



AMATEUR BOAT BUILDERS' ASSOCIATION

July/August 08



A rather fuzzy picture of the Australian Sailing Museum which we visited in Mandurah

AN OLD SPAR-RING PARTNER

On Wednesday, 28 May we were treated to a return visit by well-known spar maker, Ray Miller. Ray last spoke to us several years ago, so it was high time for an encore.

Ray first emphasized that spar-making was not a trade in itself; rather it was an area within the suite of skills that go to make up boat-building or ship-wrighting. However, since so many different skills make up the full set in boat-building, it was not unusual for individuals to specialize in only a few of them in at least the larger timber boat yards. Thus spars or oars could become a specialty.

He then briefly went through some of the main types of timber suitable for spars – in earlier times Scots pine (or European Redwood), European oak, elm and ash, and pointing out that the best of them, Oregon or

Douglas fir, only became available later, following the opening up of the north-west of the US. Strangely, he didn't mention spruce much at all, yet in the '50s I know it was regarded as the greatest for racing dinghy masts, if expensive. The price is probably out of this world, now. It was pointed out that the best Oregon has its growth rings (or the hard layers) very close together, as a consequence of slow growth. The opposite should be avoided, particularly for spars, but in general for all boat-building. Thus, second-hand Oregon out of old warehouses, etc, may very well not be suitable for our purposes; quite often the good stuff, usually described as "clear and best" is not available for weeks at a time, especially in WA. Some years ago I got two pairs of spoon blade oars made by a boat yard in Tasmania. This was partly because I couldn't find suitable Oregon here to make

them myself and after I placed the order the yard in question took a couple of months to find suitable timber themselves. The eventual oars were, however, delightful, weighing only 1.4kg each for 2.4m long.

Ray then went on to talk about the shape of masts, pointing out that the greatest area of stress is where a mast goes through the deck (the partners) and hence it is usually made up to be its thickest at that point. From there it should taper in both directions, but not a straight taper, rather on an elliptical pattern. Yards on square riggers, of course, have to be biggest in the middle with equal tapers each way. Gaffs are usually a straight taper from the jaws to the tip.

Assuming a round section spar is called for it is first cut to a square section, to the appropriate tapers. It will then be planed to an octagon or eight-sided section, then later sixteen and later still, thirty two sides before being finished off with spokeshaves and sandpaper – a lot of work, but the only way to get it truly round. Ray had no less than three gadgets for marking out the square section spar prior to planing it octagonal and they all rely on Pythagoras' "square of the hypotenuse" theorem. (Theorem 29 when I went to school) The simplest gadget and easiest to understand was a length of timber with shoulders at each end, these being just far enough apart to exceed the maximum diameter of the spar, and finished to a sharp edge so that only the centre would bear on the spar in operation. The space between the shoulders was divided into three by a pair of scribing points, such that the spaces were in the ration of 1 : 1.414 : 1. This marking gauge was then dragged down each side of the square spar, keeping both shoulders in contact with its sides. The resulting marks show exactly how much to plane off each corner. Presumably, if one's geometry is up to it, similar gadgets can be designed to mark up sixteen and thirty two sides.

Ray was careful to point out that few masts have an uninterrupted rounding for their entire length; often they retain a square section at the hounds (where the shrouds attach) or to provide a stop for other fittings such as a "top" or crow's nest. He also pointed out that hollow masts can be just as stiff as solid ones, for around half the weight and this brings in the question of glueing up and laminating the spar. He had a model of a versatile jig in which to glue up mast pieces, whether straight laminations or scarf joints needed to get the necessary length of timber. Modern glues were originally developed for aircraft in WW1 and Ray prefers Resorcinol, which has been around for a long while now and its only drawback is its dark colour which doesn't always look nice with laminations. These days all epoxies would be suitable too. Not much was said about hollowing a mast, but it's a job for gouges, sometimes routers, and usually involves leaving some parts solid for fittings and so on.

The most intriguing sample he had to show was a "planked" octagonal section. This was made up from eight identical planks with a bird's mouth groove on one side and the other square. They all locked in together to make the octagon, leaving the mast about 60% hollow. It would require some ingenuity, however, to insert blocks along the mast for reinforcements, but there must be a way.

As an aside Ray mentioned the spars for the Endeavour replica. The material for these cost \$120 000, so it's not surprising that he developed a horizontal bandsaw for cutting the octagonal sections – the waste alone was worth significant money as opposed to shavings! Some members may be familiar with this saw, currently in the Hicks' museum.

All in all, Ray presented a fascinating talk and we are indebted to him, and his brother, Ken, who with his van, made it possible to transport the numerous timber samples and bits and pieces. Thanks a lot, fellas.

A MUSEUM IN MANDURAH

For the June Toolbox Visit we travelled to Mandurah to inspect the Australian Sailing Museum which is generally known to be a project of Rolly Tasker. It's now open and is mostly complete but still needs some more models to fill the glass cases. Still, there's a lot of stuff to see, and even more to read, if you're that way inclined. Only about half a dozen of us went but we all agreed that a couple of hours was nowhere near enough time to take it all in. Unfortunately, despite all my pleading, I was refused permission to take photos, but Paul Thompson managed to get the museum to hand over three of their own and these are contained herein. (He and Jay Niven have also provided a couple of shots of their own projects, printed towards the end)

After entering through the main doors and paying your admission fee (\$10 or \$5, depending on how old you are) you go through another door into the huge, circular exhibition area. This must be thirty or more metres in diameter and contains three separate sections. Firstly, around the outside walls, there's an extensive yachting Hall of Fame. This is made up of tall panels, each about a metre wide, detailing the life story and achievements of individual Australian yachtsmen, usually with at least a portrait of each individual. This is where the heavy reading is involved, but it's necessary if one is going to list the records of each yachtie. The one thing I noticed was that Rolly had four panels to himself, whereas nobody else had more than one – still, he does have a very extensive sailing record.

In the centre of the circular hall was an array of alcoves, each housing a life-size waxwork of a famous international yachtsman, usually involved with the America's Cup together with a long screed detailing their life stories. Examples include Nat Herreshoff, the Earl of Dunraven, Sir Thomas Lipton and Olin Stephens. In most of the displays a photograph was also displayed so it was possible to check the accuracy of the

waxwork model, and it was evident that all were very lifelike, Madam Tussaud's quality, in fact. They were most impressive.



But in the body of the hall was what we mostly wanted to see, the models. Turning left on entry starts one on dinghies, keelboats and some cruiser classes such as H28s, sailed in Australia while turning right sets one down the America's Cup path, starting with the schooner America of 1851. On the far side there are still a fair number of empty cases awaiting models to fill them, but there's still an awful lot to see at the moment. Most of these models are built to a scale of 1":1', one twelfth full size, and it's impossible to fault the workmanship. Of particular note were the fine wooden masts on the dinghies, complete with bolt rope groove in every case! Each case actually contained two models, similar dinghies on the one side, defender and challenger in the case of the America's Cup yachts. The only exception is the America herself, because in her case, as Queen Victoria was told, there was no second. Sadly, there are some omissions. Those I noticed were Cadet Dinghy, Cherub, 18' skiff and Tornado catamaran – and the VJ, surely our most prolific trainer, had no caption details, on our visit. Its partner, the Rainbow, was OK.

In the case of restricted or development class dinghies such as 16' skiffs and Moths and also Sharpies, there were several models to illustrate different periods in their histories. The differences between a 1900 skiff and a 2005 one has to be seen to be believed. One interesting statistic included in all dinghy captions was the number built – 196 in the case of Skates, while Mirrors apparently produced 167,755. The latter is presumably a worldwide figure! The availability of kits would help, too.



The America's Cup models even compared favourably with those I have been lucky enough to see in the model room of the New York Yacht Club, (although the NYC display stops at 1987) however it was difficult to separate, at first glance, the defender and the challenger. Only a close perusal of the captions to find the yacht club involved would solve the problem. Similarly, the results between boats would have been nice, even if we do know them off by heart for the first 132 years.

Also missing are the names of any of the model builders, with the exception of one, large-scale model of the Duyfken. There is a prodigious amount of work on display, far too much for one man (although I believe Brian Phillips was one builder), and the standard is uniformly excellent. Those behind it deserve some credit. The standard of the purpose-built building matches the quality of the exhibits and one can only hope that it gets enough exposure to the public to remain viable.

ELLIOTT BAY STEAM LAUNCH COMPANY

I received an email from Pat Spurlock of the above company, enquiring as to possible cost savings by container sharing when shipping their hulls to Australia. I replied, pointing out how small the WA market is and got another email, pointing out that they'd already sold one boat to a person in Perth, called Mick O'Shea. Does anyone know him? Let's get him as a member (or guest speaker). In the mean time, the Elliott Bay boats are delightful, fine lined Victorian launches, very elegant indeed. If anyone's interested, the Elliott Bay Company and Boat House Books are at: 6744, SE 36th Ave, Portland, Oregon, 97202, USA. Tel 503-775-5954. Email steam@steamlaunch.com Is anyone interested in acting as a coordinator for them?

ADMINISTRATION NOTES

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ANNUAL GENERAL MEETING

The AGM of the Amateur Boat Builders Association will be held at the commencement of proceedings at the Technical Meeting on Wednesday, 30 July, at SofPYC, 7.30 for 8pm. There will be some changes to the above committee profile, but we have volunteers for all positions, so the meeting should be quick and painless.

TECHNICAL MEETING

This will be held to follow the AGM, as above. For guest speaker we have Craig Wilson back, talking on regular maintenance. This time he will allow more time for questions as his previous talk about a year ago generated a lot of interest and is sure to do so again. Don't forget the club's evening meal if it suits your timetable.

TOOLBOX VISIT

We're still not sure what Steve Handley will have in his workshop at this time (Saturday, August 9) and since Steve's currently in Bali, Paul Thompson has put his hand up for a visit to his Osborne Park workshop. There, he's restoring a 20' timber launch (see photo) and hopefully will have completed a steam box for us to see, because he's at the stage of replacing old ribs with new ones. Whether he's replacing or sistering up, I'm not sure. That will be at 8A, Carbon Court, Osborne Pk, signed as "Art on the Move", (Paul's business) 2pm to 4pm



Jay Niven's current project, a barrel back speedboat

(Left)

The bow of Paul Thompson's restoration project in Osborne Park. This is the subject of our next tool box visit.



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