

Sheldon has a bigger online presence than any other single bikie; and the shop he works at, Harris Cyclery, has the shop-honors, thanks to Sheldon and owner Aaron Harris. If you're a bike person and spend any time at all on-line looking for stuff & answers, chances are you know of Sheldon Brown and Harris Cyclery.

The thing is, you can think you know somebody by the words they write on-line, but in Sheldon's case, it's not true. On line, answers and communication in general tend to be, and probably ought to be, concise and declarative and accurate to the bone—then on to the next thing. Sheldon, for all his wordiness, is fairly like that, and as a result, he seems more of an opinionated, folded-armed curmudgeon than he is in real life. In real life, he is friendly, humble, and self-effacing. He's even jolly. You'd never know you were talking to Sheldon Brown, unless you started asking questions about really arcane stuff that you don't really expect to get answers to, and the answers start flowing...and flowing...and flowing. I'm not saying he's unfriendly on line, it's just that in real life, he's a super friendly, *really* nice guy.

And of course, he is the fountain of knowledge that you'd expect him to be. If there is somebody with more all-around bicycle knowledge—and by that I mean knowledge and first hand experience with anything from Sturmey-Archer to The Weirdest of the Modern Weird—let him come forth. I say there is none. This is a long, whopper-of-an interview. I hope it doesn't seem too long. I asked a lot of questions, and well, Sheldon's answers were thorough. I could have chopped it down a lot, but I didn't want somebody else to come around and do a more thorough interview.



## A Talk With Sheldon Brown

RR: How old are you and when did you start liking bikes?

Sheldon: I'm 57, and have liked bikes as long as I can remember. I learned to ride a two-wheeler when I was six, like most people, on a 20" wheel fixed gear with solid rubber tires. Later, I got my sister's Rollfast 24 inch wheel balloon. It was too big, so I had to mount "cowboy style" on the fly for several years. That was my bike 'til I was in junior high school. I used to ride it in the woods, as well as on the street. I had stripped off all of the non-essential parts, fenders, chainguard, kickstand and so forth and painted it red.

This bike allowed me to explore other neighborhoods and towns, as far as 6-8 miles from home. My father crashed his plane when I was 9, and we moved to Marblehead, Mass., a funky little seacoast town where I didn't know anybody. With my father dead, I had to learn to maintain my bike myself. I was a shop rat at Marblehead Cycle, a small one-man shop run by Jim Loftus on a part-time basis. He befriended me, and taught me the rudiments of bike repair. He was not a very respectable person, and was reputed to have a drinking problem, but he was always very nice to me, and I treasure his memory.

Were you a normal bike kid, or, let's say, a young Sheldon Brown?

I was a solitary, bookish, friendless kid, small for my age, and picked on. I liked to hang out at the Town Dump, and noticed bike parts were plentiful. I found an Austrian J.C.Higgins (Sears) 3-speed that was all complete except for a front wheel—and remembered seeing a nice looking front wheel on the other side of the dump. I put them together and had my first multispeed, lightweight bike. After this I started actively assembling bike from parts to sell for spending money.

**So...a young Sheldon Brown. How did you become so smart-about-bikes? Lots of people have been into bikes as long as, but few have learned as much about them.**

Well, I didn't just ride them, I worked on them and put together strange bikes from disparate parts. I built my first tandem when I was in high school, from a couple of Raleigh 3 speeds. I rigged it with drop bars in front, and a 6-speed gear system (Sturmey-Archer 3-speed hub with 2 sprockets and a Benelux Mark VII derailier.) Marblehead was an early nexus of interest in better bicycles, and I had a couple of fellow outcast friends who I would sometimes

ride with.

When I was in high school I learned about butted spokes, and rode 20 miles to Cambridge to get some. I took apart my perfectly good rear wheel and re-built it with butted spokes, and I did it without any instruction. It came out fine, and I rode it for several years. I was the only person in my senior class who rode a bike to school. My high-school yearbook mentioned my "43 speed racing bike" but it was really only 12 on the old Elswick.

**Who were your influences, and who are your influences? And name some books, some bike books.**

In the '50s and '60s, I was desperate for written material about bikes, but there wasn't much out there. The American Youth Hostels handbook had a fairly extensive section, and there was Gene Portuesi's "Cyclopedia" catalog which also had a lot of useful text. Ed Townshend, the parts manager at the Bicycle Exchange was very helpful to me. He was the one who supplied me with Benelux conversion kits and other exotica. Also, Fred DeLong was like a god to me in those days.

**Well, he was like that to everybody. I think riding a bike now and not knowing who Fred DeLong is, is like being a black pro baseball player and never having heard of Josh Gibson or Jackie Robinson or Satchel Paige. How did you get into bikes professionally, and what did you do before?**

After a year at Berkshire Community College in Pittsfield, Mass, I had squandered the nest egg my grandmother left me, so I moved to Cambridge, and sold hi-fi equipment for a couple of years. Then later I sold shoes, oil paintings, and stationery. I broke my ankle in a car accident in 1967 and was laid up and out of work for a while, then Timothy Leary told me I should turn on, tune in and drop out, so I did that for a while, keeping body and soul together by driving a cab. That's about when I kicked my 3-pack a day cigarette addiction, on June 14, 1967.

I had a bit of awe of the trade of bicycle mechanic. In the early bike boom, probably 1973 or so, I got a job at the Bicycle Revival in Cambridge. It turned out I knew more than anybody there except the head mechanic, and he left a couple of months after I started, so I found myself head mechanic of a fast-growing shop that rapidly ballooned into a chain of 15 shops. Among the mechanics who worked under me were a 14 year old high-school kid named Peter Mooney, now a noted framebuilder, and Pete DeFazio, now representing Oregon in the U.S. Congress.

I left the Bicycle Revival with 4 of my colleagues (including Stan Kaplan, inventor of the Kryptonite lock) and started the Bicycle Repair Collective. People could come in and use the tools and equipment for a small hourly rate, plus consult mechanics for assistance at a separate hourly rate.

Around this time I started teaching a class called "Fix Your Own Bike" at the Boston Center for Adult Education, which ran for quite a few years. It was never a roaring success, but has managed to hang in and is still going, under the name "Broadway Bicycle School."

I first got interested in photography in 1969 when my girlfriend bought a broken camera cheap. I took it apart and fixed it, and started taking pictures. Soon I had a little dark-room in the bathroom and was carrying a camera everywhere. I started looking for more broken cameras that I could fix up, and this led to a job as an informal apprentice. I went into camera repair full time, with S.K.Grimes Camera Repair in Boston. This was initially just a two person shop, Steve Grimes and me, but gradually grew to become one of the top repair facilities around. I became Service Manager, and that's where I got my first exposure to computers, setting up a system to track repairs on an Apple II+. As a camera repairman, my specialties were mainly German: Retina folders, Contax rangefinders, Rolleiflexes and Zeiss stuff in general. In the mid '80s, S.K.Grimes Camera Repair was bought by a larger company, and I got laid off. I went back into bikes, first at Belmont Wheelworks, later at Frank's Spoke 'n' Wheel in Waltham. I started at Harris Cyclery in 1994.

**I imagine you shoot digital mostly these days...it's more practical for the web and all. Anyway, say some of your thoughts on cameras....**

I love fine cameras as I love fine bicycles. I'm particularly fond of some older German cameras. I used to carry a folding Retina IIIc everywhere I went in a home-made belt pouch. I'm also particularly fond of Rolleiflex twin-lens reflexes and Contax rangerinders. When I was a camera repairman, these were my particular specialties. I also own a bunch of Graphic press cameras, 2 1/4 x 3 1/4, a customized 3 1/4 x 4 1/4 and a couple of 4 x 5s, plus a snazzy Arca Swiss monorail 4 x 5 view camera. I really enjoy working with 4 x 5, and will explain the Scheimpflug principle at the drop of a cable release. In the late '70s, I got serious about photographing bicycle racing, and did a lot of racing photography in my part of the country. I was good, but I could never make it pay.

Mostly I use Nikon, and I've got Nikons going back to the early '60s and can use my latest lenses on them. Nobody else does that, except Leica. I own probably half-a-dozen Nikon bodies, ranging from a couple of original Fs, an FG and a couple of 2020s.

I'm afraid, though that, just as SPD pedals caused me to retire my extensive collection of Lyotard 23 platform pedals, my Nikon 990 digital camera has caused my collection of silver based equipment to gather dust. This is an amazing



Aaron Harris, better known as Sonny Harris, of Harris Cyclery. Sheldon's boss, and apparently a great one.

and wonderful tool.

## **Who is Harris? How does he or she react to your website and the contribution you make to the shop?**

Aaron Harris is an absolute prince of a guy and the best employer I've ever had. He's the first person in the bike biz to let me spread my wings. He isn't a tech guy, but he's a great "people person," and a good judge of character. He gives me a free rein.

I first got on the Internet, via AOL, in 1994. I soon got heavily involved in email lists, particularly the BOB, HPV, and Tandem@hobbes lists, as well as a couple of local ones. I enjoyed answering people's tech questions, but noticed that many of them were repeat questions. I started accumulating a few "boilerplate" responses that I could paste into an email when a familiar question was raised.

By late 1994, it occurred to me that this could be a good way to disseminate tech information, and it might also help promote the shop. I spoke to Aaron and proposed a Website. He agreed, and we were one of the first half-dozen bike shops to have a Website, it went up December 4, 1995.

It started out with a few re-cycled magazine articles, including my universal Cyclecomputer Calibration Chart (still one of my most popular pages!) I had been writing for bicycle magazines since the early '80s, first for *Bike World*, then *Bicycling*, later *American Bicyclist*.

## **What sort of freedoms do you have at Harris? What are your main jobs, and what is a typical day like?**

I'm generally at the shop about 7 hours a day, but also spend a LOT of time doing shop business at home. Everything lives in my Mac iBook, which commutes with me every day on a shoulder bag. I do the first batch of email in the morning at home, then ride to the shop.

My work area at the shop is cluttered. I'm not tidy. I've got a mechanical work area with a big rollaway tool chest, a big workbench with 2 vises and a bench grinder, a separate wheelbuilding area, and a computer desk for the iBook.

It's all in the cellar of the shop, so I don't see the light of day, but I don't mind. I've got a decent sound system with a 25 disc CD changer. The CD changer generally has a mix of classical, celtic, folk-rock, French and Québécois folk music, sometimes a bit of jazz and Broadway stuff.

## **What's all that stuff, how long have you liked it, what normal groups or popular music do or did you like, and where do you get Québécois folk music?**

My favorite group is called Oysterband, a Celtic-flavored British group—the best band since the Beatles. They're a bit like the Pogues, without alcoholism and not so gloomy.

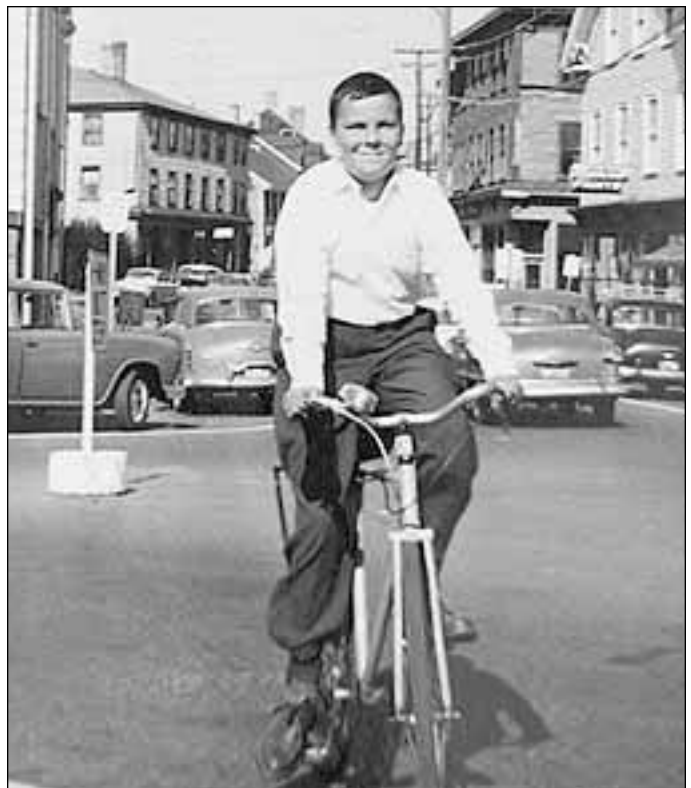
Québécois folk is a blend of Breton-French sources with Irish tunes and instrumentation. Lately I've also been listening to a lot of Russian opera; I'm a major Shostakovich fan,

and Mussorgsky really floats my boat! I'm also very big on Gustav Mahler, Benjamin Britten, Leos Janacek and most of the mainstream "classical" composers...except, for some reason, I've never been a fan of Mozart. This probably is the result of some sort of character flaw.

Current pop stuff I like includes They Might Be Giants, Moxxy Fruvous (my kids introduced me to those two groups), The Austin Lounge Lizards, the aforementioned Oysterband, The Men They Couldn't Hang, The Bobs... I never listen to commercial radio, so I don't really keep abreast of pop trends.

I'm spending less and less time with a wrench, more and more on the phone and the computer. I get an awful lot of phone calls and email questions from customers and others. Sometimes these calls and emails generate orders, but more often than not I'm just helping somebody out. I'm fortunate to have Jay Jackson and Shari Heier to help me out with this, and to pack and ship the orders.

I also spend an awful lot of time purchasing. I purchase repair parts and parts for resale, also some accessories and specialty bicycles. There must be 20 vendors I deal with, some of whom only sell us one or two key items. Our mail order market niche is mainly hard-to-find parts. We specialize in fixed gear/singlespeed stuff, English 3-speeds and parts for older French bikes. We also sell a lot of parts for updating/upgrading older road bikes...triple cranks, wide range freewheels, tall stems, etc. When I do pick up a



Sheldon at 16, in 1960. The bike is his first multi-speed, built from an Austrian Sears J.C. Higgins frame and parts from the town dump.

wrench it's mostly something fairly non-mainstream. I do a lot of conversions of older road bikes to fixed gear, and also convert a lot of others to have more gears, STI shifting and so forth.

#### Describe your riding: Commuter, tourist...what?

My background is mainly touring. I did a fair amount when I was younger, and even when our kids were young. When we lived in France in 1988-89, and my kids were in the French equivalent of kindergarten/second grade we toured around on two kidback tandems. As the kids got older, they had less time/interest for cycling, unfortunately. With our recently emptied nest, Harriet and I hope to get back into some touring again. These days, most of my riding is commuting. I always commute by bike, except when I have to transport something big or heavy.

#### How many bikes do you own, what are they, and which is the one you ride most of the time?

This is not an easy question for me to answer. I'm still a dump picker at heart, and am always accumulating recycled parts, which I delight in assembling in unorthodox juxtapositions. There's a bit of a gray area where the actual bikes trail off and the parts pile begins. There are also various bikes rescued from different sources piled under my front porch, most of which probably shouldn't count. I'd have to say that the number of actual usable bikes that I might ride is 30 or more, including 3-5 tandems, and at least 10 fixed gears. One of the things about having so many bikes is that every month or two I'll dig one out that hasn't been used for a few months, pump up the tires, hop on and...Wow! I'd forgotten how much I liked that bike!

I guess, if I have to pick a favorite, it would be my new Hetchins Magnum Opus. I've lusted for a Hetchins for many years, and was fortunate to snag this frameset on eBay. The seller said it probably dated from the early '80s, and the original owner had returned it to Hetchins to have some extra braze-ons applied and a repaint. For one reason or another, it never got built up, so it looks brand new. It's the only Hetchins I've ever seen with cantilever studs...I'm guessing it was originally made for 27 inch wheels, and the canti studs were a nice solution to making it work with 700c wheels.

I'm afraid some of your readers may want to burn me for a heretic for how I've set it up, but it was just a frameset when I bought it, and I have very little affection for old parts that don't work as well as new ones, and certainly wouldn't pay a premium for derailleurs that don't work as well as a \$20 Shimano...

Well, nothing works *better* than a \$20 Shimano, but I think every cyclist should have the experience of shifting with the first rear derailer, the cambio corsa or whatever it was called...the one that goes on the seat stays--before complaining about derailleurs. They're all a luxury, they all do fine. A \$20 or \$40 Shimano shifter is...well, it's almost a shame that they're the starting point these



Family photo (Mom wielding camera?) From the left: Sheldon on 20-inch Rollfast with solid tires; sister Arlen on her Rollfast; brother Richard on his Rollfast; father Brown, no Rollfast.

days. It's fine and all, but it's like growing up in a mansion with servants, if you ask me.

Well, if you're concerned by the decline of moral fiber due to the way technology has made life easier, it seems to me that better targets would be weatherproof houses, central heating, motorized transport, mass communications and public health, but I don't buy the "noble savage" myth. I'll share with you one of my stock of quotes:

**In recent times, modern science has developed to give mankind for the first time in the history of the human race, a way of securing a more abundant life which does not simply consist in taking away from someone else.**

—Karl Taylor Compton, 1938

That may have been true in 1938, but not now. Anyway, it's not an issue of moral fiber, it's more like diving into photography for the first time and potty-mouthing a K1000 or Nikon FM or a Leica M because it doesn't have the features of a modern digital. I'm sure there's an oversight in that bad comparison, but some of it makes sense. Anyway, more about your Hetchins...

I put on some cool old GB handlebars with nifty filigree engraving. They're the narrow 37 mm size I prefer, and I find them quite comfy. I've got a 70mm Technomic stem (the top tube is a bit longer than I'd prefer). The handlebars are equipped with (gasp!) Shimano 105 STIs and (aaack!) a Flight Deck computer. Black Cinelli cork tape.

Thirty sevens? I wouldn't sell those to a girl scout! But it reinforces my creeping hunch that not everybody likes the same stuff. Shimano ought to make gummy hoods, at least brown, so when you use black tape, it's not so dark up there. It looks like the bars and brake levers are one mold. I've thought about buying a mold and having some-

body in Taiwan make gummy Shimano and Campy compatible brake lever hoods, but figured that our introduction would probably coincide with their doing it, too.

That would be nice, I like gum too, but at least they're not white. I hate having white stuff on a bike. The thing I like least about my Hetchins (aside from the front derailer braze-on) is the white head tube. I very much like having a contrasting color head tube on a lugged frame, but just not white. It even forced me to install white cable housing when I built it up so the head tube wouldn't be lonely.

**I don't like white head tubes, either, which is why ours are ecru; and we keep it company with a matching seat tube decal. Now, back to your bike. Gears?**

In back, I've got a custom 12-28 9-speed cassette, shifted by a recent Dura-Ace rear derailer I got used. In front, I'm running a TA Cyclotouriste double, 50-28, shifted by a Shimano 105 braze-on front derailer. I hate that the frame has a front derailer braze on, but whaddaya gonnado? I'm running a Shimano UN71 BB I had kicking around, and have the chainline set up so the 50 tooth ring is centered with the cassette. I can use all 9 rear sprockets with the 50, and most rides, the 50 is all I use. The 28 chainring is a "bail out" gear for the killer hills, and/or if I'm tuckered out. The 28 works OK with the 3 or 4 largest rear sprockets, which is all I ask of it. Since I'm running a short cage rear derailer, the chain droops if I use the smaller sprockets with it, but I don't so it's not a problem.

I like this setup because for most normal riding I never need to shift the front at all. The pedals are some Specialized SPD clones, nothing special. The saddle is a Brooks Swift that a customer returned, mounted on an SR Laprade seatpost.

**We get asked about the Swift a lot. It's only 152m wide. I know lots of people like it, but it's way too skinny for my bones, that's for sure. And when they cut away the sides, it loses structure, which Brooks seems to try to compensate for by over tensioning the leather, which puts a dolphin-like hump in the saddle. Anyway, my bottom doesn't get along with it. How about your wheels?**

They're nothing special, some old wheels that came off of a Trek, 105 hubs, Matrix ISO rims. I plan to build some interesting wheels for this bike, but haven't gotten round to it. I'll probably go with Mavic Open Pro rims and some silly oddball spoke pattern. Tires are folding Roll-y Pol-ys, I like 'em a lot. But you asked what bike I ride most often...that would be my early '70s Raleigh International. This is the lightest bike I own. The only original parts are the headset and the Weinmann centerpull in front (with Kool Stop salmon brake shoes and a home-made brake booster).

This, like most of my favorite bikes, is a fixed gear. It's got old Campagnolo high flange hubs. The rear is an actual track hub, 28 hole. The front is a road model, 36 holes—but I'm only using 24 of them. The rims are Sun M14, 24 front, 28 rear (it's really HARD to find light 24 spoke clincher rims, and these are no longer available. The front is



**Okay now: The bars are rotated too much and the saddle should be level, but nice fenders, good fork rake, and he's just a kid, for heaven's sake! An Elswick Tour Anglais 4-speed, brand new.**

spoked radial. I was using 23 mm Conti Grand Prixes until just recently, when I was schwagged a pair of pretty red Vredsteins, same size. These are light wheels, and I weigh over 250 pounds, so I have to be careful hopping curbs.

**Was using 24 spokes in a 36 hub a technical challenge, or penny-pinching?**

It's not difficult with radial spoking, which is how I do my personal front wheels. I had a large-flange Record front hub, a good match for the 28 hole rear Record track, but 36 front and 28 rear wouldn't have made much sense. I've also done 18 spoke wheels using 36 hole hubs & rims, with mixed success. I did one with a Mavic GP4 tubular rim, that worked out OK and is still in use on the front of my '61 Paramount. I tried the same thing with a G40 (predecessor of the MA40) clincher rim, but that wheel came out with 18 high spots. You really need a tall, vertically stiff rim for so few spokes, and there goes the weight savings.

This bike has older Shimano 105 cranks, 165 mm, with a 42 Biopace chainring driving a 14 Dura-Ace track cog in back. This is a bit higher than my usual 42/15 fixed gear, so I generally avoid major hills when riding this bike. It's got Scott AT-3 LF handlebars, which I adore—I wish I could get more of them. Some nondescript stem, low end SPD pedals.

Until recently it had a Brooks Swift, but I moved that to the Hetchins and stuck on an old Brooks B-17 narrow I had kicking around. It's a serious mistake to ask me about my bikes, 'cause it's hard to shut me up once I get started.

I recently bought a 2001 Raleigh M8000. This is a hideous black and orange full-boinger mountain bike with a 5" travel Rock Shox Psylo XC fork and Magura hydraulic disk brakes. It's different from anything else I've owned, but it

was on close out, and I thought it would be a learning experience. I don't want to be known just as a guy who knows about old bikes. I probably don't have more than 100 miles on it yet. It is pretty amazing off road, a horrible slug on pavement. I haven't decided how much I like it yet.

Another favorite is my Mead Ranger, made in 1916, as the "sporty" fenderless model. I paid \$25 for it at a bicycle flea market a couple of years ago. It was just a frame with handlebars and crankset and, most importantly, the original old 1" pitch chain and 26 tooth chainwheel (equivalent to a 52). The fork was a bent. I had some nice 27 inch wheels hanging around and put them on.

This is a real sleeper. The paint looks the way you'd expect an 85 year old bike with the original paint to look. At first glance you might think it was some sort of welded gas pipe bike from the '50s, seeing the small diameter tubing, one piece crank and so forth...but it isn't. It's internally lugged, "crucible brazed" by dipping. The one piece crank is unusually slender and light, and the bottom bracket is the most beautifully made one of its type I've seen.

More remarkable is that the geometry is perfect for me. They really had it figured out all that long ago. It's comfortable, handles nicely, a joy to ride. It's a bit heavier than a newer bike would be, but not all that much. With the modern wheels and tires it really moves out!

**Name a handful of innovations developed in the past 20 years that you like...and some that you don't.**

The greatest bicycle invention of my lifetime has to be the L.E.D. taillight. Before the VistaLite came out in the 1990s, there were no reliable tail lights. The second, to my mind is SPD sandals. I go for months on end wearing no other footwear in the summertime, they're so much more comfortable than any other cycling footwear I've ever owned.

**Your comments in that one issue of *Adventure Cycling* got me riding in Teva sandals, with no clips. I tell myself it's just a phase, but it's working frighteningly well. I think I wish I hated it, and I sure wish I didn't like it as much as I do. What other things are on your good list?**

Cyclecomputers, indexed shifting, light action brakes, 7-speed hubs, cork tape, Japanese tires, helmets, walkmans, spd pedals, Hyperglide.

**You like walkmans for riding. You aren't supposed to...**

I use a helmet-mounted mirror, so I do know what's happening behind me. I always listen to music in my car, and I don't see why a bicycle should be any different. I don't like plastic saddles, "anatomic" handlebars, riser bars, long cranks, frames with poor clearance, excessively stiff forks, fade paint jobs, dual-groove handlebars on bikes that don't have Ergo shifters, bikes with drop handlebars and cantilever brakes without adjusting barrels for the brakes.

I also dislike is jokey bike names and graphics. Sometimes I

think the people who name bikes aren't thinking of the user as much as they should. Yes, a funny name is cute, but what we may think of as just another bike is often a major financial and emotional investment for the user. The joke that was funny the first time gets old after you've owned the bike for a few weeks...or years!

**Names are hard to come up with. I don't like names that sound as though they were thought up by five or more guys at a beer and pizza party. The best name for a bike is Mariposa, but Mike Barry in Canada has it. The second best name is Libertas, and it's up for grabs, but was used about 25+ years ago. The Rambouillet was almost Libertas, but I was afraid people would yell at me for...something having to do with it being used before. What are some names you like? And, if you could name a bike brand, what would it be?**

I've always been fascinated by the Atlantis legend, and think it's a great name for a bike. Rambouillet is about 15 km from where I used to live in France, and I used to ride there a lot. There's a huge forested area there that used to be a royal hunting preserve...there are still a few wild boars to be seen if you're lucky. I used to go mountain biking there on my strange old Gnome Rhône bike. There are single- and double-track trails all through it, laid out in the 1600s, when classical aesthetics were in vogue. These trails are as straight as if drawn with a ruler, aligned with the points of the compass. You'll come to an intersection where 8 trails converge, each at a perfect 45 degree angle from the next, with a little circle in the middle. Some of these trails are remnants of Roman roads. There's also a perfectly rectangular lake...but these are woods, as wild looking as you'll see anywhere.

My favorite bicycle name was taken by Campagnolo, for an old mountain bike group. I've never understood why there isn't a major bicycle brand called "Centaur." The bicycle turns any human into the closest equivalent to this mythological creature.

**If you could snap your fingers and make one bike part or accessory that doesn't now exist, what would it be, and why that?**

That's a tough one. Maybe on-the-fly variable-length cranks.

**But you say you don't like long cranks. So, what would be the range? 160 to 170?**

Whatever people want! Actually, lately I've been doing a crank length experiment...I acquired a plastic Trek in a barter deal and have set it up with the 150 mm TA cranks that used to be on my kids' Cinelli BMX bike. I'm running a 45/17, which gives about the same gain ratio as my usual 42/15. It's surprising how unobjectionable this is. The only thing I don't like is that I have to set my saddle higher, which makes this frame not fit me as well as it should.

It won't be a permanent switch, but I've heard so much bellyaching from people who have convinced themselves that they "need" 180s—or whatever—cranks that I was curi-

ous to do a sort of reductio-ad-absurdum of the "problem" of too short cranks.

**That's interesting. At the bike show in last Vegas, I was talking to Wes Williams (the guy who's pioneering the 29-inch mountain bike tire) and he's convinced that shorter cranks are more efficient, especially on climbs, and he recommends 165s for riders under about 5-10, and 170s for taller riders. And there's that VeloNews study, with lots of riders of varying heights, and almost all of them turned in their best scores with stubby little cranks. In the recent old days all cranks came in 165s, but now the lower limit seems to be 170—for 95 percent of the cranks. Anything else?**

Better lights; lighter, brighter, cheaper.

**It's going to happen. They now use LEDs for underwater diving, and caving, and I bet within a year or so the hot-bulbs will be clearly disappearing. I know you like Sturmey Archer hubs...**

The Sturmey-Archer AW 3-speed hub is the most reliable, lowest-maintenance bicycle gear shift mechanism ever. Completely weatherproof, it can be shifted even while the bike is stopped. The Sturmey-Archer ASC 3-speed close-ratio fixed-gear hub is beyond cool. It's not just the hubs, it's the Raleigh 3-speed bikes up through the 60s. Every part was made in Raleigh's enormous Nottingham factory—every spoke, every cotter pin, lugs, tubes, bearing cups, hubs, pedals, except for the Brooks saddles and the Dunlop tires, and those companies had a very close relationship with Raleigh. The workers who built these bikes got to and from work on the same bikes they were building. The bikes freed the British proletariat to escape the smoky environs of their "dark satanic mills" and allowed them to explore "England's green and pleasant land," as William Blake put it.

**How do you feel about SunRace, a big Taiwan company, buying SA? Do you think it'll lead to a collector's market for the British-made parts? Have you seen the new ones, and if you have, what do you think?**

Sturmey-Archer was always made in a small island nation that overcame a lack of natural resources by dint of industrialization and trading...this will not change. There seems to be a natural progression of industrial development. You and I are old enough to remember when "made in Japan" meant a cheap & cheesy imitation of the real thing. Through hard work and good management, Japan turned that around, and was so successful that now nobody can afford Japanese stuff. Through most of the 1980s, Taiwanese bicycles and parts were basically junk, but they kept working and improving, and now most of the good quality bikes in the world come from there. The parts have lagged behind the bikes, but they're catching up fast.

Sturmey-Archer quality has been in steady decline since the 1960s, and Taiwan is on the rise, so I'd look for the quality of the Sun Race stuff to probably be at least as good, if not better than later British Sturmey-Archer stuff. Nevertheless, I have no doubt that there will be a certain cachet to the British stuff. Part of this is just the "good old days" syndrome, but I firmly believe that a small percentage of the nostalgia for older European stuff can be traced to racism. At the Las Vegas bike show, I had a long chat with a 33 year veteran Sturmey-Archer executive, now employed by SunRace. He was positive about the future, though the destruction of the original Nottingham Sturmey-Archer was sad, especially for the more than 300 workers thrown out as a result of the malicious money manipulators. One senior engineer is now selling sandwiches in Nottingham!

**I doubt we'll ever hear the whole truth. But anyway, which, if any, dying or dead technologies from the past would you like to see resurrected?**

Fully enclosing chaincases, because your chain will last forever, with virtually no maintenance.

**I've heard you don't pedal off the saddle, that you sit down always. Is it true?**

It is when I'm riding a multi-speed bike. It seems to me that standing up to pedal defeats the purpose of multi-speed gears. I don't do it unless I run out of low gear on a climb, but this rarely happens to me. I think

a lot of standing is the result of having the saddle too low, or the gear too high, or just to give the butt a break from one of those ubiquitous plastic saddles.

**Here you go, Sheldon: Gain Ratio. Explain it away and make a case for doing away with the gear-inch system in favor of "gain ratio."**

The handwriting is on the wall for inch based systems—they'll never catch on in metric countries. Meters development is OK (that's when the gear is listed as the distance traveled in one revolution of the crank—ed.), but, like gear inches, it fails to take crank length. It's useful only where everybody uses the same wheel size and crank length.

Gain ratio, is a measurement of mechanical advantage. It is a pure ratio, so it doesn't matter whether you're measuring in millimeters, inches or light-nanoseconds. For a gain ratio of 6, the bicycle will move 6 times as far along the road as your foot moves around its pedaling circle. The drive force applied by the rear wheel will be 1/6 of the force you apply to the pedal.

The failure to consider crank length in calculating gears leads people into errors, such as the common superstition that long cranks are better for off-road bikes because they provide "more leverage." In fact, "leverage" is another synonym for gain ratio, and it is a function of 4 things: crank

**There's a huge forested area there that used to be a royal hunting preserve...there are still a few wild boars to be seen if you're lucky.**

length, chainring size, rear sprocket size and the size of the driving wheel. Gain ratio is explained thoroughly, with examples, at <http://sheldonbrown.com/gain.html>

**You have a column in Adventure Cycling, and in a recent issue you talked about your hypothesis on how it came to be "proper" to pedal with the ball of the foot directly over the axle. It was one of the most provocative bike things I've read in a long time. Review your remarks for our readers.**

Well, when we were kids, we pedaled on our arches, stepping on the pedals just as we'd stand on the rungs of a ladder. Later, we were taught the correct way is to pedal on the ball of the foot. Why? Here's my theory: Back in the days of high-wheelers, the only way to vary the gear was to change the size of the front wheel. If you were to choose your wheel size the way you choose the gear for a modern single-speed bike, however, you'd wind up with a wheel that was so large that your leg wouldn't be able to reach past the hub. As a result, all high wheelers were really undergeared, but the longer your legs were, the larger a wheel you could pedal, so the faster you could go.



Just before the family tour of Cape Cod, 1990. Left: Harriet with George; Right, Sheldon with Tova. Bikes: Tandems assembled from old Raleigh 3-speed frames.

One way to make your leg "longer" is to pedal on the ball of your foot, and point your toes. This would let you straddle a larger wheel, so you'd go faster. But we don't ride high wheelers anymore!

Another reason to pedal on the ball of the foot, is that the ball is a normal load-bearing part of the foot. The arch isn't. But if you're riding in rigid soled shoes, that objection goes out the window. I run my cleats back as far as they'll go, and I'd move them farther back if I could. I've found no ill effects, and it greatly reduces the strain on my Achilles tendon and calf.

**Teva sandals are stiff enough for me, easily. I can put the pedal right under my arch and pedal up a steep hill, no problem. And, on long climbs (the only kind we have here), I find myself shifting my foot around, depending on how steep it is, or how my legs feel at that point in the climb. Anyway, another Sheldon Brown quirk is "dérailleur." You eschew the French spelling. Explain that.**

"Dérailleur" is not the French spelling. The proper French is "dérailleur" with the accent aigu over the first "e." Nobody spells it this way writing English, and nobody pronounces it in the French manner (duh RYE euh) speaking English. Instead, most folks say "de RAIL yure" which has no reasonable connection to any spelling of the word. Many cyclists

and non cyclists are intimidated by this word, and are confused as to how to pronounce it in English. I'm leading a movement to adopt the spelling "derailer" which is an exact translation of the French word, which comes from the railroad industry, and refers to that which causes a derailment. In French it's also a railroad switch.

**Are you married, with a wife, children?**

Yes. My wife is a brilliant mathematician and computer scientist, a professor at Northeastern University. We met on a Charles River Wheelmen ride in the late '70s. My first words to her were "That's a nice Holdsworth" (even though it was a hideous orange at the time). Her first words to me "Oh, you're riding fixed-gear!" We went out a couple of times, then misplaced one another. She went off to France to teach, later came back and we met on another ride. That time it took, and we've been happily married since. She was the second American woman ever to finish Paris-Brest-Paris (would have been the first if somebody hadn't bungled her wake-up-call at a rest stop).

We have two children, a daughter, Tova, a writer, artist, singer and actor currently on leave from Cornell University, and a son George, a mathematician who just started at Brandeis. Tashais our dog, a mutt with pit bull heritage, and

the mellowest member of the family.

**I've heard you're an actor.**

Singer/actor, actually. I haven't done any straight plays (though I'm not ruling it out.) I mostly do Gilbert and Sullivan comic operas. I'm a bass-baritone, and have performed a bunch of times with the M.I.T. Gilbert & Sullivan Players, including one starring role as King Paramount in Utopia Limited. I got a late start in this, never sang in public 'til I was about 50. I'm also very active in the Revels organization, a musical/theatrical institution that's hard to describe in a few words.

**Then let's not get into it! Thanks for all your time, Sheldon. This will go into RR25, and be mailed in January. We'll list some websites at the end of it.**

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