONTINUATION OF ABOVE AND REVIEW AT THE END OF THE DAY.
- DAY 3. SESSION 1. REPEAT OF DAY 2. SESSION 2. REPEAT OF DAY 2.
 - SESSION 3. REPEAT OF DAY 2.
- DAY 4. SESSION 1. DEMONSTRATION OF GILDING PREPARATION TECHNIQUES.
 - SESSION 2. WORKSHOP ON PREPARING THE FRAMES FOR FINISHING GILDING OR INPAINTING TO MATCH ORIGINAL SURFACE AS REQUIRED.

 I WOULD EXPECT PARTICIPANTS TO CHANGE INTO OPPOSITE GROUP DURING THESE WORKSHOP SESSIONS, TO EXCHANGE INFORMATION AND EXPERIENCE THE DIFFERENT ASPECTS OF EACH FRAME.
 - SESSION 3. AS ABOVE AND DAILY REVIEW.
- DAY 5. SESSION 1. WORKSHOP DEMONSTRATION ON GILDING AND OTHER FINISHES.

SESSION 2. GILDING WORKSHOP.

SESSION 3. FINISHING & GILDING WORKSHOP AND REVIEW.

DAY 6. SESSION 1. WORKSHOP DEMONSTRATION ON TONING OF GILDED SURFACES.

SESSION 2. TONING WORKSHOP.

SESSION 3. FINAL REVIEW OF PRACTICES, TROUBLESHOOTING AND DISCUSSION.

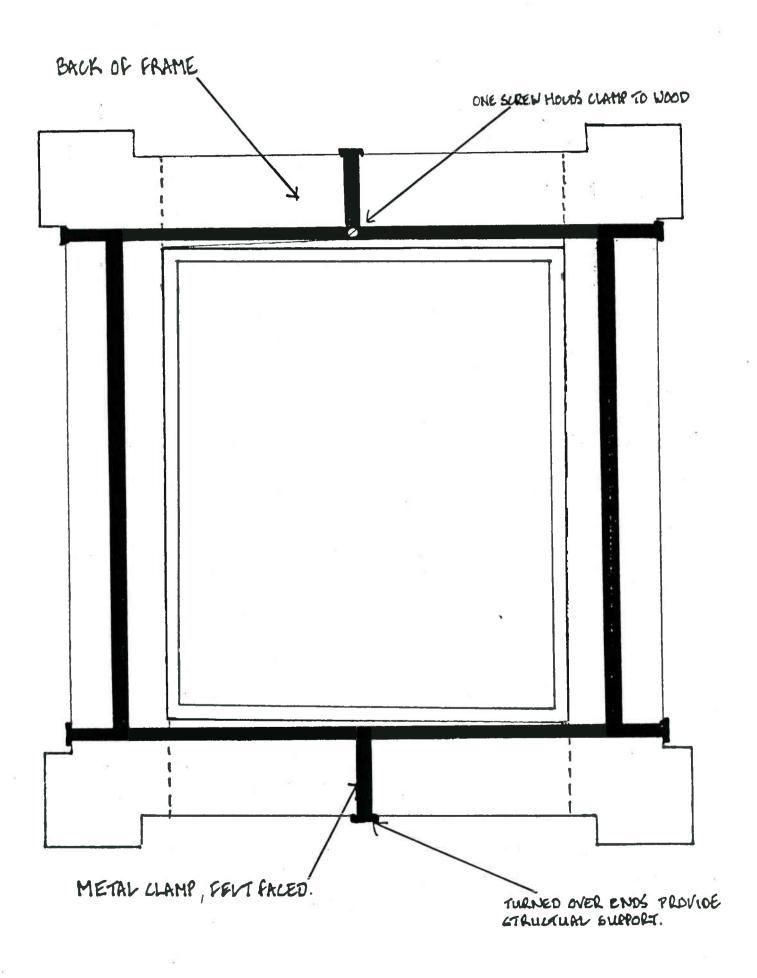
Within this structure I believe I can demonstrate the basics of good practice in frame conservation and repair, as well as showing the need for expertise which will often only be available through specialization. Providing an overview of the history of frames will help industry framers understand the growing needs of institutions and other clients.

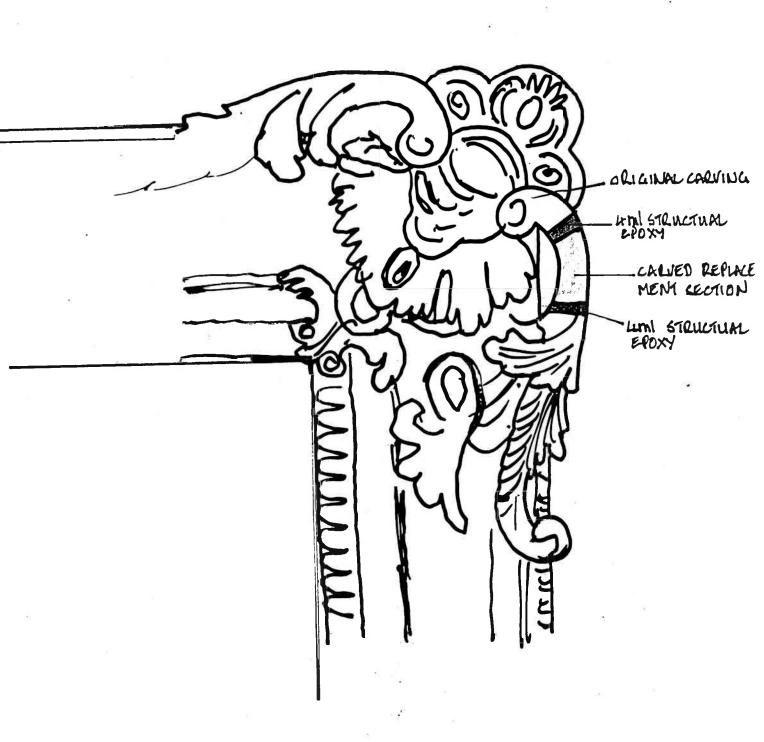
This course is basic in structure and easily expandable. As a long term initiative this type of course could be developed into a unit of a larger broader course, perhaps attached to a TAFE program.

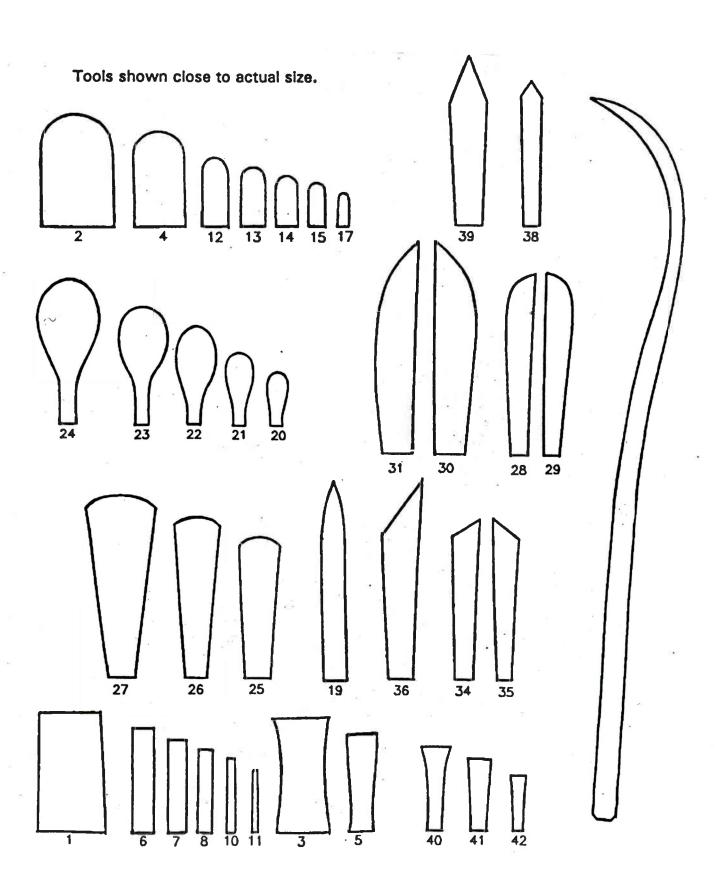
APPENDICES:

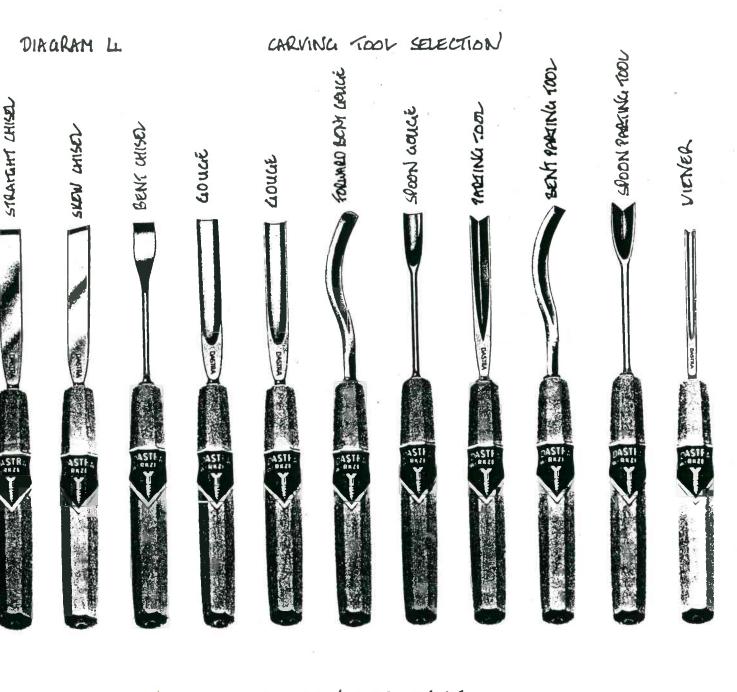
1. DIAGRAMS:

- 1. FRAME CLAMP
- 2. LOSS REPLACEMENT
- 3. GESSO RECUTING TOOLS
- 4. CARVING TOOLS
- 5. CARVING TOOLS
- 6. CARVING TOOLS



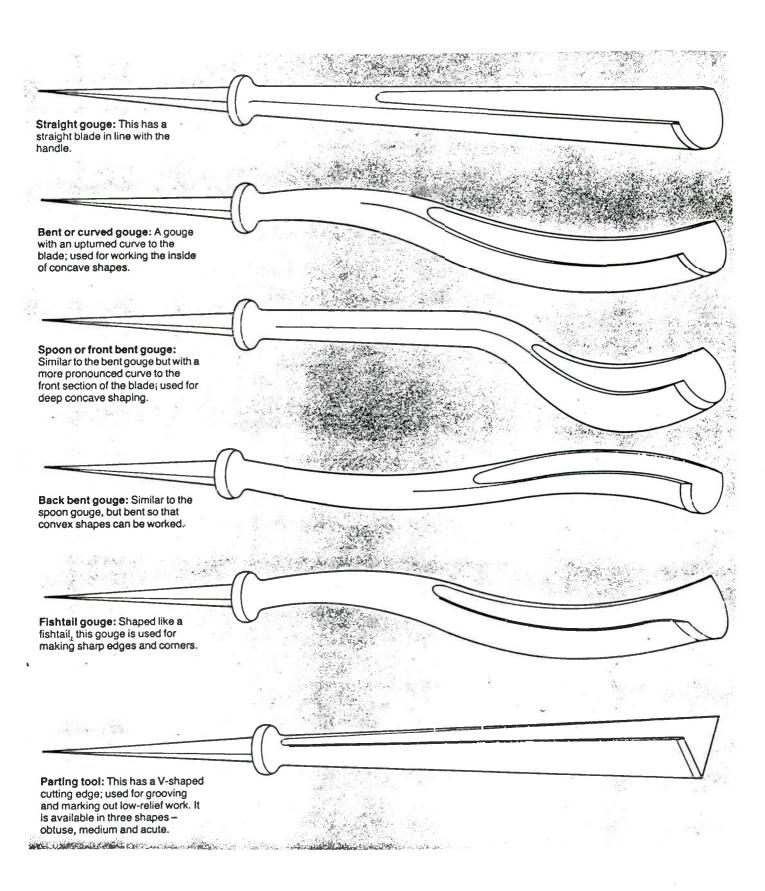


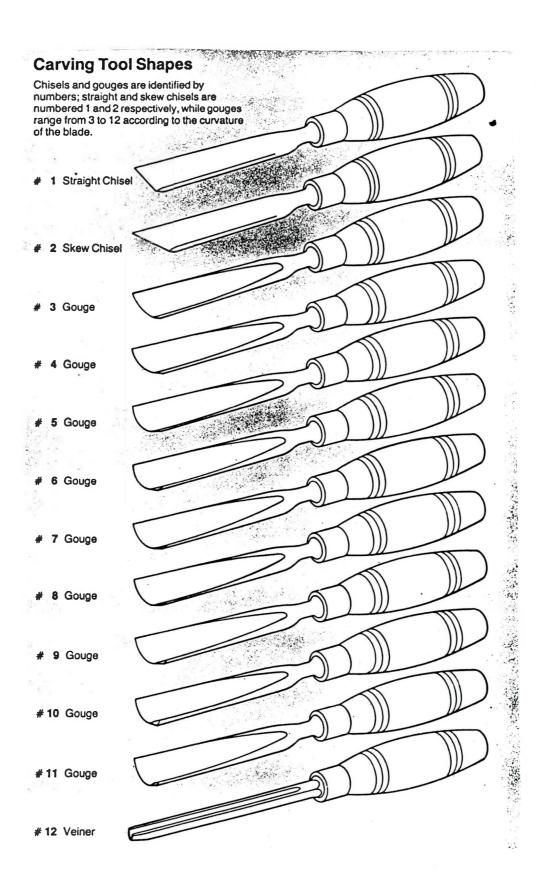




CARVING KNIVES / CHIP KNIVES







2. SLIDES:

- 1. HISTORICAL OVERVIEW OF FRAME STYLES 30 SLIDES
- 2. CONSERVATION DEPT, METROPOLITAN.
 3 SLIDES
- 3. HOUSE OF HEYDENRYK.6 SLIDES GENERAL10 SLIDES ALEX GAGNA CARVING/WORKSHOP
- 4. TREATMENT SLIDES. AUST, UK, US. 20 SLIDES
- 5. LONDON NATIONAL CALLERY SLIDES 10 SLIDES

3. CATALOGUES:

- 1. SEPP LEAF INC., GILDING &CARVING
- 2. J.P. WEAVERS, COMPOSITION ORNAMENTS
- 3. KREMER PIGMENTS, PIGMENTS

FULL LATAROGLE TO GO IN WORKSHOP MANUAL

Sepp Leaf Products

Product List February 1995



The gilder's source for leaf, supplies, tools and materials.

Welcome to RESTORATION 95

Sepp CRAQ®ALLURE and the NEW and IMPROVED INSTACOLL head the list of the latest developments in our industry from Sepp Leaf Products. New kits bring these new products and KOLCAUSTICO to the work of all artist and craftsperson.

Sepp CRAQ®ALLURE is a three step process imitating the cracking effect of time on a surface. This aged and cracked appearance can be created on any sealed interior surface and is most suitable for use on works of art, frames and furniture. Gilded or painted objects, printed materials - flat, sculpted or ornate - can all be enhanced by the random patterns created by Sepp CRAQ®ALLURE.

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INSTACOLL, the revolutionary system for exterior gold leaf gilding and interior leafing with gold, silver and composition leaf, has been reformulated. This NEW and IMPROVED process continues to deliver a Super Shine or mirror gloss finish without agate burnishing.

Improved INSTACOLL is a two part system with an unlimited open gilding time. After INSTACOLL has dried completely, apply the ACTIVATOR to the area ready for gilding. Let dry and apply the leaf. INSTACOLL is now available in a kit containing 100ml bottles of clear and yellow INSTACOLL and the ACTIVATOR plus, a natural hair brush. INKIT - \$25.00

KOLCAUSTICO, the designers choice for venetian plaster, is now available in a kit containing one quart of KOLCAUSTICO, two 20ml bottles of Mixol tinting paste and two surface knives. KPKIT - \$25.00

Sepp Leaf Products has also assembled the top artists and experts from the worlds of gilding and surface finishing

to demonstrate the latest developments in their craft and these new products at RESTORATION 95.

William Adair, Fellow, American Academy of Rome, will gild an American eagle with cross flag ornament using INSTACOLL and he will repair an injured gilded picture frame using a variety of techniques.

Orazio De Gennaro, venetian plaster artist from Italy, will demonstrate KOLCAUSTICO. Working with Bonum surface finishing tools, Mixol tinting pastes and mica powders, Mr. De Gennaro will create unique surface finishes.

Rick Glawson, leading glass gilding artist, will demonstrate techniques used during the late 1800's to create exquisite gilded glass panels and signs.

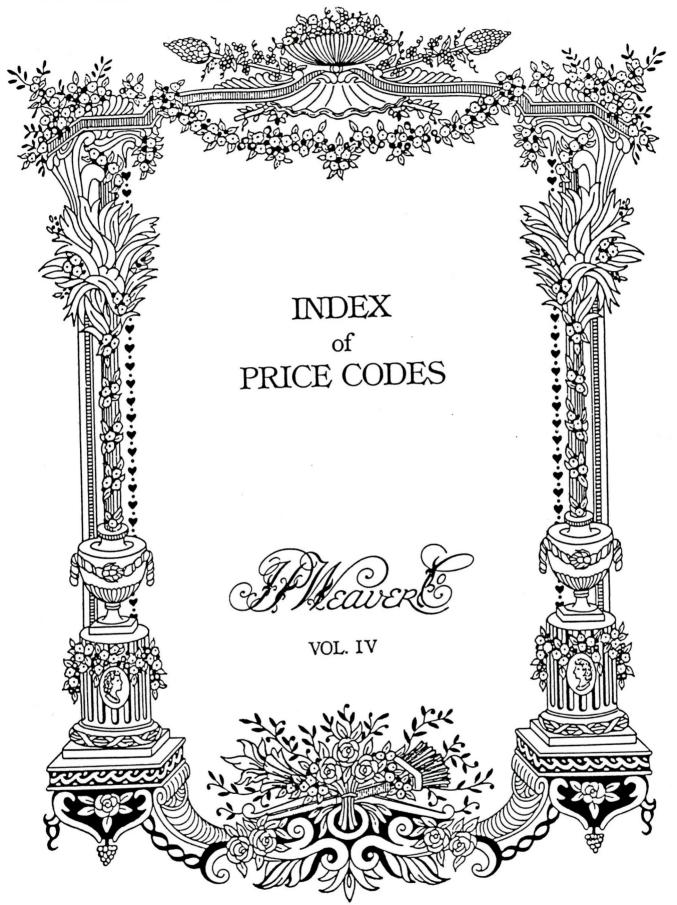
Martin Horowitz, foremost frame gilding artist, will gild a carved wood sign using traditional wated gilding methods.

Michael Kramer, leading architectural gilder, will demonstrate oil gilding with copper leaf on wood architectural moldings and special surface treatments to add a patina to the gilded surface.

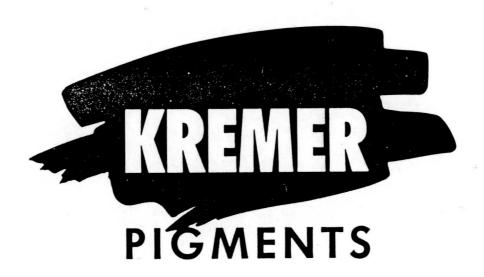
John Sansbury, specialist in the restoration of gilded antiques, will work with INSTACOLL and genuine gold leaf to gild the traditional weather vane and composition ornaments.

J. P. Weaver Co., specialist in the manufacture and design of composition ornament, will discuss the architectural uses for composition ornaments in historic and new interiors.

Please join us during the three day RESTORATION 95 Exhibit and watch the experts work. We offer a complete line of gilding and fine finishing products and our staff is available to answer any of your questions. Talk to us about your next gilding project or that special decorative surface finish you are trying to achieve.



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4. VIDEOS:

- 1. BEYOND ARCHITECTURE:
 THE FRAMES DESIGNS OF STANFORD WHITE.
- 2. THE ART OF THE FRAME 1820-1920 US.

5. ARTICLES:

- 1. APOLLO MACAZINE, JANUARY 1994
 DOORS FROM THE PALAZZO CARREGACATALDI.
 A.M. WILMERING, G.B. BISACCA, G. BUCCHI.
 SEPERATE VOLUME
- 2. GOLD LEAF TERMINOLOGY PETER &INES SEPP. 1991
- 3. RECIPES FOR CESSO SELECTION FROM COLLECTED MATERIAL
- 4. RECIPES FOR COMPOSITION SELECTION FROM COLLECTED MATERIAL
- 5. TERMINOLOGY FOR HISTORIC FRAMES
 COLLECTED MATERIAL SEPERATE VOLUME
- 6. HIS CLAIM TO FRAME NANCY A. RUHLING. 1992. ABOUT ELI WILNER.



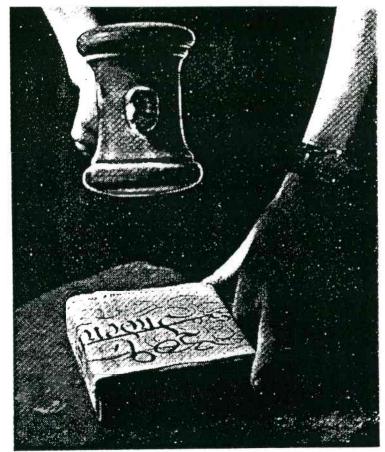
Gold Leaf Terminology

by Peter & Ines Sepp

he art of beating gold leaf and gilding dates back to antiquity and is still as fascinating and magical today as it was then. Secret recipes and guarded formulas still linger in the air, but the sharing of knowledge is far greater today than ever before. In the past, gold leaf was beaten in organic molds entirely by hand, by gold beaters too numerous to count. Today, only a handful of beaters remain (mostly in Germany and Italy) and they have entered the world of high technology with computerized beating machines and plastic molds. Other raw materials essential to the gold beating trade have been exhausted and replaced with modern substitutes.

In the past gold leaf was produced in limited karats and qualities, but with today's technology and imagination the range has vastly expanded. To achieve this variety, gold is alloyed with silver and copper. Copper gives the gold a warmer, richer tone without which the gold would appear somewhat greenish and cold. Lower karats of gold can yield lighter shades of gold by adding more genuine silver (genuine silver and palladium leaf are available).

The abundant variety of leaf on the market can make choices more difficult for the gilder, but understanding karats is a fairly simple matter. Most frames are gilded with 22 kt gold (92% gold content) alloyed with silver and copper. A few frame



The gold receives its final beating in a mold.

manufacturers use 23 kt gold (96% gold content) to obtain a more brilliant burnish. What is misunderstood today is the terminology used in the industry and the variety of qualities and colors available on the market.

A clearer understanding of gold leaf terminology has become necessary since label descriptions can be misleading. The majority of gold leaf customers cannot recognize the contents of the material other than by label or brand name.

past, the manufacturers packaged gold leaf under labels such as Deep XX, Ducat Gold, Superior Gold, Best XX, Deep Double XX, Orange, etc. In prior years and still today manufacturers label their product as containing a high karat and a deep yellow gold leaf. The labeling of the product still persists as stated herein, and will probably remain as part of the heritage of gold leaf beating (although the meaning can be confusing and sometimes misleading).

All gold leaf is manufactured as loose leaf and, with a few exceptions, has been standardized to a 31/8"

continued

continued

square leaf size, packaged in booklets of rouged tissue paper, each containing 25 leaves. Twenty of these booklets are wrapped as a complete unit, and referred to as a pack or box containing (in total) 500 leaves.

Gold leaf is sold in two forms, loose or patent. Qualities, however, can

vary greatly.

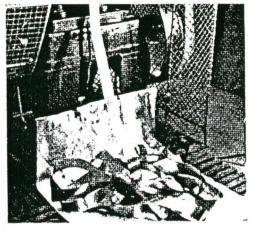
The majority of beaten leaf is packaged in loose form and is suitable for all areas of gilding (except outdoors). Loose leaf is generally removed from its booklet with a special brush called a gilders tip, then transferred and placed on the intended object, which has been prepared to receive the gold.

Patent gold is loose leaf mounted onto a specially treated tissue paper which is then placed under pressure to adhere the gold to the paper. It is removed from the book by the attached paper and applied, gold side down, onto a prepared surface. By rubbing or pressing against the paper the gold is transferred to the object and the backing paper is removed. This procedure is sometimes referred to as "transfer gold". This form of leaf can be utilized for many applications (except water gilding) but it is necessary for outdoor work or where conditions are unsuitable for loose leaf.

Regular gold: The majority of gold leaf, no matter what karat, is beaten to an average thickness or weight, pre-determined by the manufacturer and varied from one factory to another. However, an example of how thin a sheet of gold really is can be seen by lying 1,000 sheets, with no air between them, one on top of the other. The thickness would equal that of a dime. Regular weight leaf is very popular for usage on all types of frames, furniture and restoration.

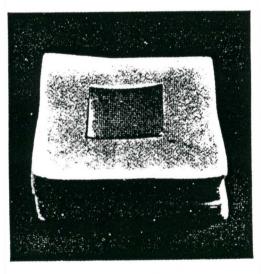
Double gold or even triple gold leaf does not mean that it is two or three times as thick as the regular leaf. To the layman, this would mean the leaf should be twice the thickness. Double gold indicates that it is heavier than regular leaf, usually 10 to 20% thicker. This terminology is used to distinguish the difference between the heavier weights and the regular leaf, and is not meant to be translated literally.

A ribbon of gold is about 130 feet long and 1/1000" thick.

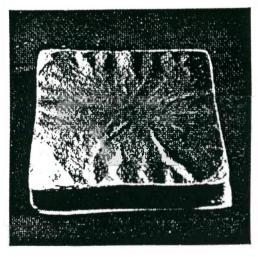




Squares are cut from the ribbon.



Once they are cut they are placed in a cutch for the first beating.



Beaten leaf from the cutch.

Glass gold is generally leaf of average weight and is carefully selected for higher quality. It is chosen because it has fewer pin-holes and other irregularities. Larger pin-holes may get "patched" with small pieces of gold called skewings to achieve an overall uniform quality of leaf. Though not noticeable in glass gilding, the patching can show up on a water gilt frame after it is burnished.

Surface gold: Surface gold is beaten in molds (as glass or regular gold leaf) but is not selected discriminately as are the other two. Therefore, it may vary in the amounts of pin-holes and irregularities. It is excellent for gilding when the quality of the gold is not critical, as with antique frames with toning or objects that will have heavy finishes over the gold and possibly be distressed. Surface gold is also very suitable when double gilding is required.

The preceding are the major types of gold on the market, but not all gold leaf is created equal despite the label

on the packaging.

Thickness of gold leaf is determined by gold content used by the manufacturer to produce a certain qualify of leaf. This is measured by the amount of gold used per one thousand leaves. For example, manufacturer "A" may use 15 grams of gold per one thousand leaves as a standard for his regular weight leaf, whereas manufacturer "B" may use 11 grams per thousand leaves as his standard to achieve regular leaf. There is nothing unusual about this. It is the manufacturer's choice as to how thick or thin he wants his average weight leaf to be beaten. Both will be labeled under the same terminology, but one will be slightly heavier than the other.

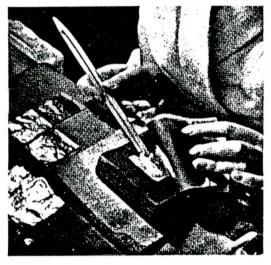
The same determination of thickness applies to double or triple leaf. One manufacturer's double leaf may not be as heavy as another's regular leaf. Manufacturer "B" may use 12 grams of gold for his heavier gold leaf and call it double, whereas manufacturer "A" already has 15 grams in his regular and will put 17 grams into his double leaf. Both beaters will label their package as double gold and both manufacturers will be correct. It is a matter of standards.

continued

The beaten leaf is cut into quarters which are lifted into a second cutch, beaten and quartered once again.



They are then lifted into a shoder for a third beating and quartered again.



The beaten leaf is taken from the mold and cut with a waggon.



Books of rouged tissue paper each contain 25 leaves of gold.



continued

All gold leaves have pin-holes to some degree. It is the nature of the product. Therefore, it is to be understood that the thinner the gold is beaten, the more pin-holes there are apt to be in the leaf. In reverse, the thicker the leaf, the more density it has, thus containing fewer and smaller pin-holes. Thinner leaf, having less gold content, is more brittle and is therefore subject to greater breakage. A heavier leaf with higher gold content, tends to be softer and more pliable.

The amount of gold used in producing the leaf is also directly reflected in the pricing. Although both manufacturers' terminology is the same, the quality will vary and therefore, so will the price. It is to the gilder's advantage to know the differences in the qualities of gold leaf and understand the price variances.

Hopefully the scope of this article has enlightened and educated the industry to a better understanding of terminology and availability of gold leaf in the market place. *PFM*

Pictured here (right) is a modern day gold beating machine.





After each beating the goldbeater's skins are cleaned with 'brime' powder (left).

| Color/Karat | Alloy Content | | | | | Weigh |
|-----------------------|---------------|--------|--------|-----------|----------|-------|
| | Gold | Silver | Copper | Palladium | Platinum | Grams |
| Regular 24 Kt. | 99% | 0.75% | 0.25% | 0 | 0 | 19g |
| Red 231/2 Kt. | 97.5 | 0 | 2.5 | 0 | 0 | 18g |
| Regular 23½ Kt. | 97.8 | 1.6 | 0.6 | 0 | 0 | 18g |
| Regular 23 Kt. | 96 | 3 | 1 | 0 | 0 | 16g |
| Dark 22¾ Kt. | 95 | 2.5 | 2.5 | 0 | 0 | 16g |
| Dark 221/2 Kt. | 93.5 | 4 | 2.5 | 0 | 0 | 15g |
| Regular 22 Kt. | 92 | 6 | 2 | 0 | 0 | 14g |
| American Shade 22 Kt. | 92 | 6 | 2 | 0 | 0 | 15g |
| French Pale | 91.5 | 8.5 | 0 | 0 | 0 | 15g |
| Lemmon 18 Kt. | 7 5 | 25 | 0 | 0 | 0 | 14g |
| Pale 16 Kt. | 64 | 36 | 0 | 0 | 0 | 15g |
| Moon Gold | 91 | 2 | 0 | 5% | 2% | 19.5g |
| White Gold | 49 | 51 | 0 | 0 | 0 | 16g |
| Silver | 0 | 100 | 0 | 0 | 0 | 22.5g |
| Palladium | 0 | 0 | .0 | 100 | 0 | 18g |

Chart of comparison of Alloy Content in August Ruhl Gold Leaf.
Average Thickness of leaf is 0.36 to 0.5 microns
Size of leaf 33% x 33% or \$5mm x \$5mm.

Frances Binnington's Gesso Recipe, London, England

Use a weight ratio of 1:15 dry rabbitskin glue (RSG) and cold water; Have on hand a quantity of sifted good quality gilders' whiting. (note: Depending on the purpose of the gesso, this ratio may vary from 1:15 to 1:20 parts.)

Method Soak RSG in cold water for 2-3 hours. Heat gently in a clean saucepan until melted. DO NOT BOIL. This is called 'rabbitskin size'.

Slowly add sifted whiting until just below the surface of the glue. Leave to stand in a warm room overnight, or for a few hours.

Warm very gently to liquefy the glue only. With a hogshair fitch, stir the mixture gently but thoroughly - without taking the brush out of the mix, otherwise air will be introduced, causing pinholes.

When mixed, sieve through a wire sieve several times, ensuring a good blend. The gesso should resemble top of the milk, or very thin cream. Store the gesso in the refrigerator. When it is set, cover with cold water which is changed every day.

To use 3/4 fill a half pint coffee cup or stoneware jar with pieces of the set gesso. Stand the jar in a pan of very hot water. Gently stir, with a brush, until liquefied.

Let the temperature cool if it gets too hot - excessive heat will cause pinholes.

Sequence of Events

Apply hot clearcole (Rabbitskin size with enough whiting added to colour it. Can be full strength or weaker; used as a primer for wood.) to prepared surface, laying silk over joints and knots. When dry, trim excess silk and apply gesso, ± 8 coats, applied all in one day.

1st coat: Strike the brush with gesso hard onto the primed surface ensuring good contact and covering. The finish can be rough, but covering must be very thorough. This coat is the most important of all as it binds all the subsequent coats of gesso, bole and gold to the substrate.

Subsequent coats: Alternate stipple and smooth, finishing with a smooth. Altogether ± 8 coats. Plain surfaces can take more gesso than delicately carved ones.

Next day, or longer if in damp conditions, smooth gesso with a linen cloth and cold water. Cut gesso with gesso hooks if necessary. The same day paper the surface with progressively fine sand papers until absolutely smooth and free of scratches. The action of the cold water hardens the gesso and smoothing will be difficult if left too long.

Giovanni Bucchi's Gesso Formula, New York City

Basic Glue: Use a weight ratio of 1:7 rabbitskin glue to water. In the summer, use a 1:8 ratio because of evaporation. Soak the dry glue in the water until it becomes rubbery. When the water comes to a boil, remove from heat source and add the glue.

First Glue Coat: Take approximately 2 Cups of the basic glue and add to it 1/2 cup of hot water, 2 cloves of garlic and 2 tablespoons of whiting. If the first coat

of glue is too strong it will dry brittle. The first coat must be fluid. The garlic increases the adhesive qualities of the solution and also acts as an insect repellent. The tiny amount of gesso colors the solution in order to monitor the coverage and to indicate a dirty underlying surface. If the area turns a yellow-green color instead of white, it means that there is dirt in the background and this should be removed before proceeding. This coat must be applied very hot.

Gesso: To the warm glue solution, sift in best quality Bologna gesso until the glue is covered. Let this sit for some time to allow for thorough absorption. Stir gently to mix and cover with a wet cloth to prevent evaporation.

Mc thod: Keep in mind that gesso thickens as it cools and use this principle to your advantage when you desire a thick coating. Thicker (cooler) gesso becomes un-manageable as is cools, so work quickly and efficiently. Stipple the gesso on to increase the surface area and to fill the grain. Use heavier gesso for heavily grained woods. Stipple each layer on, making sure the preceding layer is dry so as not to disturb it. Build up at least 5-6 layers for a good coating and brush out the last layer for a smoother surface. Note the evaporation rate during the gessoing process and keep up the ratio by adding glue and/or hot water when necessary.

Additional Tips: Always use old brushes for gessoing as new ones tend to shed excess bristles until they are broken in. Soak the brushes (china bristle) in water overnight to soften them. Wet sand the gessoed surface with reeds instead of sandpaper as they leave no residue. Do "massage" coats with your wet finger to smooth the surface. For the last coat, add a couple of drops of real ox gall (not chemical substitute).

My compo, based on historic recipes but modified by trial and error to provide what I consider optimal working characteristics, is made of the following ingredients:

15 grams of rabbit skin glue

75 grams of ground or pearl hide glue 40 grams of boiled linseed oil

45 grams of rosin (powdered or crushed)

130 mls. of water gilder's whiting (sufficient to produce a firm doughlike consistency · at a molding temperature of roughly 110-120°F.)

The rabbit skin glue is omitted if a more plastic and less rubbery modeling consistency is desired. For replacement pieces on historic artifacts, barium sulfate may be substituted for some of the whiting so that the new compo will be X-ray dense. Compo details can be removed mechanically or with methylene chloride type paint strippers.



His Claim To Frame

Eli Wilner, the self-styled curator of antique picture frames, teaches us to look at not only the work, but the art that surrounds it.

By Nancy A. Ruhling Photographs by Maryanne Russell ©1992



li Wilner picks up an antique picture frame, one of hundreds he likes to hang empty on the wall, then holds it up so the light illuminates the veins in its golden grape leaves. "A picture frame is a work of art," he says. "It is the soul of the painting. I look at it the same way I look at sculpture. When the frame is

perfect, it brings the painting out to us. It is a spiritual work. A great painting is partly invisible until it is framed properly."

Wilner, the self-confessed frame-ophile who has earned the unabashed praise of the art and antiques world, steps back to look at the art on the wall—a great, glittering collage of frames that frame frames. He's trying to think of a way to make you see what he sees: American Gothic in Gilt. Still Life with Cast Fruit and Flowers. Composition in Composition. Portrait of Putti in Gesso.

