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From The Editor – Pete Heal

Hello Bent Folks.

Welcome to the July issue of HUFF. Sorry it's not June as promised but a sudden rush of articles has helped to swell the content.

As always, your views and input are more than welcome.

Say a few words about what you think OzHPV should be doing in the short term and long term.

Pete huff@ozhvp.org.au



OZHPV Geelong Race Day – Sunday 1 September 2013

Steve Nurse has booked the Belmont Criterium track again for an action packed day of recumbent racing and general HPV “scratch and sniff”.

All welcome to attend and find out more about recumbents and HPVs.

Racing starts from 1:00pm but there are other activities nearby like a market which would fill in the morning.

Full details in the attached flyer or contact [Steve @ OzHPV](mailto:Steve@OzHPV) for more information.





2013 OzHPV Challenge – September 14th & 15th - Wodonga

The annual OzHPV Challenge will once again take place at Wodonga this year. The Wodonga Go-Kart track is the venue and as usual we have full use of the track for Saturday afternoon and there will be the off site time trials and speed runs on the Sunday.

Camping available Saturday and Sunday on site.

A BBQ dinner and Steve's Trivia will form the entertainment on Saturday night as usual.

More information will follow when available, but start making your plans to attend this National event now.

Corporate sponsorship proposals should be directed to Steve Nurse or the committee.

Contact Steve for more information [Steve @ OzHPV](mailto:Steve@OzHPV)



World Record Attempts – Easter 2013

In the last HUFF Tim Marquardt reported on various record attempts at the Ford Proving Grounds Constant Speed Track held over Easter 2013.

Tim is trying to get these efforts recognized as World and Australian records.

It is important to say here for all members information that OzHPV are not aligned in any way with the International Human Power Vehicle Association based mostly in North America.

There is a "history" with the IHPVA aggressively taking back the association name by a legal process. Take a look on the web for full details of this nasty process.

OzHPV are an affiliate member organization of the World Human Power Vehicle Association which includes all the other countries of the world and New Zealand ☺

Any claim to have established an Australian Human Power Vehicle record should not be made until full details as required have been provided to the OzHPV Committee and the record ratified.

Full details and requirements for any Australian record attempts are available on the OzHPV website and these must be complied with before the Committee will consider any attempt for a record ratification.

Here are the current OzHPV Rules <http://www.ozhvp.org.au/needspeed/needspeed.html>



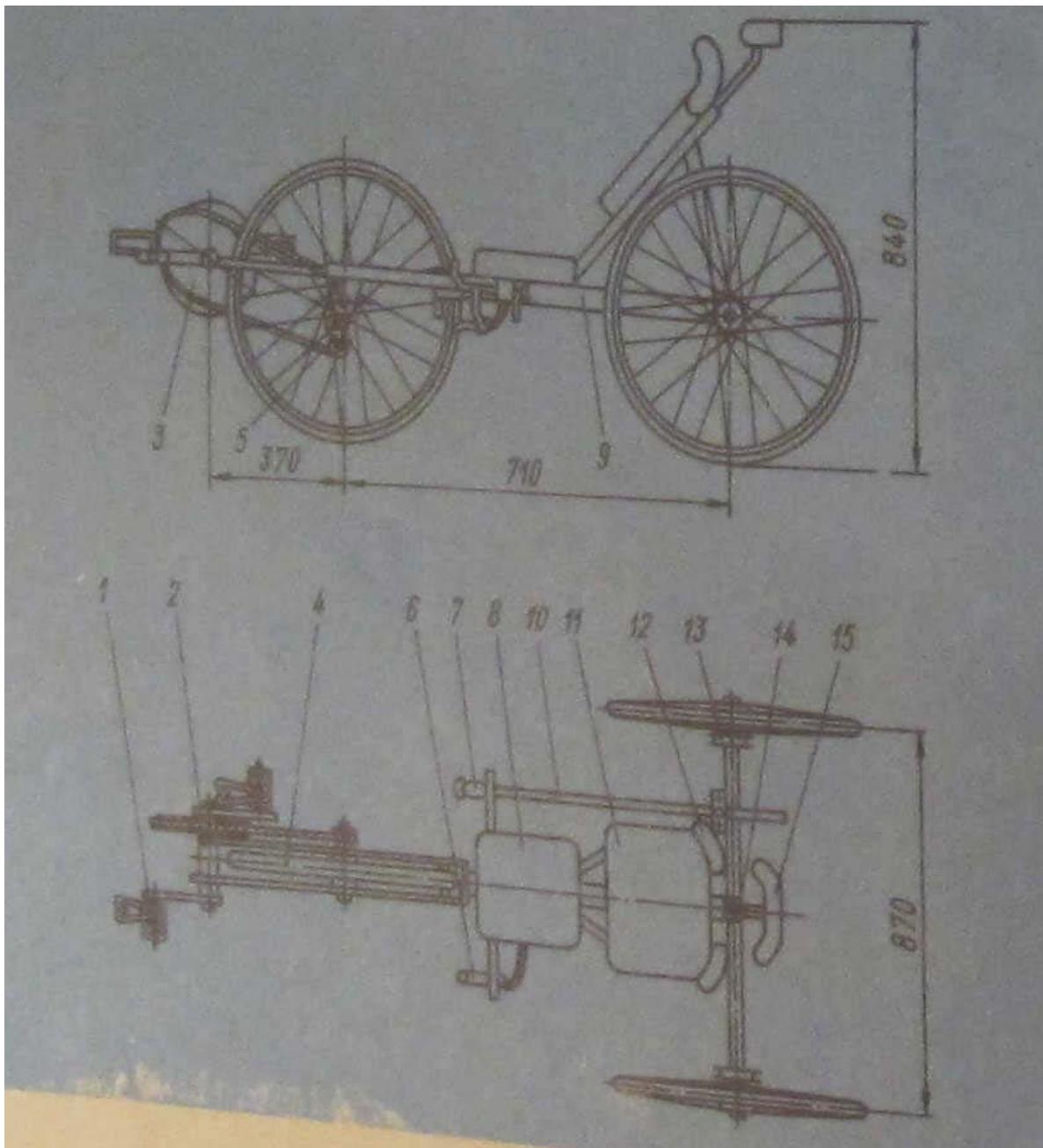
Velomobile Book Review by Stephen Nurse

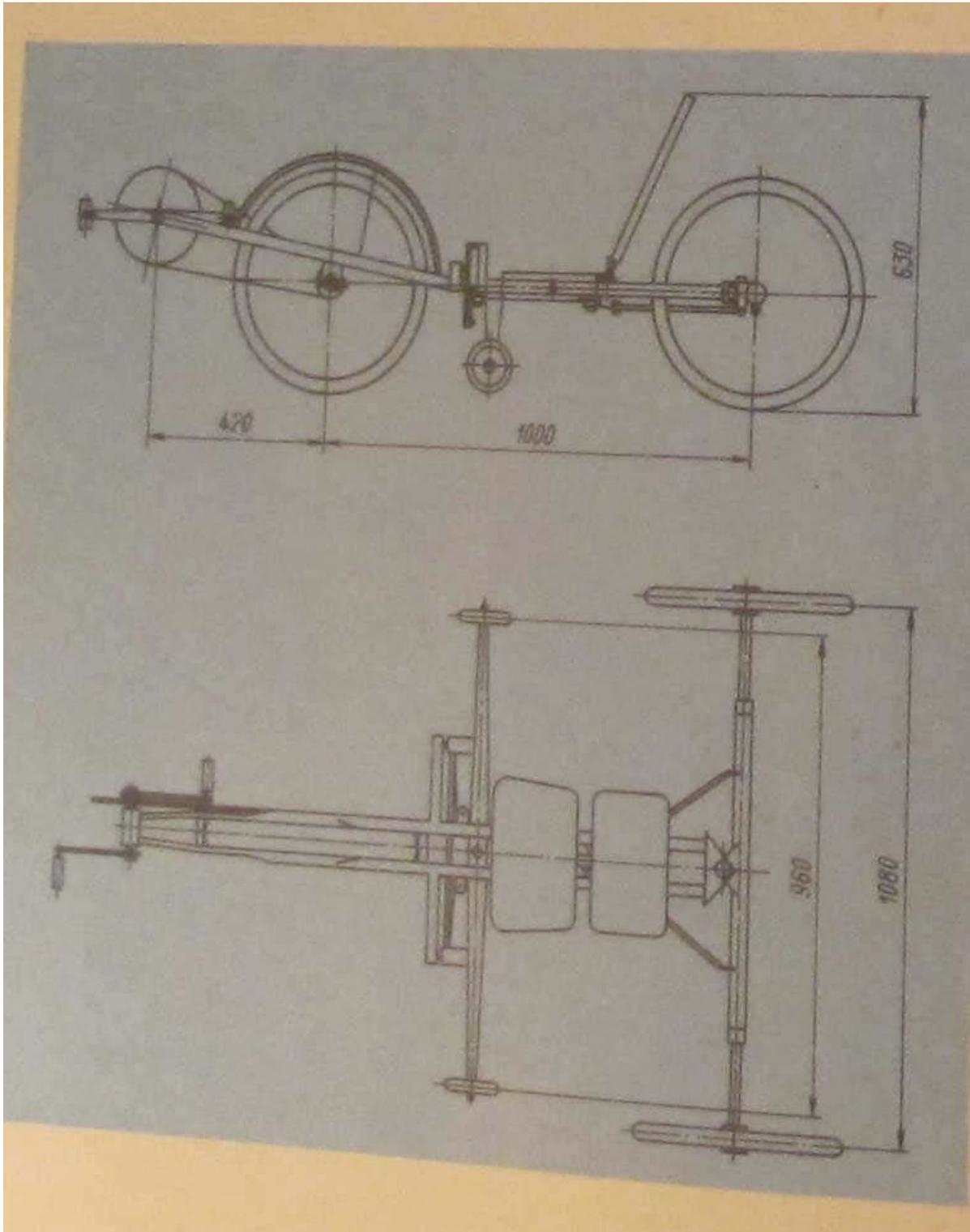
"Velomobile" is a book published in Soviet Countries (Lithuania, Russia and East Germany) and dates from the 1980's. It was written by Vitas Dovydenas. My copy came from Ebay via Latvia and is all in Russian. Needless to say, most of the text and even the title was incomprehensible to me.

Most of what I know about the book comes from a review in the old magazine "Bike Culture 7", ie "When Gunnar Fehlau's book on recumbents, *Das Liegerad*, came out last year, it was thought to be the first major book on the subject in any language. However, recumbent bibliophiles have now unearthed a predecessor, *Velomobile*.

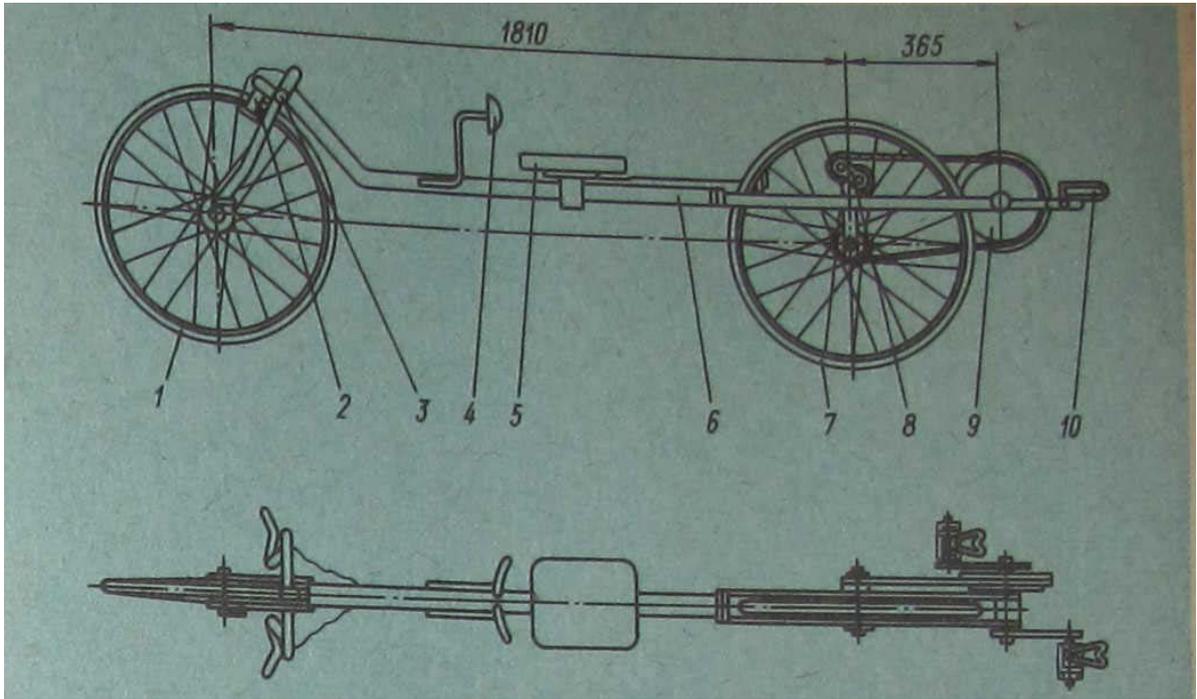
Throughout the book are charming colour drawings of existing and imagined Velomobiles"

Some of the pictures in the book are copies of those in the [1983 Scientific American article on Human Powered Vehicles](#) but many seem to be highly original. Some of the side views of vehicles look like unrideable or at least dodgy bikes but the second view reveals they are delta trikes.

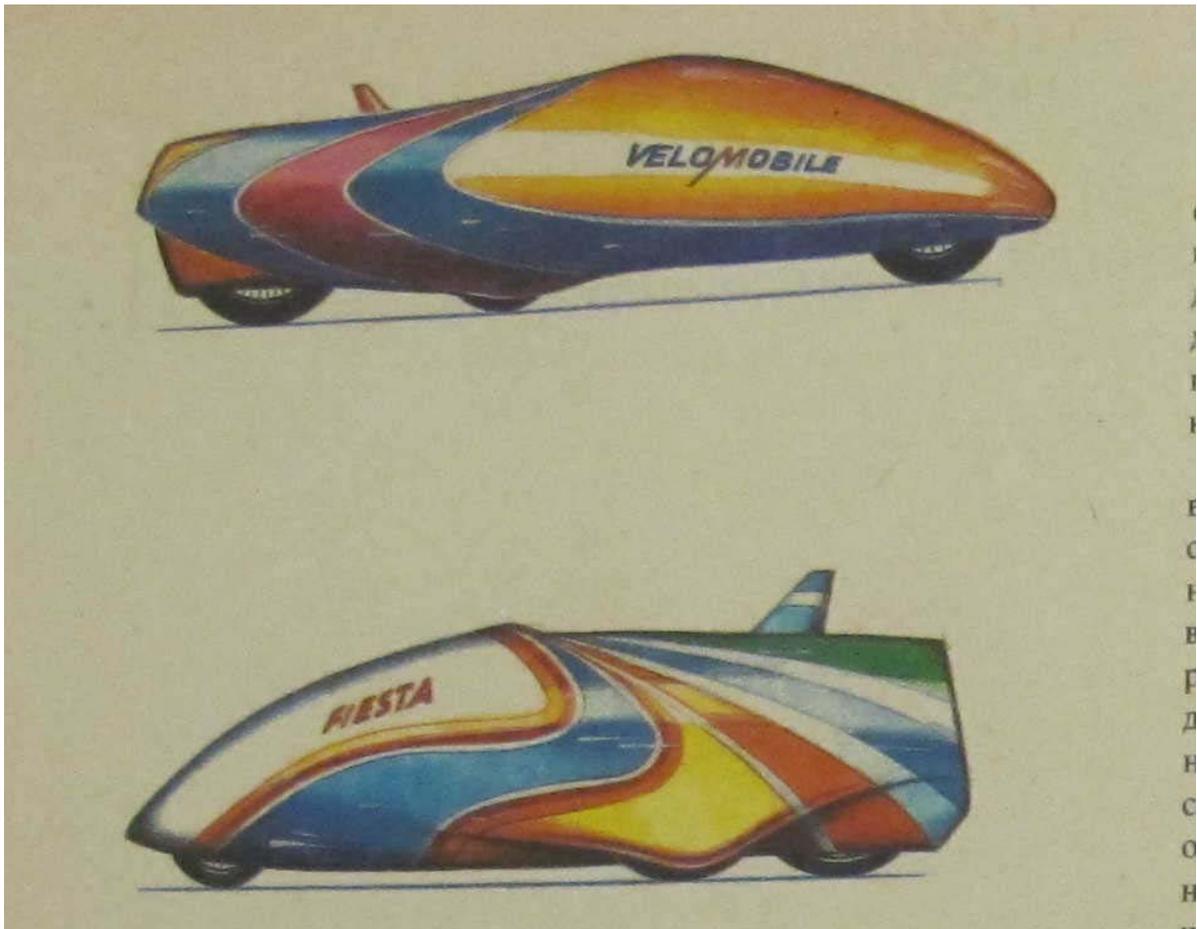


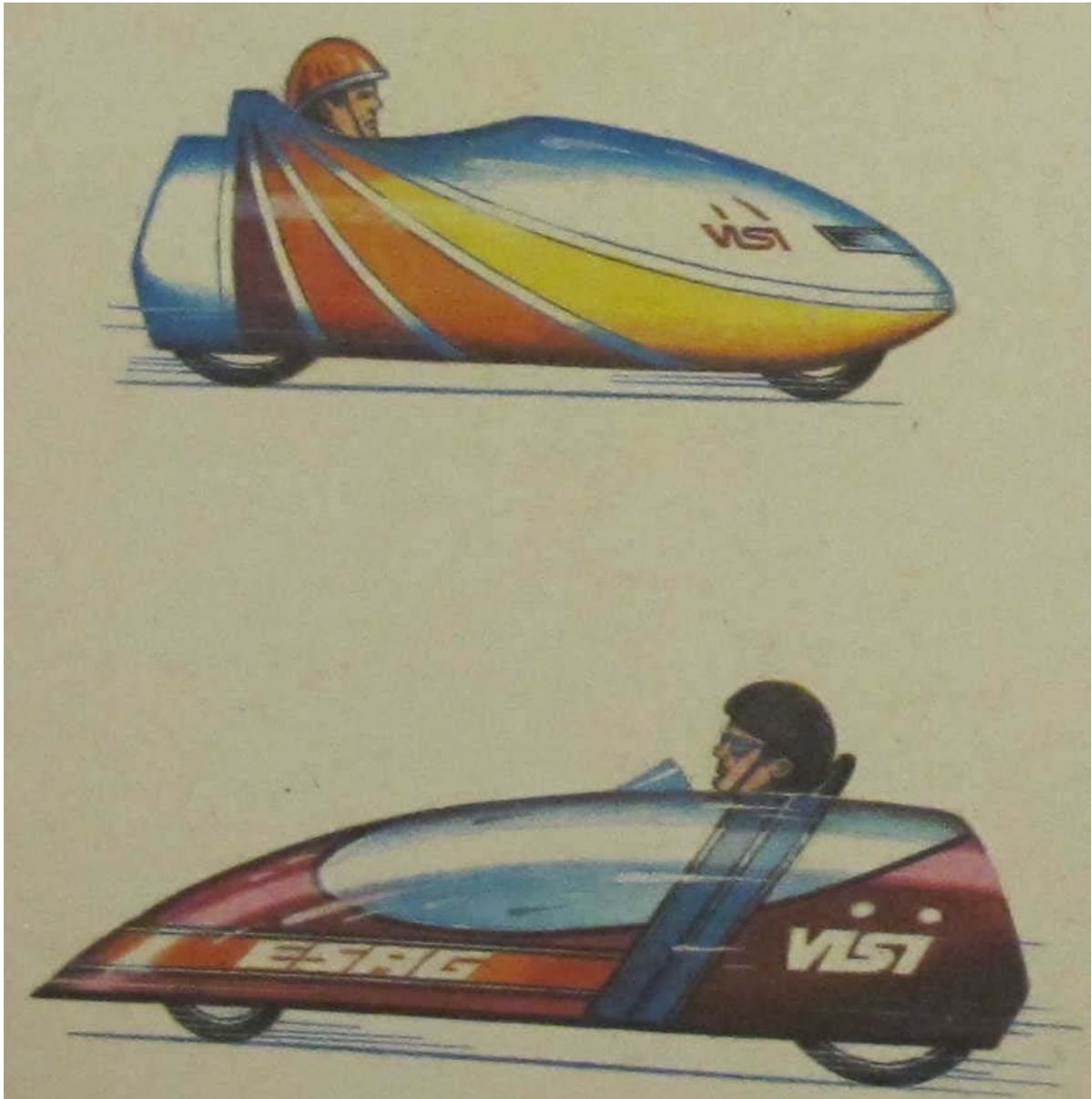


And there is at least one dodgy unrideable bike for good measure!

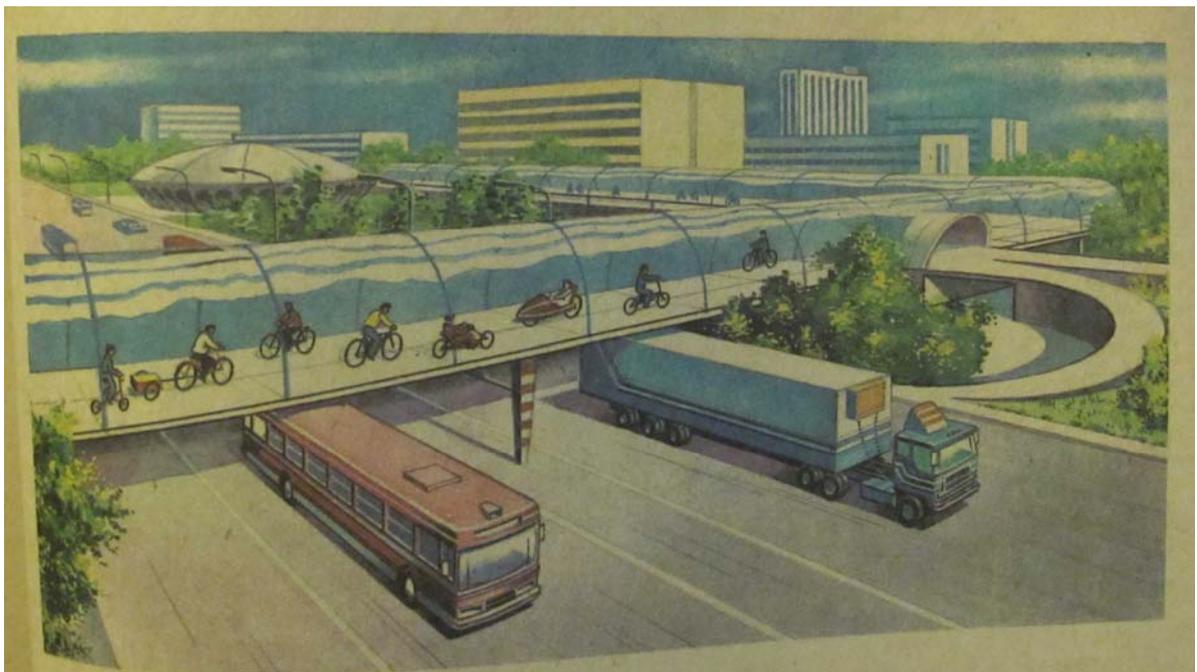


The book shouldn't be considered up to date, for example one of today's dominant recumbents, (the unfaired tadpole trike) gets hardly a mention, however several velomobile illustrations are surprisingly up to date.





. Leaving you with a selection of pictures from the book, including one of a "Cycling Utopia". Happy riding!





Q Factor - A Vintage Solution or Cotters and Carbon - the New Black!

What is a Q factor?

In cycling it's a made up term that defines the distance between the outside of your cranks where your pedals mount, measured parallel to the bottom bracket axle. Along with your shoes and pedals, it defines the width of your tread.

Toebox

Any builder of feet-forward streamline shells for two wheelers will have faced the need to reduce the width and height of the toebox, the space defined by the orbit of the rider's whirling feet on the pedals.

My Project

A long time (mythical?) project for a full corflute shell for my Baron has led me to the same need for a narrower toebox, and subsequently, a narrower Q factor.

There are custom builders who have created very fine, narrow cranksets, with Q factors of only a few tens of mm. My modest solution is not one of those.

The Vintage Solution

My feet stay straight when pedalling. I don't need the ankle clearance from offset cranks. Modern cranks with ankle clearing offsets typically have Q factors of 150 mm for a double. In general, the Q factor of modern cranksets has been getting wider, and wider, and wider.



Stronglight 49D Cranks

A faint glow in the brain had me rummaging in my bits box. I dug out a vintage Stronglight 49D 5 pin crankset which has straight alloy arms. Double chainrings on this crankset gave a Q in the low 130s. Not bad, but I wanted less.

Stronglight Competition No 45? Cranks

Another search deeper in the bits box revealed another set of vintage cranks - Stronglight Competition Number 45 I think. What the?! you may well ask. These are elegantly slim, steel, cottered cranks, even if the chrome on my set is somewhat pitted. They are much slimmer than the 49D cranks, with the same 5 pin chainring mount. A local bike shop let me trawl through their old spares bin to find cottered axles of varying lengths. After a bit of experimenting, and by using bearing cups without a lock washer (more later), I was able to mount a 52/28 double with a Q of 122 mm.

I needed to use spacers with the right-hand BB cup to get a working chain line. This offset is why there is no exposed thread for the left-hand cup locking. I used a drop of superglue instead.

A single chainring on this vintage crankset would deliver a Q of 115 mm !

I think this is as good as I'm gonna get without custom bits.



Front Derailleur

Surprisingly, I was also able to use my Shimano FD443 front derailleur for the double just by adjusting the end stops. Care is needed for the very fine clearance to the crankarm!

Pedals and Shoes

I used Time RXS pedals and Pearl Izumi road shoes (size 46) to further reduce width. The result is a toebox width of just over 340 mm for my wide double.

Wide Range Double Chainrings

I used original Stronglight 52 and 28 five pin, alloy chainrings from my small collection. Stainless M3 countersunk head screws made lifting pins which worked well, except the chain kept going up and over... I solved this by partially filing away four teeth to make space for the derailing chain. I've tested the setup over a few hundred km, and after some fine tuning of the lifting "pin" protrusions, all is well.

Further Notes

It definitely needs a chain suck preventer for the downshift, and a sympathetic touch for the upshift. I'll mount a frisbee chainring guard, which makes the best chain suck preventer known to cyclekind as far as I'm concerned:)
What's in your bits box?



Footnote

Most cotteder cranks have no offset, are thin steel with separate chainrings, and can be used to re-invent low Q cranksets.

I don't advocate paying collectable prices for vintage components better suited to the vintage bikes of which they were a part, but if you happen to have an orphan set in the box, and no class at all...

Simon Watt – Vintage Recumbent Cyclist



Bents I have known

My name is Pete, I build recumbents.

Whilst my most recently acquired recumbents have been carbon fibre wonders from deep within middle Europe, I have a history of building bikes and recumbents which stretches back to about 1985.

Most of the 50 or so bikes I have built have been for my own use or a lucky few friends. There have been mountain bikes, tandems, triplets, recumbents and only two trikes.

Here's a quick photo summary of the ones I am most fond of.

Photo	Year	Details
	1990	<p>"Troop Carrier". Built from a broken MTB frame with total new front from seat post forward. Get for getting the kids to the park. Still running in Adelaide with a front fairing I think.</p>
	1994	<p>"Triplet". What a fun bike this was with three committed riders pumping away. Heavy duty everything including drum and rim brakes. Its weak point was the screw on cluster which was destroyed a couple of times and there was a "bit of flex" to manage.</p>
	1994	<p>"Blue Lizard". Old blue had a long and reliable career under both me and Duncan C. Copied from a bent seen in an early recumbent magazine. Muffler moly main tube.. Rode this bike many kms. Sported a front fairing and tailbox at one stage. Tail box not unlike the Velokraft one I am using today. Recently turned up in a local Grassroots classifieds listing later – 20 years old!</p>
	1992	<p>"M@ & Mel's Bike". I built 5 of these little bikes with 16" and 20" wheels. My son Matt couldn't understand why the kids at the local BMX track were so impressed by his bike. They were cro-moly and weighed about 7kg.</p>

	1998	<p>“New Orange” Built as a replacement for Old Blue. Modified suspension front fork fitted later before 20” forks were commonly available. Nice and low and comfy.</p>
	2000	<p>“Black Lizard” I copied this design off a Festina. Used Muffler moly again foolishly and while it lasted for a few years, the main tube started bending on one of the OzHPV Challenges at Broadford so a rebuild in cro-moly was necessary. I discovered low is fast with this bike. The coreflute tailbox was a useful speed boost</p>
	2001	<p>“M@’s Red Bent 1”. This was a little bent I put together with bits “lying around”. Included a Moulton suspension fork on front.</p>
	2001	<p>“N+1” This was the second lowracer built more as a road going bent. Muffler moly again and it had a slight failure at the main tube junction which a gusset rectified. Now gathering dust in Dave Mc C’s shed I think.</p>

	<p>2002</p> <p>“White Lizard” this was a very successful bent and is still functioning well for Duncan C. Full cro mo frame with a detachable mesh seat. Great for AUDAX type rides.</p>
	<p>2003</p> <p>“Orange Lizard”. A very “ex-ffriend” gave me a wrongly bent cro-mo tube which I cut and shut back to the right shape. This little bike has taken me over 60,000kms in all sorts of weather on all sorts of roads. Great things about this bike: Capreo gears and 406 wheels, VK carbon fork and seat. Weighs about 10kg which I reckon is pretty good. I just keep replacing tyres, rims and drive-train. It just keeps on going.</p>
	<p>2005</p> <p>“Con The Greenspeed”. Yes a trike. I had this for a while after I bought it cheap from the Greengrocer bike shop in Goulburn NSW, Slow and heavy.</p>
	<p>2006</p> <p>“Red Lizard” same as for the White Lizard. This was M@’s new bike for a few years when he used to ride with me ☺. Now gathering dust in Tasmania.</p>

	<p>2006</p> <p>“VK2.1”. First of my carbon Velokrafts. Initially I didn’t like the fit of the bike but it grew on me. Another 60,000kms out of this bike including Across Australia and Around Australia along with many AUDAX rides including Paris Brest Paris. Only “retired” because it was getting on a bit. Might end up in a museum somewhere?</p>
	<p>2006</p> <p>“NoCom” the ultimate speed machine. Bought it along with VK2.1 as a “package” from an American at enormous expense for shipping and duty. Turned out to be worth it many times over. Have ridden this bike 45.5kms in an hour at the Carrum velodrome. Not a sensible bike for riding on the road except where there are nice wide separate shoulders. Could ride this around Oz if there wasn’t other traffic.</p>
	<p>2010</p> <p>“Orange Oops” This one built for a Whoops shell fairing provided by Tim M. Work in progress still. Very fast in naked and “canoe form” as shown.</p>
	<p>2010</p> <p>“Eileen” the Incredible Leaning Nerf Lizard. Built as a full fairing project which has stalled a few times. It punts along OK but the extra drag of three wheels and extra frame and tilt components make it a bit slower than say “Orange Lizard”. It was an interesting experiment. Still not convinced a leaning velomobile would be very practical in use.</p>

	2011	<p>"VK2.2". This one purchased from Bent-Up in America to replace VK2.1. Turned out measurements from Bent-up overstated so it was too small for me. BU also neglected to mention a crack in the frame before they sent it. Sold.</p>
	2011	<p>"Green Bean" One of the early Tri-Sled Roto Velos bought second hand from Tim M. I gave this a year of commuting, AUDAX riding, various aero modifications and effort but could never average faster than any of my two wheel bents on any rides. Great for the frosty and wet days in Canberra, but I really didn't like the extra attention it got from virtually everyone I passed. Sold to a Sydney-sider for a mid life crisis Nullabor crossing to take place in near future.</p>
	2012	<p>"VK2.3". While the Aussie dollar was up in 2012 I ordered a brand new VK2 frame from Poland. It arrived a bit scratched up and turned out to be at least 50mm too big for me. Why can't people measure things properly? A satisfactory solution was reached by swapping this frame for on friend David had purchased at the same time which was also 50mm too big for him.</p>
	2012	<p>"Special Trike" See, I have built some trikes. This one as a volunteer job for local TADACT group to be ridden by a young bloke who only has use of his feet. Interesting to ride and steer and brake and shift with just your legs and feet. Had a habit of falling over on off camber curbs. Not heard how this project went with rider. Oh well.</p>

	<p>2012</p>	<p>“VK2.4” Finally, a new Velokraft VK2 for me. In the right size. All bright and shiny. New equipment. I hope to get at least 100,000km out of this one ☺</p>
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Next Newsletter

The next HUFF will be produced end September 2013.

Your editor will be on a 6 week sojourn through France in August and September so just send your many articles through and we'll get them in the next issue.

Please send your contributions to huff@ozhpn.org.au

