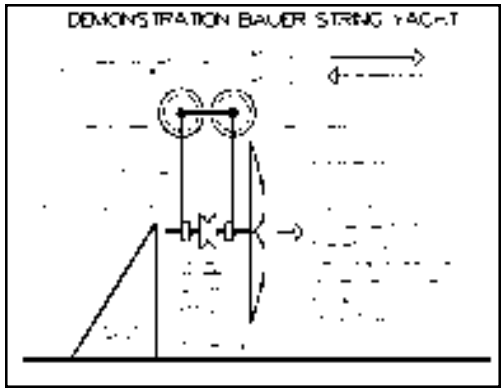
Features

Regulars



Cover photo:

Trimaran IDEC leaves New York on her way to a record crossing

Photo: ©Billy Black/DPPI/ IDEC

Catalyst

Journal of the
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Speedweek

For many readers, this edition will be the last before the Weymouth Speedweek, which is once again sponsored by AYRS. We are hoping that this year there will be many more boats entering, all intent on establishing just how well they perform, and in some cases hoping to get the UK record. Nick Povey has promised there will be lots of wind available this year. You can contact him for entry forms by email at nick@speedsailing.com, or by post to the address in *Catalyst* Calendar.

AYRS On-line Discussion Forum

By the time you get this, John Perry should have contacted all of you whose email addresses are on record, but it is worth reminding you that the AYRS' online discussion group is up and running again albeit on a new server. You can register through the webpage at **http://groups.yahoo.com/group/ayrs**, and email to the group (once you have registered) can be sent to **ayrs@yahoogroups.com**. The group is open to everyone, not just AYRS members, and messages are lightly moderated, which means that we will be checking that messages from unknown people are on topic, and they are not trying to sell us Viagra or whatever!

On the Horizon …

Percipient readers will have noticed that there is no "On the Horizon…" on the back cover. This is because there is not very much on the horizon at present! We are hoping that we will get lots of articles in time for the October edition (deadline 12th September) otherwise it will be a bit slim. It's best to email your articles (to Catalyst@ayrs.org), but we can scan typescript and drawings as long as they are in clear and black print.

Finally

A warm thank you to those who emailed expressing sympathy over the London bombings. Although one of the bombs was very close to our mail agency, fortunately AYRS staff were not involved.

The *IDEC* trimaran struck down after her moment of glory

Report from the IDEC Team, 7 July 2005

Trimaran IDEC leaves New York on her way to a record crossing

Photo: ©Billy Black/ DPPI/IDEC

An exhausted skipper, an unreliable pilot and merciless seas! Without even having the time to celebrate correctly her recent two historic records, the brave old trimaran, *IDEC*, passed away during the night on the rocks off Penmarc'h at the south western tip of Brittany. Francis Joyon travelled back to La Trinité sur mer on the South coast of Brittany this morning with his sponsor, Patrice Lafargue. He shared his sadness with us, although he was still elated by the performance of his faithful trimaran during her final days at sea, when she was to show us such a remarkable performance.

What should have been a simple trip back home downwind turned into a nightmare last night. At the end of an exceptional career, and less than 24 hours after putting a new historic record into the history books of sailing, the *IDEC* trimaran left us in the most brutal fashion, "broken up in just a few minutes after going aground", in the words of her skipper, Francis Joyon, who was clearly still under the shock. During a short press conference in La Trinité-sur-Mer, the new holder of the Atlantic record and the 24-hour single-handed sailing record talked about this fatal accident. In spite of a clear lack of sleep, and with very mixed emotions, Francis told us about the days of sheer joy during his crossing, but admitted he had never felt so frightened in a boat as last night. The fastest single-handed sailor on the planet tells us here how his boat was wrecked.

"I must have been out of it for an hour. After crossing the finish off The Lizard, I headed for the "Chenal du Four" (editor's note - near Ouessant off Western Brittany), then went through the Raz de Sein during the evening. As I had planned to reach La Trinité during the morning, I decided to slow the boat down a bit, by reducing the canvas, and with the wind aft, I was on a bearing well off Penmarc'h Point - about 30° to the right. As I hadn't managed to get any sleep for a long time, when I did fall asleep, it was very deep. I was using the autopilot, and I think it must have taken her off course, as happened once or twice during the record - but I wasn't going fast enough this time to be warned of the change. I suddenly woke up, when I heard a huge crash, when the boat came down in the breakers between a 6 metre high rock to my left and another one to my right. I was stuck there in the middle. I had managed to go aground on the most vicious rocks you can find off Penmarc'h Point. I think it must have been around one in the morning, and I immediately radioed a Mayday, as I thought I was on some rocks a little further out to sea. I didn't think for one moment that the boat had turned in towards the coast. In the pitch black conditions, I gave my position and the coastguards service in Corsen told me that the rescue service was on their way, and that the boat could be reached on foot! They helped me ashore in amongst the rocks. I didn't know what was going on for an

hour or so, and I let them take care of me, which isn't at all like me. As the rescue team saw I was in shock, and not very coherent, they suggested I go to hospital- I was examined for three hours in Pont L'Abbé. My brother came to see me at four in the morning, and we went back to the boat to try to get her off with the help of the sea rescue service. A diver from the rescue team went into the water, I got on deck to help him moor up the trimaran, but just at that moment, she swung around and in just a few moments, the breakers smashed her up and her mast came down. In spite of the extraordinary bravery and the determination of the sea rescue team, as we speak, all that remains of her is a few tiny pieces. It's incredible that in such a short space of time, a boat can be smashed up like that."

"Those six days at sea on board *IDEC* were a sheer joy, and when you find this sort of success with a boat, you get attached to her. I'm almost ready to believe that those little bits of fibre have some sort of spirit. I really believe the boat worked harder than I did in getting these two records. I was beginning to think about other challenges. I was determined to sail 600,000 miles alone with her! But in the end, at sea, you are the only one in charge and you have to accept your mistakes, just as you accept the laurels of victory at other moments."

Patrice Lafargue, CEO of IDEC : "Seeing this boat destroyed is of course very emotional , as we were very attached to her. But it was Francis, who got us to love her, and what we love above all is Francis - today, he is here with us, and that is the main thing, and if he wants us to stay with him, we'll continue to follow him and experience some more great moments."

IDEC, an historic career spanning 20 years

When Olivier de Kersauson had *Poulain* built in the CDK (Port la Forêt) yard based on the designs of the Van Péteghem - Lauriot Prévost design team back in 1985, he could not have imagined that this fabulous platform would enjoy such a long career.

At her launch, *Poulain* measured 23 metres long and had a beam of 16.20 metres, with 295 m2 of sail on a 32-metre high mast, and weighed around 12 tonnes. On board her, the Admiral was to take part in the Route du Rhum in 86 (that he was forced to abandon), then finished second in the UAP Open(Round Europe) in 1987, before he won fourth place in the La Baule - Dakar race in 1988. In that same year, Poulain stopped their sponsorship of the trimaran, which took the name *Un Autre Regard* when she set off around the world with just Olivier de Kersauson. The Admiral would return from his journey after 125 days 19 hours and 32 minutes of sailing.

Racing around the world in record time became the challenge for all the great skippers in the early nineties, and it was with this in mind that the trimaran became *Charal* in 1992: from the original platform only the central hull, the crossbeams and the special "doghouse" remained. However, Olivier and his crew were to hit a growler and had to give up on their first attempt at the Jules Verne trophy.

That was not to hold her back though, because following the accident, the floats were modified and the boat was fitted with a lighter mast in 1994. This operation required the standing rigging to be replaced. The fittings were also updated and *Lyonnaise des Eaux Dumez* was now 27 metres long, 16.35 metres wide, with 340 sq.m of sail, thanks to a 33 metre high mast, and weighed 14.5 tonnes. Olivier and his crew set off again to tackle the Jules Verne, and set a new world record covering 520.9 miles in 24 hours, but Peter Blake's *Enza* walked away with the honours.

In 1996, some final modifications were carried out, and the trimaran took the name *Sport Elec* and adopted the shape she still has today (Francis Joyon has in fact only changed the rudder). Above all, it was with this identity that the giant trimaran, the world's largest racing multihull at the time - entered into the history books, when on 19th May 1997 Olivier de Kersauson and his crew crossed the finishing line of the Jules Verne having smashed Peter Blake's record by three days. *Sport Elec* took 71 days, 8 hours, 22 minutes and 8 seconds to sail around the world, a performance, which was only improved upon five years later.

In 2004, this trimaran, which already had a special place in the world of ocean racing, became the first boat to be sailed around the world single-handed in less than 80 days (a euphemism for 72days, 22 hours, 54 minutes, 22 seconds). A year later, she won the 24 hour record (543 miles) and literally exploded the North Atlantic record (6 days, 4 hours, 1 minute and 37 seconds) - which had been held for 11 years, and all this in spite of her age. There are no two ways about it. Before leaving us, the red giant certainly left a lasting mark on the oceans.

Jocelyn Blériot

New proa launched

The Future Of Cruising Boats?

Rob Denney

Blind Date

Blind Date, the first professionally built harryproa was launched in Holland in June. Two weeks later, number 2 (yet to be named) was launched in Coffs Harbour, Australia.

Harryproas are arguably an entirely new type of cruising boat, the first since trimarans were introduced in the 60's.

What makes them unique?

1) They are the least possible boat for their accommodation and cost. Blind Date weighed 1,700 kgs/1.7 tons when launched. The rig will take this to 2 tonnes/tons. This would be exceptional for a 15m/50' high tech racing multihull. For a cedar strip planked cruising boat with 2 huge double berths, covered cockpit with seating for 8, full headroom, toilet/shower and galley, it is unheard of. The low weight is achieved by concentrating all the sailing loads in a very small area rather than having to strengthen the entire boat to support the rig and associated loads. The low weight means less materials are required and less labour to apply them. Minimal surface area and simple shapes with most of the

interior being a structural part of the boat result in further reductions in labour costs. Blind Date has taken 3,500 hours to sailing stage. Number 2, which is set up for extended cruising 4,500.

2) Harryproas are the easiest to sail and arguably the safest multihulls. This is achieved in a number of ways:

a) The entire rig can be completely depowered on any point of sail by releasing one lightly loaded line. This is achieved by using an unstayed carbon mast and a balanced, ballestron rig, in which the main boom extends past the mast and as the jib mounted on it (see diag 1). The balanced rig has the added cost and safety benefits of not requiring highly loaded winches, travellers, tracks or ropes. There is also no need for fore beams, strikers, stays or chainplates, nor all the beefing up required to support them. Obviously, there is also far less to break, maintain and replace.

b) Harryproas do not tack, they shunt. Shunting is comparatively effortless. Release the single sheet, rotate the rudders through 180 degrees, pull in the other sheet and sail off in the other direction (see diag 2). There is none of the fear associated with tacking or gybing in big winds or waves, no worrying about getting caught in irons and no highly loaded ropes and equipment looking for heads and fingers to crush. Shunting is easily reversible at any time. It is by far the fastest way to get back to a person overboard, where the ability to stop, completely depowered, makes retrieval as easy as possible.

c) All sail controls are accessible from the walkway across the middle of the central trampoline. There is no clambering over high cabins, along narrow side decks or venturing out to a pitching bow. The mast is central and the trampoline is bounded by 300mm/ 12" high beams and the two hulls. For most sail adjustments, the rig can be feathered into the wind, so there is no spray and sail loads are minimised.

d) Despite their very low weight, harryproas have a high righting moment as the majority of the weight is in the accommodation hull, which is always to windward. This, coupled with the small rig possible on such a long, light boat and the inherent flex in an unstayed mast makes them very stable. The rig has the added safety feature of flexing in a gust, thus depowering the rig automatically, making reeefing a rarer event.

e) Harryproas have no keels, centreboards or daggerboards. Instead they have two oversize rudders, mounted on the inboard side of the lee hull, on brackets which are above the waterline. Not only is this cheaper and less drag than the usual 2 boards/ 2 rudders set up, it is immeasurably safer. In the event of a grounding or collision, the rudders kick up. They can also be raised manually for shallow water sailing or to minimise the tripping effect in storm waves. There are no fittings or holes below the waterline, nor any chance of damaging the bottom of the boat in a grounding. The rudders allow incredible control. Blind Date has a turning circle of one and a half boat lengths with a single, fixed,centrally mounted outboard. Both rudders can be set at an angle to enhance windward performance, or more importantly, to crab sideways off a dock.

Blind Date was designed specifically for the Dutch Blind Sailing Association, Zeilen met Visie. They needed a boat which allowed up to 6 blind people and 2 crew to feel safe, move about easily, not heel and at the same time allow them to feel the acceleration and speed. These requirements are not very different from those of sighted cruisers!It is owned by Jan Schippers and was built by Rudolp van der Brug. It will be used for day sails, weekending and occasional longer trips and is available for charter on and around the Ijsselmeer.

Boat number 2 was designed for medium term cruising for a couple and their many friends. It features a semi solid bridgedeck, (including dinghy launching ramp), 2 outboards,enclosed pilot house with nav station and dining table for 8 and a more complex layout. It weighed 2.5 tonnes when launched, sans rig. It is owned by Johnny Richards and was built by Mark Stephens of Harryproa at Coffs Harbour, where it will be based.

The freestanding carbon masts are currently under construction, using a technique that requires neither expensive moulds nor autoclaves. Both boats will be sailing later this year and a report on their sailing and cruising capabilities will be forthcoming.

For more information please see http://www.harryproa.com/ or contact:

Rob Denney
email:proa@iinet.net.au
13A Devon Road
Swanbourne 6010
Western Australia

diagram 1 Balestron Rig

1 Mainsail centre of effort
2 Jib centre of effort
3 Rig Centre of effort

The boom is rigidly attached to the mast, so they rotate together. The jib is sheeted to a track on the boom just forward of the mast. The rig is self vanging and trimmed by a single lightly loaded line to the end of the boom.

diagram 2 Shunting a Proa

Visionarry No 2

Round the Island rowing record broken

Jake Frith

The Southampton Amateur Rowing Club Isle of Wight charity record attempt was made on Friday 22nd July. Roger Slaymaker and Chris Bennett have shattered the two man record for the circumnavigation of the island.

Rowing in a coastal double scull, in far from ideal conditions, Slaymaker and Bennett made the passage in 8 hours and 35 minutes, taking a sizeable chunk off the existing record of 9:11 set in a coastal pair by Lymington RC. Roger said, "After fantastic, smooth conditions on the south side of the island we were only 5 minutes behind the pace for the outright record (6:48) at Bembridge, but soon hit nasty chop in the Solent that slowed us to a near standstill. It was a real slog from then on all the way to the finish at Alum Bay.We're absolutely delighted it's over."

Because the row was made on strong spring tides, to make it as rapid as possible, both boats encountered difficulties in the vicious overfalls at the Needles and St Catherine's Point. Chris said, "I've never seen anything like it, the waves were about 6 feet high in the bad stuff off St Cat's, and breaking from all directions so it didn't look possible to work out a route through. We just had to sit the boat with blades flat on the water and wait to be spat out the other side". Both crews eventually made it through after a few hairy moments and proceeded in calm conditions round Bembridge towards the Solent.

Jake Frith, attempting the first ever row round the island in the slower and less seaworthy single coastal scull, was only 10 minutes behind Slaymaker and Bennett at Bembridge, but struggled in the lighter boat against the 15mph headwind in the Solent, finally grinding to a halt off Cowes, 42 miles into the 56 mile passage. Jake said: "After a really pleasant, fast row through a glass-calm Sandown Bay, and only a couple of scary moments off the Needles and St Catherines, I was looking forward to flat water in the Solent, and had plenty left in the tank to pick up the pace. Unfortunately, a brisk west-north-westerly began to build at this point, and the difficulty of keeping the blades out of the wave tops coming forward to take each stroke finally caused an old case of tendonitis to flare up again. It soon became clear that, unable to take a full stroke, or feather with my right hand, there was no way I could make it through the worsening conditions we knew were waiting beyond Cowes. It's disappointing to be beaten by the weather and injury after so many months of training and planning, but the island will still be there next year and I have unfinished business with it. I'm delighted for Roger and Chris, who have exceeded all their expectations, having 'just wanted to make it round', and their hard-won record is something for all at S.A.R.C. to be proud of."

The row has raised nearly £2000 for UK charities and the Southampton Amateur Rowing Club junior section boat appeal. The team would like to thank all our sponsors for their support. Special thanks go to Blue Funnel Cruises, Lee Rayment, and Dave Carnell for the rescue boats, Red Funnel for the free passage over, Heathfield Farm Camping for the accommodation, John Goode for the tidal planning, and to Justin Smith, Charlie Wilson, Lorraine Bennett and Tom Frith for all their assistance and moral support. Read the full story and see the pictures at http://www.southamptonrowing.org/rti.htm

CATRI 24

31 May

I'm back from Latvia where I found that the CATRI 24 is tantalisingly close to completion but not yet ready to ship. It really does look impressive and now it is outside it is attracting a lot of attention in its home town of Ventspils from the local population.

Now I intend to sail the boat back from Ventspils. It is the most reliable way. I can rely upon myself to do this and if the weather is not kind to us and we have to take a little longer and miss the race then so be it. We'll have enjoyed ourselves anyway.

But it should be perfectly possible at this time of the year to sail back through the Baltic, around Denmark and across the North Sea through the Dover Strait and on to Cowes before the race starts. It is only a little over 1000 miles. I reckon four days and nights, 7 days if we are unlucky, 5-6 optimally.

I have one trusted female yachtmaster to help me already and I need another experienced crew. In this boat I think that 4 would be a crowd on such a journey. The toilet would need to be emptied too often!

Ideally this crew would be qualified for the racing also and would crew in the RTIR. It is a great opportunity to work up the crew and get to know the capabilities of the CATRI.

11 July

I'm back from Latvia again but with the CATRI 24 at last! In the fullness of time I will complete the story of the voyage on my weblog. I have hundreds of photos and lots of video too to edit. Meantime if anyone is interested in buying one and wishes to have a demonstration then it is possible now. This was the whole purpose of bringing it over to the UK.

My intention is to sail TARDIS bit by bit along the south coast of England. I need to exhibit it at the Southampton Boat Show but it may not be possible to get it onto the marina, which is where it should be displayed in all its glory.

There is much less time for demos than one might think because I am going away on holiday during August (1st-22nd). So please contact me as soon as possible to arrange your demo. The boat is safest with three people crewing so please arrange to have somebody competent come with you.

Call me at my office on 0870 770 2728 or on my mobile number, 07985 043 981 to arrange a demo. The boat is in Dover Marina at the moment but may be somewhere else by the time you get to see it. I shall travel down by train from Chester for each demo so it would be helpful if I could arrange several in succession. I think that it might be good to arrive the day before your demo so that you could be briefed on the boat for safety reasons. Then more time can be devoted to sailing the next day. We have to get it out of the lock first and that will only be possible at certain times.

Warm regards
Steve
Ahoy-Boats

Dennis Banham's Windcheetah in 1970

Windcheetah

I am a lapsed member of many years. My name is Bruce R Banham, son of Dennis S Banham who built Hilarity, Sea Wraith, Wincheetah, etc.

You might be interested to know that Windcheetah still exists, presently residing in my barn in Cornwall.

My present boat is a junk rigged sampan, originally built in Penang, Malaya. It has had several rebuilds before arriving in my farm.

But I digress. Windcheetah is a 25 to 45 year old type of boat. My wife & I are a little older than that.

Windcheetah needs a new home & some TLC before she ends up as firewood.

Would any member care to take on the challenge. She is complete, but would need some extensive work done on her.

The only reward I would like would be to see & know that she is in her natural element, giving excitement & joy as she has to my family & myself.

Looking forward to your reply

Yours faithfully
Bruce R Banham

Old Spars Available

Just letting you know that at Worthing YC there is a rack of unclaimed aluminium spars etc (mainly for beachcats) and a couple of Dart 18 hulls that are going begging and are likely to be sold as scrap if no one wants them.

If anyone thinks they may be useful for a project etc, please contact me (+44 1403 241252).

Regards,
Charles Magnan

WSSRC Ratifications

The WSSR Council announces the ratification of the following three new World Records:

World Record: 24 hours outright singlehanded
Yacht: Idec
Name: Francis Joyon
Dates: 2nd/3rd July 2005
Start time: 1500 hrs 2nd July
Finish time: 1500 hrs 3rd July
Distance claimed: 542. 7 nm
Average speed: 22.6 kts

World Record: Around Australia outright.
Yacht: Geronimo
Name: Olivier de Kersauson FRA and 11 crew
Dates: 21st June to the 9th July 2005.
Start time: 22. 27. 24 on the 21st June
Finish time: 11. 24. 29 on the 9th July
Elapsed time: 17 days 12 hours 57 minutes 5 seconds
Average speed: 15.44 kts

World Record: Cadiz to San Salvador. Single handed outright.
Yacht: Sodebo
Name: Thomas Coville FRA
Dates: 28th June to the 8th July 2005.
Start time: 08. 40. 04 GMT on the 28th June
Finish time: 20. 30 50 GMY on the 8th July
Elapsed time: 10 days 11 hours 50 minutes 46 seconds
Average speed: 15.41 kts

John Reed
Secretary to the WSSR Council

Broker Wanted

I am conducting ocean surveys shortly and have equipment ready now.

I am looking for a pair of 24 meter sailing yachts with long keels - to put to sea in long surveys globally. Both ships will appear on satellite TV.

Starting with one yacht this needs to be located in Europe for fit out in Gibraltar or Southern Spain.

The yacht purchase I need to place into contractual agreement - please email for details prior to making any recommendations to discuss what our requirements are.

Thank you for your time

All the best

Roy Dymond
Principal, Spirit Quest (Gibraltar)
Bigby Group (Washington)
www.revereproductions.com (LA)

[AYRS knows nothing of this venture and passes the request on in good faith. - Ed]

On the Great DWFTTW Controversy

"..... and sealing wax, and cabbages and kings. "
Lewis Carroll 1872

From Peter Jefferson

In the last issue of Catalyst, (# 20, April 2005, page 27), Frank Bailey proposed that a Committee be set up to establish the rules for a vehicle that would sail "Down Wind Faster Than The Wind", among other things. I heartily agree and would be glad to serve on his Committee.

As Mr. Bailey states, the first job of the committee would be to define the test procedure. For purposes of discussion, I would like to suggest the following method of testing a vehicle. A course would be laid out with a length of, say, 100 meters on a level surface on land or on water. The finish line would be directly downwind of the start line. The vehicle would sail as fast as possible across the start line, down the course and across the finish line. At the instant the craft crosses the start line a balloon is released which is borne by the wind towards the finish line. If the vehicle reaches the finish line before the balloon then the DWFTTW objective has been achieved.

It seems obvious that a conventional sail craft could not possibly overtake the balloon because the apparent wind would be from ahead so the sail would be aback and lose its drive. However, in John Wilson's Spool-of-thread analogy, the sail is not moving as fast as the "vehicle" so it remains filled and drawing. The question then arises as to whether the sail is an integral part of the vehicle or is an external source of power.

To determine the exact time at which the vehicle crosses the start or finish line, one must define the reference point on the vehicle. In sailboat racing, this is usually the foremost part of the craft. In the above case, this would be the sail. If the balloon was released when the sail crossed the start line, then the sail could not beat the balloon to the finish line. My inclination is to say that if the vehicle has several parts moving relative to each other, then the sail must be regarded as the definitive point for measuring speed.

Another requirement should be that all the energy used to overcome the drag or friction forces, should be derived only from the action of the wind on the sail which is an integral part of the vehicle. Stored energy such as potential, kinetic or electrical energy may be used temporally but the stored energy at the end of the run must not be less than at the start.

My feeling is that under the rules I have suggested, it is theoretically impossible to sail DWFTTW but I could be wrong and perhaps these are not the best rules. My hope is that vigorous debate will continue.

Peter Jefferson
24 May 2005
pjjefferson@sympatico.ca

From John Wilson

Frank Bailey's suggestions [Catalyst #20, p27] about getting on with building and testing DWFTTW vehicles should be welcomed. Here are some thoughts on the subject.

The construction of any model must be the responsibility of the designer. As a taste of the problems you'll get into otherwise, I have Peter Sharp's assurance that "Bauer's technique is considered to be a proven fact, and the conveyor belt demonstration is understood to be repeatable by anyone with basic model building skills.… *a negative demonstration by a new researcher would be regarded as due to a flaw in the construction of the new model*…". [The italics are mine.]

The testing must be done carefully. I doubt very much that an outside test in real wind would be practical, or the results convincing. The Bauer vehicle, for example, is claimed to have gone "14 mph downwind in a 12 mph wind". Every sailor knows that there is no such thing as a steady 12 mph wind: wind varies continuously - and erratically - in both speed and direction. It isn't just a matter of agreeing on a standard for averaging wind and vehicle speeds. There are other problems if the wind varies. It is conceivable, for instance, that a vehicle could be built with an automatically deploying and furling sail that will operate close to the upper envelope of the wind speed curve, using its momentum

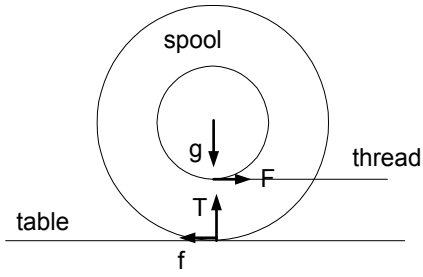
to coast through the lulls. The average speed of this vehicle could be greater than the average speed of the wind (but not greater than its *maximum* speed, of course).

My conclusion is that the tests have to be carried out in a wind tunnel or on a moving belt in a windless room. I think the ideal test bed would be one of those treadmills that you find in health clubs and some homes. Their speed is controllable and seems to be well-regulated. The machine must be shimmed so that it is perfectly level. I suggest that the test procedure should be to place a barrier across the bottom end and set the vehicle with its stern against the barrier. Then start the treadmill and increase the speed as desired. If the vehicle moves up the belt away from the barrier and does not return to it then I think it would be pretty convincing.

To avoid the suggestion that stored energy is involved, once the treadmill has started, the vehicle should not be touched (to hold it in place while a flywheel is charged, for example, or to change gears), nor should reductions in the speed of the belt be permitted.

John C. Wilson
johnwilson@pocketmail.com
14 June, 2005

Jefferson's comments [Catalyst #20, p5] seem to flow from his assumption that the spool of thread doesn't act as described in my article [Downwind as fast as you like, Catalyst #19]. I recognize that the behaviour of the spool of thread is counterintuitive. There's nothing as convincing as actually trying the experiment, and I recommend that, but here is a simple analysis.



The figure shows the static forces on the spool just before anything moves. The forces are in equilibrium: the table supplies a force T to balance the force g of gravity, and the friction f between the table and the spool balances the pull F on the thread. There is, however, an unbalanced couple formed by F and f trying to rotate the spool in a direction that will wind the thread onto the spool. As the pull on the thread increases, one of two things happens: either the spool rolls up the thread or it slips on the table because the friction f can't balance F. It will not roll the other way, unwinding the thread. (To get it to do that try raising the thread more or less vertically.)

Flow-of-energy arguments make me nervous and I don't understand Jefferson's: perhaps he could give us some calculations to support them.

Assertions of impossibility are hazardous. What I tried to show with my article was that there seems to be no theoretical limit to how fast one might go downwind in a wind-powered vehicle.

John C. Wilson
johnwilson@pocketmail.com
3 July, 2005

From Ken Upton

I would like to join in on this project as it would be a ideal testing rig for my new kite rotors, [*picture below*] and can offer a couple of other things.

As I have plenty of space and boats and bits all over my back yard, which the locals are used to, other members could come on holiday and build it with or with out me. Out of season I have flats in Casa Paz which are cheap to rent and the boat yard, workshops etc would be free. Others could get cheap holidays here (Benidorm, Altea, Denia, Javea etc) and stay in hotels etc to suit all tastes and pockets. Rent a car and come to work on the project at Casa Paz, which is right on the main coast road N332; in the national park of Mongo in the Marina Alta - the nearest point on the mainland to Ibiza.

If a suitable craft was built, many other members ideas could be given a try-out by changing the power heads/ trains, adding hydrofoils, etc.

My new kite-energy nape rotors are light weight sandwich and can work at max attack angles in the carbon fibre spoke net. Perhaps this craft would take some of the press from the America's Cup, and do our membership a lot of good.

all the best
Ken

Freewing

Richard Glanville

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E-Mail :richard@freewingmasts.co.uk

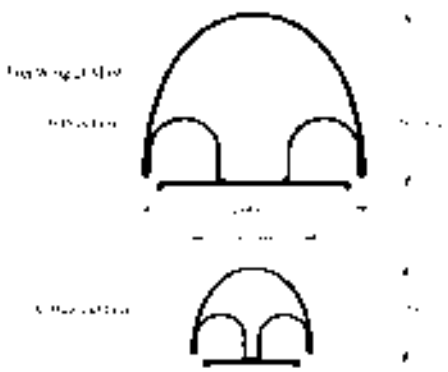
[This letter was sent to Slieve Galliard and forwarded to AYRS with permission]

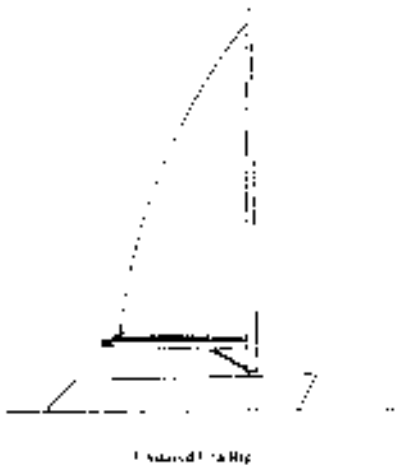
These are the sketches showing our new 'D' rig on a yacht of about 7.3m LOA.

The cross-section shows my estimate of the mast size at the deck and at the masthead. The two mainsails will reef into the chambers via the slots at the aft corners of the mast. The construction would be of carbon fibre / epoxy and therefore the weight would be low without compromising strength.

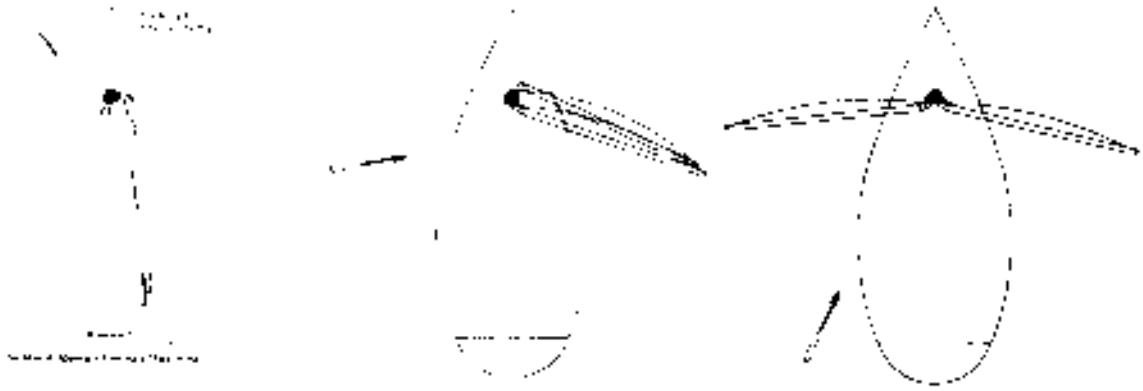
I have shown two systems:-

The unstayed una rig is the most simple and therefore the cheapest system. To keep the sail balance right, the mast will be stepped well forward. Because of its efficient aerodynamics, the absence of a 'slot' will not harm the performance. The lower lift coefficient will be counteracted by a small increase in the sail area. The positive aspects of the una rig will be the ability to sail very close to the wind, and the extra sail area down wind.





To windward, the sheet for the weather boom will be freed and the sheeting angle controlled with the lee boom sheet. The wind pressure on the rig will automatically press the weather boom against the lee boom and rotate the mast. A mast spanner extending from the back of the mast, between the booms, will limit the mast rotation angle. Two control lines, one from each boom to the mast spanner, will run down to exit at the heel of the mast, and back to the cockpit. After tacking, these control lines are tensioned and locked. This will prevent the rig from osculating in light weather and lumpy seas. When it is time to tack, the control lines will first be released and then re-tightened after the rig has settled on the opposite tack. The sheeting load will also be transferred, to maintain tension in the leeward sheet only.



Going to windward, reaching and running

The mast's large leading edge radius will ensure that the rig is very forgiving of bad helming. Attached airflow will be maintained over a wide range of incidence angles.

The combination of the rigid, aerodynamically shaped leading edge and the two mainsails will create a very efficient thick wing section, producing a very high lift to drag ratio.

When the apparent wind moves aft, the incidence angle of the entire rig will be adjusted with the lee boom sheet only.

When broad reaching or running, the weather boom and mainsail will be gybed so that the sails fly 'wing and wing'. The mast rotation will be locked and the control lines between the mast spanner and the booms released.

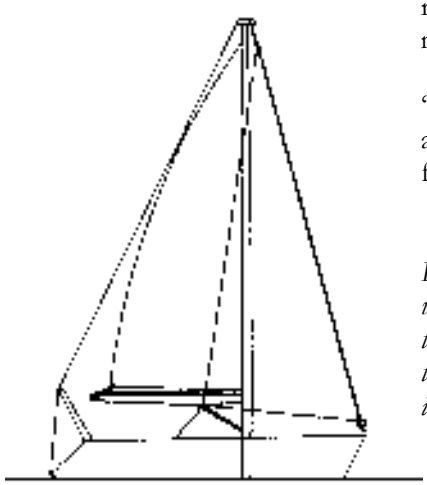
Downwind the sail area will be doubled, insuring an excellent performance without the need for a spinnaker. In stronger winds the sails will be reefed into the mast, making it easy to maintain just the right sail area. The reefing and outhaul lines will exit through the base of the mast and be lead aft to the cockpit.

If one were to be over-pressed by a sudden increase in wind speed, one or both of the sails could be feathered quickly whatever the apparent wind angle, simply by releasing the sheets.

The 'D' Rig with Genoa would place the mast further aft, in roughly the same position as a standard rig. The mast would be unstayed in the transverse direction (no spreaders or shrouds), but would have a fixed forestay and backstay. The mainsails and booms would be smaller, but there would be an additional roller furling genoa to make up the area. To carry the compression load from the forestay / backstay, the mast would have to be more heavily built, but could be a little shorter.

The mast and mainsails will be controlled in the same way as with the una rig. The addition of the genoa will create a slot, enabling the rig to operate at a higher lift coefficient. The penalty for this extra power will be that the rig will not be as close winded as the una rig.

The genoa will work well until the apparent wind is abeam, but as the angle to the apparent wind increases it will first stall and then be blanketed by the mainsails. When this happens the genoa will have to be furled.



Broad reaching and running, this rig will be less powerful as the mainsail will be smaller.

1 hope you like the idea of the 'D' rig. It will provide a very efficient and safe rig and be more affordable for small boat sailors.

[This rig appears to be a variation on Hasler's Lapwing rig, itself a boomed variant of the Ljungstrom rig. However the use of a D-section mast with sail tracks at the aft corners seems to be an improvement. - Editor]

Moorhen

Ron A Stewart

Yacht moorings at my local club consist of a heavy chain, with an anchor at each end, laid on the sea bed and aligned parallel with the tidal stream. From the middle of this ground chain, a lighter chain goes vertically to the surface. Different owners use their preferred method of securing this chain via a nylon rope to their vessels. We must ensure the anchors are correctly laid (not just dropped) dug in, and ground chain stretched.

We had always had a struggle with laying and servicing yacht moorings and the inconvenience of servicing sometimes led to this task being overlooked, resulting in parted mooring systems. We used to take the mooring out in a pulling boat, gingerly lowering it over the side or transom to the sea bed. This usually resulted in some damage to the paintwork of the boat, and there was considerable risk of capsize; this risk was increased when lifting a mooring. Workboats were available, but these had to be used at their owners convenience, were less manoeuvrable, and sometimes there was a pressure to get the job done quickly rather than precisely. Also powered workboats could not get alongside the slipway (draught restricted) to load and unload moorings resulting in increased handling.

I fell heir to a hand powered winch and found an 8x4 of exterior plywood on the beach, and after some head scratching and assistance designed and built the Moorhen round these two components. The hulls are of exterior ply, and are just rectangular boxes with some external reinforcing where there is risk of abrasion (between the hulls forward) and lifting handles/ fenders and watertight inspection hatches at each end. The hulls are braced with 8 spars clamped together with threaded rods to hold the hulls secure. Ahead of the deck, a roller is fitted on two aluminium channels secured between frames 1&2; the deck is bolted down on to frames 2 & 3, and the winch bolted on to frames 3&4.

and then pulled up by a car. You will note a strut from the winch above the outboard; this has a roller on the end and keeps the Moorhen anchor clear of the engine when deploying the anchor off the stern in order to stretch the yacht mooring which has been laid from the bow. This strut also serves as a helmsman seat when sailing to the worksite.

Under the winch I have suspended two plastic bakery bread baskets, these make handy storage, but become awash when the vessel is heavily laden. An outboard bracket for the longshaft 8hp Yamaha is screwed on to frame 4. A short piece of scaffolding plank is laid at each side between frames 3&4 for the winch operator to stand on. No effort was made to streamline the hulls, as voyages are of short duration, and ease of construction and hull strength seemed more important. The vessel is very stable and manoeuvrable; I have never had any concerns regarding seaworthiness even when caught out with a heavy load on deck. Of course we do not set out in poor weather.

There is also a trailer, welded up from box section steel with standard barrow wheels, which supports the hulls beneath frames 2 & 3. There are four wheels at the winch end and two at the lighter forward end of the trailer. The vessel is stored on shore and can easily be launched down a concrete slipway by one person in thigh boots. I often just leave the trailer attached when at sea, as it makes negligible difference to top speed, and makes recovery from the water very much more straightforward the vessel can be powered straight on to the concrete ramp DUKW style,

Since first launching some years ago, I have added the helmsman seat/anchor guide and the trailer. My current project is a removable A frame from which I suspend a weighted wire down between frames 1 & 2. This is used to deploy an underwater camera, and the umbilical cable that comes on deck and into a video monitor. The monitor is in a wooden cabinet along with a car type battery and sits on deck in view of the helmsman. The cabinet also contains a GPS receiver and has a cheap compass fitted. We discovered it is more effective to pinpoint a rope or chain on the seabed with the camera, mark the position with buoys, then grapple; rather than just try grappling where the owner thinks the item is. Future efforts may be applied to devising a lifting grab for retrieving items lost overboard.

Well, I hope you have not been bored with this long tale. Many people who see the *Moorhen* for the first time just say "What's this", and lose interest rapidly when I tell them, but I must say the mooring owners always express their gratitude.

Ron Stewart
Invergordon, UK
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30 April

Laying procedure

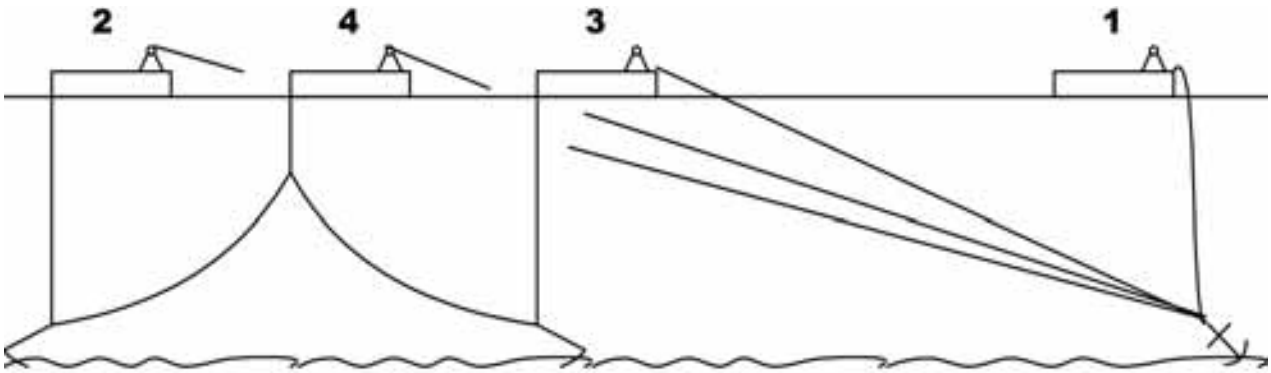
Position 1 - Drop anchor off stern of *Moorhen* and steam towards (2) paying out anchor rope.

Position 2 - Lower first mooring anchor to sea bed, wind in *Moorhen* stern anchor line, pay out all mooring ground chain until reaching (3)

Position 3 - Lower second mooring anchor to seabed

Position 4 - Pull in riser, this has the effect of digging in the second mooring anchor.

Back to Position 1 to recover *Moorhen* stern anchor.

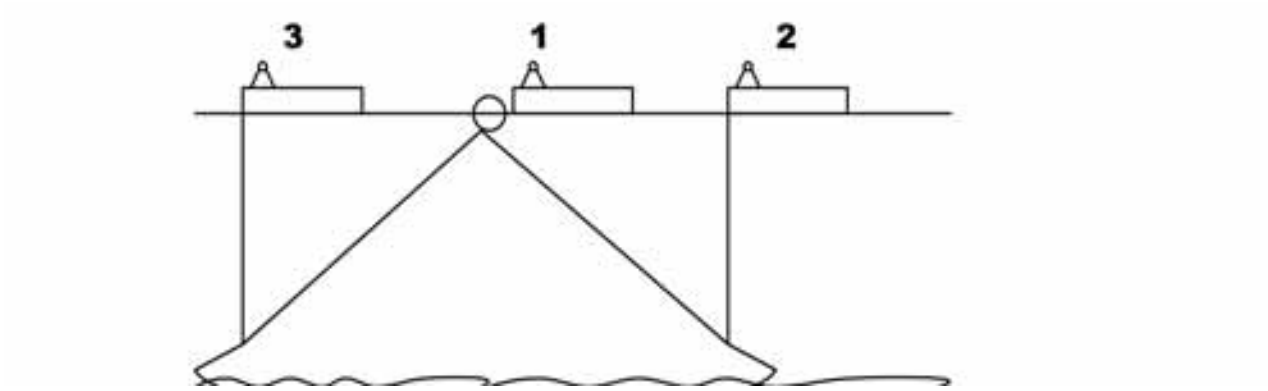


Lifting procedure (done at Low Water)

Position 1 - Winch in riser to get join of riser and ground chain to the surface, attach a large float and fit a big shackle connected to the winch around the ground chain. Move to (2) under power.

Position 2 - Large shackle runs down the ground chain towards the mooring anchor. Winch in, the vertical pull causes mooring anchor to break out. Lift mooring anchor on board *Moorhen* and pull in ground chain to move to (3)

Position 3 - Above the second anchor - a vertical pull breaks it out, lift on board, return to shore.



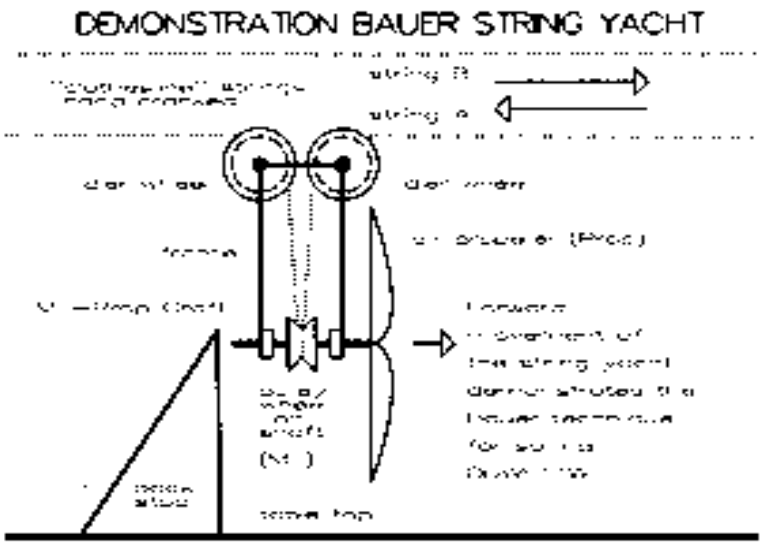
A Bauer String Yacht Demonstration

Peter A. Sharp

I gather from reading Catalyst that there are AYRS members who still insist that it is not possible to sail directly downwind faster than the wind (DWFTTW) even though Andrew B. Bauer did so 30 years ago using a land yacht equipped with a very large propeller spun by connecting it to one of the wheels via a bicycle chain. Those members perhaps need to see a demonstration with their own eyes in order to believe it. So I wish to propose a simplified demonstration model of a Bauer air propeller vehicle that should be relatively easy to construct. (Perfecting any invention is usually quite time consuming, which is why I have not already built it.) However, to believe the demonstration, observers will need to understand it, and that could be a problem because most people are not yet familiar with the underlying symmetry and invariance of sailing. So I will mention some of the key concepts.

A prize

There is, I believe, a standing award of 500 pounds for the first person to make such a demonstration. Perhaps our Editor would be so kind as to publish the details of that prize along with this article. I exempt myself from the prize so that I can comment on it impartially.



The demonstration model, or a duplicate, could reside with the Editor of Catalyst so that any member could have access to it by appointment. That should put an end to further skepticism. And one of our members might wish to make a video of the demonstration and place it on the Internet, and/or demonstrate the model at boat shows as has been suggested.

String yacht

My proposed demonstration is a simplified version of Mr. Bauer's more recent, 1995 demonstration wherein he used a model on a conveyor belt, indoors, in a windless room. The model advanced directly against the belt faster than the belt. That is physically equivalent to sailing DDWFTTW. It is merely a context reversal. From the frame of reference of the vehicle, the relative motions are the same. My demonstration is meant to be more portable, safer, and less expensive to reproduce than his — once the exact parts and dimensions have been worked out.

Instead of using a conveyor belt with the model riding on top of the belt, as Mr. Bauer did, I propose the use of a "clothesline" consisting of string circulating around two pulley wheels, with the model suspended from the bottom string. One of the pulley wheels would be hand cranked for precise control.

The string yacht is, basically, just an upside down variation of Bauer's model. However, the special advantage of its design is that, since the string is flexible, it can serve to rotate the propeller shaft's pulley wheel directly. That could achieve a higher drive train efficiency.

It will be most important to use an efficient propeller. Rubber band airplane propellers might be adequate, but they might not be large enough. Larger propellers can be more efficient than smaller propellers. Bauer used a propeller with a 20 inch

diameter for his model. (I have not seen the model, so I am guessing that it was constructed like the full scale original.)

My tinkering indicates that unwaxed dental floss (or tape) coated with V-belt dressing provides good traction, is exceptionally flexible, and is surprisingly strong. So it might be used as the "clothesline". The "clothesline" pulley wheels could be mounted on separate stands clamped to a table top. The stands need be only about 2 to 4 feet apart, and the bottom string needs only to be high enough to insure that the propeller safely clears the table top.

The reason for the back stop is to hold the string yacht in place until the propeller is spinning fast enough to drive the string yacht forward (to the right in the drawing). That is equivalent to Bauer holding his model in place until its propeller was up to speed. The back stop should be located at the mid point of the string so as to avoid any assist from gravity due to sag in the string.

The parts of the whole setup should fit in a small box so as to make it easily portable. The builder could profit from selling duplicate models to science museums, and to universities for use in physics and engineering classes.

Variations

If the final model turns out to be too heavy and causes too much string sag, then a monorail beam could be run along side of the lower string. A support wheel fixed to the string yacht frame could then ride on the monorail.

Or, the string yacht could roll along a table top. Merely invert the string yacht top to bottom and then add free-turning support wheels. The "clothesline" pulley wheels could lie flat on the supporting surface. The string could also be used to guide the model. This arrangement would also enable the model to roll along a smooth floor instead of a table top, so the string loop could be as long as needed (unlimited extension).

This is a versatile option because, if the string were allowed to accelerate the string yacht backwards, the relative wind thus created would cause the rotor to function as a windmill, and the string yacht would be able to outrun the string. It could demonstrate how a windmill string yacht can sail directly down string faster than the string (DDSFTTS) that is propelling it.

Mill-Prop craft

The string yacht is a Mill-Prop craft. It works on the Mill-Prop Principle: A Mill (gas-mill, liquid-mill, or solid-mill) in one sailing medium powers a Prop (gas-prop, liquid-prop, or solid-prop) in the other sailing medium. Solid-mills and solid-props include devices such as wheels, pulley wheels, and oscillating skates, that interact with solid-surfaces. A string or cable can function as the equivalent of a solid-surface.

Mill-Prop craft have a range of operation in which the Mill can produce enough power to overcome its own drag, plus overcome the craft's additional internal and external sources of drag. That range is determined by 1) the type and efficiency of the Mill and the Prop, 2) the mechanical advantage ("gear ratio") of the Mill to the Prop, 3) the efficiency of the drive train, 4) the amount of propulsive and/or retarding drag created by the means used to support the craft against gravity, and 5) the parasitic drag of the craft.

Physical equivalence

All efficient Mill-Prop craft can sail directly down prop-medium faster than a moving prop-medium. And all efficient Mill-Prop craft can sail directly against a moving mill-medium. From the frame of reference of the craft, the craft can sail directly against its mill-medium regardless of which medium is seen as moving from the frame of reference of the stationary ground.

It is critically important to realize that a Bauer string yacht sailing against the string faster than the string is physically equivalent to a Bauer land yacht sailing DDWFTTW. That could be demonstrated experimentally indoors, although it should not be necessary to do so.

To do so, simply form a wind tunnel tube using clear, flexible sheets of plastic, and enclose the string yacht and its string. Keep the string stationary, and use a long string. Use a fan to suck air through the tube. Pull the string yacht to get it moving at roughly 0.6 times the speed of the wind. It would then accelerate and outrun the wind if, as in the drawing, it has the ability to advance against the moving string. The two contexts are physically equivalent. From the frame of reference of the string yacht, the relative motions of the mill-medium and the prop medium remain the same in both contexts. So the string yacht should function equally well in either case.

A string yacht in a wind tunnel could also function as a windmill string yacht heading directly up wind.

Wind not necessary

If the prize were to require the use of a true wind, that would be arbitrary and unnecessary. It would be based on false assumptions about the physics of sailing. So the string yacht should not be required to conform to that misconception. To require the string yacht to outrun a true wind would be to perpetuate the 6,000 year old myth that sailing requires wind.

Sailing craft do not require a true wind in order to sail. For the 5 (of the 9) Mill-Prop combinations that interact with a gas (air), the gas could be stationary (no wind). The craft would function normally. An example is a windmill boat (gas-mill/liquid-prop) sailing directly down river faster than the river under windless conditions by using only its relative wind. Another example is a Bauer vehicle on a conveyor belt, in a windless room, advancing directly against the belt faster than the belt.

The 4 other Mill-Prop combinations do not interact with a gas (air) at all. For example, the first solid-mill/solid-prop craft was Theo Schmidt's' model vehicle sandwiched between two parallel planes. It sailed directly down plane about 4 times as fast as the moving plane (AYRS 100).

Although wind sailing is by far the most common form of sailing, it is certainly possible to sail without wind or even air. That is because sailing is craft propulsion using energy derived from the relative motion between two material media (or two different parts of one material medium), external to the craft, by interacting with both media (or both parts) simultaneously (not sequentially). Both material media must have unlimited extension, at least potentially, and the media motion must be essentially continuous rather than essentially oscillatory.

Attempts to define sailing that are based on the premise that wind or air is necessary will result in contradictions. I invite anyone who doubts that to present his reasoning for our consideration.

Windmill string yacht

In the string yacht drawing, the air propeller, as seen from the rear, rotates clockwise when the craft is operating as a Bauer vehicle moving to the right. However, as mentioned above, the string yacht could function as a windmill vehicle.

One option would be to remove the back stop and let the string yacht be carried along by string A (moving to the left in the drawing). That would cause the rotor to function as a crude windmill. It would turn the pulley wheel on the propeller shaft counter clockwise. That, in turn, would cause the string yacht to sail down string faster than the string. So the string yacht is either a Bauer vehicle (solid-mill/gas-prop) or a windmill vehicle (gas-mill/solid-prop) depending on whether its rotor is functioning as an air propeller or as a windmill, respectively.

If appropriately designed, all 9 basic Mill-Prop combinations could 1) sail directly against a moving medium, or 2) outrun a moving medium, or 3) both. The original Bauer vehicle did both. The string yacht's rotor blades could be shaped to do both. In cross section they would be symmetrical and would have small radius leading and trailing edges.

The conventional distinction between windmill craft and Bauer air propeller craft is merely an historical artifact due to incomplete knowledge. The distinction is not consistent because both a windmill and an air propeller may be combined into the same Mill-Prop craft such that the windmill powers the air propeller, as in the case of a windmill/Bauer blimp (gas-mill/gas-prop). (See Catalyst 20, April 2005.) A consistent, scientific classification must be based upon the 9 basic Mill-Prop combinations.

Note that there are 12 material media contexts of sailing. For each context, there will be a Mill-Prop combonation that can, in principle, sail directly against themoving medium, and a Mill-Prop combination that can outrun the moving medium.

When the stationary medium becomes the moving medium, and vice versa, that is a context reversal. Context reversals look quite different to an independent observer. But from the frame of reference of a sailing craft, a context reversal makes no difference because its propulsion devices function the same in both cases, as long as the relative motions are in the correct direction relative to the craft. That is why it does not matter whether the string yacht advances against the string or outruns a true wind. From the frame of reference of the string yacht, the two contexts are physically equivalent. It sails the same in either case. Like much of physics, sailing is based on symmetry and invariance.

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5 May 2005

THE 9 MILL–PROP COMBINATIONS

mill = power producing device
prop = thrust producing device
solid = solid–surface

	gas—mill	liquid—mill	solid—mill
gas—prop	g—m g—p	l—m g—p	s—m g—p
liquid—prop	g—m l—p	l—m l—p	s—m l—p
solid—prop	g—m s—p	l—m s—p	s—m s—p

Mills and props rotate, circulate, or oscillate.
Solid—mills and solid—props are usualy wheels
or equivalent devices, such as pulley wheels
or laterally oscillating ice skates.
Usually, the gas is air and the liquid is water.

THE 12 MATERIAL MEDIA CONTEXTS OF SAILING

gas A > gas B	gas A gas B >
liquid A > liquid B	liquid A liquid B >
solid B > solid B	solid A solid B >
gas > liquid	gas liquid >
gas > solid	gas solid >
liquid > solid	liquid solid >

> = moving medium

Each sailing context consists of two media.

Other media may be present

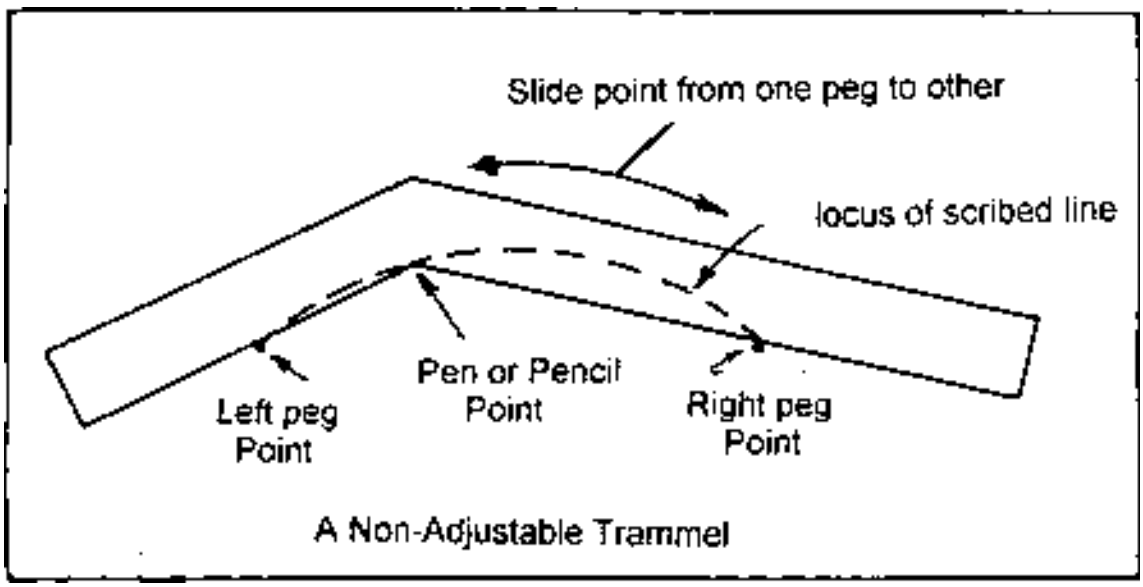
One medium, or one part of the same medium, is assumed to be stationary while the other is assumed to be moving.

Context reversals are shown side by side.

Drawing Long-Radius Curves or The Trammel Revisited

Frank Bailey

Although computer-drafting equipment may be available to some of us I suspect most of us do not have this type of drafting aid available. With the advent of multihulls, it might be desirable to be able to draw very long radius curves on, say, a three-foot long boat plan. An old drafting gadget is the trammel described here. It has been around a long time but I have not seen some simple math applied to it to obtain the actual radius of curvature, assuming you might want to know such a figure.



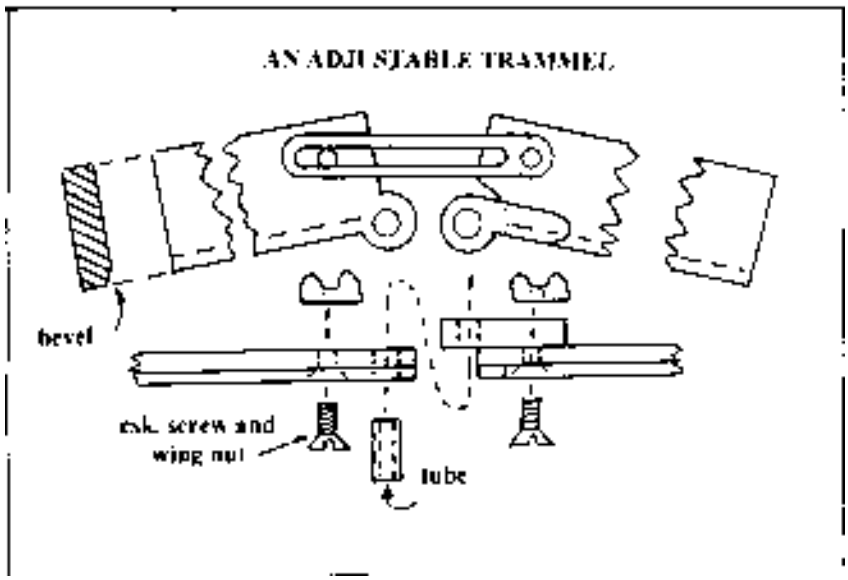
From the first diagram we can see the trammel is a very shallow V shaped ruler, perhaps made of plastic or hardwood. We put pins at the two points on the drawing we want the circumference of the long radius circle to go through. At this time, let us hold a pencil point at the central point of the V and move the whole contraption from one pin to the other, thus generating part of the circumference of a circle without needing to know where the radius originates. No doubt it may be many feet away from our drawing.

May I suggest this gadget may be improved upon by observing the second diagram? With the mechanical additions shown, the trammel angle may now be adjustable to different radii. A drawback is the fact that we have to puncture our drawing in two places but perhaps the advantages outweigh this problem. The inside diameter of the small tube shown should be such that a pen or pencil fits snugly into it and it also is the pivot of the assembly. Presumably this tube does not touch the paper.

The essential dimensions involved are the length "a" and the height "h". From these dimensions, the radius "R" may be calculated. I have also shown how to calculate "x" the height of the offsets to the curve in case you may not want to use a trammel and just draw verticals at convenient distances from the highest midpoint to the lowest at the end of the curve. Here "k" could be .1, .2, .3, etc. up to 1. If we use this method, we could figure the Sin of the

angle, find that angle, and plug the Cos of that angle back into the "x" formula and then use some other fairing aid.

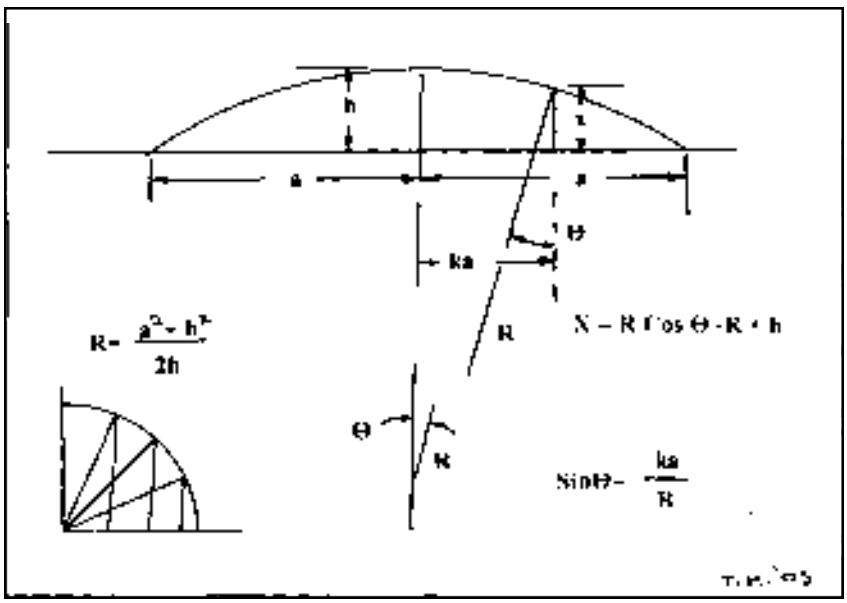
There is one problem that should be pointed out. Referring to the first diagram, you can see the locus of the scribed line lies underneath the trammel. Thus, if you were inking, the ink would smear on the drawing. On very long radius curves this might be taken care of by the bevel shown in the adjustable diagram perhaps. A simpler solution is of course to move the trammel to the other side of the two peg points and then the locus would lie outside the path of the trammel. I will leave to the readers, if any, how to alter my adjustable trammel drawing to avoid this ink smearing problem. Too smart, too late.



I have not "proved" the trammel generates a circumference of a circle.* It is also interesting to note that the line bisecting the trammel angle will meet at a point twice the radius we are drawing.

Another old method of drawing, say deck camber, is hinted at in the lower left hand corner of the adjustable drawing. The ordinates are drawn as shown using equal angles and then spread out on an expanded chord. Although I do not know for sure if this generates a true circumference of a circle, on the other hand, deck camber should not necessarily be truly circular.

Q.E.D.



** It* is *possible to prove that a trammel generates a true arc of a circle. The proof comes from considering that the angle subtended at the circumference of a circle by a fixed chord is a constant. Conversely, the locus of a point subtending a constant angle from two fixed points (the chord ends) is a circular arc passing through the fixed points. The radius of the circle, for those who need to know such things, is ½x/(Sin((180–ϕ)/2) where x is the distance between the trammel pegs, and ϕ (in degrees) is the angle between the trammel arms. — Editor*

This is a free listing of events organised by AYRS and others. Please send details of events for possible inclusion by post to Catalyst, BCM AYRS, London WC1N 3XX, UK, or email to **Catalyst@ayrs.org**

July 2005

2nd **British Model Multihulls Association Meeting**
Cotswold: Contact: Mike Dunkley on 01252 721439 for details. Start time will be 10.30. Sailing is free to members. Non-members are offered the choice of joining the association or paying a £5 sailing fee. Visitors are welcome but please contact prior to the event as some venues have restricted access. Directions to the venues are available from Robbie and most are available via the MYA website (www.mya-uk.org.uk) Further information is available by contacting Robbie Nevitt on 01963 370058.

August

13th **BMMA Meeting**
Woodley: See above. Contact: Mike Dunkley on 01252 721439 for details

October

8th-14th Weymouth Speedweek
Portland Sailing Academy, Portland Harbour, Dorset UK. Contact: Nick Povey, The White House, Primrose Lane, Forest Row, East Sussex RH18 5LT; email: nick@speedsailing.com; tel: +44 (1342) 825392

12th **AYRS Weymouth meeting**
Speedsailing. 19.30 for 20.00hrs at the Royal Dorset Yacht Club, Upper Mall, Weymouth. Contact: AYRS Secretary, BCM AYRS, London WC1N 3XX; tel: +44 (1727) 862 268; email: hon.sec@ayrs.org

22nd **BMMA Meeting**
Gosport: See above. Contact: Mike Dunkley on 01252 721439 for details

November

2nd **AYRS London meeting**
Subject to be confirmed. 19.30 for 20.00hrs at the London Corinthian Sailing Club, Upper Mall, London W6. Contact: AYRS Secretary, BCM AYRS, London WC1N 3XX; tel: +44 (1727) 862 268; email: hon.sec@ayrs.org

December

7th **AYRS London meeting**
Subject to be confirmed. 19.30 for 20.00hrs at the London Corinthian Sailing Club, Upper Mall, London W6. Contact: AYRS Secretary, BCM AYRS, London WC1N 3XX; tel: +44 (1727) 862 268; email: hon.sec@ayrs.org

January 2006

6th - 15th **London International Boat Show**
EXCEL Exhibition Centre, London Docklands. Those who can give a day or two, from 28th December onwards, to help build/staff the AYRS stand (reward - free entry!) should contact Sheila Fishwick tel: +44 (1727) 862 268; email: hon.sec@ayrs.org

22nd **All-Day AYRS Meeting**
9.30am-4pm, Thorpe Village Hall, Coldharbour Lane, Thorpe, Surrey (off A320 between Staines and Chertsey – follow signs to Thorpe Park, then to the village). Details from Fred Ball, tel: +44 1344 843690; email fcb@globalnet.co.uk

22nd **AYRS Annual General Meeting**
4pm, Thorpe Village Hall, Coldharbour Lane, Thorpe, Surrey (as above). Details from the AYRS Secretary tel: +44 (1727) 862 268; email: hon.sec@ayrs.org

February

1st **AYRS London meeting**
Subject to be confirmed. 19.30 for 20.00hrs at the London Corinthian Sailing Club, Upper Mall, London W6. Contact: AYRS Secretary, BCM AYRS, London WC1N 3XX, UK; tel: +44 (1727) 862 268; email: hon.sec@ayrs.org

March

1st **AYRS London meeting**
Subject to be confirmed. 19.30 for 20.00hrs at the London Corinthian Sailing Club, Upper Mall, London W6. Contact: AYRS Secretary, BCM AYRS, London WC1N 3XX, UK; tel: +44 (1727) 862 268; email: hon.sec@ayrs.org

April

5th **AYRS London meeting**
Sailing Canoes *(with members of the UK Open Canoe Sailing Group).* 19.30 for 20.00hrs at the London Corinthian Sailing Club, Upper Mall, London W6. Contact: AYRS Secretary, BCM AYRS, London WC1N 3XX; tel: +44 (1727) 862 268; email: hon.sec@ayrs.org

AYRS John Hogg Memorial Prize Award 2005

The AYRS announces another award of a £1000 Prize in memory of John Hogg, the distinguished amateur yachting researcher, who died in 2000.

The aim of this international award is to encourage and recognise important amateur contributions to the understanding and development of sailing performance, safety and endurance. Preference will be given to on-going work where the prize money is likely to benefit further development. Other than nominations for a "lifetime achievement" award, the work should have been performed within the last few years. Work that has previously been entered for the John Hogg Prize is not eligible, unless in the intervening period significant advances have been made.

Nominations, whether of oneself or another, should be submitted to the Honorary Secretary, Amateur Yacht Research Society, BCM AYRS, London WC1N 3XX, UK, to arrive by **1st October 2005**. Nominations may be made by or for anyone, whether or not they are a member of AYRS. Those nominating someone else must obtain the written agreement of the nominee .

'Amateur' in this context means primarily work done as a pastime and largely self-funded. Details should be given of any grants or other funding or assistance received. Work carried out as part of normal employment is not eligible, neither is paid-for research where the researcher does not own the results, but subsequent commercial exploitation of research need not debar work carried out originally as a pastime.

Whilst it is not essential that any innovations embodied in the work be demonstrated and "debugged", the work must have some practical application, which should be made clear in the entry.

The submission shall cover the following:-

- A summary, of not more than one page, identifying the nominee and the work submitted, and including a short statement of its merits to justify its submission.
- The description of the work itself, its novelty, its practical application, its degree of success to date, and (briefly) your hopes for the future.
- Submissions must be made in English, in hard copy, to arrive by the due date. FOUR COPIES ARE REQUIRED – one for each of the three judges and one for the Secretary.
- Diagrams, graphs and photographs may be used, video material on VHS PAL videotapes or DVDs can be helpful supporting material. Programs and presentations on disk may be entered as part of a submission. Appendices may be used, e.g. for mathematical workings.
- Entries should be printed on A4/letter paper in a legible font.
- Separately, a brief biography of the nominee(s) should be included, and their amateur status and qualifications should be explained.
- Nominees may care to say how they will use the prize should they win.
- AYRS will wish to publish brief summary accounts of entries, and may also seek further articles from entrants. Grant of permission to publish such articles is a condition of entry. To this end it will be helpful if entries can (if necessary) readily be abridged for publication in *Catalyst,* and if a computer disk copy of the entry is included. However any information received as part of a submission will be treated 'In Confidence' if so marked.

The winner and runners-up will be announced at the London Boat Show in January 2006. All short-listed entrants will receive one year's free membership of AYRS and a certificate; the winner will receive a cheque for £1000. The Judges, whose decision shall be final, will co-opt experts as required to assist their deliberations.

Submission of an entry will be taken as signifying the entrant's acceptance of these rules.

Queries concerning possible entries may be made by phone or e-mail to the AYRS Honorary Secretary on tel/fax +44 (1727) 862 268; e-mail office@ayrs.org.

Catalyst — *a person or thing acting as a stimulus in bringing about or hastening a result*

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