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future bike.ch

  
propulsione humana.it

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LORINI

## On your back

Some articles from the periodicals of HPV-unions from Great Britain, the Netherlands, Belgium, Germany, Switzerland and Italy, with reports from the Czech republic and Ukraine.

2018-1

*The World Championship 2018,  
photo Wilfred Brahm.*

# EuSupino



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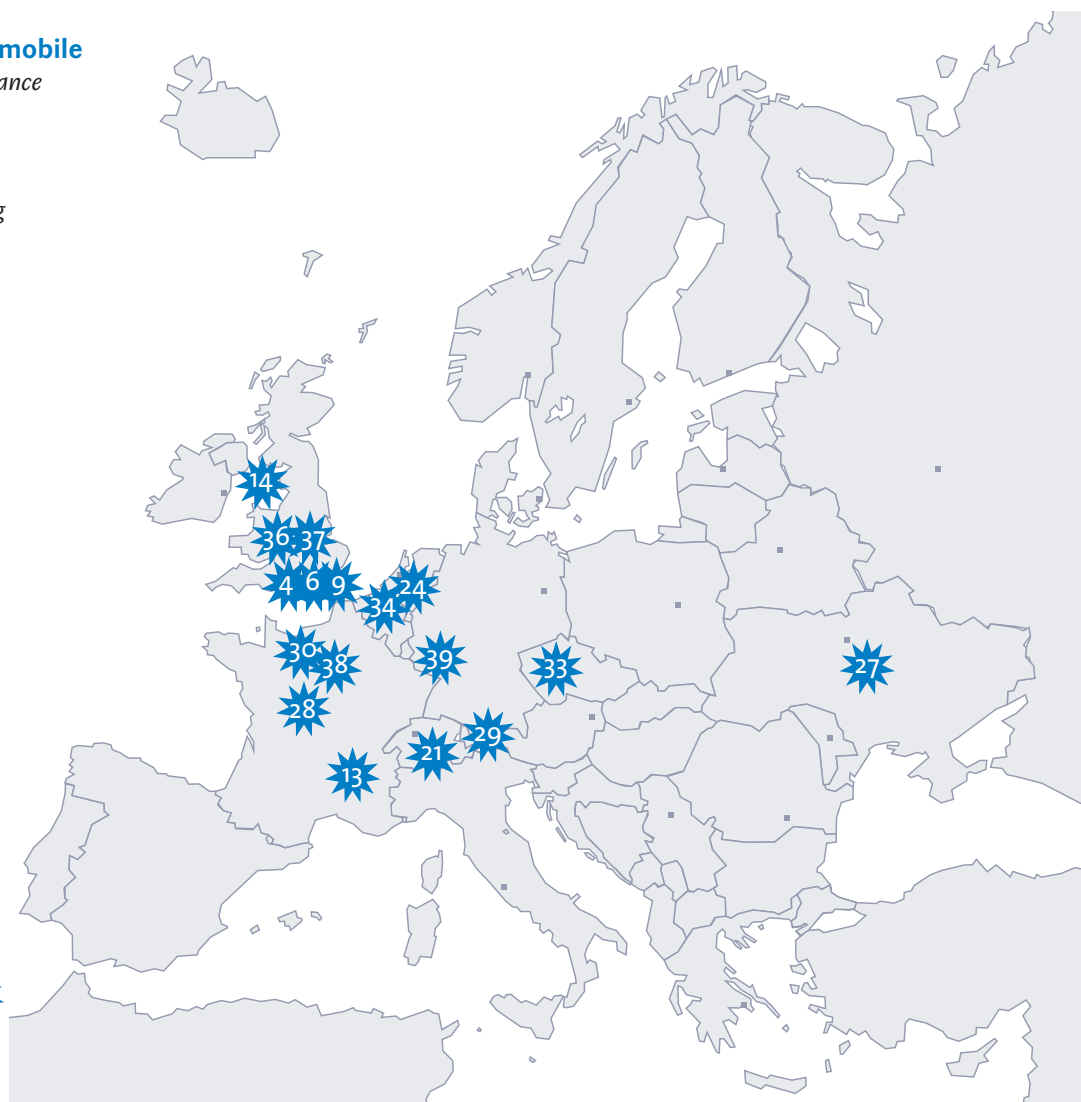
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# Introduction

by Roel van Dijk,  
photo Marc Lesourd

**This digital magazine is the result of cooperation between European Human Powered Vehicle clubs.**

It all started on the 10th of March of 2018 when the chairmen of the HPV clubs of Belgium, Germany and The Netherlands signed a letter of intent to cooperate. The purpose was 'to work on a process which may ultimately lead to the establishment of a European cooperation to further the use of human powered vehicles'. A simple purpose, no obligations. We talked and dreamed about exchange of articles from our magazines, cooperation between countries in organizing activities and joint consultation on future World and European Championships.

Later this year, during the World Championships for HPV in Deal (United Kingdom), a meeting was attended by representatives of HPV clubs from Austria, Belgium, France, Germany, Italy, The Netherlands and Switzerland. We agreed that cooperation would benefit all European recumbent cyclists. We made three appointments. There will be a joint agenda of HPV events, a joint magazine and we will meet next year at the Spezi in Germany. The idea of a joint magazine is simple: little effort and no costs. We publish one or a few articles from each national magazine. The biggest effort is translation in English, but Google Translate can prove good services. There are no ads, no costs for printing and shipping and, above all, no problems with financial matters concerning this magazine. In the Netherlands there is already a cross-border activity this year: the famous Oliebollentocht for velomobiles (December 28) goes for the second time in its history across the border with Germany. And in 2019 there will be cooperation between the German 'Race in the Park' and the Dutch Cycle Vision. This merges two events that would be held in close succession. Of course we hope that the whole is bigger than the parts.

A proposal for the name of this magazine is *EuSupino*. Eu stands for 'European' but is also Greek for 'good', as in euphoria. *Supino* is Italian for the supine position (lying on your back). For some cyclists EU may have the meaning of the European Union, but please consider Eu as a reference to our continent.

I hope that this modest first edition may be the beginning of a beautiful tradition and that it will contribute to the sense of community among European recumbent cyclists. <



*From left to right Rudi Cools of HPV Belgium, Werner Klomp of the Liegeradclub Vorarlberg Austria, with the blocknote Andreas Hertting of HPV Germany, Roel van Dijk of NVHPV Nederland, Andreas Gerber of FutureBike Switzerland, Alan Goodman of BHPC Great-Brittain, Michael Hänsch of HPV Germany, Brian Robertson of BHPC Great-Brittain, Giovanni Eupani and Renato Falzetti of Propulsione Umana Italy.*



***EuSupino***, a digital European magazine for recumbent riders, was created by contributions from various authors from different countries. The copyright is left to the authors.

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# The World Championship 2018, Betteshanger Park

by Andreas Hertting,  
from Infobul, the  
periodical of the German  
and Swiss HPV-unions,  
photos Wilfred Brahm



**From 13 to 15 July, the HPV World Championship took place in Betteshanger Park (near Dover). Or just only the human-powered land vehicles.**

Our English colleagues from BHPV gave us a fine event in a relaxing atmosphere. The site no longer shows its black past of coal mining but appears as a renaturated amusement park for various sporting activities. Nevertheless, the racetrack, which is designed as an eight with different accessibility, is the center of the park. We are in the midst of the most beautiful corner of England, a region that is again gaining tourism significance, and with many castles, museums and of course the distinctive chalk cliff coast to the English Channel has much to offer.

For me southern England and Kent was only incidental, but Mike Burrows and all HPV "infected" in the center. Yes, you have to catch a virus when you hear big talks like this, you do not need to train, you just build a faster bike. Mike's bike placed one one his seat most visible, that a bike could just look different: "It's cycling, but not as you know it." And that is precisely the point: This World Cup is different! Older gentlemen like Charles Henry or Stephen Slade, win here with vehicles that were significantly shaped by them, or the young Daniel Fenn, who already immortalized himself as a designer, and after the German football failed to take the vicetitle in our favorite sport to Germany.

## Overview of the event with its five races

On July 13 it began with the question of what potential in the driver-vehicle pairing is: 50m with flying start, summer heat as in most parts of Europe, a slight slope and little changing wind, which favored the undressed, even if the fully faired were still in front: Matthias König ahead of Daniel Fenn and Richard Schaffenroth with up to 47mph.

On Saturday followed the 2.1 km or 1.3 miles time trial and the 1-hour race. Here was a one trend:

At short distances the DF and Milan SL were even better than their even fully-faired competitors on two wheels, but already at the hour race it turned out that everything is missing rarely bothers, namely one less wheel can be quite more, even if lower speeds were driven the longer the races lasted. Should I really point out that fully-faired is the only way to increase speed? Even Mike Burrows still seems to be a Frischluftfanatiker, because his Rat Racer belongs to the category of the partly-faired vehicles. He finished eighth in his class at about 25mph and behind him no one drove more than this 25. Unfortunately, he got a little injury and technical problems, which probably kept him from the third day celebrating his 75th birthday with this event.

At this point, it is worth pointing out the interview with Gary Salomon. Undoubtedly, the event would have been inconceivable without him, because he, the "King of Carbon" also exhibited his many creations, which also includes the Olympic Lotus prototype.

On the last day, the 15-minute sprint and the three-hour race were announced: If Daniel Fenn, Matthias König or Walter Klomp were less motivated, so that Charles Henry and Stephen Slade dominated in front of the velomobiles? Or was it this way round: The 15-minute sprint took place on a small lap of only 1.3 km, while the sprint took place on a 2.1 km oval: Now the tricycles do not like tight corners so much. In the video on YouTube by ads-velo, John Williams shows that some only drove on two wheels at the limit through the corner, while the two-wheelers made it sovereign.

In the run up to 118 drivers registered, ten of them did not drive, sixteen came from Germany, and four of them came in the top ten. 13 out of 108 riders had at least one clear round. Mike is the highest champion with two zeros. It should not be forgotten that Veronica Schaffenroth was 18th and fastest lady in front of Eva Navrátilová who got the 17th



place. Of course, I missed Nici Walde, because she would have had a top performance here. Even "our" Heike had not arrived – very reasonable. Christoph Hipp was commemorated during the event as part of a memorial minute, and perhaps he would have written this article even better. So I want to pay tribute to Christoph, because a race is ultimately just a race, which was also said at the event: "You know, it's only a world championship." He would have been there for sure. It should be noted that the safety of the participants was secured by the shape of the racetrack and that no other actions were crossing. Furthermore, a chainguard was mandatory: this is the utmost front, even before the front wheel, which should be deactivated. Unfortunately or to say in another way it also was good there were only a few spectators, in contrast to Mannheim, where a lot of people crossed the racetrack, which was unavoidable and of course dangerous. So missed the missing a grandstand, because you squatted in the grass next to the track. And dreaming of the next time, maybe in Le Mans, of course 24 hours... <



July 14th, 2018, World Championship at Betteshanger Park

# Interview with Mike Burrows about his birthday

by Gary Salomon, from  
Infobul, the periodical of  
the German and Swiss  
HPV-unions,  
photos Wilfred Brahm

**Gary Salomon:** We are here with the legendary Mike Burrows, and also, I understand, this is a special day for you, Mike?

**Mike Burrows:** It is my official birthday. I'm 75 today. Being the king of carbon, as was my Giant days, I've decided it's actually April really, but it'll do for today, so if we are having a little party around it, so even when I lose badly in all the races, there's still something to celebrate.

**Gary:** Anything here, apparently, in Great Britain to celebrate, I think works.

**Mike:** Indeed. Yes, the other things stopped happening. The kickball is out the window, so it's cycling that's coming home.

**Gary:** Mike, I was wondering, this event is really kind of centred around celebrating your accomplishments over the last number of years. What does that mean to you?

**Mike:** I don't know, it depends on how much money they give me at the end of it. It's sort of nice. It's that I've been racing half my life in recumbents, maybe I should hang my heart rate monitor up this year I think. It's all come together, hasn't it? The weather which hasn't been like this in 76 – so this is a bit special for me – the venue is, I think, this is the best cycle track in the world, certainly the best I've ever raced on, and I've raced on a few now, whatever, it's the biggest century we've ever had for a world championship, so we've got all our friends from the continent over, so it's just going to be a fabulous event, it can't go wrong.

## About the world championship and the bike in the present times

**Gary:** Representing the recumbent community here in Great Britain, what does this world event mean to someone that lives here?

**Mike:** Nothing. [Laughing] It could have been held anywhere. This is Britain, and this is cycling. We don't take any notice of cycling, we had to win

the Tour de France before people recognize us, you know, and even at the moment they barely mention it. I think as the other games are on at the moment, we certainly not get as much recognition as we should get. Well, the bicycle has got a fantastic history. Last year was the 200th anniversary of the invention of its precursor, the draisine, and to me it's got an even greater future. It's a fabulous machine, and people just don't want to recognize it in this country. It's always been seen as a pauper's, as working class transport, and it was only ever

that, probably in the 50s, before that they couldn't afford them, and after that they could afford motor-bikes and cars. It was a very brief period that it's been middle-class, and if you look at the people who ride bicycles in London, which it is a cycling city, and at least transport for London recognise that the only way to improve transport in central London is to get more people to ride bicycle. It's as simple as that. There is nothing else that will do the job better.

**Gary:** Yeah.



**Mike:** It's a gridlock, even with the congestion charge, and they can't have any more undergrounds. There isn't any ground left to dig into underneath anymore, so the prices are hollow already, you can't get any more buses in, and they pollute anyway. We're all dying of them. And they complained about Russian poison in Shrewsbury the other day, however it's diesel fumes in Oxford Street you want to avoid. So, I want more bicycles in every shape and form! And the laid-back is part of that. We're not a replacement for the conventional bicycle, but laid-back bicycles do the long-distance gentle touring incredibly well.

### About the bikes future

**Gary:** *So you've kind alluded to the changes and the future being bicycles, and you have always been on the cutting edge of development for bicycles, so I'm wondering, what are you working on right now that you can talk about?*

**Mike:** I'm not the Korriban, the Soup Dragons is up in the tent there, but that, in the effect, my half is really finished. It is cooperation with London Southbank Union. Glenn Thompson has done some very nice computer work on aerodynamics which today I will be on the what looks like the right stages (sort of thing) they have to be world model, but I've done the chassis which is still something that the engineers can have an input to. The only thing I've got left: I've got to ride it. I've got to try and get a British hour record. Now, if I can get a British hour record which stands at 74 miles, then it's fast enough for a fit young thing to get a world record, which is 87 miles. At the moment, I can't actually see where I'm going. It's got a nice window at one end and I can see through it, but it's such a narrow angle. And we've been playing on Rockingham Motor Speedway which is a replica of Indianapolis, it's an indie circuit which has four distinct

corners, and following them round is not practical, so we're going to have to install the video vision system, which others have been using. It works fine, so that's on hold while we get that sorted out. But until that's finished, I can't mentally sign off on with it. It's really quite frustrating. There's other things I do want to do, but I just can't go round to doing them because – this machine – I don't know what it's going to do. I've ridden it, but I've got no idea what the potential is, so until I have... (...)

**Gary:** *So let's take one more step further, and if you can give me your idea about where you see the bicycle development going in, say 10 years, or so. Where is it going to head?*

**Mike:** But there is this, sorry to be slightly impolite: this is the cliché question. If I knew what it was, I would be doing it, and I probably am. So that's the only answer I can give you, because clearly nobody knows what the future is, it doesn't exist. So, I mean, the thing I'd like to see is what I've been doing for a long time – and it goes back to the Giant [*manufacturer of bicycles*] days – is the city bike. We talked about the bike's future. Now you can't actually improve the performance of a bicycle for a commuter. It's not possible, because aerodynamics – it's an irrelevance, whatever strength you can do a little bit, but it doesn't make much difference with the shopping and that. What you can improve is the on-going, the day-to-day hassle and aggravation of punctures, of the little niggly things, of maintenance, whatever. And again, I nominally improved all of those things years ago with my monoblade idea – I didn't invent monoblades, but using monoblades and drum-brakes on the city bike, enclosed chains at the structural chain case, and the little things I'm hacking around in here. That's it, it solves all those problems. And when I was with Giant, the engineers, they understood it, and we wanted to get that into production back in

the 90s, but the small companies just supply the components for Giant, which is, bike manufacturers don't make gears, basically, they just looked blankly: this is Giant, the world's biggest bike maker, we're going to buy a lot of these off you, if you could make them for us!

We've got no cooperation, so they gave up on it, and that's very, very sad to me, because, you know, the future society wants a 21st century bicycle. We're riding something that was designed by Thomas Humber in 1890 [*the Humber safety bicycle*]. The diamond frame as we have it today, whatever, and my current patent winged is that the people who ride the Tour de France, British Cycling, all these people, they've forgotten what their job is, right? Well, the clue is, if you move sideways into motorsport: Daimler-Benz put a lot of money into Formula 1, ok? It's not because Lewis Hamilton likes driving fast, is it? It is to sell their shiny motorcars! I'll go the Tour de France for one reason, and one reason: I just sell bicycles, okay?! So why don't they hold them up, when they get off at the end?! That's the point! You should be holding the bike up and say: "This is it; it's nothing to do with the medical exceptions! It was this bicycle that helped me win the race, you stupid bloody people. And it is – that's what they are there for – their only job is selling bikes. The first bicycle race was run and sponsored by Michelin to say how good their tires were. And ever since that's been the point of it. So the bicycle needs to move on. I mean, when Chris won back in 92, you know, with the monocoque bike, suddenly – wow! That's a bike! And of course you want to buy that. Chris Hoy wins a sprint, and it's his legs, it's obviously his legs that win the sprint. It's nothing to do with his bloody bicycle, you can't buy that. You can't buy Chris Hoy's legs. You could buy Chris Hoy's bicycle, if they hadn't banned it. You could anyway, but no,





they banned it, – so they're not allowed to ride them, and people want to ride what their heroes want to ride. Now, I can make you a monocoque tomorrow, and you won't buy it, because Chris Froome isn't going to ride one in the time trial, right? And that's it: people ride what their heroes ride, and that's it.

**Gary:** No, yeah, I was going to say, we had a discussion with ICE Trikes [manufacturer of recumbent bikes] last night about just that. How do you sell more trikes, that sort of thing? You have to find someone who was going to ride, that the people know, that they want to emulate. And that's exactly your point.

**Mike:** Yeah, I mean the marketing. I said, I was seven years with Giant, the world's biggest bike maker, and I learned then that there are no experts in marketing anyway. Somebody comes up with an idea, the clicks or it doesn't click or... I mean the current trend for the time trial bikes (...) they'll level top shoe, which is like really stupid, but someone's done it and none of the others have a clue, but there are no... – I'm not the best bike designer in the world, I'm the only bike bloody designer in the world, because

there's no one else out there that has ever done anything of significance. Alex [Moulton] died the other year, sadly, but that's it: we are the only two people who would change the bicycle without ruining it. Basically everybody else just buggers it up with whatever sort of thing, so it's a great shame, whatever. And again, when I was with Giant and we met everybody there was not anti-development or anti-progress, they just don't understand. They're just really not quite sure what they should be doing, what they are doing, and how you get to them.

**Gary:** Yeah, that was going to be my next cliché question...

**Mike:** If I do that, I wouldn't be talking to you now, would I?

**Gary:** And I'm so glad you're talking to me.

**Mike:** My very first – very tall towers – because there wasn't long, long time ago: buddy, does it make you happy?

**Gary:** And, yeah, you know this is emblematic of how down-to-earth apparently you are. It's so nice to be able to chat with you about your considerable knowledge.

**Mike:** We are sitting on top of a swag heap, the remains of Kent's last coal mine.

Gary: That's right beneath us.

Mike: Let's get all the best places, if it was raining here you'd know all about it, because it gets very black, it looks like in May. It's the best track in the world even when it's black und ruddy, but no, it's a fabulous, no it is nice, it's what I learned along, it's very much a Buddhist approach: just enjoy what we're doing.

**Gary:** We enjoy it.

**Mike:** We're having a great time here, whatever if no one else wants to join in - fine - who cares? Whatever, so let them go and ride their Tour de France. It's stupid, and I'm going faster than Chris Froome, so what's not to like?

**Gary:** That's exactly right. And when people take a look at the video that I shot of many of the runs today, they're going to see huge smiles on all of the riders' faces, and the camaraderie that we have seen here. It is a wonderful warm community. Do you find it was?

**Mike:** What really brought it home, was when we, suddenly became the great cycling nation in Beijing, and afterwards, they burned the skin suits, right? Because they'd come into the – what you have, is you have little seams in the right places to trip the earth, is very complicated, and it was discovered in Germany the 1930s, like everything else was it was. They finally got round to doing it. Now, here everybody is showing off their latest ideas, they want everyone to: Look, I've done this, that makes you go so much faster, you know, he's then going to do something that keeps moving it on.

It's what the world it has always been around. I mean we've been coming to these events since 82 (whatever sort of thing,) and just learning from each other and driving it forward, we've now got machines that go so much faster than Chris Froome, but you can go shopping in them. In the velomobiles here, just fantastic, the guys rode them all the way from Germany. So...

**Gary:** ... it's a shame that it's a niche market, and on the other hand, as you say, we don't really care about that. We love what we're doing and what we're showing and how we're developing and moving bicycles forward.

**Mike:** But in a sense it's a bit like a Groucho [Julius Henry Marx, comedian 1890-1977], except we're in the exclusive club and we don't care about anyone else, okay.

**Gary:** Yes, Groucho Marx, I can't think of a better way to end this interview. So thank you so much for sharing your thoughts with us, Michael, it's a pleasure.

**Mike:** Hope you enjoy the rest of your stay here.

**Gary:** Thank you very much.



# SOUP DRAGON

BY  
MIKE BURROWS

**MIKE'S LATEST CREATION IS A DISTILLATION OF 38 YEARS OF CYCLE DESIGN, BUT HIS FIRST FULLY-FAIRED 2-WHEELER.**

**WILL HE DROP A CLANGER OR WILL IT BE LIKE SOMETHING FROM ANOTHER PLANET, RELEGATING THE COMPETITION TO THE STATUS OF IRON CHICKENS? IT WON'T BE LONG BEFORE WE FIND OUT...**



I wrote in issue 130 about one of the consequences of this project: the discovery that I can generate a lot more power in the laid back position than on an upright. I did not say a lot about the 'Soup Dragon' itself as work was very much ongoing. Now in April 2018, some twenty months after it all began, the modelling, moulding, sawing and filing are all complete; well, OK there could be the odd bit of filing still to do! But it is now in one piece and has a few tentative miles on the clock.

But why am I here, back to where it all started some 38 years ago?

The answer is Glen Thompson; Glen, like me, was one of the 'Ballantine Boys' working with Richard on the second generation Bluebells. (Having lots of adventures in places like Switzerland and Canada: enough for a future article!) And if I remember correctly Glen's last race was the hour attempt at Millbrook back in '90 which was also my last ride in a 'speed machine'. (xCyclops: x because a window had substituted the on-loan fibre optic 'eye')

Glen has been well away from the laid back world since, but not out of touch. He has been following the developments at Battle Mountain, and, as he has access to lots of digits these days, doing a bit of on-screen doodling, occasionally ringing me to talk through ideas.

By late 2016 he decided that the doodling should stop and something should be done, and was I interested in helping do it?

Having just done something very similar with Miles, my brain quickly referenced the experience and – temporarily editing out the bad bits – had me saying “yes” again, and only later “Why am I doing this?” But by then it was too late: we were on our way.

This is officially a London South Bank University project with the idea that it will be handed on to the students for further developments, but





As all the best projects should, it started with a lash-up

for now all down to Glen and myself; plus HQ Fibre and a few other essential helpers.

Glen, having access to near infinite number of digits by now, soon has what the computer says is the shiniest thing that the world has ever seen.

A useful element of this project is that Glen, like me, has designed, built and ridden this sort of thing before, and so has a good idea of the sort of thing that I will be producing for the 'insides'.

Likewise my understanding of aerodynamics is good enough to know what is needed. This meant that very few changes were needed to our first sketches.

Those familiar with the shape of current record-breakers will notice that Glen has not followed the Matt Weaver inspired long-low nose approach. Front end is shorter and pedals set higher to allow a more pointed

lower-profile and so, hopefully, reduce the ground effect. A bit of a gamble, but little point in just following trends.

Likewise the mechanics: my idea was to keep it simple by using the original 'off-centre

*'Everyone else' seems to think that you need lots of gears to go very fast, and I have always 'known' that you don't.*

steering' single-speed set up that had worked so well on my earlier speed machines.

They were though, tricycles, and did not need to be balanced. Would a bicycle work with, in

effect, no geometry? (Or at least the very radical geometry of vertical head angle, no rake, and so no trail.)

Not a question for a computer, but for Ted, our local scrap man. The question being: "Do you have a couple of old bike frames that I can cut up and re-weld into the lash-up of lash-ups?" Answer was yes, and so some very lashy lashing up was done with pile of rusty steel tubing. Only problem with this approach is that the resultant oddity may well not perform as hoped due to poor construction rather than a flaw in the basic design.

But not this time. Rough and ready it might have been, but it was 'like riding a bicycle', and, despite the obviously restricted steering on the estate roads, could be 'got up to speed' on the landing gear, i.e. in tricycle mode, before getting it properly upright on two wheels.

Others would have been worried

about the gears, or rather lack of them. 'Everyone else' seems to think that you need lots of gears to go very fast, and I have always 'known' that you don't. For a long time I thought that this was down to me being so clever and good looking, but eventually realised that it is due to me being, at least in this context, unique: a laid back designer who is old enough to have been a 'flat-land' English time-trialer. Back then and there fixed wheel was the norm. And having come second in a 12-hour on a day when yachts were losing their masts on the nearby Norfolk Broads, what you learn to do, when riding fixed, is just get on with it!

Helpfully there is a little science to back this up. A nice graph in *Bicycling Science* showing that at half optimum cadence you get 90% of your power. So no need for heavy, complicated and inefficient gears.

Next step is to turn theories into bicycle. South Bank have



150 tooth ring, large enough to serve a round of best

very large multi-axis router, and so some very professional foam plugs are delivered to HQ fibre for them to work with. Lots of work later and we have the smoothest shell I have ever seen. And with the rider access from the rear top quarter hopefully lots of lovely laminar flow.

My starting point for 'insides' is

same as for current Ratracers; so more foam carving and pre-preg wrapping. We are not weight obsessed, but this is a very good way to produce complex shapes. Chain is Renold's lovely 8mm pitch. Rings: 100t plus 150t are laser cut (and a lot cheaper than the 84t TA that the first machine had back in '81. £1 per tooth, if I remember right, and that was when a £1 would buy



The huge rear disk on the lightly loaded rear wheel is all about heat dissipation, not stopping power



Mike Burrows



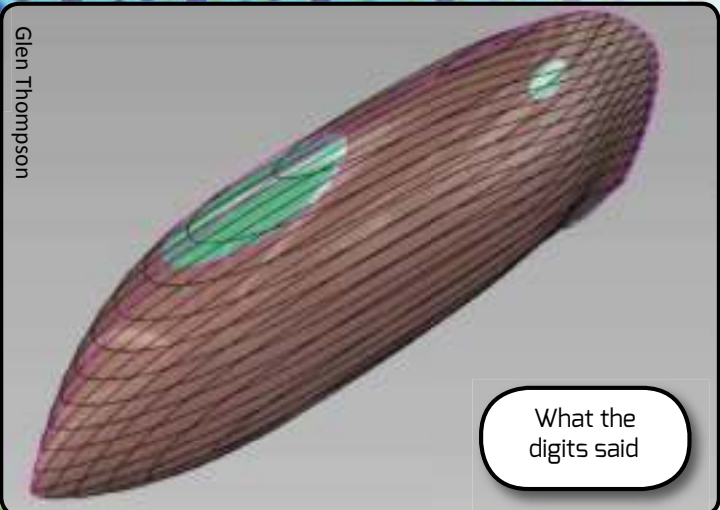
Very little to distract you, control-wise, from the very little of the outside world that you can see

Mike Burrows



As the free end of the axle is slid back and forth in a slot, the driven end wiggles in its housing

Glen Thompson



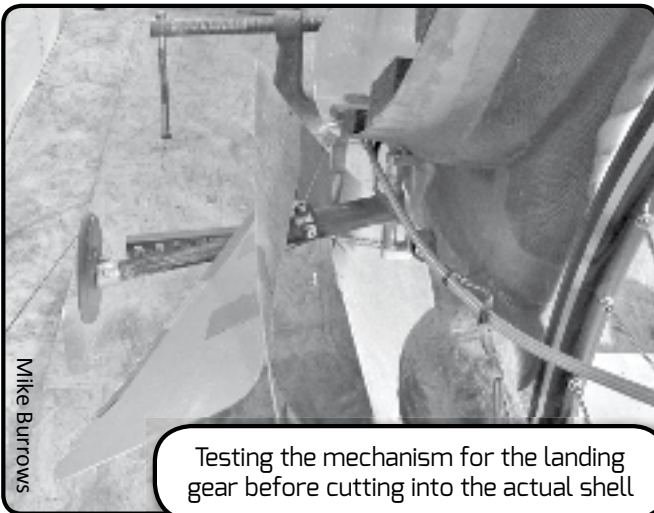
What the digits said

Paul Burrows



Actually quite a few extra helpers





Mike Burrows

Testing the mechanism for the landing gear before cutting into the actual shell

you a round of best.)

So, sixteen months in, there we were; frame and main shell ready to be united. Which is, of course, where the problems start, but had been allowed for. Templates had been made for critical cross-sections to make sure that I fitted in, and a 300mm length of fairing was moulded so that the three point front mountings could be pre-fitted.

Decision was made very early to use a window rather than video; made possible by the lack of head tube and gears in line of sight. Window hole is also very handy to get at bits in the front. It's held in with six 3mm screws.

Shell is made from fine-weave glass with some foam stiffening 'ridges', and with the idea that, as there are no splits in the front, we can gain frame stiffness by connecting close to pedals and

wheel using bolts rather than my preferred 'rubber bands'.

Some calculations and not a little luck combine and frame with wheels in place can just be squeezed through the open rear quarter; and screws fitted courtesy of a half meter long Allen key!

First problem with complete machine is getting in, and more importantly, out. Not for the riding, but for checking things in the workshop. (I do not have any lovely assistants.) Solution is a Zimmer™ bike aid, plus a couple of bits of foam to lay in floor of bike. Also rotatable handlebars to clear my knees. Looking at Jonathan's pics from Battle Mountain this would seem to be a common problem.

So, even before rear lid has been moulded, first trip out to what was RAF Coltishall when I rode the original Windcheetah here back in '81, but is now

Scottow Enterprise Park. Riding first in scuff protective 'bag' feels a bit odd. I had already ridden without the fairing and that felt fine, but now I had the extra weight of a – not totally rigid – fairing that, I would guess, has a subtle effect on all the small steering movements that are part of riding a bicycle. So a bit odd, but safe, and no problems at all with, thankfully, light wind.

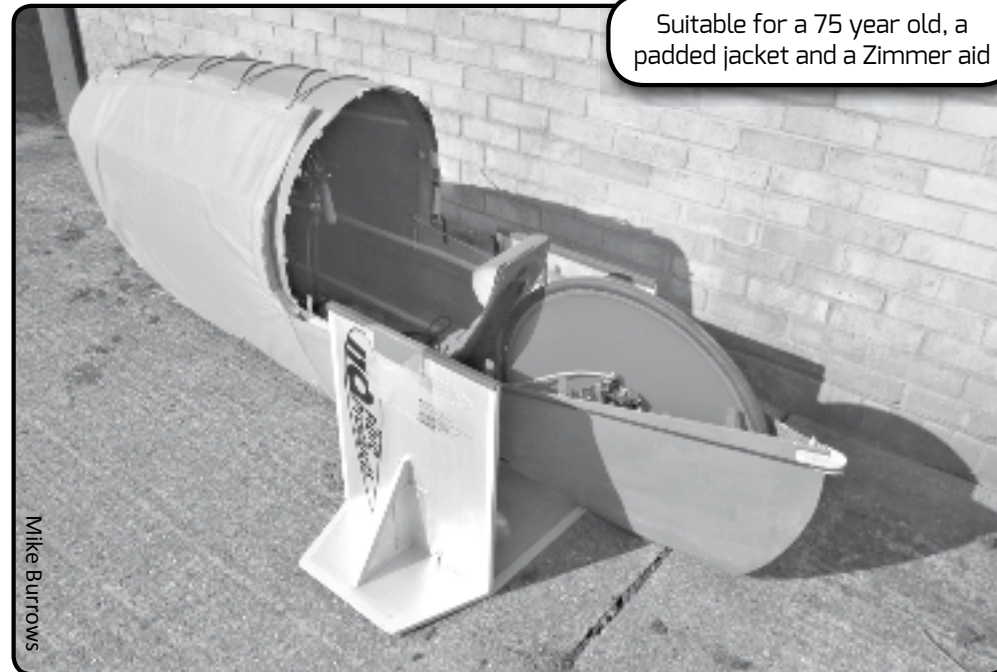
Next with bag removed, and whilst this feels better, being lighter, I am now a lot more nervous as the very shiny shell is now at some risk of becoming a lot less shiny!

But wobbles are controlled and, most satisfyingly, the landing gear does its job perfectly. I can give the steering a 'flick' to go into bike mode at about 10mph, and happily steer and brake with left hand, leaving right to raise or lower the wheel.

Learning curve at this point was quite steep, and it was only on the way back in the car chatting to Andy Pegg about it that I realised that this was the first time I had ridden a faired two-wheeler. Rattle and shake were much the same back in the Speedy days, but those three wheels were so reassuring.

Next session is with lid on, but tyre rubbing.

Finally, once the beast from the east permits, on fifth of April I get to do a series of runs over the one mile or so of runway 'with some effort': and discover



Mike Burrows

Suitable for a 75 year old, a padded jacket and a Zimmer aid

just how real Newton's laws of motion are when it comes to acceleration of mass. To get the excuses in early, Andy was not giving me a full racing push-off and I was braking very early, but the resulting 40mph did seem

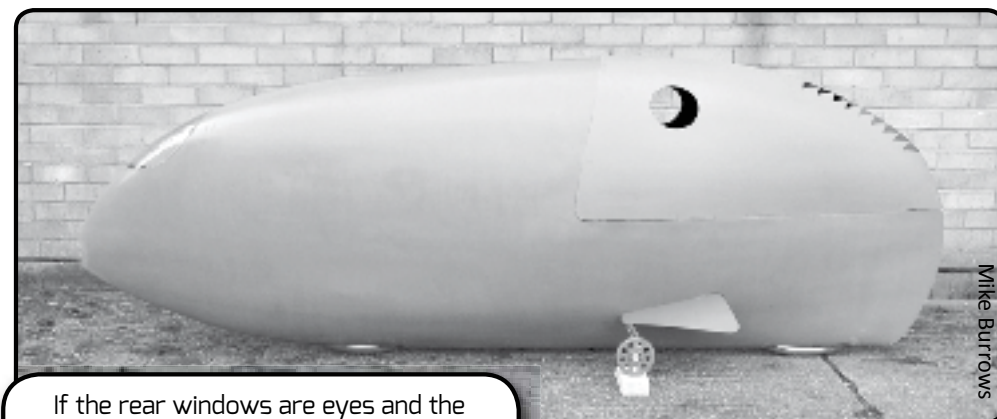
just a little underwhelming. 'Cruising' though at 30 was effortless as you can see from Andy's Facebook post

<https://www.facebook.com/andy.pegg.5/posts/2003186086393358>

So off to Millbrook as soon as we can to check out how fast at a sustainable heart rate, and do we have a winner?

To be continued...

MB



Mike Burrows

If the rear windows are eyes and the nose vent is a tiny mouth, you can sort-of see the head of the soup dragon

In Nandax, France, 19 to 21 July

# HPV world championships 2019

by Marc Lesourd  
of the Association française  
de Vélocouché

**The AFV, Association Francophone de Vélocouché, affiliated to WHPVA organises the 2019 world championships in Nandax, France.**

Nandax is a small village in the gently rolling hills separating the Rhône and Loire rivers. It is conveniently located near the centre of France and thus accessible by train, by car and of course by bicycle. (<http://commune-nandax.pagesperso-orange.fr/index.html>).

This region has some good wines, and local food delicacies that every participant will have time to taste. Indeed a week of cycle touring is planned starting Wednesday 17 July.



*The race tracks of Nandax (orange), NW of Lyon.*

The competition will be articulated over the following races:

- Friday afternoon: uphill race from the village of Jarnosse. 5 Km climb with an average 5% grade
- Saturday morning: sprints 200m flying start and 1 km standing start on a 2.3 km straight line near Vougy.
- Sunday morning: 100km criterium on a 12km lap circuit with about 200m D+ per lap.
- Saturday afternoon (not yet sure): time trial on one lap of the circuit (12 km).

World champion titles will be awarded in the main categories velomobile, trike, two-wheel recumbents unfaired/partly faired.

Some accommodation with or without food will be available at the college farm in Nandax either in rooms or camping on site ([www.ressins.com/accueil-de-groupe/un-site-exceptionnel](http://www.ressins.com/accueil-de-groupe/un-site-exceptionnel)). Other camp sites are located within a few kms. A local restaurant and a food truck will be open during the event.

The closest supermarket is at 7 km in the charming town of Charlieu ([www.ville-charlieu.fr](http://www.ville-charlieu.fr)). The bigger city of Roanne, 15 km away has many shops and restaurants.

All the information concerning the event will be available here: [www.afvelocouche.fr/world-championships-2019](http://www.afvelocouche.fr/world-championships-2019) and also [www.facebook.com/groups/HPVWC2018/](https://www.facebook.com/groups/HPVWC2018/) (note: the name ought to be changed to 2019!). The registration will open in the beginning of 2019, so stay tuned.

## VELHORIZON OR CYCLE TOURING IN FRANCE

For many years informal gathering of recumbents, and not so laid-back vehicles, have been organised in France. Some of them are based on a location chosen for its charm, quiet roads, history, culture,

food, wine or all of these! Some are nomad trips with stages generally in the range of 100 km. They can be organised over a long week-end, but they mainly last a full week in order for every participant to have time to socialise.

For example, during this Velhorizon ([velorizonta1.bbfr.net/t23126-vlorizon-sud-ouest-afv-au-mas-dazil-09-14-15-et-16-septembre-2018](http://velorizonta1.bbfr.net/t23126-vlorizon-sud-ouest-afv-au-mas-dazil-09-14-15-et-16-septembre-2018)) about ten people rode for three days in the footsteps of the Pyrénées. Another example of a week touring in the Cevennes with 30 participants (<http://velorizonta1.bbfr.net/t23123-vlorizon-sud-ouest-afv-le-rozier-meyrueis-48-du-5-au-13-mai-2018>).

Why not try that out in July during the world championships, with the special Velhorizon that will take place from Wednesday 17 to Wednesday 24! Moderate climbs, flat roads near "la Loire", a 80 km long "voie verte" dedicated to cycles await you and your friends/family. Roanne, the main town of the district has even the best restaurant in France ([https://troisgros.fr/page\\_3-maisons](https://troisgros.fr/page_3-maisons), you need to book well in advance). For a cheaper price some sweet specialities can be found Chez Pralus, [www.chocolats-pralus.com](http://www.chocolats-pralus.com). <





## The Isle of Man CC

Text and pictures: Armin Ziegler

**The Isle of Man is famous for cats without tails and for the TT motorbike races. The motorbike races (not the cats) were the reason why - 44 years ago - my wife and I set off to this famous island on our old BMW 500. Not to take part in the race itself, but to watch others roaring with 100 mph through tiny villages. It's amazing what you do when you are young.**



*Visiting the IOM-TT some 44 years ago*

44 years later I'm again on the way to the Isle of Man, but this time for the IOM-CC, the Isle of Man Cycle Challenge. This year it's the first time that velomobiles are allowed to take part in this race.

I filled in the application form and two days later I appeared in the "Riders List" but curiously in the team of the "Blazing Saddles". I mailed that I'm not a member of the "Bleeding Saddles" and that I was coming with a velomobile. The list was immediately modified, but now I was listed as "woman", and that wasn't good either. Laura Mears, who organized the whole event, mailed back: "Thank you for your very funny email and I am so sorry that your saddle is seeping and you have had an involuntary sex change. We will fix it tomorrow." Next day I figured in the Veteran's group with velomobile. Being the only person in the category "Velomobile/Veteran" I'm bound to finish first in my group. Not a bad prospect.

### Across France

Eight days before the race I started my epic journey from Switzerland to the Isle of Man. I figured out that this would give me just about 150 km per day with one rest day, certainly not a too ambitious plan. To save me frustration already on the first day, my dear wife drove me and my velomobile to the Col des Etroits near the Swiss-French border. With an altitude of 1253 m this was also the highest point of the entire journey. Thus it would be an easy run downhill until I reached the blue waters of the Atlantic shore.

However this part of France is not quite as flat as one might expect. The terrain is often undulating, but the ups and downs are not too excessive. Usually I could get to the hilltops with the speed gained in the previous downhill section.

Long distance riding in a velomobile is a dream. With comparatively little effort you can cover quite large distances. And each time you arrive in a town, you are the centre of attraction as in Kortrijk where I stopped my velomobile on the main square. Before I could get out of my contraption, a lady photographer bombarded me with hundreds of questions about my velomobile and my journey. After having taken shots from all angles she said, "I like the way you do silly things in such a nice way."





*Climbing the Montagne de Reims where the Champagne grows*

#### **England from Coast to Coast**

This journey also took me along the C2C, the famous coast to coast trip in the UK. I cheated a bit and took a more southerly route from Hull to Heysham, which is a bit longer but much flatter. For the second day of my C2C-crossing a storm had been predicted. Trees were uprooted and ferries and flights were cancelled but in my velomobile I didn't notice very much. My navigation system was programmed for bicycle routes and these took me over the loveliest but also steepest mountain ridges. And here on top of the hills I felt that there was a real storm going on. Branches were scattered on the road and the crosswinds were so strong that I didn't dare go faster than 30 km/h.



*Crossing the Yorkshire Dales on my C2C ride*

#### **The Isle of Man**

Half past six the ferry landed in Douglas and the rain was pouring down. Maybe it hadn't been such a good idea to book the romantic Hotel "Sulby Glen" at the other end of the island. For it meant another 35 km under rather unpleasant conditions. Never mind, having had 1000 km of sunshine so I should also accept a few drops of rain. The visibility was reduced due to rain and increasing darkness and what normally would have taken one hour took me now two hours. And those two hours really seemed endless. At nine o'clock I reached the Sulby Glen Hotel. And there I didn't only get a very nice room but also a wonderful evening meal, in spite of the late hour.



*The romantic hotel "Sulby Glen"*

### **The day of the Race**

Everything was perfectly organized. The weather was fine and the start was smooth and civilized. On the road you had the impression that the groups of cyclists were on an outing, having a good time. The course was quite flat in the beginning but after 10 km the first steep part began. That's where I could watch all those colourful garments on their racing bikes passing by on my right side. Then followed a section with a nice descent. There I could see the same garments falling behind on my left side. I was cruising at a speed of some 50 km/h when suddenly an orange object appeared in my mirror and whizzed by not to be seen again. That was Ian Perry (of the British Human Powered Vehicle Club) in his DF doing already his second lap.



*Ian Perry in his DF*

After Ramsey I had to resort to my smallest gear. The road climbed quite steeply from 50 to 450 m. Never mind, I didn't have to rush it. With my gearing, 38 in front and 42 in the rear, the grade was manageable. Behind me number 121 was closing up. We had passed each other several times. Jokingly he shouted: „He's cheating, he's not pedalling, he's eating bananas." About the bananas he was right. What else can you do on an uphill section to make the time pass? Slowly the summit came closer and then the big descent began. For 10 km it was only downhill. Not too steep, just right to let it run without too much braking. Of course I had to use the brakes. I don't dare let my velomobile run faster than 60 km/h. Above 60 km/h my velomobile gets nervous somehow and so do I. And then I passed the finish line and the race was over.



### *The big descent begins*

As expected, I was first in my group as there was only one person in the category "Velomobile/Veterans". The circuit of 60 km took me just about three hours, which results in an average speed of 20 km/h. But Ian Perry with his orange DF did the three laps in six hours. And this means an incredible average speed of 30 km/h on 180 km. On the downhill he had a maximum speed of 110 km/h. Neil Fleming in his yellow Quest did two laps, i.e. 120 km at an average speed of 26 km/h.

### **Riding back to Switzerland**

The race being over I still had another 1500 km to travel back to Switzerland. And I thoroughly enjoyed it. Travelling with a velomobile is like having Christmas every day. Every day is like opening a new Christmas present. You don't know what is inside, but you know it will be something special. In Tamworth for instance, a new and extremely charming type of velomobile crossed my way: a bumper car. The owner and I had had a good laugh, each one admiring the unexpected sibling. But there was no time for coffee. The bumper car owner was already late for work.

I passed Coventry with its famous cathedral and drove through London, where a motorbike driver shouted: "You need a flag or you will be so killed!" I wonder whether I would be not so killed with a flag. In Troyes, while I entered one of the nice coffee shops, an elderly lady asked me with a mischievous smile, whether she could have a test ride. "Of course" I said, "but you must be back in half an hour." Well, she didn't dare.



### *A new type of Velomobile*

The last bit of my ride across Europe was the hardest one. To cross the Jura mountains, I had a cumulative climb of 1900 m per 100 km. After ten wonderful days riding through England and France with lots of sunshine and not a single mechanical problem with my velomobile, I reached our cottage on the south slope of the Jura where my dear wife and a warm fire were waiting. It's good to be home again.





*Sunset on the south slope of the Jura*



## TRANS AMERICA BIKE RACE 2018 (#TABR)

Text and pictures: Marcel Graber

**The Trans-America Bike Race is, at 6'900 kilometres length and 50'000 meters of climbs, one of the longest ultra-endurance bicycle races in the world. The rules are simple: there is a starting point, a defined course and a finish line. No time limit - no qualification - no escort - no trophy - but lots of new friendships and unforgettable experiences. This article is about Marcel Grabbers remarkable participation with his Alpha 7 Velomobile in the #TABR 2018**



**future bike ch**

It is an unusually warm morning in November. I am about to undertake a training session, a low-carb one. An emasculated breakfast without bread has taken its toll on me. It's at times like these that I think back on the Trans-America Bike Race. How I did hate the mornings spent there. In the middle of the night, after too little sleep, the alarm clock forces a jump into the damp gear and then it's on the road again, a couple of hours before even the first shops open up.

It has now been a couple of months. The #TABR Facebook group is very active and the first ones are announcing their participation in 2019. Why do something like this? Beats me! I had also never thought it would be like the way it was. The #TABR was my first long distance race. The expense, the doubt and my nervousness beforehand were great: an equation with a lot of unknowns. The biggest challenges were in the run-up to the race. A light velomobile, transportation to the starting line and the equipment all had to be organized and tested.

The starting gun in Astoria on June 20 was deliverance for the 110 participants. The journey there had gone well and I was looking forward to an awesome adventure. In my head I heard my mantra: "take it easy — one step at a time — easy". I wanted to get used to the race in the initial stages. How long a daily ride made sense? What kind of food could I tolerate? Where would I sleep? I hadn't planned any fixed stages ahead of time. To prepare, I loaded the race course onto both my Garmin and my waterproof smartphone. Added to the course on the smartphone were all of the overnight possibilities, eating places and bicycle shops adjacent to the course. That would make it possible for me to be flexible from day to day.



*At the Start of the #TARB in Astoria, Alpha7 and Milan in the front*

The first day, along the west coast, was a dream. After just under 350 kilometres, I turned on the spur of the moment, right before McKenzie Pass, into a Bed & Breakfast. The legs were limber and my mood euphoric. A luxurious lodge with a fireplace in the room and a spacious hot shower. The owner put muffins into the fridge for me for the morning and explained the coffee maker. I was off to a good start.

The search for a place to stay overnight is quite easy in the USA, as long as you have enough bucks in your wallet. There are lots of motels. In most cases, I could roll the velomobile right into the room. I soon abandoned my original plan of camping every second day. The rebound that a warm shower and freshly washed clothes provided was better many times over. Of course, there are also some real dumps such as, for example, a room above a smoke-invested pub with a family of birds nesting in the wall.



*Riding through the Wild West*

As the days went by, I got more and more into the rhythm of the race and was even able to increase the daily mileage every day. Meanwhile, my diet had completely changed over to junk food. Milk shakes. Ice cream. Mushy rolls. Gummy Bears. Coffee with the sweetest of the available flavours. I fell into a rhythm: get up — ride to the first open gas station — after that, a three-hour rhythm of food stops — then look for a motel — wash up — and sleep. All that I cared to focus on was maintaining this rhythm. The fantastic landscapes and the small daily adventures were more than I could process. The long backup for a herd of bison in Yellowstone Park — a bear on the side of the road — turtles sunning themselves on the street — the many unbelievably terrific fans along the course — and much, much more — none of it was real to me and somehow remained in the background. Chuck had told me of one of the participants at the finish line who with the race behind him, could no longer come up with his last name.



### *The future next to a giant dinosaur?*

The first half of the race across the mountains of Colorado toward Kansas went really well. In flat, windy Kansas, I was able to take over the lead with one 600 km (370 mi.) stage. But after that, it got to be really tough. The weather was hotter and more humid, the countryside hillier, the climbs more extreme and I increasingly lost weight and passion. Hitting the road in the morning turned into an ordeal. I needed more and more time, usually several hours, to get into my routine. With great willpower and with the finish line in sight, I struggled to keep my rhythm. In Virginia, the last of my replacement parts gave out and the velomobile was now running with a broken steering plate. I could not enjoy the last stage anymore and just hoped that my machinery would hold together to the finish line.





Yorktown!

I really can't remember what my feelings were at the finish line. I was empty inside. All of a sudden, my purpose in life and the struggle of the past weeks was over.

Chuck and John, the two angels in Yorktown, greeted all of the participants at the monument and assisted them. All of the finishers were very disoriented at the finish line. Despite its name, Yorktown is a small tourist-oriented village: one hotel, one Ben & Jerry's and a couple of restaurants. The two helped in organizing fresh clothes, shelter and transportation to the airport. For once, I was overjoyed by the unbelievable readiness of Americans to help.

After the race, Dave Lewis, the second velonaut asked me if I would participate in the #TABR again. My first spontaneous reaction was "Never!". But now, after some time has passed, the hardships are forgotten and the registration for the North Cape-to-Tarifa race in 2019 is in my mailbox. You will find information and news about my new adventures soon at [www.velonaut.swiss](http://www.velonaut.swiss).



## Recumbents can climb!

### FutureBikeCH Alpine Ride 2018: Straight through the Dolomites

Text & pictures: M. Ammann, A. Gerber, S. Bollina



**future bike ch**

#### Alpine passes and recumbents?

**For most cyclists a recumbent wouldn't be the first choice to ride hills. A small but steady group of riders from the FutureBike around Sandro Bollina started doing an alpine ride with their recumbents in 2011. Each autumn the participants awaits one week of climbing some of the most beautiful alpine passes in Europe. In 2018 the trip started in Scoul, Switzerland and went straight through the Dolomites to Slovenia.**

#### Overview to the FutureBikeCH Alpine Rides

In autumn 2011 it started with the Col de la Bonette, with 2802 m the highest pass in the Alps. Over the years more well-known passes like the Mt Ventoux, Gavia, Mte Grappa, Stelvio, Col di Tenda or the Tour de France Highlights of the Pyrenes followed. Despite all the experience gained on this rides the more than 1'500 meters of uphill climb each day still pose some challenge for even the best trained participants as no one of us is used to do such rides over a whole week without some rest days in-between. Therefore it's better to spend your energy wisely as taking on a hill to ambitious might catch up with you on a later slope.

Don't get it wrong: the alpine rides are not mainly about sports, it's more about the possibility to emerge into some of the most beautiful mountain regions of Europe, taste the local food and beverages and enjoy a great time riding together with a great company.

#### The Alpine Ride 2018

This year's Alpine Ride crossed 19 passes and summits.  
On the following pages are some impressions from the journey:

Day 1 Scuol - Reschenpass - Castalbello



*Riding along the Lake Reschen*

Day 2 Castalbello - Jaufenpass – Albes



*Riding along the Lake Reschen*

Day 3 Albes – Würzjoch – P. di Campolongo – Arabba



*MA climbing the Würzjoch*

Day 4 Arabba – Sella – Corvara



*Getting ready for the famous Sella Ronda*



*Passo di Pordio in view*



*The mighty Sella massive*





*View in Corvara*

Day 5 C. - Passo di Valparola - Passo di Falzarego –  
Passo di Tre Croci - Tre Cime – Innichen



*Passo di Falzarego*



*Enjoying the sun at the top of the Vrsic*



*Tre Cime: fantastic view as reward for a hard climb*

Day 7 Tolmezzo – Bovec

Day 8 Bovec – Vrsic – Wurzenpass – Villach

### **What is in the stars for the Alpine Ride 2019?**

With a light and efficient recumbent equipped with a suitable gear range and moderate baggage you can master undreamed-of challenges and the reward for your efforts will be most beautiful and memorable experiences. In the first eight vintages of the Alpine Ride, more than 60 passes were driven, among them many of the great classics in the Alps and Pyrenees but also many less well known gems. Also in 2018, we were spoiled by some gigantic impressions of the Dolomites.

Sandro has not yet shown his cards as to where it will go in 2019. Will remaining gaps be closed or will there be new areas on the horizon? Whatever I'm convinced that once again wonderful regions with many exciting passes will be waiting for us to be discovered.





# Willem van Wijnen, inventor of the recumbent bike with front-wheel drive

## Everything has actually failed



From *Ligfiets&* 2018-3  
from the Netherlands.

He likes to call himself a hobbyist, but that is an understatement of size. Willem van Wijnen, retired ophthalmologist, has done a lot of inventions and even applied for a patent. In addition, he has been active in many areas, where he was especially interested in the mechanical aspects, but also in other physical phenomena and art, varying from refurbishing and modifying musical instruments, recumbents, electric scooter, faired recumbent, sailing bike, astronomy, archeology, etcetera. He also maintains his old-timers himself (a Citroën).



When he lived in a windmill for a while, he bought an old generator and a package of industrial batteries to generate and store electricity. With that, he could at least make the lights burn, because they do not necessarily need alternating current. He can still chuckle about it, because the danger of short-circuiting – especially afterwards – in his self-assembled installation was not imaginary and the consequences could be great. Quite soon during our conversation it is discussed

that Willem came into contact with Justice at an early stage of his life.

Apparently they had been searching for him for a while, because when the police officer that had stopped him and confiscated his homemade recumbent bike, he shouted triumphantly to his colleague: "We got him!"

During his study in Groningen he then drew attention because recumbents were still virtually unknown. Actually it was a ladies bike on which he had attached the rear part of another bike. The rear frame of that bike came on the front of the ladies bike. This was attached with iron wire, a technique that is still widely used today by surgeons to connect bone fragments together. So technically possible not bad at all, but it did not look trustworthy. The case came to court and there was a conviction, but with an encouragement from the judge to continue developing. The punishment was imposed on confiscation of this historic prototype and a fine of ten guilders. Willem can still laugh at it, and at the time he wasn't angry at all, fitting with his phlegmatic character.

He was not very satisfied with a first prototype, but with *Cha-Cha Bike* number three he cycled around for years.

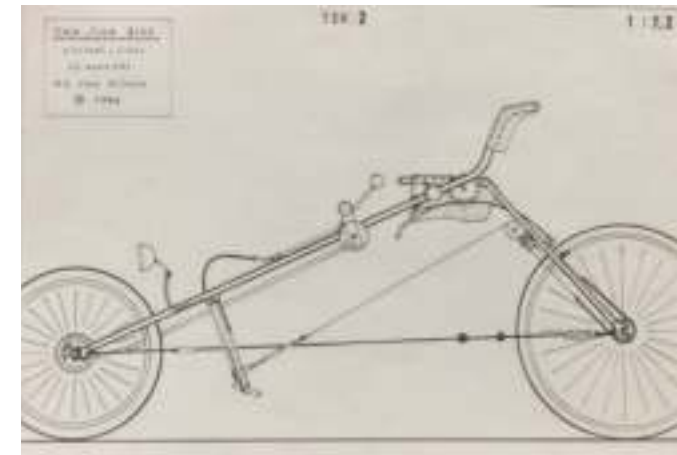
Only after his studies did he become active again in cycling. He lived at twenty-five kilometers from his job and wanted to cover it by bicycle. The front-wheel drive was preferred and so he embarked on his previous experience. Meanwhile he had learned to weld, this gave new possibilities and thus the *Cha-Cha Bike* was born, a name derived from *Charming-Chair Bike*. He was not very satisfied with a first prototype, but with number three he cycled around for years. The vertical rods to the rear axle and ball head had to be able to carry, so they were made of tubular steel. A horizontal connection between them only needed to absorb tensile forces, which he made from steel wire and tension springs, just like the suspension of the Citroën 2CV. This was light, strong and springy. These bikes have the reputation that it takes a while before

om te verschijnen op  
ter terechtzitting van het Kantongerecht te Groningen, Kammerdag 1. JULI 1963, ten tijde dat hij te en in de gemeente Groningen,  
op of omstreeks 20 maart 1963, te ongeveer 12.00 uur,  
als bestuurder van een tweewielig rijwiel daarmee heeft gereden  
over de voor het openbaar verkeer openstaande weg, de Herebrug,  
terwijl dat voertuig niet van deugdelijke bouw en inrichting was  
althans rijtechnisch niet in voldoende staat van onderhoud ver-  
keerde, immers was dat voertuig niet van een normale trapinrich-  
ting voorzien, doch was aan de voorzijde van het frame van dit  
voertuig een (gedeelte van het) frame van een ander rijwiel met  
een trapinrichting, die op het voorwiel van dat voertuig werkte  
door middel van metaaldraad bevestigd, welke bevestiging niet  
deugdelijk was, waardoor dat voertuig niet voldoende stabiel was  
en was de bestuurderszitplaats zodanig aangebracht, dat de  
bestuurder zich in half-zittende, half-liggende houding op dat  
voertuig bevond, waarbij de bestuurder niet in staat was de rem  
(terugtraprem), waarvan dat voertuig was voorzien, onder alle  
omstandigheden behoorlijk in werking te stellen, terwijl voorts  
dat rijwiel niet was voorzien van een deugdelijke stuurinrich-  
ting;

The 1963 warrant.



Willem van Wijnen first recumbent bike in 1963.



Design for a bike with string propulsion 1984.

you can cycle. But that was no problem for Willem as an inventor, he had already gained experience during his student days. Yet it still took a week. The secret to making the bike more manageable was in the slanted position of the ball head under the seat. So it was possible that patients in the waiting room saw a sweaty cyclist entering the treatment room and were later called in by the same person, now a well-dressed eye doctor. At that time Willem and his son also participated in competitions, not always with success. Especially in agility competitions they had to make it against easier to handle bicycles. At that time, the eighties, recumbent bicycles were still in their infancy and he looks back with emotion at the monthly technical evenings and the technical day that was combined with the general members meeting of the NVHPV.

Cycling through the wind made Willem long for better protection against the wind and rain. For this he developed a frame with the shape of an oval. Within this oval he could sit and of course there were the usual ingredients such as front-wheel drive with



*The complete Van Wijnen collection in 2008.*



*Willem's son on a Cha-Cha Bike 3 in 1986.*



*Ecocar 2000 in 1992, with a closed hood.*



*Cha-Cha Bike 8 with Willem's daughter in matching clothes. The bike's hood now is open.*



> slanted position of the headset and the spring construction. The frame was made of aluminum plate, which is strong and light. By making a lot of holes in it, it became even lighter. The frame was right in front of his nose, so an opening had to be made to look through. Above was a mirror to look backwards. Protection against rain was provided by installing a kind of awning on both sides. In nice weather this was collapsed, but in rain it was folded out. In strong winds you could still get wet through the open side, but it still gave a very decent shelter. A second version was more refined. The frame was much narrower and you could look past it, so you had a much better view.

Later on he switched to an *Alleweder*, which is still in use after more than twenty years. However, he has now built in electric support, for which he had to adjust the rear axle construction. The special bikes are still hanging in the shed, although some of its products do not exist anymore after moving to another home several times. When we walk to his bike shed, he says, albeit with a smile that everything in the field of cycling has actually failed. Only Flevobike has made a few hundred bikes with a front-wheel drive, but that is now over. He himself has always greatly enjoyed his inventions and the realization of it. As a creative talent, he must also have been a huge source of inspiration for other home builders. And he still continues unthinkingly. For me, he demonstrates his violin made from a table leg and a trumpet end (you read that correctly!) The sound is led to the trumpet via a rod from the comb and via a recording hump. This allowed him to practice violin between the patients without disturbing other employees. He also works on an astronomical measuring instrument ('Astrolabe') that he makes from brass plates. It is a precision instrument that was already used in ancient times to calculate, among other things, sunrise and sunset. At that time it was a prestige object for the rich to impress visitors. Willem is already impressing me after a small money investment and a hundred hours of work. Presumably he has to go to this for another four hundred hours of monastic work!

In between, he has made an electric scooter based on a skateboard. The steering wheel is only for supporting, giving 'gas' and braking. Steering is done by moving your weight, which changes the position of the rear wheels. And he designed an electric folding bike without a headset! The standing rod to the rear wheel and the rod to the front wheel cross each other

**Electric support in the Alleweder, a table leg as a violin, an astrolabe, an electric folding bike without headset, chain nor pedal... Willem will build it.**

and in between is the seat, consisting of a few simple suspended straps. The two rods are simply separate from each other. There is no chain or pedal, your feet rests on supports on the axle in the front wheel. So you can only ride electrically. The stability comes from cables and springs that tension when you sit down. If you stand next to it, you fold easily the rear wheel forward. Goethe already said: "In der Beschränkung zeigt sich der Meister", or *less is more!* If you invent something like this, you have risen to a great height. <



*Willem van Wijnen on his electric bike in 2018.*





*My first recumbent bike.*



*My second racing vehicle.*



*Third velomobile, current project.*

# Bicycles for everyday driving

*by Alexey Ganshin  
from Ukraine*

**My name is Alexey Ganshin, I am the founder of the community of recumbent bike lovers in Ukraine. Our club was created in 2010. I myself have been developing bicycles since 2007.**

In the beginning I wanted to create a racing vehicle, and the first attempts were directed at this. Two prototypes were created, which, however, did not develop good speed. After the formation of the club, I no longer engaged in races, except for a few attempts to participate in races with vertical bikes. There are no more than 20 active enthusiasts in our country with a population of over 40 million people. I was very inspired by the sites about velomobiles from Europe, as well as the races in the state of Nevada. In 2012, I wrote Sam Whittingham, and he answered me. Then he was still a world champion. I still have his gift – a T-shirt, which I have never put on – there was no suitable occasion. Videos from races in Europe for me and my friends were like from another planet where alternative bikes are more common.

In our club we are mainly engaged in developing bicycles for everyday driving. But each for their own personal goals. The club itself meets once a year to share experiences.

I am constantly engaged in developing new models, taking into account the changing needs in transport. And I used this designs for everyday trips alone and with children. All the time I tried to create a velomobile, but I lacked experience. And only 11 years later, I gradually get to the desired result.

As a result of the political situation in our country, the club also experienced a split. Many participants dropped out. We also broke the connection with the Russian club.

When we talk about the future of HPV as a means of transport in Ukraine, I unfortunately do not see good prospects. For me, this is primarily a fascinating activity and an ability to create something new, to conduct research. A small income comes from selling seats, but one can hardly call it a business. <



*Trike for a kid.*



*Family HPV.*

# The benefits of a solar panel on a velomobile

by Denis Bodennec,  
Vélobile club de France

**I have often considered the idea of grafting a solar panel onto one of my electrically-assisted velomobiles. A little crazy perhaps, but it would have the benefit of charging the battery continuously and thus extending the maximum range.**

Also it might be possible to create an energy-independent machine, which is the Holy Grail for transport.

## CHOICE OF EQUIPMENT

For mounting the solar panel, a *Quattrovelo* is ideal because the rear section (luggage cover) can be opened. This will lift the solar panel clear and allow easy ingress/egress for the rider. Furthermore, its 4 wheels increase stability, which will be useful because we will be adding mass at height. The solar panel, the MPPT (voltage inverter 12V to 54V) and the battery charging electronics will be bought from Déclic-éco. The panel will have a maximum output of 100Wp (watts-peak).

## INSTALLATION ON THE QUATTRO

First, it was necessary to find a way to mount the solar panel without ruining the velomobile's aerodynamics. With help from Patsy Garrett, I found

the NACA aerofoil profile that seemed suitable for use. It will be installed above the luggage cover. At first I imagined installing three support legs, one at the back and two at the front. And it must be removable quickly and easily.

After a few hours of work here is the finished result. An added advantage of the *Quattro* is that the panel can be tilted at an angle to capture the best sunlight.

## THE FIRST DYNAMIC TESTS

I noticed quite quickly that there was a small loss of speed, which was confirmed by watching video of the woolen threads. The two front support legs were too close to the peak of the luggage box, thus constricting air flow.



*Bird's-eye view for estimating the panel surface.*

So I decided to replace the two support legs with a single mounting bracket. Immediately I felt the difference: combining this type of fixture with the panel results in a loss of maximum speed estimated at just 5%. This was validated by a test during which the speed peaked at 100 km/h while descending on a straight smooth road. Best of all, the velomobile did not fly away – thus validating our choices of profile and 3° negative angle of incidence.

## SOLAR INPUTS

100 Wp for a solar panel corresponds to the maximum production value with a perpendicular sun. Knowing that the sun brings the equivalent of 1000 W per m<sup>2</sup> and that panel is 0.5 m<sup>2</sup>, we should have 500 watts, but as we get 100 watts it means that the output is 20%. This is currently the performance of the best consumer panels.

It is also important to cool the panel, hence the NACA air intakes underneath. Too high temperature can cause a loss of between 15 and 20% of production.

On a sunny day when I made the trip to Josselin (Brittany), about 180 km and maximising the velomobile's time under the sun, electricity produced

*Rear view showing the two front support legs and the back one, also the underside of the aerofoil before setting up the panel.*



*The panel can be tilted to capture the best sunlight.*



*The woolen threads are used to visualize air flows.*





*I replaced the two support legs with a single mounting bracket.*

was just over 10 Ah or roughly 500 W. I had consumed about 800 W for the hilly ride with luggage. In this ideal case of a totally sunny day, a panel capable of 160 Wp would have been required. Overall and after a few thousand kilometers with the panel, it can provide around 50% of the electricity needed.

#### THE BALANCE SHEET

A solar panel has the advantage of bringing free energy, but on the other hand there is extra mass in the order of 4 to 5 kg (2 kg for the panel, same for the support and the remainder for cabling and the inverter). On days without sunshine this becomes dead weight.

There is also the issue of integration on the velomobile, which is not always as simple as on a *Quattrovelo*. I have an idea to fit a larger panel of around 160 Wp, but mounted differently on the *Quattro*. Optimum would of course be a panel with double the existing performance, but for now that is unaffordable. <



# Liegeradclub Vorarlberg

von Werner Klomp Dez. 2018

Presentation of our recumbent club.  
We are a loose community with over 50 members of both sexes and ages.

## Why so many in Vorarlberg

Hermann Wohlgenannt opened a special bike shop (FahrradPur) in Dornbirn 22 years ago. He was able to inspire a lot of persons to cycle lying down. Also our recumbent club was founded 22 years ago, where we meet regularly in this small region. Then there is the company Velomobilize, which sells Velomobiles, repairs and makes parts for Velomobiles, here in Dornbirn. This is also a place in the Vorarlberg where many enthusiastic Velomobile drivers meet regularly.

Our club evenings take place once a month, in addition we meet regularly for spontaneous, and planned trips. Some destinations for our excursions are the Degersee, just above Lindau, Steiniger Tisch near Thal in Switzerland, Alpengamping in Nenzing and many more. For some impressions see photos.



Some persons drive records or races. But that is not the goal of our club, rather being relaxed together, driving a recumbent bike, have beautiful excursions in and around the mountains and around Lake Constance. This excites us, having a lot of fun together. This area is just great for cycling, and what more do you want when it is lying down.



## Lake Constance meetings

An annual event is our Lake Constance meetings. This is most inquired with me about the velomobile forum, and then we organize for three days various restaurants and trips on the eastern side of Lake Constance. Here meet drivers of recumbents, trikes and Velomobiles arriving after several hundreds of kilometers to the meeting. There's a lot to talk about technology and much more. We meet in the winter, summer, fall or spring and accordingly the weather is like that. So I remember the Lake Constance meeting in the winter of 2013 when it was really winter. With many velomobiles for the 10km's from Dornbirn to Bregenz we needed 2 hours, as in that time so much snow fell that it was very tough. But we made it ...

At the summer Lake Constance meeting in 2013, it was just the other way round. With 40 degrees Celsius we drove from Dornbirn to Walensee with 25 velomobiles, no one without sweating. It's always great when so many recumbents meet and make a common trip. I look forward to the upcoming Lake Constance meetings, which are sure to be regularly organized by us.



Liegeradclub vöbg.







# Charles Mochet

## Godfather of the Laid-Back Bike

by Bob Cordon Champ

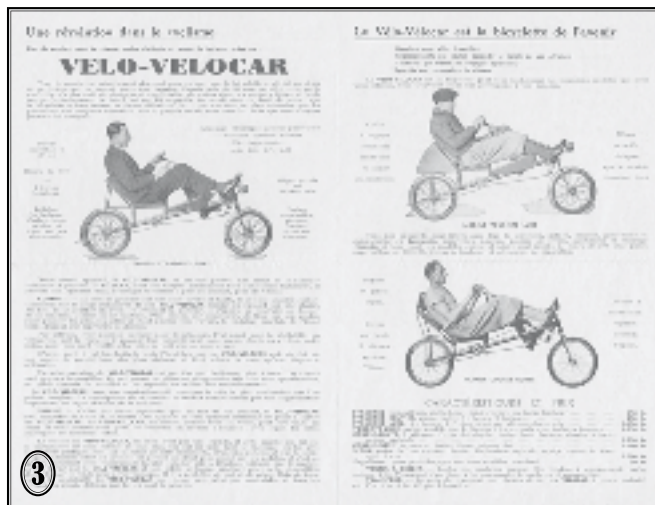
Bob Cordon Champ of the Veteran-Cycle Club is an authority on the revolutionary recumbent bikes designed and built by Charles and Georges Mochet in the 1930s and '40s, as well as owning three of them himself. In September 2015 he brought one of these to the BHPC race at Curborough and was happy to make it available for anyone to try riding it. Although mostly defeated by the highly idiosyncratic universal-joint steering, those who attempted it were left with a greatly increased respect for the achievements of Francis Faure in setting his world One Hour records on similar machines in the 1930s.



Charles Mochet (1880-1934) was a minimalist, a French vehicle designer and engineer whose creed was that if it wasn't there, it couldn't go wrong. He constructed a simple cycle-car, 'Le P'tit Auto' with limited success but found a niche market with 'Le Vélocar', a side-by-side, crab-tracked, sociable quadricycle with a twin-tube chassis and streamlined bodywork. In an age before the popular motorcar invasion of the road system, these found favour with couples and also with large amusement parks who rented them to holidaymakers, a number surviving in Marseilles into the 'seventies.

The little vehicles also proved to be fast and one was tried out as a bicycle pacer on Mochet's local track, the Parc-des-Princes velodrome, where it proved unstable on the banking. Mochet's answer was a single-track bicycle version, still using a longitudinal-tube frame, and equipped for a very reclined rider with handlebar steering. This, probably the first recumbent bicycle built with speed, rather than relaxation, in mind, proved very fast indeed, if useless as a pacer, being far too aerodynamic.

Mochet marketed road versions as the 'Vélo-Vélocar', in penny numbers from his works at Puteaux, Paris, and decided to attempt competition, presumably with sales in mind. The problem was finding a rider, all professionals approached from the tightly-controlled French track- and road-cycle



world refusing. Eventually two were persuaded; Manuel Morand for the road, Francis Faure for the track. Faure was the brother of the famous Tour rider Benoit Faure, but his own winnings had been limited to one Six-Days in 1931.

But, on the Vélo-Vélocar recumbent, Faure flew, beating a total of eight track records at Parc-des-Princes in 1934, including the prestigious 'Hour' at 45.055 Km, beating Oscar Egg's record from the 'twenties, long thought impregnable.

Sales took off and other firms, including Grubb in the UK, produced variations, all hotly discussed in 'Cycling' (see Further Reading below).

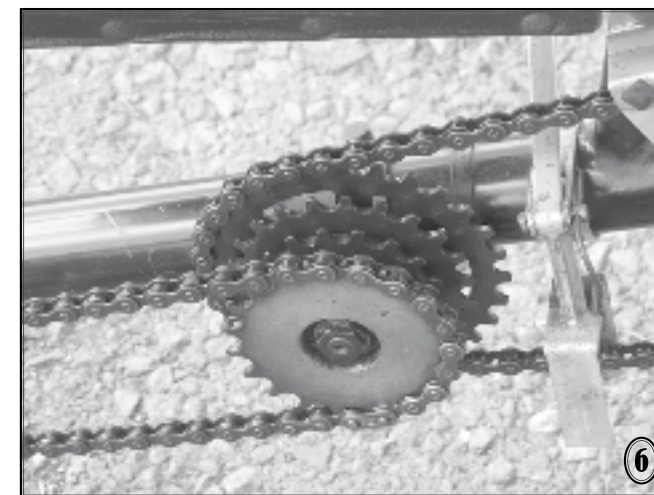
Despite Mochet having verified the V-V's legality and conformity in writing with both the UCI and UVF governing bodies, the UCI, prompted perhaps by an outcry from makers of traditional cycles, banned the recumbent from all UCI-controlled bicycle sport - a ban still in effect - while creating a detailed specification of what could be considered a bicycle



which excluded the V-V and also creating a new category, the HPV. Faure's record, perfectly legal when created, was erased from the history of competitive cycling. Charles Mochet died soon afterwards.

For a limited time, Morand rode as a one-man outfit against teams in road races, doing very well, but that came to an end, the developing market for road recumbents effectively finishing with WW2. Faure continued to break records up to 1939 with a series of faired HPV two-wheelers with Georges Mochet. Post-war, he had a bicycle shop, selling his 'Francis Faure' brand of conventional cycles with 'Recordman du Monde' on the head-badge [See front cover].

The road versions, now vanishingly rare, were built on three main long-wheel-base frame variations [Picture 3]. The original model, shown here in 'Course-Route' (Road-Race) specification [Picture 4], was fitted with Mochet's own three-speed derailleur, with that



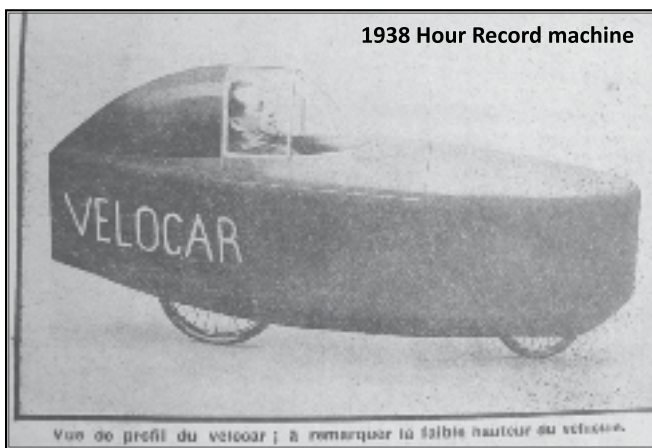
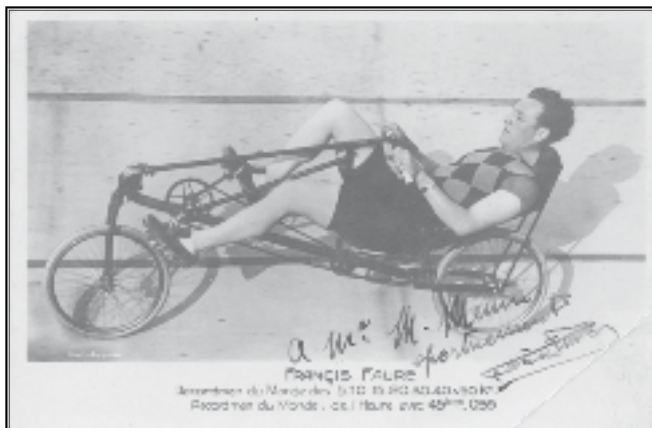
under-seat change 'by feel' and complex bevel-gear steering by an over-seat column. It was easily converted to 'Race' by removing the QD 'guards and lights and changing to narrow tyres on the drum-braked wheels. All-steel, the specification of the sole surviving example is as shown [specification table].

The road versions are the 'V-V', (a visitor at Curborough, 2015 [photo on back cover]), again with Mochet's derailleur

mechanism with that 'invisible' gear-change but with a simpler, Hooke-joint, steering system and more alloy in the construction [Pictures 6 & title spread]. Easy to ride, their market was limited by being built to measure with little rider adjustment possible and thus, it seems, being hard to sell on. They were also very expensive.

The expense and inflexibility





of the 'V-V' was partly answered by the simpler 'Vélorizantal' development of 1935 [Pictures 8&9], with a sliding frame adjustment and a larger rear wheel, single-g geared. By this time, Georges, Charles's son was in charge and this may have been his take on the original design. The 'Vélorizantal' sold in greater numbers, perhaps because of the reduction in price and was followed by the last Mochet recumbent, also titled 'Vélorizantal', briefly produced in 1940-41 with equal-sized wheels and a Cyclo four-speed gear [Picture 10]. Only two examples are known of and no catalogue has yet been found.

Ironically, the original 'Vélocar' four-wheeler gained a new market as wartime transport in Occupied France where petrol was unobtainable, the factory making as many of a simplified model as they could buy tyres for. No new recumbent bicycles were produced and the factory moved into 125cc micro-car economy vehicles post-war under the late Georges Mochet, surviving until 1956, the buildings in Rue Roque de Fillol being demolished only recently.

BCC

#### Further Reading

"Vélo-Vélocar and Vélorizantal", Bob Cordon Champ, Velo Vision Issue 33 (March 2009)

[www.mochet.org](http://www.mochet.org)

Copies of articles from Cycling magazine in 1934 discussing the new bicycle designs are available online in the Veteran-Cycle Club Library ([www.veterancycleclublibrary.org.uk](http://www.veterancycleclublibrary.org.uk))

	Vélo-Vélocar Type 1 Modele 'Course- Route', c. 1932-33 <sup>1</sup>	Vélo-Vélocar 1934 <sup>1</sup>	Vélorizantal 1936 <sup>2</sup>	Vélorizantal 1940 <sup>1</sup>
Wheelbase	1480mm	1430mm	1410mm	1480mm
Weight	19.0 kg	14.5 kg	N/A	17.8 kg
Height	980mm	1030mm	1100mm	1100-1120mm
O/A Length	1970mm	1930mm	1950mm	1960mm
Front fork	Double crown, 30cm	Single crown, 36cm	Single crown, 36cm	Single crown, 36cm
Tubing	Steel: 40, 22, 12, 10mm	Steel: 40, 22, 12mm	Steel: 40, 22, 12mm	Steel: 40, 22, 12, 10mm
	Alloy: none	Alloy: 22mm	Alloy: 22mm	Alloy: 22mm
Lights	none	Vitalux	none	Vitalux
Dynamo	none	Vitalux	none	Vitalux
Chain, Front	Vita, 146 x 1/2x1/8	Vita, 147 x 1/2x1/8	none	none
Chain Rear	Vita, 90 x 1/2x1/8	Vita, 96 x 1/2x1/8	Vita, -- x 1/2x1/8	Vita, 228 x 1/2x1/8
Levers	Mochet, steel	Pélissier, steel	Pélissier, steel	Pélissier, steel
Handlebar	Steel: 22mm, 42cm	Alloy: 22mm, 38cm	Alloy: 22mm, 38cm	Alloy: 22mm, 38cm
Grips	replacement	Elté 'Lux' rubber	replacement	replacement
Front Hub/Brake:	Chavanet 70mm drum	Chavanet 70mm drum	Chavanet, none	Chavanet 70mm drum
Rear Hub/Brake	Chavanet 70mm	Maxi 74mm 'Criterium'	Chavanet 70mm	Maxi 74mm 'Criterium'
Rim, Front	Perfecta 450, 30mm	Perfecta 450, 30mm	Perfecta 450, 30mm	Perfecta 450, 30mm
Rim, Rear	Perfecta 450, 30mm	Perfecta 450, 30mm	Anon 30mm	Perfecta 450, 30mm
FrontTyre	450x37 or 450x55	450x55 'Ballon V-V'	450x55 Michelin	450x55 Michelin
RearTyre	450x37 or 450x56	450x55 'Ballon V-V'	24 x 1 1/2 x 2 Michelin	450x55 Michelin
Derailleur	Mochet; Moyne block	Mochet; Cyclo block	none	Cyclo 4-speed
Pedals	RFG, steel	Lyotard 460, alloy	IDEAL, steel	Lyotard 460, alloy
Chain-wheel	Cyclo Rosa 40/32T	Steel 38T	Steel 56T	Verrot & Perrin 52T
Crank length	167mm	167mm	167mm	167mm
Centre block	24, 20, 16T; Output 26T	28, 22, 17, 13T; Output 20T	none	none
Rear sprocket	13T	13T	20T	28, 22, 17, 13T
Mudguards	Dural, QD fittings	Alloy, anon	Alloy, anon	Darnault 'Novacial'
Stays	Pressed steel	Alloy, round loop	Alloy, round loop	Alloy, round loop
Bell / Pump	Elté / replacement	Elté / Elté	none fitted	Elté / ad-hoc
Paintwork	Black enamel	Black enamel	Maroon enamel	Black enamel
Plating	Nickel	Chrome	Chrome	Chrome

Original Equipment used by Etablissements Mochet, 68 Rue Roque de Fillol, Puteaux, France  
Makers: Vélo-Vélocar and Vélorizantal bicycles

1: Owned by Bob Cordon Champ

2: Conservatoire du Vélo, Moret-sur-Loing, France



# Founding an HPV club is not easy

by Jiří Hebeda

**There is not really any single one club for Czech HPV riders that would function in a similar way as NVHPV or other national HPV clubs.**

The closest we get to this is probably Jan Friedl and me starting Czech Randonneurs which we registered with Audax Club Parisien in 2015 in order to be able to organize officially recognized brevet rides. The two of us probably represent about a third of Czech recumbent riders interested in any tours with more speed. The remaining several hundred people riding recumbents here seem to have no interest in racing or anything similar. Some even see it as some kind of insult to their idea of recumbent riding which is comfort, comfort and comfort only.

The two of us have been to Cycle Vision races several times including the world championship in Tilburg in 2009. However whenever we tried to organize any sort of race or racing weekend like this in Czech it always died in planning stages. Of the less than 10 people interested half could not accept the date set according to the other half etcetera. When it started looking like it might be the two of us and one other guy racing we just gave up. We then started doing brevets, hoping to attract others to join us, which sort of worked. Usually about half our brevet riders drive a recumbent bicycle. However the total numbers are staying low with the top being 20 riders starting and 16 finishing our 200 km tour in 2016.

A few years ago another group of recumbent riders emerged who started claiming to be organizing a Czech recumbent championship. It turned out their ideas of what kinds of races should be there had zero in common with the racing format we have seen in the Netherlands, United Kingdom or Germany. None of the organizers of this "Czech recumbent championship" have ever been there.

We tried to help but they basically did not want our help. This event was held two consecutive years with not much racing done there and after the last time they announced that they well morph it into just another regional recumbent convention. So from racing trikes around some plastic cones they go back to riding pub to pub. I even heard one of the organizers had voiced dissatisfaction with the fact that the racing was interfering with beer drinking. So at the moment the closest Czech recumbent riders get to any performance riding is our brevet series. And since my serious ankle injury in 2017 I am just an organizer for those, no riding for me. We would like to have some future cooperation despite the fact not much is happening in our country in the hope of gaining some experience and one day getting us closer to having racing weekends like your Cycle Vision. <



# Harbor Tour Antwerp

*by Gert Jan Reilink  
from the Belgian HPV*

**During our holiday on the Mosel I saw a Facebook message from Bethje. She would like to take a bike ride through the port of Antwerp... She wants to see the big boats.**

And let that be my playground for the Sunday afternoon. So familiar territory. During the week it is actually too busy to cycle, but many parts are quiet and abandoned during the weekend. So ideal for a tour. When returning from vacation I had contact with Bethje and planned a route.

Place of departure was the Decathlon in Antwerp. Easily accessible for everyone. And just outside the Low Emission Zone. This means less chance of fines for the people who came by car. An excellent

place to start the journey. Near the Fiets-o-strade (bicycle highway) direction Essen. Near the Scheldelaan that leads to Zeeland. And near the Albert Canal that goes to the east.

Only disadvantage: no coffee in the neighborhood. The coffee shop did not open until 10:30. And the cafés at the cinema later on.

We were with a nice group of about 10, including a number of disabled riders. Bethje had asked for a quiet speed, around 18 km/h. After a quick cup of coffee left via the Luchtbal district towards Fiets-o-strade. I still know the Luchtbal from 10–15 years ago when it was still gray. The renovation of the neighborhood is really nice. It is a pleasure to cycle





through. The Argentine lane brings us quickly to the Fiets-o-strada direction Kalmthout. We soon passed the Ekeren station. The diversion due to work in progress brought us on a nice short-cut path towards the cemetery. And from there smoothly towards the bicycle bridge over the A12 to the Bospolder. Boy, what was the road surface of that bridge in a bad state. After a short stop in the Bospolder via the Noorderlaan to the only thing left of the village Wilmarsdonk, the church tower, all alone between the containers in the port. It was fun cycling. During the week it is very busy with trucks. Now we were master of the road. Riding four trikes next to each other. Awesome.

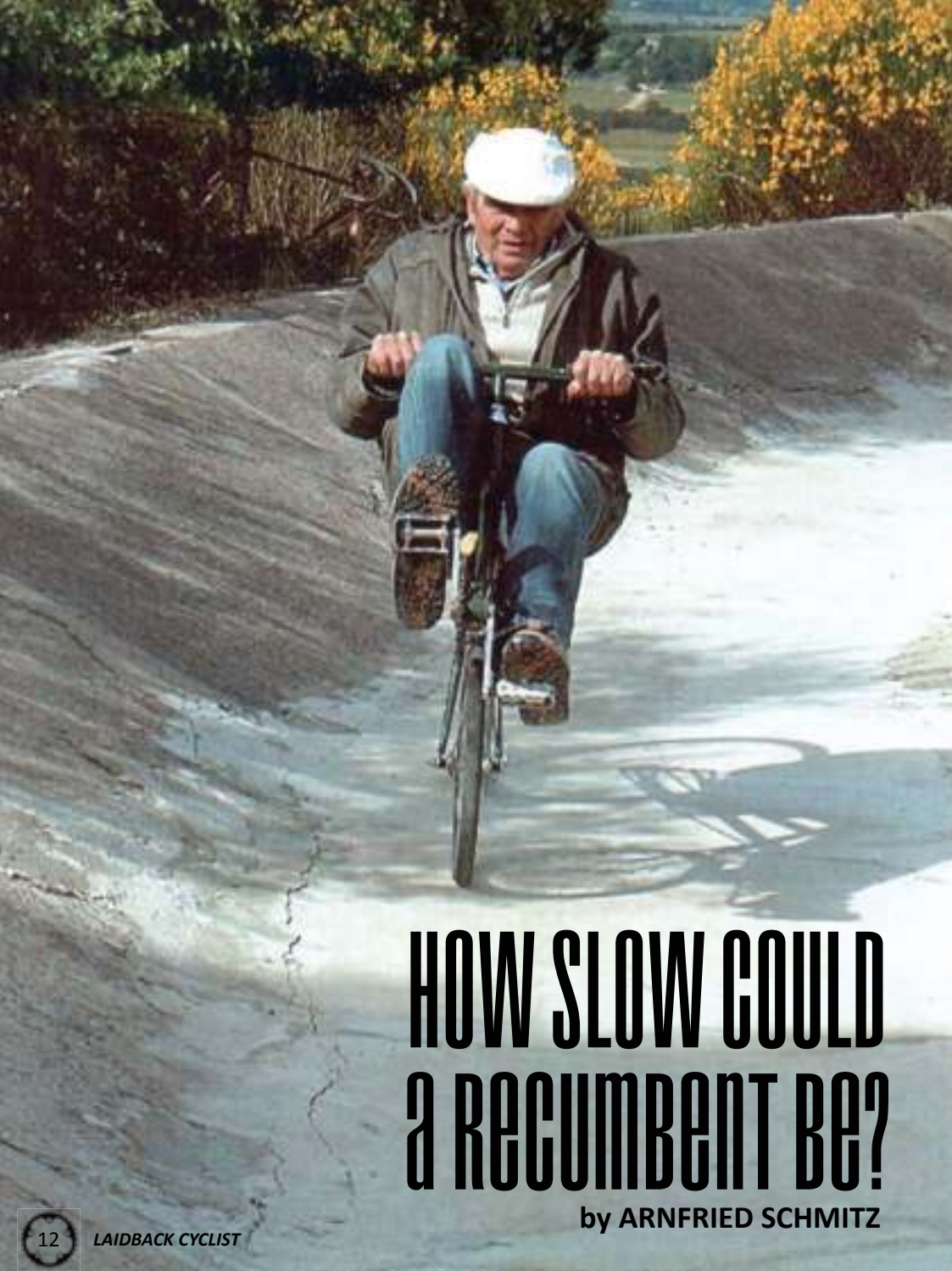
Then via Fordbruggen, Oosterweelsteenweg, Lichterweg to Oosterweel Church, which seems to have sunk 6 meters in the ground. In reality, the port area was raised by 5–7 meters during construction. To be able to see a few large boats, we drove further to the Van Cauwelaert lock. A hunger started to gnaw, but no restaurant in the neighborhood. Then quietly back towards Antwerp. The view on top of the dike was beautiful. Helped by the sunny weather we all had a holiday feeling. In Antwerp Lucien found at Bocadero at the Waagnatie a wonderful place for lunch break. With enough drinks and food in the stomach the journey continued through the Museum at the Schelde. Adventure at the elevator, at park Spoor

Noord and then via Antwerp Dam to the bicycle bridge to Merksem. And from there back along the Albert Canal towards the Decathlon.

It was a great day. It was really a great group of riders. And yes, low-speed trips are fun. No accidents, everyone can follow the group and there is enough time for sightseeing. So if Bethje once again asks for a trip, then it is definitely worth repeating. We have not seen the really big boats today. They stay further north on the river Schelde. Maybe we should organize something for that. <

Track <https://ridewithgps.com/routes/2840566>





# HOW SLOW COULD a RECUMBENT BE?

by ARNFRIED SCHMITZ

12

LAIDBACK CYCLIST

I have been interested in human powered vehicles since 1983 and I'm always pleased to read how they get quicker and quicker over the years. The ABSOLUTE top-speed is about 140 km/h! The speed of cruising is less known but it is well over the 30 km/h for a velomobile with a sporty rider. This is the speed stipulated more and more in European cities to calm car traffic!

Over the years I built quite a few machines but never rode them in races. Cycling for health issues was the thing I needed and which was possible for me. Retired from my goat herder's job, I joined the cycle club associated with the Cavaillon velodrome 20 km away, a track some 500 m long from the stayer's period. I rode my recumbents in the pack and switched to uprights for the road outings. My speed was about 25 km/h. Veteran mode...

For a lot of different reasons, I decided to build a 120 m velodrome at my small estate. It was a three-year affair, which left me completely exhausted – but also pleased with the result of what an elderly man can do with a shovel and a wheelbarrow against everybody's advice. Meanwhile, on the Cavaillon track, my speed had dropped to 15 km/h. That's exactly the speed of utility cycling for the past 100 years all over the world.

I got my truelove to cycle with me. That was very nice, but after



Sporting Moulton front suspension, 2014

several years my velocity had dropped so much that Madame lapped me every three laps. Trying to keep up to her speed, I was exhausted for the rest of the day. A new machine plus some testing on a home-trainer was needed.

The testing showed that 15 km/h requires as few as 20 watts. Above 20 km/h the power needed rises quickly to 50 watts, only possible for me for a few minutes. Mrs Schmitz abandoned this minor road works; and I, standing behind, considered building the ultimate slow-going machine. No, that's not a heavy roadster, as it uses too much of the few watts remaining to move the weight.

My ideas were realized in the two most recent machines:

Seat as high as a chair and as minimal as possible. A convex seat with a slightly concave back-rest. Padding with 2 cm

hard foam gives good comfort and is simple. There is enough space for a 700c rear wheel to give the flywheel bonus. The front wheel is 406 or 369 mm. Narrow bottom-brackets from Burrows Engineering at the front and BMX pedals. The chain guides are inverted rear derailleurs for the two-and-a-half chain with fixed wheel.

The version with Moulton front fork needs a second jockey-wheel, unfortunately on the tensioned chain section. All these bearings give additional rolling resistance losses. The suspended version feels comfortable, as bumping adds to general fatigue, but it is 2 kg heavier. The lighter version (from cannibalized Reynolds and Columbus frames) is 9.3 kg.

Wheelbase: 103 cm

Fork-angle: 63 degrees

LAIDBACK CYCLIST

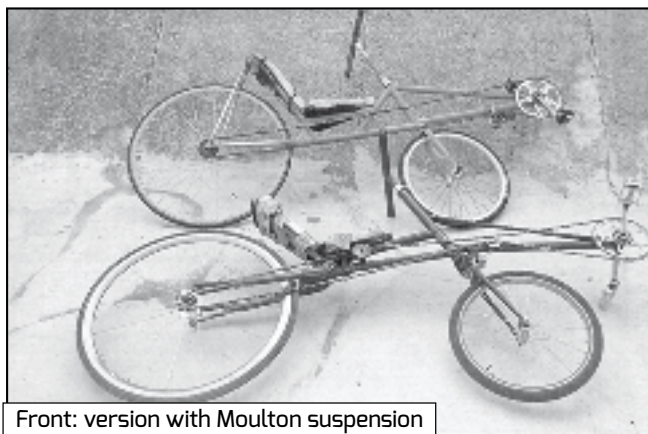
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When I passed the age of eighty years, there was the emotional shock: "You are really old now". And the second downer was that I got too tired when cycling with the normal gear-ratio. But I found a 30-tooth chainwheel which, with a 20-tooth rear-sprocket, changed my cycling, because I did the 120 m in one minute, 7.2 km/h. This was happy pedalling: if you are alone on the track, you are always first past the post. There is a limit however, as going slower is not possible, because this is the minimum speed for balancing. Of course, I always have the option to ride a trike, but this is very boring on the circular track. Steering and balancing a machine is a great feeling but a trike does not need these here on my circle.

The story is not yet over. The French health services have discovered that the pills to combat hypertension (which I have swallowed every day for at least a decade) have, besides the benefit of lowering blood pressure, the downside of tiring people out. And there are other pills which enable me to upgrade the gear-ratio again! Also, I regained some interest in life and am busy reviewing my fleet of uprights. Thus I discovered that the Bianchi with Shamal wheels is incredibly fast! So I now have to fit two pairs of these ceramic bearings to the recumbent and find out what will happen.

**Arnfried Schmitz**



Front: version with Moulton suspension  
Behind: lightweight version, 2014



The last one



Comparing dimensions, 2017-11-15

**Back Cover Picture: Some fairings taking the air before cleaning, 2013**

# SPECS

by GEOFF SEARLE



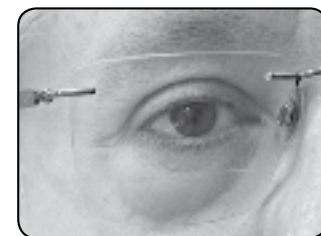
I have worn spectacles since I was 5 years old, so I am very used to them & because of my interest in photography I have also realised that I am very picky about clear vision & good focus. Happily of course cycling along with squash are sports where specs are actually an advantage rather than a hindrance, so I can justify having a set of glasses specifically for recumbent cycling. Even for those of you not requiring corrective eyewear you may have realised that stick bike cycling glasses are actually upside-down as they sit high on your face with a gap by your cheek when recumbent cycling actually needs them down low with any gap by one's eyebrows. Note where the eye & eyebrow are in relation to the lens.

The position of the lens is

particularly important if, like me you are "mature" and require bifocals or varifocals which require careful placement of the close vision segment. My standard glasses have the bifocal segment at the level of my lower eyelid, which is the usual position.

I need to see my handlebar mounted speedometer or sat nav and I no longer have the flexibility to manage 20cm to infinity with a single vision lens. I wonder if many of us push our glasses down our nose so we can drop the reading segment lower when cycling? I found this irritating when I changed to a more laid back seating position, so I decided to have custom made glasses, which in the end were not much more expensive than commercially available cycling glasses with inserts. Crucially of course I needed to have the bifocal segment lowered and it's important to remember that as the lenses are close to the eye small differences in position have a significant impact. Note how much lower the lens is compared to both standard a cycling specs.

Obviously you have to have a friendly optician and I suspect it's inevitable that one needs



to go frameless in order to have the maximum extension of the lens towards your cheek. After finding a frame & the largest lens blank they had, the optician needed me on my bike to judge where the reading segment sat & then had to "free hand" the shape of the lens. I had mine made with light sensitive lenses as I want to use them all the year round and for me they work really well and [touch wood]! haven't had misting problems...

**GS**

# Problems in Paris

By Wilfred Brahm,  
photo Roel Bosch,  
map Treinreiswinkel.nl

I prefer to talk about my heroic deeds but sometimes there is a sad story that needs telling, so that others may learn from it... After a successful cycling trip to southern France, to visit some relatives, I took the train back. I now had a beautiful sturdy bag for my foldable low racing bike, my faithful *FFW Munzo*. Last year had taught me that I should get onto the TGV before it stops in Nice. Lots of people board the train in Nice and nearly all the luggage racks are full.



I now had all the space in the world and a friendly Australian helped me to carry the package to its place, right next to my seat, ideal to keep an eye on it. So far, so good.

The trip to Paris was uneventful and once there a kind Frenchman helped me to haul the package off the train again. I was in no hurry because I had 50 minutes to cycle from Gare de Lyon to Gare du Nord.

But it takes more time than you think to fit the bike together again, attach the bags, fold up the big bag and exit the station. Then you find yourself in the station square and you must search for the right

direction. You first have to walk part of the way because you are in a one-way street with the traffic going the wrong way and then finally you are off. It is fun and spectacular to cycle through Paris on such a low bicycle and it went relatively fast in spite of a great many red lights and occasional roadworks. And so I got to the Gare du Nord where I found that my train had already left, ten minutes before.

## A new ticket

There you are then, in this monumental building crawling with travellers. First step, the service desk. When it is finally my turn the clerk calls out: "Ah, le Thalys. You need to go to the Thalys office, just outside the station." Fortunately it was just round the corner and I was helped straight away by a friendly man. It was very simple, my ticket had expired and I had to buy a new one. Ordering a new ticket from the machine was easy but paying for it was not. The friendly man was not friendly enough to help me, I should buy a new ticket inside the railway station.

The queue for tickets abroad counted about 40 people, who were let through a door in small groups. It was soon clear that I would not be able to catch the next Thalys which meant a delay of at least two hours. Once through the door I had to draw a ticket with a number on it and found that there were still 40 people ahead of me. After a long wait it was finally my turn. Choosing was easy, all that was left were first class tickets. Two hundred and twenty euros, a bit of a shock. When I got back to the hall my faithful *Munzo* stood there waiting.

I had twenty minutes left and the gnawing feeling of hunger in my belly was getting worse. It was around 6 p.m. so I decided to go to the Burger King, not my usual choice. I put my bike against the window, after all it was only for a little while. Also, I had never even locked it once during my trip to France. Who would steal a recumbent bike? Ordering via a machine took longer than I thought and when I looked back I noticed that my *Munzo* had gone!

I went outside, perhaps the police had taken it because it had been wrongly parked? But I could not see anything. I walked round the block to see if anyone had taken the bags and left the *Munzo* which is not your typical article to trade. But there was nothing in sight. What next? Report to the police?

I envisaged that I would not only have bought my expensive ticket, but would probably end up paying for a hotel in Paris as well. Neither did I expect a horde of gendarmes to search the streets for my lost bike. So, miserably, I boarded the train. I wanted to get home. The loss of my *Munzo* and my hamburger both weighed me down. I had just got settled into my wide comfortable first class seat when I heard a tinkling noise behind me. A friendly Thalys employee was handing out drinks and food for the first class passengers: for free!

## Shoulder bag

What next? I filed a report with the Paris police. This can only be done in writing, you have to supply a brief explanation and a photograph of the *Munzo* but you do not get any reaction. Not even a confirmation of receipt. And I registered with a French website for lost property but also without success, unfortunately. I fear my bike has ended up in the scrapyard. And the bicycle bags and their contents? They were quite old and the insurance money to replace them would be nowhere near sufficient. I never bothered to contact the insurance company, also because the bike was not locked. Fortunately I still had my shoulder bag with my wallet, my Phone, my GPS and my spare glasses! <



From Ligfiets& 2018-3  
from the Netherlands.





# Breaking the 24-hour world record by Nici Walde

Text and photos  
Gerard Arends



Within our recumbent bike world there are several record hunters. These record times or distances are recorded by the HPV organisation. One of these record hunters is Nici Walde. She wanted to break the 24 hour record.



At the moment the existing record distances are: men: 1,219 kilometers, 50.8 kilometer per hour, Christian Ascheberg on August 1, 2010 and women: 1,011 kilometers, 42.1 kilometer per hour, Petra von Fintel on July 12, 2015. The main attraction at such an event, of course, is the participant cycling round and round. This often happens in relative quiet. There are a few observers and time keeping is doubled. Apart from that, few spectators, no music and no press. Nici, however, turned it into a real spectacle. She got support from car manufacturer Opel who organised the track, much press and facilities for the observers, time keepers and the public. This turned it into a fairly large event.

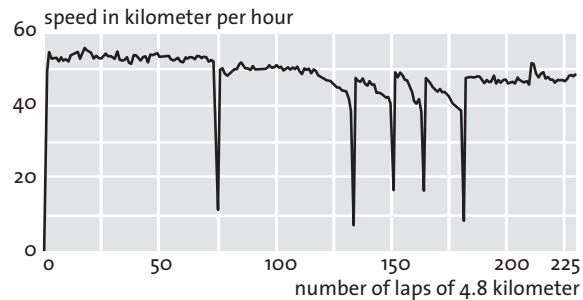
1,088 kilometers!

Apart from Nici there were three other record attempts. Ellen van Vugt also wanted to have a try. Confidently Ellen started cycling at 8 a.m. Unfortunately she found after two rounds that things were not going at all well. The glittery rising sun blocked most of her view of the track and made it impossible to carry on. Shame for all the trouble but good practice. You don't get a chance such as this every day!

Nici starts her attempt at 10 a.m. Quite a challenge, cycling around round for 24 hours. She can pause whenever she likes, all that counts is the number of

kilometers. Often these record hunters have a pre-conceived pause plan, but Nici apparently did not. After 8 hours there is an intense downpour fogging up her windscreen. This forces her to stop and clear the screen and create more ventilation to make sure it does not fog up again. After this downpour she also has a mental setback. Her speed goes down from 55 kilometer per hour, to a steady 51 per hour. After 12 hours the lap times decrease sharply. It is then 10 p.m. A mental dip? After struggling for an other hour she stops. Not to give up (what we were afraid of) but to get new courage. Then follows a period where things go less well. Falling speed and another break. This happens four times. The observers are beginning to fear she will not make it. But after a fourth break, round 6 a.m, she picks up the pace again and completes the 24 hours. 1,088 kilometers, an improvement of 69 kilometers!

Nici's world record.



At 10 p.m. Melchior Poppe wanted to attempt the record of 6 hours on a open bike. He completed the 6 hours but did not break the record. The attempts took place at the Opel test track in Dudenhofen. It is not an oval track but a perfectly round track of just over 4.7 kilometers. [www.youtube.com/watch?v=5T66bWf5fVo](https://www.youtube.com/watch?v=5T66bWf5fVo).

The next 24-hour event is being planned already. Jan Kranchock intends to organise a 24-hour competition in Tilburg, the Netherlands, on Ascension Day in 2019. This is to celebrate his 50th birthday. He invites teams and individuals to take part. A great occasion for the stayers among us. <



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