

*“If few people can afford to have furniture specially designed for them, there are still fewer who, having the means, posses the taste to put the idea into execution and courage enough to face the result”*

Studio Magazine, 1896 - Reproduced from Evan Dunstone’s Churchill Fellowship report.

*“Fine furniture is not solely about the performance of the design; it’s about the timber, the leather, the hand of the maker; the “vibe of the thing”. A life without crafted objects would be akin to a life eating energy pills rather than fresh food (i.e. really dull!).”* Evan Dunstone.

## DUNSTONE DESIGN

### Company Profile

Dunstone Design (DD) has positioned itself as a premier designer and maker of contemporary Australian fine furniture and chairs. Describing their work as a “celebration of wood and craftsmanship” Evan Dunstone’s journey as designer, craftsman, mentor, business owner and industry advocate reveals significant insight into the Australian fine furniture industry.

The business occupies two premises, a retail gallery space in Fyshwick ACT and a production workspace in nearby Queanbeyan NSW. The gallery showcases examples of exhibition and bespoke pieces as well as a full range of production furniture. During retail hours Evan operates from Fyshwick and meets his two craftsmen, Alex & Dan at the Queanbeyan workspace early most mornings. Production occurs from 7am thru 5pm Tuesday to Friday being a suitably flexible arrangement for Evan & his team.

Evan gratefully acknowledges the substantial contributions and long time support provided by his wife Fenella, including design consultation, business advisor, financial management, distribution, marketing and gallery sales.

In business it is critical to manage the factors that cause a reduction in average production cost as output rises, these factors are known as economies of scale. Evan Dunstone’s challenge is to facilitate necessary economies of scale (through production piece output) whilst also designing and crafting bespoke Australian fine furniture. Sustaining a profitable enterprise in the midst of an increasingly complex environment brought about with the arrival of the internet and e-commerce, free trade agreements, premium timber sourcing, changing consumer behaviours, fluctuating economic confidence, big box retailers, skills shortages and increased employment costs is true testament to the passion, energy, skill, innovation and determination that Evan & his team bring to Dunstone Design.

### **Outline the historical, social, cultural, economic, personal and environmental issues related to the chosen industry.**

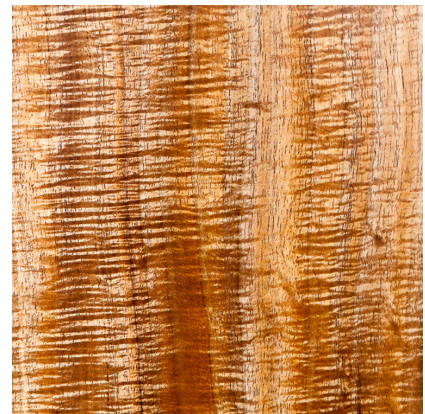
Dunstone argues fine furniture; particularly fine chair making embodies the pinnacle of woodworking. Across millennia humankind have toiled to harmonise the natural characteristics of timber into functional forms designed to compliment our living needs and desires.

Nineteenth and twentieth century Australian cabinetmakers unravelled the secrets of our various indigenous timber species. Early access to foreign timbers was costly and proved somewhat unnecessary considering our beautiful alternatives including Otway blackwood, Huon pine, red cedar, river red gum, myrtle, silky oak, Qld maple but to name a few.

To appreciate the historical significance of cabinetry in the lives of earlier Australian's one simply needs to appreciate that modern materials & techniques we now take for granted were yet to be invented. Engineered wood (eg plywood), plastics, synthetic glues, MDF & HDF, chipboards, masonite, power tools and computer controlled production have significantly altered the cabinetry landscape. Where once there was little choice but for solid timber chairs and furniture, either for the masses, or discerning buyers of sublime design and craftsmanship, these new materials presented a range of competing alternatives that have forever changed the cabinetry and furniture industries.

Australia's significant landmass harbours only 4 percent of total forest area, one of the lowest ratios worldwide of all principal timber-producing countries (Wallis, 1970, p.3). Early demand for select timbers caused the significant decline of several species including Huon pine and Red Cedar (ABC.net.au) although this was perhaps more the result of industrial usage such as shipbuilding. Under legislation, modern management practises aim to restore sustainable supplies (perhaps achievable in light of substantially reduced demand) of cabinet grade timbers. The Tasmanian Parks & Wildlife releases 500 cubic metres of Huon pine annually and claims this is sustainable for at least another 100 years (www.parks.tas.gov.au). Other species such as River Red Gum is no such shortage and is in-fact listed as the most invasive of all eucalypts, being classified as an environmental weed in California (www.mathoura.com.au).

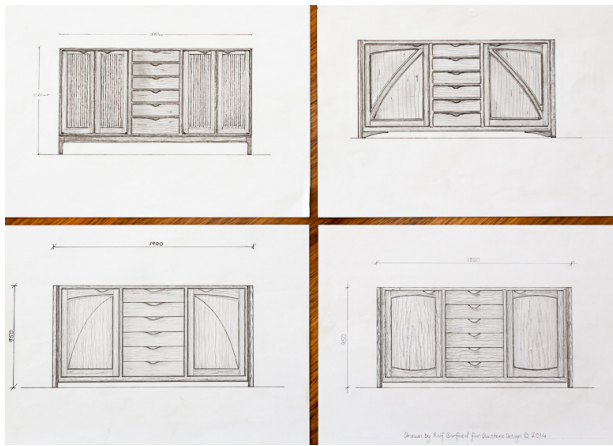
Of interest, during Dennis Brown's 25 year timber milling career at Corsair Sustainable Timbers he has only processed 2 logs with the 'raindrop' (premium fiddleback) feature exhibited in the sideboard recently crafted at Dunstone Design. The scarcity, value, beauty and importance of such timbers maintain pride of place in fine furniture design & production. By comparison to Huon pine production, Corsair produces about 1/5<sup>th</sup> the quantity of premium Otway blackwood annually (120m3) and the majority of this is sold to Dunstone Design. Corsair is the last commercial supplier of Otway blackwood; where in 1892 no less than 12 millers operated throughout the Otways providing timber for Melbourne's speculative building boom (Corsair, on file).



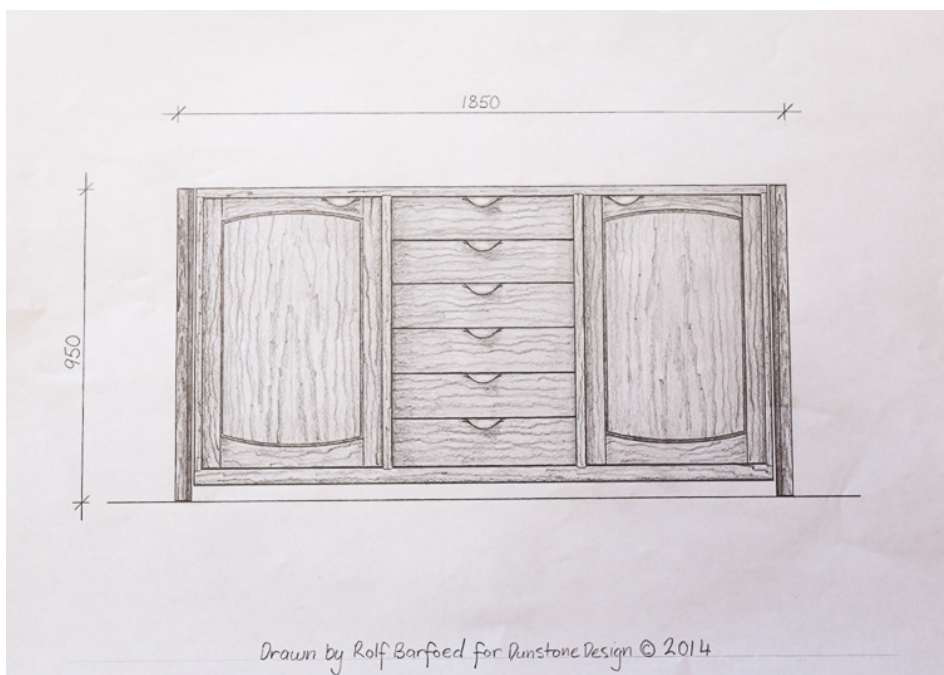
Exceptional blackwood figure

**Information of the design and manufacturing processes that occur in the chosen business. (Photographs of specific processes are highly regarded).**

Evan acknowledges his clients maybe well educated in visual design and have clear visions for their own bespoke Design, however design must also accommodate various aspects of timber and object performance as well as the Dunstone Design aesthetic. The design process involves various iterations of hand sketches communicated between clients and staff. Final drafting allows for visualisation and to tease out problems and potential associated to the object's crafting. Below is the sequence of sketches prepared during the evolution of the bespoke Tonks Sideboard, as recently crafted. Photographs show the finished article being true to the design, and also various design elements of the sideboard that are characteristic of Dunstone Design.



Design evolution (top left, top right, bottom left, bottom right) of Tonks Sideboard. Pencil on paper.



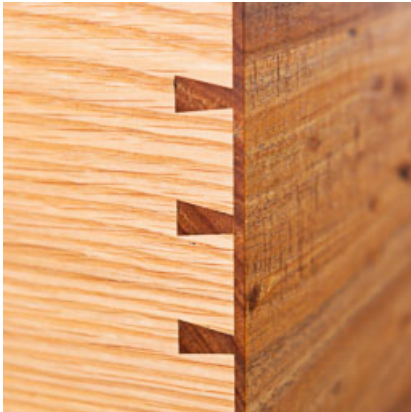
Final design of Tonks sideboard in highly figured Otway blackwood.



Tonks Sideboard. A masterful work of design and craftsmanship.



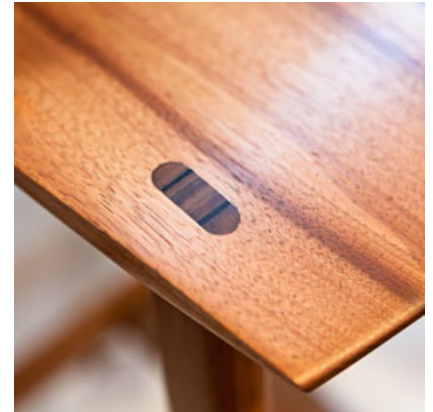
Notable design elements feature across the range of Dunstone Design products. Such elements include signature “eyeline” sculptural handles, elliptical posts, arc curved legs, exposed wedged-tenon joints, wood grain selection and composition of carefully selected and matched timbers of great beauty. Natural strength in the timber follows the design form, whilst highly accurate mitres, joints, detailing and finishing complete the package. Some of these elements owe their heritage to Evans time in training with David Maclaren at the Bungendore Wood Works Gallery (NSW) and later at Unieke Furniture, also of Bungendore.



Exceptional craftsmanship coupled with expert selection of timbers



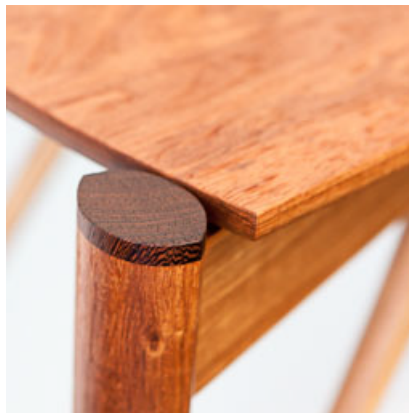
Quality hardware sympathetic to design and fitted with expertise



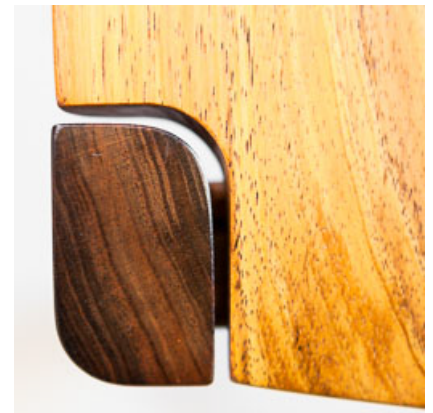
Contrasting wedge tenons add interest whilst providing excellent joint strength



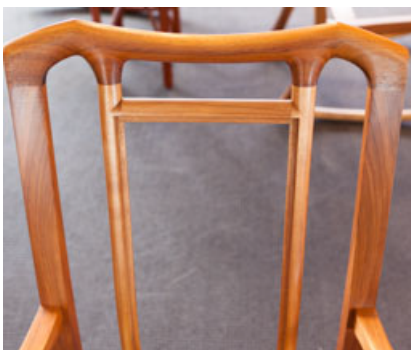
Eyeline handle presents appealing form and practical function



Elliptical legs embellished with decorative contrasting endcap. Curved support members (blurred) add support design and add structural integrity



Double radii rectangular sectioned legs presenting independently to table surface



Judicious selection and orientation of timber supports both the aesthetic and structural requirements of fine chair design



Selection & layout of seat panelling creates balance and visual interest. Notice wave at intersection of panels resulting from use of wave cutting spindle moulder head.



Personalisation of bespoke pieces adds to the experience and value derived when commissioning fine furniture.





Evan's desire to further explore chair design & production resulted in a successful application for a Churchill Trust Fellowship. In 2001 the Trust sponsored his journey to meet many established reputable designers and makers across the UK and USA. The experience provided Evan with invaluable lessons in design, production and business management that were adopted and remained clearly evident during my own study of Dunstone Design. To note but a few points listed in the Churchill report that remain current practise are; effective talent development and personnel management, adaptive and innovative design, use of modern machinery (not being a slave to 'zen-like' processes) with a focus on productivity at every turn and an appreciation for the importance of marketing. Evan Dunstone certainly does not rest on his wood shavings!

All of these experiences have translated into production processes within Dunstone Design that promote efficiency without sacrificing design authenticity. In brief, a listing of notable processes that incorporate design with efficiency follows.

### Oscillating Slot Mortiser

Practically every piece of DD furniture is designed to incorporate the unique mortise & tenon joints (concealed and exposed wedge types) and this machine cuts mortises. Alex describes it similar to a Festool Domino with far more potential, capable of cutting a wide range of mortise sizes. Although a simple, rare and old machine it is critical to DD production. All tenons are produced through a process of routing selected rectangular stock. Furniture is matched to tenon type, eg blackwood chair with blackwood etc. Tolerances within the workshop are remarkably tight due to this process of matching appropriate timber species.



Oscillating Mortise Cutter

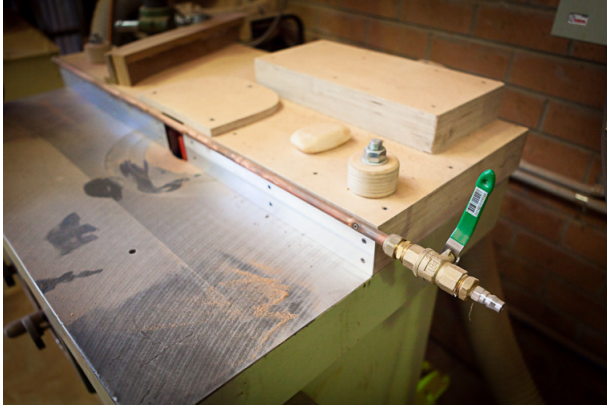
### Jigs & Templates

All Dunstone Design production output (as opposed to the bespoke designs) is produced using jigs and templates to accurately and efficiently reproduce the required machining (esp. curves) in timber stock.

Jigs and templates are mostly produced in MDF and are subject to wear & tear resulting in a need for routine maintenance or replacement.



Timber jigs and template are compartmentalised for storage in a mezzanine loft.



Spindle moulder with innovative blower system to remove dust from the work surface.

A waved cutting head efficiently creates a matched pair of self-aligning edges that have significant surface area to improve glue joint performance, build speed and accuracy. The use of compressed air to blow dust out during operation is a great example of innovating to improve production processes, also improving operator safety thru better visibility and material to tool contact accuracy.

### Spindle Moulder

Similar in design to the table router, yet far more powerful running a 3 phase supply. Many of the jigs are used in combination with the spindle moulder which has the power to handle the required material removal. DD used the spindle moulder to great effect in preparation of timber seating sections.



Edges of Alpha chair panels showing spindle moulder wave cuts.

### Tool Heads

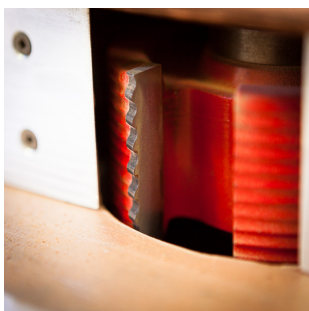
A wide range of stock and custom router and spindle moulder cutting heads are used in the production of Dunstone Design's furniture. Custom cutting heads produce, for example, the unique crest rail of the Clearwater chair and elliptical table & cabinet legs included through the DD range.

The use of custom cutting heads as both a freehand operation and coupled with jigs or templates enables DD to efficiently produce their harmonious design elements that are flexibly replicated across a range of pieces.



Top right a collection of stock router heads used for various processes including tenon production.

Spindle moulder cutting heads custom made to meet design requirements. Notice markings indicating maximum rotation speed. This is important to adhere to in the interests of tool integrity.





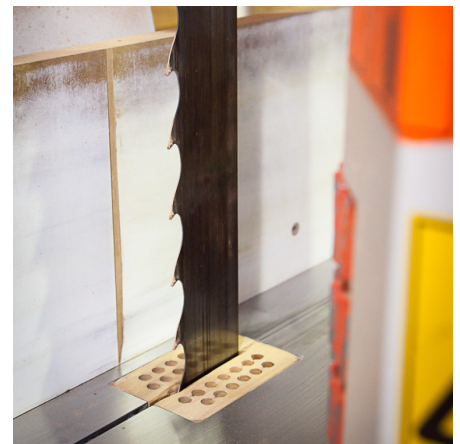


### Unique Timber Grading

Dunstone Design uses a unique grading and sizing system to enable accurate communication and hand selection of timber stock requirements with its principal blackwood supplier Corsair Sustainable Timbers.

### Bandsaw

The larger (fondly named Goliath) bandsaw is used to break down larger timber and is fitted with a special open toothed low TPI (teeth per inch) blade. The bandsaw is also used to create veneers cut to thickness (normally about 1mm). These are thin enough to minimise movement issues yet thick enough to retain the ingrained lustre of the timber. Alex explains the bandsaw is an exceedingly versatile tool requiring careful setup and blade selection.



*"It is interesting to note that makers of fine furniture almost always have good bandsaws. It is often the best machine in the workshop." (Evan Dunstone's Churchill Fellowship Report, 2001, p.16) Notice the wide gullet between teeth on this specialised re-saw blade.*



### Belt Sander

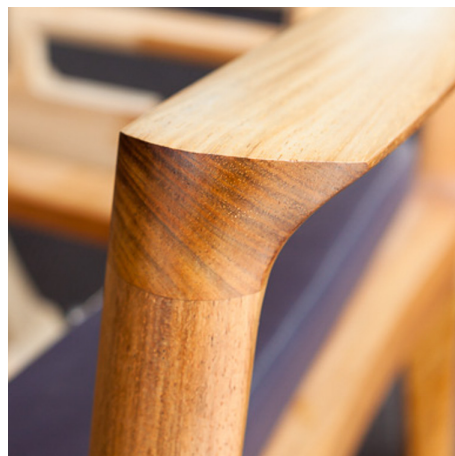
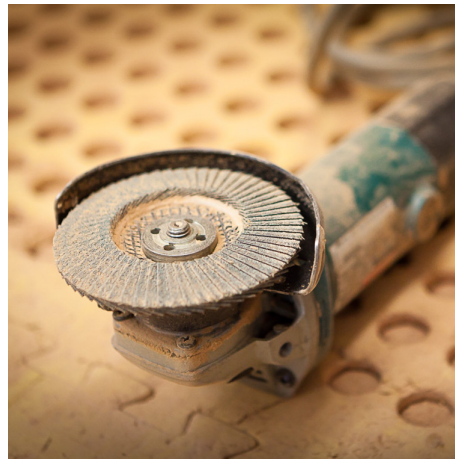
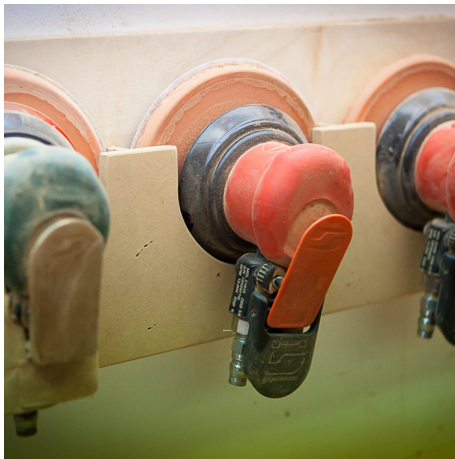
With 900mm wide abrasives efficient face sanding difficult timbers such as River Red Gum is possible. This sander is used by DD as a dimensioning tool, not a finishing sander. All final finishing is done in the sanding room before oils are used.

### Creature Comforts

Of interest a gas blow heater is operated in the workshop to maintain temperature above 15 degrees so that the PVA glue used in production will cure. I am sure the boys don't mind needing to use it during sub-balmy Canberran conditions.

## Final Finishing

All sanding operations are conducted within a sealed room fitted with an industrial dust extraction system. A large belt sander and 150mm air powered random orbital sanders (operating at different speeds and oscillations) perform most sanding operations. On average 45 hours of labour is applied to complete the sublime production of each Cascade rocking chair. Nearly half this time spent in the sanding room hand shaping with a 6 inch grinder and flap disk. Considerable skill (not to mention commitment, patience and endurance) is required throughout the noisy, dusty and physically demanding process.



Top: Various air powered oscillating sanders, 6" angle grinder with flap disk for bulk timber removal. Middle: Vacuum sanding bench with foam overlay, modified belt sander. Bottom: Opposing sides of same chair on display to describe build process and value of a quality finish to best present the timber's beauty.



**Evidence of product development processes used to develop new products. (Photographs of specific processes are highly regarded).**

The Alpha Chair is a relatively low cost retail pre-fabricated Victorian blackwood chair sold to woodworkers in kit form for final assembly and finishing. It was an exercise in diversification aimed to:

- Utilise periods of excess workshop capacity,
- Access a broader market by selling a scalable product that met the needs of a growing national amateur woodworking market
- Market the availability of excess offcut 'shorts' being held by Dennis at Corsair Sustainable Timbers, DD's major timber supplier.

Evan explains the Alpha chair's development was a product of the perfect storm occurring at a time of intense cash flow pressure, minimal forward orders, static showroom sales and ongoing fixed business costs including rent on separate showroom and production facilities and payroll commitments.

The Alpha chair is produced in the same efficient manner as all Dunstone Design production, is well packaged to travel (or sit under the Christmas tree) and comes with a thorough 15 page instruction booklet. The Alpha Chair is now successfully marketed via Australian Wood Review Magazine, online web sales, national timber shows and Evan's own retail gallery.

*Disclaimer; I have purchased an Alpha to enjoy my own first chair build, one day.*



Alpha chair kit components on display in gallery.



Marketing is in constant focus at Dunstone Design.

**Past, present and future issues and any internal/external developments related to the chosen business that impact on it's decision making**

In the interest of brevity I defer my introduction to Evan who never seems lost for an appropriate anecdote;

*Furniture manufacturing is everything that a modern economy does not want, it's labour intensive with very high costs per unit, the error rate no matter the workmanship or skills is high and working with a natural product has an inherent failure rate. Compare the kitchen industry which has worked ceaselessly to improve production and material efficiencies through conversion of product into stable accessible sheet materials, elimination of labour across every point and significant reduction of stocks (all pre-sold). This is in some respects a stupid business!*

To dwell on the previous decline and future issues facing the Australian fine furniture industry is perhaps a wanton venture into unmanageable territory so I will let Evan's be the last words in that regard.

Instead consider the prospects. Dunstone design is staffed by a passionate team dedicated to the design and production of uniquely beautiful Australian chairs and fine furniture. The business has recently endured some major non-core disruptions and is now ready to move ahead with significant forward orders following excellent sales for the months of July & August. Continuous exploration of processes, opportunities and relationships to keep the business agile, productive and cohesive remain central to Evan's mission. Dunstone Design is committed to constantly projecting its presence, thereby educating a discerning market to understand, appreciate and share the Dunstone Design passion and commitment to fine Australian furniture.

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*With sincere thanks to Evan Dunstone, Alex MacFarlane and Daniel Mansson who gave up much of their valuable time to give me a thoroughly educational introduction to the world of Australian fine furniture design & production. May your business prosper and dreams be realised.*

*Cameron Mills  
Bachelor of Technology Education  
Southern Cross University*

*September 2014*



## References

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