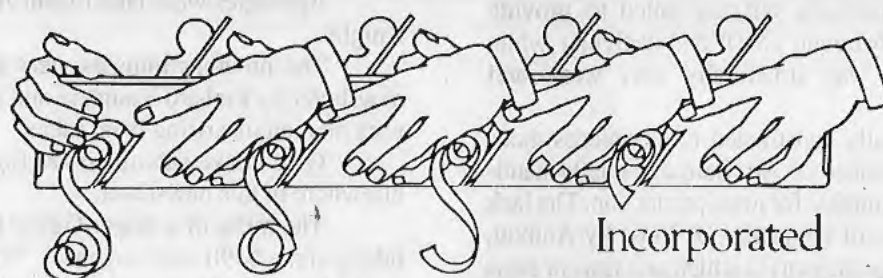


WOODWORKERS' ASSOCIATION OF N.S.W.



THE AUSTRALIAN CHAIR

There has been an important tradition this century of architects experimenting in furniture design and the exhibition currently showing at the Royal Australian Institute of Architects (NSW Chapter) continues that tradition, not only because these chairs are designed by architect/designers but because of the international language of design forms that they are using.

Familiar icons from the modern history of the chair are everywhere to be seen in this exhibition. Le Corbusier, Marcel Breuer and Mies van der Rohe are names that come immediately to mind. There is certainly nothing that is uniquely Australian in this exhibition. Only Paul Odden's Picket Fence Chair makes a humorous reference to the informal, outdoor, suburban lifestyle enjoyed in Australia. Perhaps the idea of an 'Australian' Chair is not really tenable when one considers Michael Bogle's statement '*Contemporary furniture - especially the chair - is the lingua franca of the industrialised nations*' (*Modern Australian Furniture*).

This internationalism is aptly described by the designer Lippman. Trained in Europe and the US (including time spent in Marcel Breuer's office), he writes of his work deriving from '*a commitment to the fundamental principles of modernism*'. Perhaps modernism aims by its very nature to suppress the designer's sense of his own time and place. Not only ethnicism but also originality have suffered as a consequence. It is apparent from this show that eighty years has produced little change in the design vocabulary being used by architects/designers in the field of furniture design.

To produce this exhibition, chair designs by nineteen architectural and design firms have been fabricated by leading furniture manufacturers in Australia. The intention has been to bring together designers and industry. However, the aim of designing chairs suitable for mass production has not always been achieved. Some of the designs are inappropriately dangerous, complicated, cumbersome or expensive, and the great differences in pricing often reflect the incompatibility of the designer's vision with the requirements of the manufacturer. Daryl Jackson's Telemon, a piece of massive



The Saris chair by Urban Works.

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Opinions expressed in articles in this newsletter are not necessarily those of the Editor or the Committee.

proportions, had sharp edges and points entirely unsuitable to the consumer's needs. Paul Odden's chair also had lethal points behind the seater's head. This chair used an interesting cable construction but, as in the case of Simon Lloyd's Saris chair, the technical processes selected failed to provide adequate support. Wendy Lewin's MDF and steel chair, while aesthetically pleasing, was structurally very weak and wobbly.

Of the traditionally constructed timber pieces those from the Tasmanian School of Art were essentially hand-made pieces not really suitable for mass production. The lack of comfort in a number of the chairs (as those by Anibou, Johan Naess and Dawson Brown) in which arm rests or seats were too short or badly angled suggested insufficient collaboration between the designer and the maker at the prototype stage of production. In some instances, the manufacturer failed the designer - the work by Anibou and Pongrass on 'Anna's chair' was technically poor. Four of the designers working in steel framed chairs (Dawson Brown, Naess, Philip Cox, Sebel) and two working with moulded ply (Tonkin and Connell) produced the most successful, purpose-built chair designs. Featuring simple, clean lines, these chairs were well designed for mass production. Reflecting the nature of their genesis, these pieces had been conceived as two dimensional designs on the drawing board and appear to best advantage in profile, where they are seen to be a series of intersecting linear shapes, especially triangles and circles.

Certainly one of the most positive aspects of this show was the confident handling of mixed media and of colour often absent in the work of timber furniture designers. Steel, plastic, moulded ply, wood, leather, MDF and fabric upholstery were all brought together with a sophisticated understanding of how art and technology can successfully work together. Atelier's Grand Chaise dealt with large fields of vivid colour very effectively. The frank use of technical processes such as allen key construction, exposed MDF and pop rivetting was also a feature of this show. Trans Modern's very austere pop rivetted polyethylene and steel chair was technically bold. It was a pity the plastic seat offers no friction.

An interest in ergonomics is seen in many of the pieces, leading to a clear division between the supporting frame and the contoured seat - a division often reinforced stylistically and through the use of different materials. The quest for an ergonomically comfortable chair is taken to its extreme in Lippman's chair, which features an adjustable seat suspended in space. The serpentine flow of the seat, composed of skeleton like bars, contrasts with the chair's geometric base. But the space taken up by this chair makes it more an exercise in ergonomics than a practical chair.

Overall, I was disappointed with the end results of this ambitious collaboration between 'Industry and Culture'. Many of the designs were not industrially successful and none were culturally evocative. The designers seemed not to respond to the cultural climate they find themselves in, in Australia and which they hope to speak for. The catalogue uses this quote by Wigenstien that is saddening in its socialist implications: *'The user is ... spoken for by the design of the chair, both at a socioeconomic level, and by the design language with which he identifies himself by owning and using it'*. I hope the user will always have the power not to be spoken for by the designer that is unresponsive to the users particular industrial and cultural surroundings.

- Gayl Leake.

Secretary's Report

Minutes of the general meeting 4 December 1989

Apologies were taken from Alan Bourne and Trevor Knight.

The previous minutes were accepted as read in the newsletter by Richard Vaughan and seconded by Col Reilly, with no matters arising from them.

Gayl Leake submitted her financial report as printed elsewhere in this newsletter.

The raffle of a Roger Gifkin box was a great success taking some \$490 after expenses. The raffle was held at the Australian Craft Show which, as a selling venue for our work, proved itself again, producing approximately \$17,000 turnover for the five days.

Subscriptions were again talked about with 92 members paid up which is about our full membership but now they are again due.

We need our working budget at the beginning of the year to spread over the whole year. Please pay on receiving your statement 'membership renewal form' with the February newsletter.

Our AGM is the next meeting which is 12 February and nominations for committee positions should be made to the committee as soon as possible.

Exhibitions usually find a spot in our discussions and this time the latest details were that a possible Craft Expo 1990 will happen in June and we have had confirmation of a proposed spot for a major exhibition at the State Library in August 1991.

Also on this subject the Interwood exhibition as staged in Melbourne is proposed for Sydney which would be possibly in May at Darling Harbour but it looks to me as though they are leaving it a bit late for organising such a show.

Michael Gill filled us in on the National Guild position with the fact of very slow response from groups around Australia. The guild is being incorporated and little action can be made until response from the groups Australia wide pledge their support. Our levy of \$1.00 per member will be sent to support the National Guild.

The Rainforest planting scheme which Michael informed us of in past newsletters and meetings is still taking donations. If you wish to subscribe, contact Michael.

We asked all to put forward ideas for our 1990 meetings with lecturers names or workshops to be suggested. Please offer a workshop or lecture slide show if you have a particular subject you wish to expound on. The meeting had a good turn out of some 27 people and we had a very interesting talk from David Upfill Brown. - Nick Hill.

NEXT MEETING

Our next meeting will be our annual general meeting held at the usual PowerHouse Museum venue, 7.30 on Monday February 12.

Nominations are open for all positions. Laurie Oliver has offered to stand again as Chairman, Nick Hill as Secretary, Gayl Leake as newsletter editor, Kevin Jacups as treasurer and Richard Vaughan as general assistant. To date, no other nominations have been received.

SUBSCRIPTIONS

Subscriptions are due now.

\$46 full members

\$36 association members

OUR LAST MEETING

On the way out of our last meeting at the Powerhouse I was willingly volunteered by our illustrious newsletter editor to write a review and offer a word of thanks to David Upfill-Brown.

A large audience with many fresh new faces gathered to hear a most stimulating and enjoyable evening of repartee and slides which demonstrated the amazing diversity and quality of David's work. From his early days of sculpture in Africa to his experiences at Parnham House in the UK and now to a shed near Canberra at Cuppacumbalong, David outlined his rapid development from the early 1980s into a very fine woodworker, in him a highly developed combination of artist, craftsman and scientist.

He now makes furniture by commission, production runs of gift items (boxes, mirrors, trays and the like) and frequently exhibits his work. He is willing to produce work to a client's specification but enjoys a brief which allows him to express himself in a free way in the design. He has developed a rewarding relationship with the bureaucracy producing commissioned gift items of high quality (and appropriately high price) for government.

He obviously enjoyed the recent challenge and stimulation of a teaching term at the Canberra School of Art in which he set his students a brief to design a chair which would be suspended from the ceiling. A number of ingeniously designed and constructed objects emerged, tributes to the capacities of modern glues and the G-clamp.

Overall David gave us a balanced and mature insight into the difficulties and delights of the life of a leading professional Australian furniture maker and woodworker. Many thanks, David. I really enjoyed the return to the Powerhouse, surely the appropriate venue for an association whose aim is to promote fine design and craftsmanship.

- David Muston.



Hand tools - a visit from one of America's leading authorities

Kenneth Roberts, one of America's leading authorities on woodworking tools will be giving a lecture in Sydney at 7.30 pm on Monday 5 March. The lecture, sponsored by the Sydney Maritime Museum, will be held on board the old ferry Kanangra, (moored near the western end of the Pyrmont Bridge). Admission free.

Ken Roberts has been collecting and studying woodworking tools and clocks for over thirty years. His background is in engineering and metallurgy, with a B.S. from M.I.T. (1939) and M.E. from Yale (1947). The lecture will be based around his book *Tools for the Trades and Crafts* and on hand forged tools made in Birmingham England from 1800 - 1842.

TREASURER'S REPORT

General Account

Income to the Association in 1989 was made up from the following sources:

subscriptions	\$4176.00
advertising in newsletter	\$865.00
commission on sales, raffles	\$1898.60

Expenses were composed of the following:

lecture hall costs	\$270.00
newsletter and secretarial	\$3162.00
insurance	\$535.15
comm. meeting refreshments	\$24.00
advertising	\$2815.66
bank fees	\$329.88

The big expenditure in advertising this year was composed primarily of our brochure which cost us \$2,278. Other expenses here were for slides and for our 1989 portfolio design. Bank fees were higher than usual this year with establishment costs for merchant bank facilities, which we hope will encourage buyers at exhibitions, and provide a convenient means for postal subscriptions.

Exhibition Account

Our exhibition account is treated separately from our general account with the idea that exhibitions pay for themselves rather than use subscribers' money - many of whom are not exhibiting members. Far from using Association funds, the levy of 5% on work sold has made a substantial return to the Association this year.

The Home Show

Including commissions taken at the Home Show, gross sales amounted to \$9,631, of which \$9,149.45 was returned to exhibitors. The Association took \$1,300 from participants (\$100 each from 13 contributors) to pay for exhibition costs (carpet \$845, insurance \$40 and lighting \$280). All up the WWA made a profit from the 5% commission taken from works sold of \$481.55.

The Australian Craft Show

Our total takings at the ACS were \$17,052.65 of which \$16,086.92 was returned to exhibitors. Participants each contributed \$100 to pay for our large stand. Additional costs (stand furniture \$123.55, telephone \$64.88, lighting \$76 and wrapping paper \$10) were paid by the WWA out of the 5% commission taken on work sold leaving a return of \$1064.05 to the Association. A highly successful raffle of a box by Roger Gifkins was also held which returned an additional \$671 to the group after payment for the box was made.

CLASSIFIED ADZE

Dear Jim,

Some information on myself regarding future employment: Currently employed apprentice carpenter 4th year with seven months remaining till completion of apprenticeship, seeks employment to learn some aspect of fine carpentry. Completed HSC and carpentry and joinery tech. course, also completed one year Building Supervision course.

Ambition for some day to open a specialist carpentry business. Experience: worked on light commercial buildings, doing a lot of setting out and fitting out. Extremely keen to learn, 20 years of age, with own tools and transport. Will work nearly anywhere and money is of no interest.

Pat Hallan 522 9652

A LOST ART

Leon Sadubin met Kevin Johns at his 'Wood Works' shop last year. After learning of Kevin's background in carriage building, Leon suggested he should write an account of his experiences. Several months later Kevin returned with this marvellous piece ...

I have been asked to present to you a history of what is now virtually a lost art: Carriage Building. I commenced my apprenticeship as a Carriage Builder on the 20 December 1948 at Clyde Waggon Works, New South Wales Government Railways as it was known in the immediate post war years. Clyde Waggon Works was the repair centre for all types of waggons used in service on the railways; sheep and cattle waggons, open S waggons, brake vans, coal hoppers, coal dump waggons, wheat hoppers, louvre waggons. I remained with the trade until September 1964 when I put the tools away for the last time on Friday, 11 September 1964. I am still with the old firm, but in another branch.

In the post war years apprenticeship intake was always high and was very competitive. To gain entry the applicant had to achieve a pass mark of 70% in each subject. Between 40 to 60 apprentices were taken into the carriage building trade. Each apprentice was placed with two tradesmen and remained with them for approximately six months over the ensuing four years. The fifth year was a transitional year from the apprenticeship to journeyman. Today the training is completely different and the time for the course is shorter also.

It was an honour to be selected as an apprentice in those years, especially a Railway Apprentice. The training was different to anything outside the Department. Technical Training was on one half day each week at the Railway Institute Technical College situated in Castlereagh Street, Sydney. During the year you were required to attend the Homebush Technical Workshops (situated in Beresford Road, Strathfield and still used by T.A.F.E. today) for one week in each of the three terms.

On the half day we spent two hours at a mathematics course and two hours at technical drawing. This was compulsory for the first four years. The Post Trades Course held in the fifth year was optional. The three weekly courses were also compulsory attendance for the first four years, but no courses were scheduled for the fifth year. When attending these courses the apprentice was taught carriage building, carpentry, joinery.

The curriculum for the weekly course contained theory work for the first three hours each day, then bench work for the remainder of the day Monday to Thursday. On Friday you were on the bench for the full morning and after lunch, the workshop area was cleaned and then a written examination was conducted. If the apprentice failed to pass the examinations he was required to do the year again.

The first six months at Clyde were spent learning the skills of repairing the various waggons, including the 'milk

pots'. These waggons were the means of conveying the country milk to Sydney. One required a very strong constitution, for sour milk, months old, ripened by the sun was 'high'. Some apprentices were transferred to Chullora Rolling Stock to work on the aluminium carriages being built there. Other apprentices were transferred to the Electric Carriage Workshops at Chullora while others were transferred to other sections within Clyde Waggon Works.

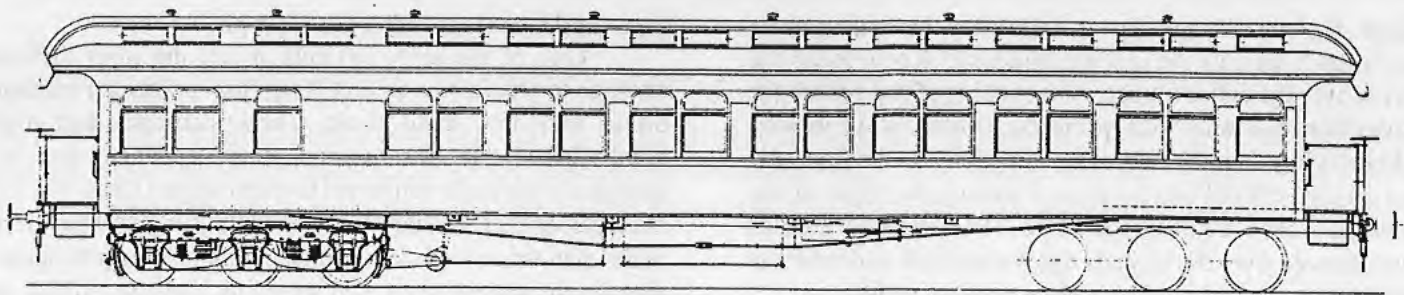
At Rolling Stock we were taught how to build the two and four car sets of diesel carriages (many of which are still in use today) and the first job the apprentice was given on these was to install the flooring longitudinals and transoms, then the plywood flooring. None of the metal work of the carriage was carried out by the carriage builder. This was carried out by the boilermakers and the sheet metal workers.

From Chullora to Eveleigh Carriage Workshops

This was our introduction to the real carriages used in the system. The carriages were constructed from imported oregon (no flaws or knots), red cedar (mainly Australian east coast cedar, especially from the Glenreagh to Dorriggo region), Queensland and Pacific maple, ash, American oak, silky oak, tallowwood, sassafras, blackbean, brush box (from which we made mallets) and teak (from which we made oil stone boxes). I still have my original mallet and oil stone box made from the off-cuts back in 1949. I still have the original oil stone.

The next priority was to make a cedar case to carry to and from work. These were made with dovetails and though a 'foreign order' the tradesman would appraise the work and make criticisms. If the dovetails were sloppy the apprentice was made to cut them all off and start again. To be permitted to take sloppy work from the section to the paint section for lacquering was a reflection cast upon all men employed therein. If these were not cut correctly in the opinion of the tradesman, his opinion of your ability to work correctly on the actual job was such that you were not trusted. Foreign order or not, it must be correct, even to the point of not showing any glass paper sanding scratches.

During my term within the sleeping carriages and main line carriages preparation section, reams of glass paper and garnet paper would have been disposed of. The timber of the linings for the interior and exterior of the main line sleeping carriages designated TAM - EAM - MAM and NAM was, in the main, cedar. We were expected to have a glass-like finish on all of the surfaces sanded which actually revealed any unwarranted scratches before the painters came to apply the grain filler. When you consider that the panels used were fielded, or raised and fielded; the stiles, muntins and rails were edged with an 'OG' mould (commonly referred to as a lambstongue mould) scribed at the corners and all requiring papering; then you began to know what papering was all about. I will state at this time the main line sleepers were the ultimate in sleeping travel on the railway system during those years and, when completed, were something to be proud of.



The external sheathing was also made from cedar, being 2 inches x 3/4 inch x 27 inches long and these boards covered the 72 foot length of the carriage on both sides. The ends of the carriage were sheathed from the sole bar to cantrail head board, about 7 feet in length.

When the old varnish or clear lacquer had been stripped from them it was your first duty to seek out any repairs required. After completing these repairs the boards were then planed smooth and flat, sanded first across the grain with 80 grade garnet, with the grain 80 grade garnet, thence with medium 2, fine 2 and finally fine 1 1/2 grade papers. The fine 1 1/2 brought the grain and the finish to perfection. These carriages normally required ten tradesmen with apprentices six weeks to complete.

The underframes and bodyside pillars and most cantrails were made from teak. The large diaphragm cushion on the ends of the carriages were also made from teak. These cushions were 2 inches thick, 7 inches wide and approximately 7 feet high. The curved part of the cushion was made from a similar piece of timber 2 inches thick, 10 to 12 inches wide with an arc top edge and about 3 feet long. The arc was to allow water run off from the pig skin curtain which was attached to the teak head board and also the metal diaphragm.

The teak underframes were of timbers the full 72 feet length (sometimes spliced) 12 inches wide and 4 inches thick. The floor transoms were 6 inches wide and the length about 7 foot 6 inches, this being the width between the sole bars. The arch bar at the end of the carriage floor was 9 feet long, 14 inches wide at its widest point (having a taper on each side of one edge face) and 4 inches thick. When these carriages were replaced with today's stainless steel sleepers, they were stripped and then burnt.

When these carriages were built at private carriage building firms and at the railway workshops only the best of timbers had been utilised in their manufacture. The pride in their manufacture was extremely fierce both inside and outside the department.

A large amount of coachwood was used in the manufacture of numerous carriages, especially the pillars and the roof beams. I have not seen timber like it since for quantity or quality. Magnificent timber hidden from view by sheathing boards, panels and zinc moulded ceilings. We all know well the magnificence of this timber when working with it. I believe large quantities of this timber was sold quite cheaply (when compared with today's prices) to employees.

This timber was one of the easiest and most pleasant timbers to work with and, unlike teak, did not send your chisels and planes blunt after the first five minutes. Office furniture was made in the technical workshops from coachwood and used extensively throughout the railway system. It can be said here that most of the units the apprentices made in the training workshops were utilised in the workplace. The filing trays made by the apprentice carriage builders were taken to the

railways stores and distributed to offices throughout New South Wales. Though plastic has replaced most of these, some are still preferred by the traditional clerks because of their size. Being made from cedar, maple and oak may have something to do with it also.

Sheep van doors were made in the Homebush Technical Training Workshops with mortice and tenons being cut with chisels and mallets. Once finished, these were forwarded to the store at Clyde Waggon Works. Of course not all made the journey there; some had the joints cut off leaving the remainder of the timbers to be used in other projects at a later date. These doors were made from first Grade Oregon and none of the preparation was done with machines. Hand jack planes, spoke shaves, tri-squares, hand saws and chisels were the tools used.

Returning to the carriage building side of things, the old style dining carriages were panelled on the inside with an American oak and either clear varnished or french polished. One such carriage was overhauled and completely stripped of its coatings, papered back to bare timber on all panels, carved table legs and chairs and, after papering, was coated for attaching to the Royal Train when Her Majesty the Queen made her first visit to Australia. The Royal Carriage was worked on by a team of first class tradesmen and when they had finalised their preparations, the two french polishers took over. The final result was magnificent, with the screws used inside the carriage being gold-plated. Each screw was removed, counted, cleaned, gold-plated, counted, inserted back into the carriage and counted again. None were missing.

The main roofs in use on carriages were elliptical, whale back, mansard, or lantern. It was the carriage builders responsibility to maintain these in waterproof condition for the comfort of passengers. When the roof was timbered it was necessary to skim the two ends for approximately six feet. This was done by rasping to a rough surface the area the width of the roof back six feet; then soaking muslin in a bucket of hot water prior to washing the roughened area with that soaked muslin to open the fibres of the timber; squeeze off excess water and put the muslin into a bucket of animal glue (very hot stuff) and, after allowing it to soak, take it from the bucket (either with a stick or bare hands) and drain the excess glue off back into the bucket and place the first of the two sheets of muslin over the timber. This first piece was stretched across the roof and after all wrinkles had been removed, it was all rubbed with the bare hands until a white froth formed over the entire area of the first part. The second piece was then overlapped on the first and brought up as in the first to a white froth. These were allowed to dry overnight or for several days.

When dry, a canvas was stretched the full length of the carriage roof, loosely tacked along the centre line for its entire length and painted with a sticky yellow navy dressing containing fish oil, after being folded along the tack line. The roof timbers were also painted. The canvas was turned over and the

other half of the roof and canvas was treated. Once the painter had finished his duty the carriage builder took over to lay the canvas over the entire timber work of the roof and stretch the canvas from each side with special equipment. While tension had been placed on the canvas by somebody on the floor, the men on the scaffold had been busy tacking the edges of the canvas, commencing from the centre. The aluminium moulds were screwed over the tacked edge for strength and neatness and the ends were shaped into place and completed.

When the carriage builder left the roof the painter returned and put the coat of navy dressing waterproofing on to seal it. Total time on the roof for the carriage builder would have been four hours (of course four to six men were on the roof itself, four on each side and two on each side on the floor). The painters came back after lunch to complete their tasks. A good canvas would last about five to seven years. There were occasions when a roof would require a patch and this was carried out by the maintenance teams.

The other method of sealing these roofs was with the use of malthoid. The roof was painted with a bituminous substance and one side of a sheet of malthoid was also painted. As they became tacky the malthoid was placed on the roof, rolled to remove any bubbles and secured at the cantrail with aluminium moulding. The end of such roofs had been skimmed, and covered with canvas and sealed with navy dressing. The malthoid covering was then painted with 'silverfros' in an endeavour to reflect heat. (The malthoid covered roof was not only slow, but very messy to do).

The old 'Yankee' style carriages had the Mansard style roof, centre aisle and narrow entrance/exit platform at each end of the carriage. These carriages did not have a metal sole bar (i.e. a steel underframe) but their own timber solebar approximately 10 to 12 inches high, 9 inches wide and 50 feet in length. Being fitted with a Queen post trussing they were extremely safe. They were, however, noisy and a little uncomfortable to travel in. They were also somewhat dirty because of the steam locomotives used to haul them.

They were very straightforward to work on. The section of the seat arrangement marking the end at the aisle and which held the arm rest was named the 'banjo' and was made from an American oak timber and, when required to be relacquered, all of the original coatings were removed by the painters' labourers with paint stripper and the carriage builder did the preparation of the timber with glass paper.

The external covering was of cedar panels. These panels were between 10 and 15 inches wide (depending on the frame structure) 30 inches long and 1/2 inch thick. Preparation of the panels was such that the skim method was always used to reduce or prevent shrinkage and splitting due to the weather. Again the panels were slightly roughened on one side - the skim had been placed to soak in a bucket of boiling water - rubbed over the surface to open the fibres - then a piece which had been soaking in a bucket of boiling animal glue was spread over that surface and again rubbed with the palm of the hand until it had attained a white froth. It was then set aside until dry, trimmed and later secured to the side of the carriage. I found some of these panels on a carriage at one time which had been there allegedly for 30 years.

When an overhaul was required for these carriages the complete set of eight was brought into the workshops. When out in use they were permanently coupled together and designated by the set number, e.g. 94 Set. A great number of carriage sets were brought into the workshops at any given

time for the carriage builder to work on.

One of the most difficult, if not the most difficult carriage to repair, was the old 'Dog Box' passenger carriage. Some may not recall these. These carriages had eight compartments in the second class carriage and six compartments in the combined first and second class. The first class passengers' carriage had two compartments which were wider than the second class, which held six passengers against eight in the second class, and were much plusher in that the leather was green in colour with individual arm rests between each passenger. Both styles of carriage had an entrance door on each side of the compartment (as each compartment was isolated from the other) with its own toilet with the entrance door to that room being at the back of one of the passenger's seats. Remember? If you had the corner seat at the toilet, and someone needed to enter that toilet, the passenger in that corner had to stand up, lift their seat, the other passenger had then to open the toilet door and, when returning to their seat, you again had to stand up out of the way. Those were the good old days.

However, the outside sheathing had to be the most difficult to replace or repair. The top of the sheathing board was held at the window sill level with screws, two in each board. The bottom of the board was then bent in its length onto the wing rail (the bottom rail of the carriage) and secured. If pressure was not maintained on the board during cramping operations it would spring away and tear the tongue of the previous board out with it. The undercut of those carriages was about 4 inches to the sill rail face. Tremendous pressure was generated by this undercut.

If the carriage builder was required to replace two boards because of damage, it usually required him to remove four boards because of the difficulty in replacing them. Sometimes you could get away with only three being removed. The procedure to replace these boards was as follows: after the required number had been removed a piece of timber was screwed horizontally along the bottom of the remaining sheathing boards; a second piece of timber was then further screwed, again horizontally across the face of the boards, about 2/3 of the way up from the bottom. The first and fourth boards were inserted in behind the two horizontal timbers. The top of these boards was then about 6 to 7 inches below the sill line. Boards 2 and 3 were then inserted between the previous two coming down from the top. Because of the protrusion of the sill line the two boards are entering in the shape of an S and also have a lateral twist.

Extreme care had to be exercised otherwise the original two boards were likely to be damaged. Once boards 2 and 3 were level with the sill line they had to be braced back into the rebate. This action was then followed by levering boards 1 and 4 upwards until level with the sill rebate. All four boards were then secured with screws both at sill level and wing rail level.

The original boards were 3/8 inch thick and were reasonably easy to bend into these shapes but, of course, they also broke quite easily too. In the latter years of my career these 3/8 inch boards were replaced with sheathing boards 5/8 inch thick. These were extremely hard to manipulate without splitting. The original boards were predominantly cedar, while in the latter years we used oregon.

After sanding had been completed we then opened the 'V' chamfer with a small 'V' plane which would have been most likely made by the tradesman during his career. I still have the 'V' plane I made as an apprentice when most of the

small planes and moulding planes were made from coachwood.

One particular type of waggon which required the use of brass screws only had been in the coded vans 'PV'. These, of course, were the powder vans used to transport explosives. The dynamite and gelignite was stored in the centre compartment with the detonators being stored in the compartment at one end which had a bulkhead about 4 inches thick. These particular vans were recognised as travelling powder magazines and as such were stabled in goods yards throughout the state, awaiting unloading or loading. The sheathing boards used on these vans were 4 inches wide, 3/4 inch thick and about 9 feet in length. The interior lining boards were made from the same timber. As shown above, they were all screwed with brass screws, two in each rail (such rails being about one foot apart). The floor boards and battens were also screwed down with brass screws. Generally 12 or 14 gauge countersunk screws were used. At today's prices you could probably fly around Australia on the cost and possibly have some change left over.

About 1955-1956 some of the mainline carriages had been pulled from service and converted to a new style of sleeping carriage, these main liners being MCE and MCX carriages converted to LAN sleepers. The interior linings were plywood covered with vinyl fabric, with the shower and toilet area being lined with Laminex. Each of these ten compartments were built transversely in the carriage with the access corridor being down the full length of one side. Unfortunately, this created a lopsided riding of the carriage and, if two or more were attached to the train, they had to be alternately coupled to override the tendency to fall away if travelling at high speed. These remained in service on the Sydney to Brisbane run until the advent of stainless steel sleeping carriages in late 1962.

Following 'in-service' operation of a number of these stainless steel sleepers over 18 months, the first ones were brought into the workshops for major floor repairs. When built, the toilet console consisting of a wash basin at the top and the toilet pan on the bottom, the flushing pipe did not line up with the flanged hole in the floor which, in turn, did not reconcile with the chute hole below the floor. Needless to say the plywood flooring was commencing to rot. The shower floor was also commencing to rot, due mainly to the compound floor washing away down the drain.

To repair this damage it was first necessary to remove the shower recess wall, remove the rotted flooring and the toilet console pedestal timber block. This particular block had been machined from a timber other than that specified. The replaced flooring was made from 'rot proof' plywood one inch (25mm) thick treated with a proofing liquid named 'Monsanta Tenta'. This solution was issued to the carriage builders to paint onto the plywood. However, the industrial chemist had failed to stipulate the strength of the liquid to be used. My partner and I used the neat strength instead of having it diluted. Naturally when this mistake was discovered approximately 12 months after commencing this type of repair the neat liquid was removed from our custody to that of the industrial chemist. We were extremely fortunate that we had been issued with rubber gloves at the commencement.

The compound floor used in the shower recess was replaced with a fibreglass prefabricated square bowl about two inches (50mm) deep. The toilet console block was also fibreglassed. The total flooring was waterproofed. The design

of the fibreglass flooring had been carried out in the workshops by other carriage builders and installed by my partner and me.

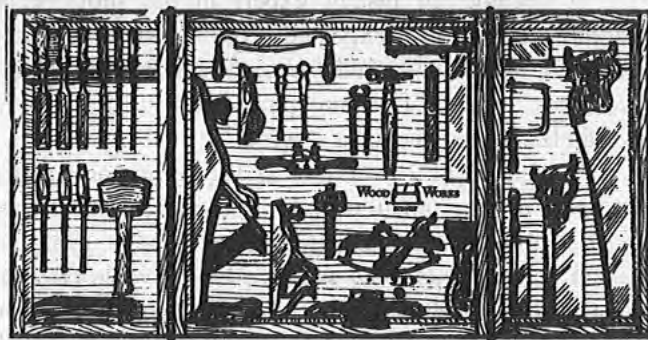
I suppose the most outstanding feature of this work was the use of the airconditioning during the full eight weeks of the repair cycle. We lost the use of the airconditioning for a period of four days in each of the eight weeks while the electrical fitter removed and replaced the roof unit. This was the first carriage work which had been carried out by several trades working together without worrying about the line of demarcation. The exception to this had been the boilermakers. Still, that obstacle had been overcome without stopwork meetings or strikes.

The further requirement was the necessity for each carriage being under repair for eight weeks only. It was by the above method we were able to complete these repairs within the eight weeks and have the carriage back on the road for the overnight trains. A great deal of the art went out of the carriage builders' skills with the advent of plywood and plastics, stainless steel and aluminium.

Though I no longer work at the trade for a living I still like to work with timber and do so on a reasonably regular basis. These days, though, I have a great deal of enjoyment derived from my hobby, woodturning. I am not as proficient as some I have seen working, but I enjoy what I do and I am getting more adventurous as I work at it. Who knows, one day I might be good at it.

While ever there is timber I don't think there will be with woodturners a 'Lost Art'. - Kevin Johns

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2 New Members

ROBERT HOWARD

I am a full time woodworker, earning most of my living from woodcarving and the remainder from cabinetmaking. I have no formal qualifications in either. The only relevant education I have had has been woodcarving classes with Michael Gill and later (and currently) with Otto Laurens.

I was born in 1949 in Stanthorpe, up near the Queensland / NSW border. I came to Sydney in 1967 to do Mechanical Engineering at the University of NSW. I graduated in 1971 with an Honours degree.

I had always played around with wood, but I date the beginning of my education to the time in 1978 when a friend and I decided to make ourselves guitars, so that we could learn to play them.

Just before I finished it, I was transferred to Los Angeles to work. It would be four years and a trip around the world before my guitar was finally finished with the help of Kevin Johnson up in Bellingen. It turned out tolerably well. I still have it and I still cannot play a note. Oh well.

But my interest was aroused. While in Los Angeles I explored the guitar making world, discovered Fine Woodworking magazine and ended up working for a year in the Cutting Edge, a fine woodworking tool shop. Most of my wages were spent before I got out the door of course, but what a bargain that turned out to be. Imagine the entire Garret Wade catalogue at prices about 300% less than what you pay now!

I became an instant expert in the shop because customers invariably expected you to know all about woodworking if you worked there, while the truth was that I'd never made a stick of furniture in my life. But I did learn a lot nevertheless - by osmosis as it were.

I then spent 18 months in West Germany and did manage to use my new tools a bit while there. But it wasn't until I finally returned to Australia for good in 1985 that I decided to get serious about woodwork as a livelihood. And as luck would have it I landed what I think was just about the most perfect job I could have hoped for: I got a job as a cabinetmaker with Colonial Living when that company was in its infancy. They were just beginning, as I was, and I learned and grew with them. In time I became cabinet shop foreman, then Production manager, before finally quitting that to go back on the bench again.

I think being there for four years and working on very high quality solid wood furniture taught me an enormous amount about the trade, from a number of difficult perspectives. I learned cabinetmaking; wood machining to some extent; factory discipline and techniques; something about business management; something about design; and, finally, I began to learn woodcarving. I finally left in mid-1988 and moved literally downstairs to share factory space with Richard Vaughan. I am still there though within the next twelve months hope to relocate to Wauchope, where my wife and I have bought a farm.

Since moving in with Richard it has just happened that most of my work has been woodcarving. I continued to do Colonial Living's work and picked up Terrace and Cottage

Company and Chippendale Restorations as regular clients. This is both good cash flow and good practice. It is not fine woodworking of course - it's production work. But it's always a challenge to do it a bit better and a bit faster each time.

Along the way I get to do some finer carving work, mostly, it seems, for building restoration projects: a frame out of solid black ebony and corbels and brackets to various design. My furniture has mostly been reproduction, particularly Australian colonial, with extension tables predominating. But thanks to my experience at Colonial Living, I feel perfectly comfortable tackling any piece of furniture, from four poster beds to coffee tables.

JEFF KEMP

Hello. I'd like to take this opportunity to introduce myself to the Woodworker's Association. I live up here in the Northern Tablelands 35 k from Armidale with my wife and two young children in a huge old farmhouse, part of which serves as my work and study space. It is a peaceful and inspiring environment, in which I can indulge in my passion of musical instrument making.

I was exhibiting at The Australian Craft show in November 1989 with the Musical Instrument Makers Association where I was invited to join the Woodworkers Association. The standard of work at the Woodworkers exhibition was excellent and I am proud to be a part of this organisation.

I was originally trained as a fitter and turner and the transition to woodworking was a welcome one indeed. I spent quite a few years exploring several different aspects of woodworking. These include woodturning and making lidded boxes bush furniture, spinning wheels and weaving looms. I occasionally build and install kitchens and wardrobes etc.

Currently the bulk of my work is musical instrument making and repairing with a bit of antique furniture restoration on the side. Musical instrument making, for me, started with a guitar project which turned out to be a slightly unconventional, though playable instrument. This initial endeavour became something of an obsession. I am currently making classical guitars, steel string guitars, electric guitars, dulcimers and harps etc. using imported and Australian woods. I have made a number of steel string guitars entirely of Australian timbers, which are generating a fair degree of interest. My work includes mosaic rosette making. Some of the rosettes are made up of about 14,000 endgrain pieces of wood. I have written an article on the subject of mosaic inlay making which can be found in the *Australian Woodworker* March/April and May/June '89 issues. I have begun using finite element analysis to study the vibrational behaviour of stiffened plates. This allows the computer modelling of guitar soundboards to study the effect of the bars and struts that make up the guitars soundboard bracing.

I am always interested in meeting other woodworkers, so if any of you are travelling through the area, please feel free to give me a call and drop in for a cuppa and a chat:

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how to make a board

by Dave Barry

Most of what I know about carpentry, which is almost nothing, I learned in shop. I took shop during the Eisenhower administration, when boys took shop and girls took home economics - a code name for 'cooking'. Schools are not allowed to separate boys and girls like that any more.

They're also not allowed to put students heads in vices and tighten them, which is what our shop teacher, Mr Schmidt, did to Ronnie Miller in the fifth grade when Ronnie used a chisel when he should have used a screwdriver. (Mr Schmidt had strong feelings about how to use tools properly). I guess he shouldn't have put Ronnie's head in the vice, but it (Ronnie's head) was no great prize to begin with, and you can bet Ronnie never confused chisels and screwdrivers in later life. Assuming he made it to later life.

Under Mr Schmidt's guidance, we hammered out hundreds of the ugliest and most useless objects the human mind can conceive of. Our first major project was a little bookshelf that you could also use as a stool. The idea was that someday you'd be looking for a book, when all of a sudden you'd urgently need a stool, so you'd just dump the books on the floor and there you'd be. At least I assume that was the thinking behind the bookshelf-stool. Mr Schmidt designed it, and we students sure knew better than to ask any questions.

I regret that I didn't take more shop in high school, because while I have never once used anything I know about the cosine and the tangent, I have used my shop skills to make many useful objects for my home. For example, I recently made a board.

I use my board in many ways. I stand on it when I have to get socks out of the dryer and water has been sitting in our basement around the dryer for a few days, and has developed a pretty healthy layer of scum on top (plus heaven-only-knows-what new forms of life underneath).

I also use my board to squash spiders. (All spiders are deadly killers. Don't believe any of the stuff you read in *National Geographic*.) Generally, after I squash a spider, I leave the board in the water for a few days, spider-side down, to wash it off, assuming the scum isn't too bad.

If you'd like to make a board, you'll need:

Materials: a board, paint.

Tools: a chisel, a handgun.

Get your board at a lumberyard, but be prepared. Lumberyards reek of lunacy. They use a system of measurement that dates back to colonial times, when people had brains the size of M&Ms. When they tell you a board is a

'two-by-four', they mean it is *not* two inches by four inches. Likewise, a 'one-by six' is not one inch by six inches. So if you know what size board you want, tell the lumberperson you want some other size. If you don't know what size you want, tell him it's for squashing spiders. He'll know what you need.

You should paint your board so people will know it's a home carpentry project, as opposed to a mere board. I suggest you use a darkish colour, something along the lines of spider guts. Use your chisel to open the paint can. Have your gun ready in case Mr Schmidt is lurking around.

Once you've finished your board you can move on to a more advanced project, such as a harpsichord but, if you're really going to get into home carpentry, you should have a home workshop. You will find that your workshop is very useful as a place to store lawn sprinklers and objects you intend to fix sometime before you die. My wife and I have worked out a simple eight-step procedure for deciding which objects to store in my own workshop:

1. My wife tells me an object is broken. For instance, she may say, 'The lamp on my bedside table doesn't work'.
2. I wait several months, in case my wife is mistaken.
3. My wife notifies me she is not mistaken. 'The lamp on my bedside table still doesn't work,' she says.
4. I conduct a preliminary investigation. In the case of the lamp, I flick the switch and note that the lamp doesn't go on. 'You're right', I tell my wife. 'That lamp doesn't work'.

/ over

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5. I wait 6 to 19 months, hoping that God will fix the lamp, or the Russians will attack us and the entire world will be a glowing heap of radioactive slag and nobody will care about the lamp anymore.
6. My wife then alerts me that the lamp still doesn't work. 'The lamp still doesn't work,' she says, sometimes late at night.
7. I try to repair the lamp on the spot. Usually, I look for likely trouble spot and whack it with a blunt instrument. This often works on lamps. It rarely works on microwave ovens.
8. If the on-the-spot repair doesn't work, I say: 'I'll have to take this lamp down to the home workshop'. This is my way of telling my wife she should get another lamp is she has any short-term plans - say, to do any reading in bed.

If you follow this procedure, after a few years you will have a great many broken objects in your home workshop. In the interim, however, it will look barren. This is why you need tools. To give your shop an attractive, nonbarren appearance, you should get several thousand dollar's work of tools and hang them from pegboards in a graceful display.

Basically, there are four kinds of tools:

Tools You Can Hit Yourself With (hammers, axes).

Tools You Can Cut Yourself With (saws, knives, hoes, adzes).
Tools You Can Stab Yourself With (screwdrivers, chisels).
Tools That, If Dropped Just Right, Can Penetrate Your Foot (awls).

I have a radial arm saw, which is like any other saw except that it has a blade that spins at several billion revolutions per second and therefore can sever you average arm in a trice. When I operate my radial arm saw, I use a safety procedure that was developed by X-ray machine technicians: I leave the room.

I turn off all the power in the house, leave a piece of wood near the saw, scurry to a safe distance, and turn the power back on. That is now I made my board.

Once you get the hang of using your tools, you'll make all kinds of projects. Here are some other ones I've made:

A length of rope.

Wood with nails in it.

Sawdust.

If you'd like plans for **any** of these projects, just drop some money in an envelope and send it to me and I'll keep it.

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