



A 30-minute pedal from HQ. It's grainy due to iso 3200 film. The bike is the first Atlantis, now 14 yrs old, & the trees are oaks.

RR
44

← fortuitous typobunder with 44pt type, 12.2pt leading, justified left

The howling wolf will howl tonite, the king snake will crawl Trees that stood for a thousand years suddenly will fall

—Bob Dylan

When *Rivendell Reader 0* was mailed in 1994, I planned for a Quarterly but I couldn't do that pace, so 4x a year became 3x, 2x..and RR44 here breaks a four-year drought. Online writing is fast, but print drags on because I rewrite too much, fret over details that seem permanent, & all bogs to a stoppage.

I like simple layouts, photos above headlines, short lines, serif type, no widows or orphans, and never a "very." When I was writing *Just Ride* my very-avoidance came up with my editor, who said, "It's not impressive when you over-use 'super' instead, and that's a lot more annoying."

The "very" thing started 30 years ago, when I read that the reader should infer it by the description, not be told it. Don't say *the afternoon was very hot*, say *hot enough to blister an Irishman in half an hour*. Anyway, now keeping a stupid streak alive is a dumb curse. "Dumb curse" is an example of something that delays me. I could've said "dumb" or "a curse," or even "dumb & a curse" and it would have been more accurate. "Dumb curse" puts the dumb onto the curse and what's dumb is the streak, not the curse. But I like the way the two words sound together, maybe because they both have that blunt sound the u gives them. I also like "dunce cap," and that may show up somewhere in this issue and maybe beyond. I'm sure "dunce cap" isn't PSC, but I still like the term and *want* one. A simple, plain dunce cap.

I keep word combos that belong together on the same line, like Happy New year, not Happy New Year. We've never had reversed type (white on black)

in body text, just in headlines. Six years ago I watched a movie about **Helvetica**, then did a whole issue in that font. I used to like Gill Sans until I read something creepy about Gill. This font is Lucida Fax.

Some style books say spell out one thru ten, but others say higher, and I'm inconsistent. I know it's bad to start sentences with numerals, so I don't write "40 centimeter chainstays are too short." Also, I think the % symbol is for lists, not text. Also, I think book titles and movie titles get different treatment, but I've never locked in on the right way.

I don't care if a word isn't real if I think it should be. Also, around my family I tend to talk the way one of the kids I grew up with talked. I'll call him Steve. With Steve, you might say, "I like licorice"—and he'd respond, "No I *don't!*" — as though you were declaring that *he* liked licorice.

Steve won a jump-rope contest in 6th grade and was an A student & active in government thru high school, but in his senior year he took LSD & was never the same. Four years later I saw him at a fast food salad bar wearing a white T-shirt with an equator of hand-painted red upper case Q's around the middle. I said "Hey, Steve, man—howya doin', and why all the Q's?" He said "Hey, Grant! I'm living in a nuthouse up the street, but I come and go as I please. The Q's mean *Quack-Quack-Quack-Quack-Quack-Quack-Quack-Quack*." Since then, I've never heard, said, or written "quack" without about Steve. I thought of him when I made up the term "Q-Factor" in 1990 or so. One day when Steve and I were in

kindergarten, we brought our pocket-knives, kept them in our pockets, but still somebody found out and told, so we had to give them up until the end of the day, & couldn't bring them to school anymore. A couple of years later we were in the creekbed in my backyard, and he tripped & stabbed his calf (of all things) with his knife, and his parents blamed my dad, who wasn't there. It didn't affect Steve & I.

In this issue I've intentionally overused "ultra," I think because I've always thought *ultra* was over-used, so I'm probably trying to make you as sick of it as I am. Count the "ultra's" here, send in your count & contact info on a paper postcard, & make us get it before 3/5/16, you'll win a small thing. There's no contest for them all the ampersands. Oh—it's come to my attention that there are computery was to cheat the ultra challenge. Come on, do it right.

I've been working on an educational booklet I'll call Document X, an efficient way to learn about materials & forces & build a new vocabulary, and Doc X will cost \$10 when it comes out. Is a short course in materials and stress in real life and in bicycles worth \$10? I hope so. It will make you smarter about bikes than 99.9 percent of all bike riders in the world.

More paying for paper

We're printing just 1,100 of this *Rivendell Reader*, down from the old days of press runs of 8,000+, and instead of the usual press, we're printing them at a copy center downtown. It costs \$3.50 to print each one, and selling it for \$7. Simply as a matter of fact, I have more than 120 after-hours hours into it, most of it layout & rewrites. Every dollar it brings in will go to employee lunches, which means less drain on our pay roll & inventory bill money. If we don't sell out by June, no more paper. Most people are happy to pay for publications that have paid advertising, but, ironically, without the ads, they want it free. I tried to cram a lot of stuff into this issue. You'll find *something* worth paying for. —Grant



john segal

AX→AXS, AXE→AXES AXIS

To make "ax" plural, you should be able to just add s...that's the rule, we learned in pre-K, right? But some muckymuck added an e so the second syllable wouldn't be just an s.

On the other hand, to singularize a plural you usually just remove s, but when you do that to axes the non-original e is still there—the e that was added for a weak reason in the first place.

This reminded me of my HS yearbook. Each graduate's headshot was accompanied by their favorite quote. One guy's was, *Just ask Axis, he knows everything.* It's one of those insignificant things you think of 70x a year until you die, and I didn't know what it was, but Google just told me. Thanks, Goog!

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Crud, I got sued

It's OK now, but it changed me for good. Not for "the" good; just for good.

In 1998 a SoCal woman bought a 1994 model Bridgestone RB-1 from a dealer who still had it around. She rode it for 15 years, did a bunch of triathlons on it, changed lots of parts on it—the wheels, tires, handlebar, pedals, saddle—things you'd expect a triathlete to change, given their propensity to ride odd bikes.

She lived 50 miles inland, and in 2008 or 2009, she and her husband were riding north on Hwy 1, where it so happened that Harvey Weinstein Productions was shooting movie scenes. Modern movies require electricity, and there was an extension cord lying across the road. She hopped it, but the front wheel didn't come up with the fork, because the quick-release wasn't closed. She crashed, was not badly hurt, but sued the movie production company for laying the cable, the bike shop for selling her the defectively designed bike, and Bstone for making it in the first place.

I gave a four-hour deposition with everybody's lawyers present. I have an MP3 of it.

For legal reasons beyond my comprehension and never explained, Bstone wiggled out of it—which is good, because they never should have been sued in the first place. "Wiggling out" is not bad in this case. I use "wiggled out" in the positive sense.

But when she lost Bstone, she and her legal team replaced them with me, since I was known for working there. I was a consolation prize. More important to the case, I was an employee, not the boss, and I had input on the frames, but I wasn't the official designer. I recommended geometries and components, but more in the role of "this is what we want" than the kind of precision/insistance/control a designer has. I do that now here at RIV, and I did nothing like it at Bridgestone. Bstone had a whole engineering and sales and purchasing department to do that stuff, and I was 6,000 miles away.

I was held accountable for designing a bike with dropouts that didn't have lawyer tabs on them. These days all dropouts do, but the RB-1 was a race bike, and those tabs are dumb for race bikes. There was no requirement for them, and hundreds of thousands of RB-1 contemporaries didn't have the tabs, and tens of millions of bikes before it didn't.

When the quick-release is closed right, the tabs are unnecessary, and when you remove a wheel they're a nuisance—and on race bikes they're a disaster. In the '70s and '80s, all good bikes, even touring bikes, inherited details from race bikes. Then, as bike riding got more popular, these details, good or bad, started reaching people who never really took to the mechanical safety fundamentals, like this lady.

For three years I worried about being found guilty for something, even though I couldn't imagine how anybody could blame me for something that nobody

did wrong. I was worried about losing my savings, house, reputation, job—the usual goodies. I knew it wasn't a jail thing.

Thankfully, the judge said no, you can't sue Grant Petersen. He was only a cog in their wheel. A semi-famous cog, but still a cog. But the plaintiff's lawyers appealed it, so I had another 18 months of nervousness. Finally the appeals judge said to the lady's legal team, *What, are you nuts? You can't sue him; he only worked there. You're lawyers, you should know that!*

It was relieving but not entirely satisfying, because it feels like getting off on a technicality, when, screw the technicality, Bridgestone didn't do anything wrong and neither did I.

How do you ride a bike for 15 years and change tires and wheels many times and still not know how to use a quick-release?

What I think happened

Like many people who come to bikes after their spouses do, she always relied on her husband to do the mechanical stuff. They lived 50 miles inland and were riding up the coast, so they probably drove to the coast with bikes in or on the car, maybe with the front wheel off. I'm guessing if you want to ride up the coast and you live 50 miles from the coast, you don't add the coast-ride part into the middle of a hundred-mile ride. You give up the inland part and make it all coast, for the breezes and whales and whatnot.

Still speculating...her husband almost always installed her wheel securely. This time, he was early in the process when he got a cell phone call or decided to pee. The wheel was in the dropouts but not secure, even though it looked secure. When he was finished, he went back to the bike stuff, and saw his wife straddling the bike, which she'd only ever done when the wheel was ready. Maybe the sight of her on the bike made him think all was fine, or he thought she completed it. Whatever—they pedaled up the coast.

Her extension cord hop triggered his memory. *Oh crap, I never closed the Q/R.* All she knew was she crashed and got hurt, although as I said, nothing tragic.

He must have remembered not doing it, and a step away from that, he can't have remembered doing something he didn't do. But he didn't own up, and so it came on everybody else and me. I'm glad it's over, I never want it to happen again. I wonder how carbon fiber makers deal with that stuff. If they're big companies, they have a staff of buffer people who keep the top guy insulated. I also wonder whether Weinstein Productions or Quentin Tarantino had to pay anything. I hope not--they didn't do anything wrong.

How working here's changed me

by Will Keating

I NEVER FELL INTO THE WEIRD WORLD OF BIKE RACING, SO I HAD A LOT LESS TO UNLEARN than others who've worked at Rivendell. My background is in fixing up vintage bikes, always steel, and progressively more useful ones as time went on.

If Keven did a 180-degree turn from his cyclo-cross racing days, I turned maybe 30 degrees, but I can think of a couple of obvious ways Rivendell has influenced me since I started here in 2012.

I'm no longer impressed by names. Six years ago a Brand X on the street would have stopped me in my tracks, but since I've been here, I've developed a useful ability to imagine exactly how a bike will feel when I'm riding it, and now I can look past the fancy name and pick out the real winners. Some of those winners have respected names, but more than you'd think would have bike snobs turning their noses skyward. Sure, the Brand X has pedigree, but the 25mm tires mean small cracks in the street are a hazard, the steep seat tube angle makes it feel like you're slipping forward, if you want to carry anything, sorry buddy, you're wearing a backpack, and the low bars and 52/39 gearing means you've got to go hard, all the time, unless you want numb hands. New bikes are no better, low bars are lower, frame tubes are chunkier, and forks have been downgraded to plastic. I'll take the Varsity, thanks.

I'VE ALSO FULLY EMBRACED THE UPRIGHT BAR. I used to think you had to have at least one drop bar bike for "real" riding, a totally ridiculous but pervasive idea. I went full upright after I started doing mixed terrain rides with Rivendell people using Albatross bars, and noticing how little difference it made whether somebody was using drops or uprights. It's not as if the drop users had to wait at every turn for the slowpoke uprighters to catch up; it made no difference, despite conventional bike wisdom that drop bars make you faster. Older customers of ours have a particularly hard time using something other than drops. To them it feels like giving up, and I wish I could convince more of them to try uprights. If you like drops, that's cool; I just wish upright bars were seen as a smart for any riding. I use them for camping, commuting, road and trail and without Rivendell's influence it may have taken me longer to let go of the drops.



photoshopped by Grant with handy Brian-assist

The most important thing Rivendell has given me is a healthier relationship with bikes. I still love them and use them everyday, but I no longer fetishize hard all-day rides. I used to think, at least subconsciously, that for the amount of time and money I'd spent on bikes, I better be out there on every day off, logging miles. Now that I see all rides, even short ones, as legitimate, riding is a lot more fun for me. These days I stick to shortish trail rides, some bike camping, and lots of commuting. It's nice to ride some trails, and still have half a day off to do other stuff. If I don't want to ride at all, that's fine, too. The bike is there if I want to ride it, but I don't wring my hands at the end of the day if I don't, and that way, I never get burnt out on riding.

It'll be interesting to see which direction we go in, especially without the Keven influence. (note: Keven needed a shorter commute, so now works for Four Barrel Coffee in S.F.—Grant). We're open to switching things up. More tig-welded joints perhaps? Who would have guessed that would happen? I'd like to bring the price down on bikes without compromising ride quality, and tig welds seem like a perfect way to do that. I really like getting my non-bikey friends on our bikes, and a lower price seems like the only way to make that happen. Whatever we do, it'll be good, on a more unique tack than the rest of the industry, and I'll be happy to be a part of it.

Will's been here since 2011. He hustles & scrambles, works with customers & dealers, packs bikes, writes blugs, whatever it takes, contributes immensely. — G

Bike riders don't pollute. We rarely kill people when we hit them. We don't need much pavement. We're quiet, and take up little space. So...

**...should we get more traffic privileges?
(an op-ed)**

Totally, yes. We don't do those things in the headline, so why not win a little something for being so kind & soft & small & green?

I'm not a bike traffic activist, got no time for that and I don't want to hang out with other activists at meetings. But I am way beyond thinking the best bike riders can do for themselves and the cause is to act like cars in traffic.

That doesn't mean go nuts and stupid; just that all else equal (riding skills, attentiveness, a safe bike...) the best way to minimize risk is to minimize the time you spend in traffic.

I like to be physically separated from cars. It's not always possible, but I always take the path less driven, because it protects me from inattentive, distracted, and drunk drivers.

I also like the new colored bike lanes that positively IDs a lane as for bikes, not bikes and cars.

THE IDAHO STOP has made the news lately, as other states have caught on and the bike activists (sheepish but sincere thanks...) have pushed other states or at least cities to adopt it, too. The gist: In the early '80s Idaho lawmakers wrote into law that bicycle riders could treat red lights & stop signs as Yield signs. It works because when drivers don't know whether or not a bike rider will stop at an intersection, they're more on their toes. We want drivers on their toes, right?

Don't expect people to ride bikes to contribute to planetary health to benefit unborn generations. Deferred consequences are weak. If you want more of something, encourage it by rewarding it. Allocate more road space and parking spaces to bikes. Make bikes more convenient and safer to

ride. Bikes will always lose to cars when the weather's bad, the load's big, and the distance is long, but we can at least try to make riding the preferred way for moderate jaunts in fair weather. Most people would rather spend 15 minutes pedaling on a safe flat road than 12 minutes looking for parking, then 10 minutes walking to the store, then back to the car with two & a half arms of bought stuff.

Make exceptions for handicapped people and commercial vehicles, but make driving less convenient for everybody else.

It's too late for this. Cities are how they are, and no politician could win or keep office rooting for this, but if we could have a do-over starting in 1946, it would be a good way to go. Meanwhile, the Idaho Stop sounds good to me.

5

Aerodynamics & style vs Xenophobia & unsafety

One of the reasons it's so easy for bike riders to hate cars and for motorists to hate bike riders is how we appear. To a bike rider, there's no person in the car, because you can't make eye contact. So it's just a heavy hunk of metal and rubber moving fast and close to you, and if it hits you you could die. It's easy to hate the impersonal vehicle of destruction when you can't see the nice old lady in it, or the kindergarten teacher who just sent home a glowing report on your 4-year old. Or the parents of the woman you're dating.

The anonymity makes it easier for car drivers to be mean, too, or to do stuff they wouldn't do

otherwise. Aggressive stuff. It's the sunglasses phenomenon, where the lack of eye contact makes it easier to stare at the attractive person sitting across from you on the train, or to treat another person more meanly than you would if there were eye contact.

Bike clothing works that way, too. The benefits of logo'd spandex may not be worth it if it makes you look like an invader. Of course you should be able to wear whatever you like, but that's not the point, and applies to clothing anywhere. Plus, it's not as though you *need* team-wear.

Friction Refresher

(A reminder that the hard way is actually easy)

We're nearly the only ones still selling friction shifting, and it's been that way ever since 1994, but it's not stubbornness. There are three good reasons for friction:

(1) Friction works with almost any derailleurs, shifters, chains, and cassettes. Indexing works only with derailleurs in the same family, or at least the same design & era.

Front indexing, there's no reason for it, no excuse.

(2) It's fun to shift successfully when perfect shifting isn't guaranteed by a foolproof indexed shifting. Shifting becomes more than an endless repetition of 3-inch putts, and your riding gets more satisfying.

(3) *Friction shifting has never been easier.* This, ironically, is thanks to the changes in chains and cogs and cable housing that indexing required: ramped, cut-away cogs, nearly stretchless cables, compressionless housing. The challenge is minimal, but the satisfaction remains.

It's easy to sell new riders on indexing, especially when their riding peers have never shifted any other way.

If you're curious about friction shifting but not committed, go with Shimano 8- or 9-speed bar-enders, which allow friction or indexing. If you want to dive into friction bar-enders, try our Silver shifters & you'll master them in 15 minutes or 100 shifts. Shift constantly when you're learning, and you'll learn faster and better.

For thumb shifters try the SunRace thumbies, the ones that come on the CLEMs. Oddly, they were made for Sturmey Archer internal gear hubs, and have clicks that correlate with those internal gears. If you're ultra-easily disheveled, they're not your ticket, but otherwise the clicks are just vestigial noise from the foundation shifters. They are as nice as any thumb shifters I've used, and you can set them up in different orientations to get great cable routing & ultra-ergonomics on any ol' handlebar. We're 100 percent glad about them.

Deaf riders often prefer indexing, especially in the rear, since they can't hear the chain rubbing on a cog or front derailleur cage. That's a different deal.



SILVER. Our brand, with a slight ratchet that aids the friction. Short learning curve, luxurious in use..



Shimano's bar-end shifter in 8- and 9- speed have index and friction modes. The friction mode is not as luscious as SILVER's, but it works great.



SunRace's friction-thumbies, made at our request (based on an existing SunRace model). Mount the left on the right & vice versa . . . inside the bar.

If friction is so good & easy, how come it's not all the rage?

Because racers don't use it, and everybody copies them. Also rookie riders shopping for a new bike are nervous enough on test rides, and if they miss a shift they blame the bike and try one with indexing, so they can shift perfectly while having no actual skill. This scenario has made friction shifters nearly extinct. We coordinated and begged to get the Silver shifters made—SunTour didn't want to do it, even though they had the plans for them (Silvers are exact copies of their 1986 Sprint shifter). But they said if we got somebody else to make them, they'd supply the technical drawings and any secrets. We bought new tooling and got Dia-Compe/Tech to make them.

For years we've been predicting the death of Shimano's 8- and 9-speed bar-end shifters, but somebody at Shimano is keeping them alive despite a teensy market. Doomsday me says they'll be gone by 2017.

But friction shifting is easy & 98 percent of our customers get bikes that have at least a friction option. That is an amazing fact this far into the 21st century. Almost everybody else gave up on friction in 1986, about 30 years ago.

Will and Roman, both born in 1988



WILL KEATING

1. What do you do at RBW?

I started out packing bikes, and I still do that, but now I also handle our small group of dealers, Hillborne and Homer orders, general customer service.

2. Long term?

In the *ultra* long term, I'd like to open a small Rivendell shop in San Francisco, probably in the Sunset district. Way easier said than done of course.

3. It's do-able. How did you start liking bikes?

I rode an old, janky Raleigh to San Francisco State and wanted to learn how to fix it up without relying on a bike shop. That sparked a bike obsession that eventually led me to Rivendell.

4. What would you do if you found 10 million dollars?

I'd travel, and then buy a small house in my neighborhood and probably a condo in Oahu, I'd put a good amount in savings, and give a lot of it away. Too much money might make me screwy.

5. Besides riding and bikes, what else?

Skateboarding, camping, and reading. That's about it, nothing groundbreaking.

6. You tend to read tons of fat books. What are your favorite books...and music, and food?

Books: *The Name of the Rose* by Umberto Eco, I loved every page of that book. *The Master and Margarita* by Mikhail Bulgakov is up there too.

Music: It varies but Townes Van Zandt is always welcome. I especially like his later stuff when he got really broken & unhealthy sounding. Songs: Ohio is great too.

Food: Grilled salmon, capers and olive oil.... I could eat that every meal.

7. What exactly are these capers of which you hold in such high regard?

They're those little tiny green things they put on fish. You've had them. I don't know if they're a plant, or what. (Later: "They're unripened flower buds.")

8. Oh, unripened flower buds. That clears it up. Thanks.



1. And what do you do here?

I pack & ship bikes; manage our Instagram (@rivbike and @bike-bookhatchet) and take pictures (most recently starting to update our staff bikes section); work evenings at Bike Book and Hatchet; and listen to customers – general customer service.

2. What would you like to do here, sometime?

Learn more about design, lugs, tubing — how they affect the experience of the rider. Eventually I'd like to even see how they're made both on the small scale and at larger production level. I'd also like to learn more about what goes into buying for a small business and all the thought behind choosing good products and meeting demands of sales and customers. There's plenty more, but I think those are the two big ones.

3. What's your history with bikes, before here?

As a kid, riding in the grass/around our block, and wearing out holes in the tire of my banana-seated-coaster-brake cruiser. Then there was a hiatus until college, when I discovered the college bike shop/co-op/collective and slipped down the rabbit hole. Still happily falling.

4. Found 10 million dollars....?

I'd keep some for my family, and myself — for travel, saving, financial security — and give the rest away where it'd do the most good.

5. Besides bikes, what?

Jumping in the ocean, camping, and enjoying food with friends—and sometimes cooking it, too.

6. Favorite books, music, food?

Book: *A River Runs Through It* (Norman Maclean); *Delights and Shadows* by Ted Kooser, esp. 'Mother'; *Master and Commander* and others by Patrick O'Brian.

Music: Here is a gamut: Blaze Foley, the Beatles, Erik Satie, Mississippi John Hurt, Sleep, and big brass bands.

Food: what I grew up on, Persian – Ghormeh Sabzi a favorite; or if I go out, sushi.

The case for the breakaway helmet

Your helmet's strap-n-buckle keep your helmet on when you hit a hole or bump, but you could do that with 1960s cotton kite string tied with a granny knot. The breaking strength of typical helmet-strap webbing is more than 500 pounds. The weak point is the buckle, but it's not weak enough. If you're skidding along and the helmet's lip catches on an unlikely but not impossible something, your neck will likely snap before the buckle releases.

To test this crackpot theory—that your helmet's retention rig is too strong for neck safety—we filled a helmet with a 62lb kettlebell, then gave it a little bounce to up the weight more, and everything held. Good? The Consumer Products Safety Commission sets a minimum strap strength at about 17lbs. Exceeding that by more than 400lbs seems like a bad idea.

8 What's a solution? I don't know. Helmet makers won't switch from 500lb nylon to weak string, but Velcro seems like a good way to go, doesn't it? If your helmet gets snagged and comes off with a light tug, it's probably a good thing, right? Velcro can wear out, but it takes a while, and Velcro might be better. Seriously—if something catches on the lip of your helmet, something should break, and it might as well be something unconnected to your spinal cord.



62lb kettlebell

Will's hand

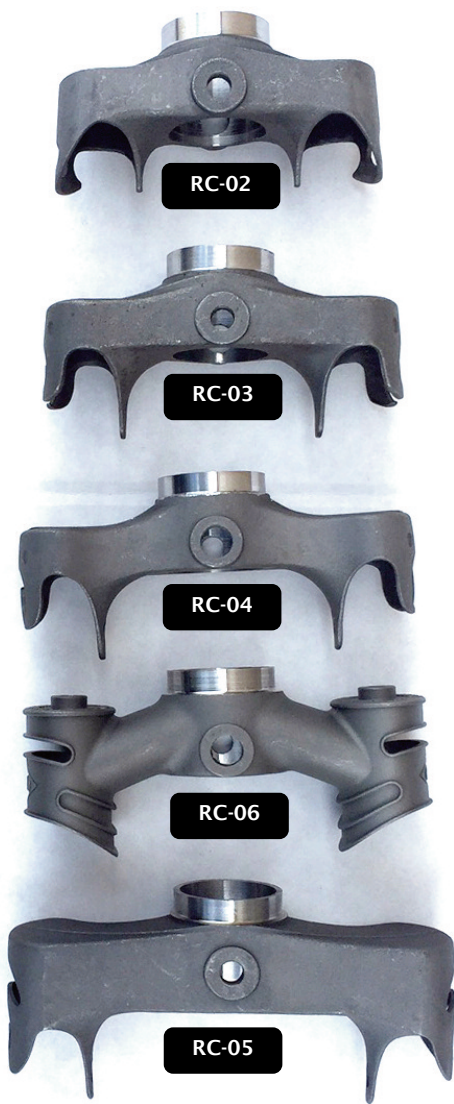


The strap's still too strong, but other than that, this one's not too bad. Could be worse!

New guy here Roman wore one, and then Mark and Brian got one, for the shape. No tail fins to look goofy or catch on things and twist your neck

It's the **Giro FORAY**, and presumably it's available everywhere Giro helmets are sold. The strap's too strong, but what are you gonna do? Replace the

buckle with Velcro? That's up to you. Don't crash in the first place.



RC is Rivendell Crown, & the numbers are chronological. Each is dimensioned for tires appropriate to the bike it goes on. The RC-06 is our latest one, and the first to have cast-in threaded bosses to hold a rack. But even without a rack, it's a nice-looking crown., and looks good on the new Joe Appaloosa.

Our five fork crowns

The fork crown is the *bike's* crown, a permanent identity for any bike, the joint that connects the fork blades and the steer tube (the tube hidden inside the frame's head tube). From 1865 to 1980, crowns were standard, but the mountain bikes of the '80s influenced road bikes, and the weight-obsessed '90s nearly killed them off.

The crown should separate the fork blades enough for the tires you want to ride, and if the bike has sidepull brakes, the hole should be as low as possible, to maximize tire space.

I think our 2-3-4-5 crowns are the only (fancy term alert) front-to-rear bilaterally asymmetrical crowns in the world. The front is straight for strength; the back has a waist where the strength is already sufficient. The new 06 is symmetrical.

Our crowns add about \$50 to the cost of a fork over a tig-welded fork, and if our volume was 200,000 bikes or forks, that's an extra \$1 million for something that isn't strictly necessary, which is one reason high-volume brands don't use nice crowns. That, and carbon forks are crownless.

Here's the matchup of crowns to models.

RC-02: Roadeo

RC-03: Homer, Sam

RC-04: Atlantis, Cheviot, maybe Homer/Sam

RC-05: Hunqapillar, CLEM

RC-06: Joe Appaloosa

We may flip-flop some of these crowns, but for the most part, this seems like a good way. All of the crowns are good, so it works out.

Longer Wheelbases Ride Better

Your bike's wheelbase is the distance between the wheel centers. Almost all road bikes have short wheelbases, mostly due to short chainstays—42cm or less. The ancient thinking on short chainstays is that they're lighter and stiffer and absorb less of your pedaling energy, so you go faster with them. That's either not true, or it's ridiculously immeasurably true. (If you have to prove a bicycle thing in a lab, because the differences are too small for the world, then come on. On the other hand, unscientific, human-in-the-world tests without controls or big enough samples and all the other things good tests require can be misleading.)

Rivendell's Ultra-Ultimate Guide to wheelbases & chainstays

Wheelbases

Short: Under 39.5 inches about 100.5cm

Medium/typical: to 41.8 inches (108cm)

Long: 41.9 to 46 inches (117cm)

Ultra-long: 48-inches+ (122cm+)

Chainstays

And here's what's long & short in chainstays:

Short: Under 16.5 inches, about 42cm

Medium/typical: to 17.5 inches, 44cm

Long: to 19 inches, about 48cm

Ultra-long: 148cm +. Especially 52cm+

In road racing bikes, 42cm is considered long, even though Eddy Merckx won most of his 445 races on 42.5cm (16 3/4-inch) chainstays. In any case & all else equal, short chainstays & wheelbases quicken the bike's responses to every force acting upon it. It means you can miss a squirrel in the last millisecond, but also that you're more at the mercy of wind & bumps & overreactions to squirrels. It's like a surgeon with a scalpel or a drunk with a Samurai sword. It cuts both ways.

You can learn to tame short quick bikes, but they're more of a handful than a bike ought to be, and aren't good for all-purpose riding. Think of a choppy, windy lake, or a steep & wild river. Drop in there a three-foot log and a twenty-footer, or a short boat and a much bigger one. The shorties get tossed & turned constantly & dramatically, while the giants wiggle a lot less.

I don't skate or surf, but the guys I know who do confirm that shorties are twitchier. It's that way with cars and bikes too. Length adds stability. *Stable* means resistant to change, and in a moving vehicle, you have to find the best mix of stability and maneuverability, and "the right mix" depends on what you're used to, your skills, speed, and terrain, and wheel weight. Conventional bikes are shorter than they ought to be. Unless you're a highly skilled rider racing in a tight pack who now and then needs to dip a shoulder and fill in a gap...there's no reason to ride a wheelbase below 40-inches. You can tame a short bike, but it'll crash you before a more stable, longer bike will.

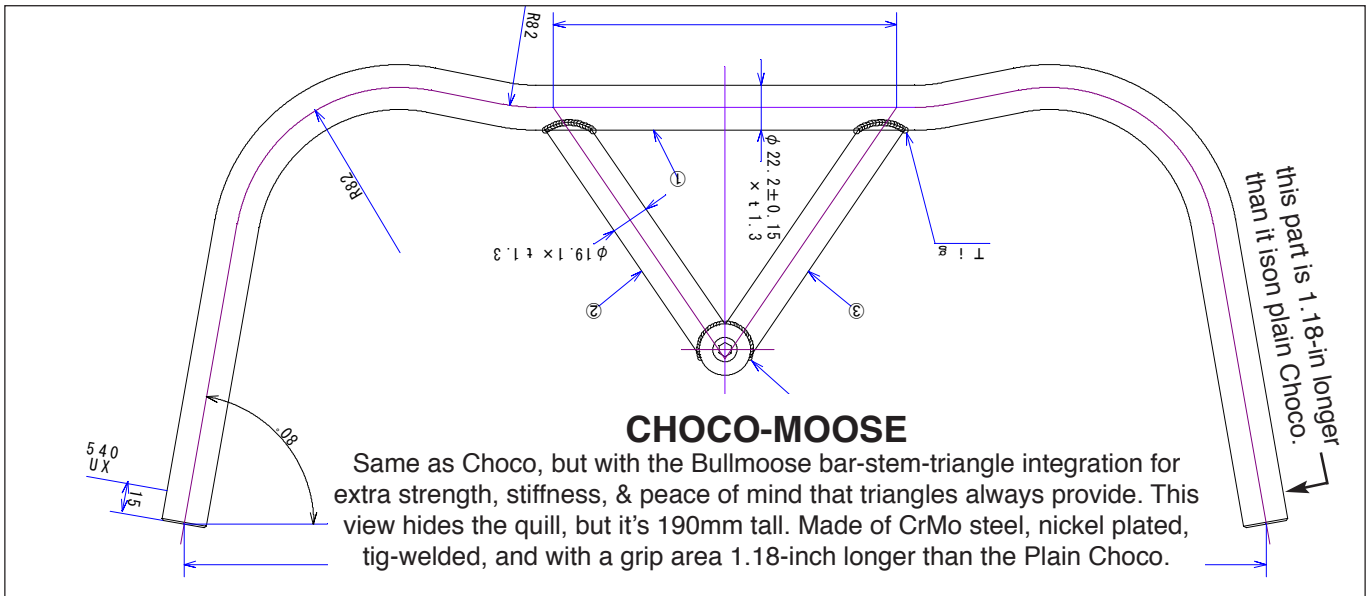
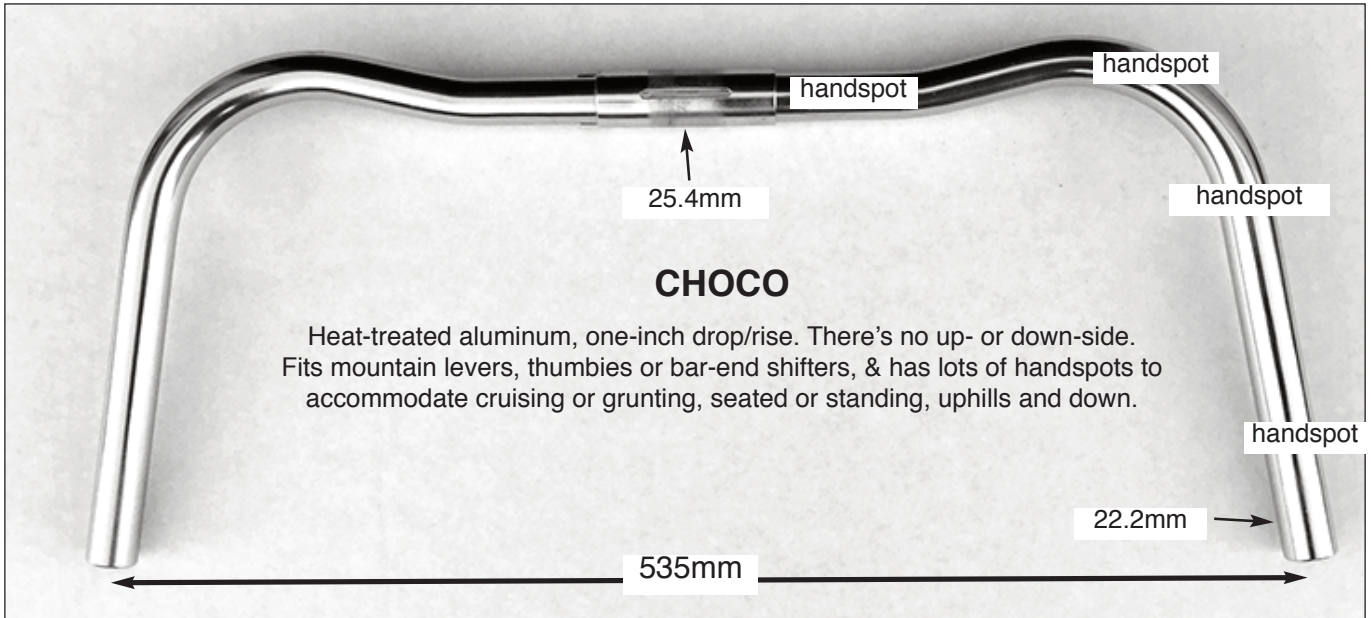
Are long bikes slower, and do they make a bike feel sluggishly cummy?

Nyet, nein, nope. They don't hop around like shortie bikes do, so at any speed they're smoother, more controllable, at high speeds this has to mean safer. But the value of a longer wheelbase is the every day pleasantness of the feel. They do NOT slow you down. They feel great.

COMFORT. With longer chainstays, you're sitting less on top of the rear axle, so you feel the bump less. This is especially a big deal on big bikes with high saddles, because as the saddle moves UP, it also moves back toward the rear axle. Tall riders get screwed more than short and medium ones. Bikes grow taller faster than they grow longer, and the relative growth proportions aren't even close.

One reason is that the standard chainstays available to builders, whether solo builders or massive academies, are about 42cm. Since the "chainstay" dimension on a bicycle is from the center of the crank to the center of the dropout, and accounting for the dimensions of the bottom bracket shell and the dropout itself, a 42cm actual chainstay tube allows you to make a frame with a chainstay of about 45.5cm.

Until a couple of years ago the longest chainstays we could buy limited our frames to 45.5cm chainstays. That's pretty good, but now with our custom chainstays, we can build longer, so we do a lot of chainstays between 49cm and 56cm. I doubt the bike makers will start doing that. It puts bikes in bigger boxes that cost more to ship and you can't fit as many in a shipping container. Once you're riding the bike, feels better.



Choco-bar & Choco-Moose bar

The bend is like an Albatross bar with a flatter front section, half the rise-and-drop, and more sweep-back toward you. The flatter front allows an easy grip next to the stem. Half the rise/drop means you can ride this in the up or down position, nearly equally. More return to you means a longer grip area,

The Albatross will always be a favorite here. If you have one on a bike, you know why. Don't replace an Alba with a Choco. There's no need; the Alba is fantastic. But for variety and consideration on a new bike: Choco & Choco-Moose.

There's a solo Choco with a 25.4mm clamp, made of heat-treated aluminum; and a tig-welded, nickel-plated, one-piece bar-stem integrated CrMo steel version, the Choco-Moose.

The Choco-Moose is angled down only, has a 120-deg rise and 1-in. extra of return, a 22.2mm quill (fits our bike and traditional bikes), and is made of CrMo steel, tig-welded and

nickel-plated. This may be important to know, since there's zero adjustment. Worriers, don't! We nailed it.

Both versions are made by NITTO just for us, are equally rider-friendly, and both passed the Mountain Bike EN handlebar test, the toughest out there.

I/Grant rode prototypes for a month and a half, and it is kind of my favorite bar, but not by much. The Choco-Moose will come on the Joe Appaloosa, and the Choco-solo will be one of two bars (the other, a Noodle drop) on the next run of Sams.

Both bars will be available aftermarket in the Spring for the normal high-but-worth-it prices you've come to expect from NITTO and us.

Good handlebars! Lovely and strong!

After 21 years, our own (SILVER) crank

No legitimate bike magazine will tell you about it, so it's up to us.

It's not like we've been *trying* for 21 years, but it's been a recurring wish to get our own. There are maybe three good cranks already—the Sugino XD is as good as any—but two years ago we bought the tooling for our own, so we don't have to worry about escalating prices, future unavailability, or, in general, being at the mercy of others.

The SILVER crank ...

- passes the toughest crank test, the Mountain EN.
- is symmetrical in Q-Factor, left & right
- has no hidden spider, so it's easy to put on new outer/middle rings
- weighs the same as the XD-2
- except on CLEM, it'll have engraved SILVER, not screened or laser-etched.

It has a 110/74 bold circle diameter, which means the if you draw a circle connecting the centers of the outer and middle crank bolts (the outer and middle attach to the same crank bolts), the diameter of that circle is 110mm. When you measure the inner chainring's bolts, you get 74mm. That's what 110/74 means. See the picture.

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The SILVER arm lengths are 170, 173, 178, and 182mm. Normal/common lengths are 165, 170, 172.5, 175, and some go to 180. The four longer SILVER arms are quirky, but there is NO disadvantage. You're concerned about breaking an arm and needing to buy an off-brand replacement in Burkina Faso? It won't break, but just put the closest length on it, and we'll send you a new SILVER of the same length when you get home. But it's unlikely to break in the first place.

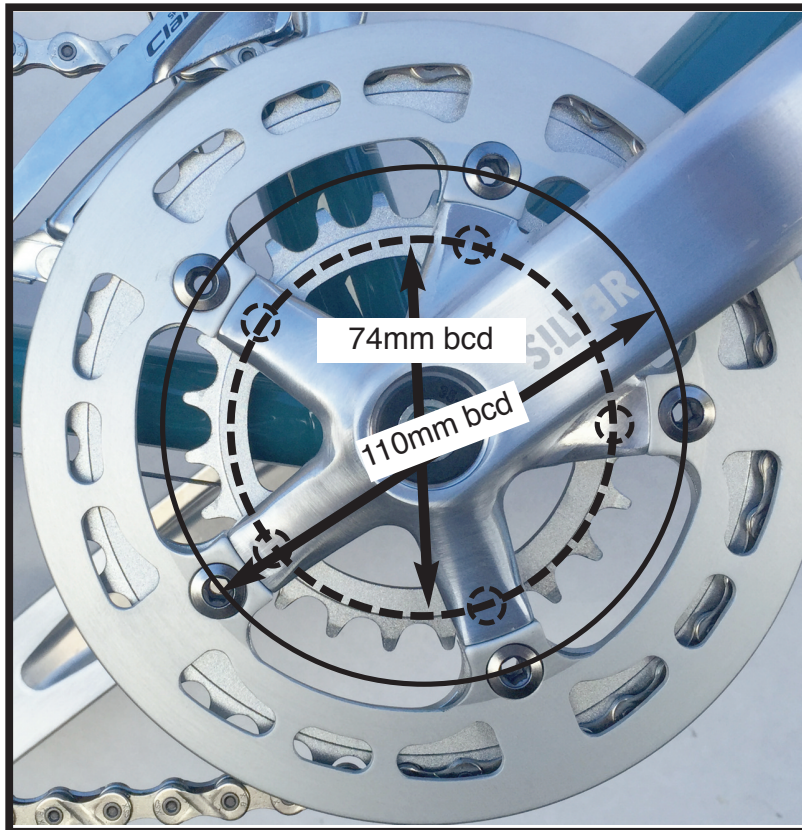
On modern cranks, Q-factor (the distance between the outer crank arms at the pedal holes) varies from about 145mm to 195mm. The Sugino XD's Q is around 160, and the SILVER's is about 157, and (this is unusual) equal left-side & right-side. I can't make a strong case for symmetry, not when feet are free to roam on the pedals (as they should be), but when you're designing, why not make it symmetrical?

Stronger than necessary

I am totally paranoid about injuries & lawsuits, so to make sure the SILVER crank passed the toughest test in the crank world, we got the strongest aluminum alloy and made the arm beefier than svelte. The first version was svelter, but didn't pass. The current arms are less svelter but still svelter by modern standards, and pass.

The CLEM version

First things first: A \$1500 bike has no business having a crank of this quality, but CLEM has it, anyway. We cut back slightly on the finish, but it's still a great looking crank, worthy even in the CLEM finish, on bikes



The inner chainring's bolts are on the other side of the arm, so the 74mm bolt circle diameter (bcd) is estimated.

costing \$4,000. And the SILVER logo on the CLEM crank is laser-etched (the common way). The SILVER cranks that come on our other bikes and that'll be sold as new separate cranks have an engraved SILVER. It costs way more but looks better.

It'll come in a plain brown box, a humble presentation that will totally unimpress you. Price to be determined, but it will cost much less than cranks that are much worse.

When?

Sometime this (2016) spring. May?

How much \$?

About \$200 to \$225.

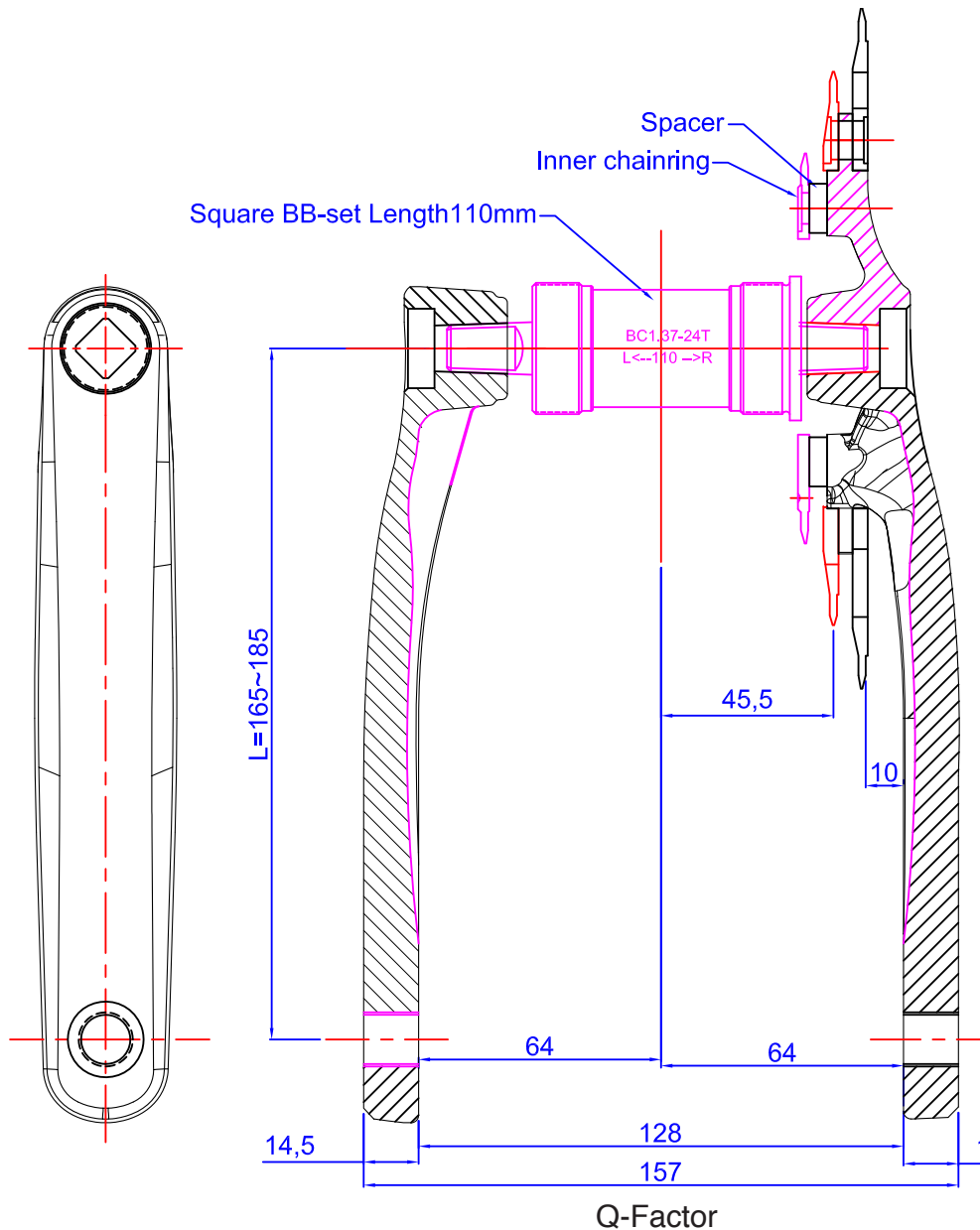
Variations?

Doubles, likely with guard/38t/24t, and a triple with 43t/35t/24t. Update will be on the BLUG or by calling, but these are the plans.

Is it the best crank ever? No no no, and it's a dumb question, sorry for asking it. "Best" is too hard and depends on what criteria. Some early Shimano XT cranks are nice. Sugino is capable, but they wander too much. The SILVER is really, really good; easily good enough.

Here's our new SILVER crank.

It's left-to-right symmetrical . . . the inner ring attachment uses spacers, so if you don't run the inner ring, you don't have permanent stubs jutting out. The 157mm Q is lowish by modern standards, and the arms clear all reasonable chainstays . . . the arms are 1mm thicker, and front-to-back maybe 2mm greater than an aesthetic ideal, the extra metal being necessary to pass the tough MTN EN test. It's cold-forged and made with the strongest aluminum (7075 T6) . . . available in 170mm + three quirky lengths (173, 178, 182), because when you're starting from scratch, there isn't one reason in the world to follow standard lengths; your legs don't care and can't tell. It fits a 110mm bb Tange/Shimano/IRD spindle, or a 108mm Phil.



How bikes came about & shaped up

Several months ago I presented something about this at the IHMC in Florida. It's a fancy think-tank like place where they make robots that help people and study things. I was allowed to pick my topic, and I picked bike history. This is a condensed & written version of that.

(1) 13.7 billion yrs ago : Big Bang

This set it all in motion. Thanks, BB!

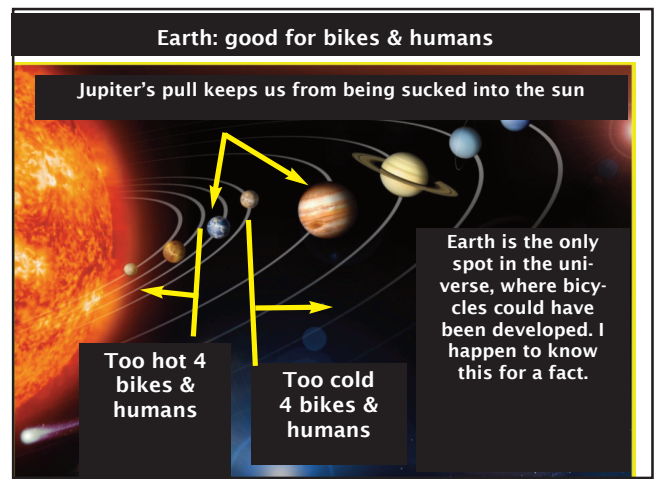
Was it as chaotic as it must have looked for that first several billion years? Is chaos possible in an otherwise orderly universe, or is "chaos" our word for describing events that we can't predict? We acknowledge now that physics, which implies order, rules the movement of everything in the universe, and if that's the case now, when was it not the case, and what changed it?



(2) 4.55 billion yrs ago: Solar System

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After 6.8 billion years of attrition—bodies in space colliding & getting sucked into black holes, the survivors in our solar system were the ones who stayed in their lanes, so they hit one another. Earth ended up in an ideal spot, sometimes called an ideal "habitable zone." We don't burn up. We have water we can drink & swim in; and we've been in this zone long enough for complex life to evolve. Without this, no bicycles. Thanks, attrition & luck!



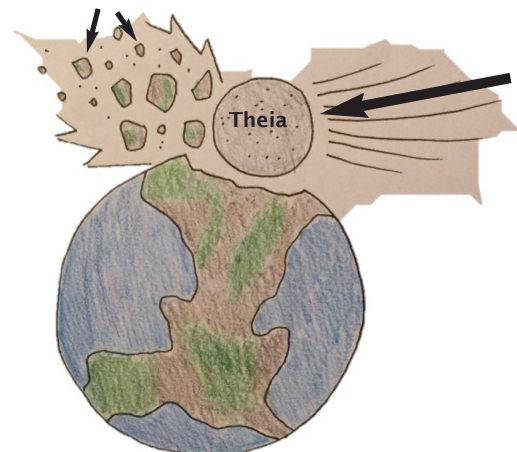
(3) 500 thousand yrs later: Moon

Theia, a Mars-sized meteorite came from out of the blue, smacked into the earth & broke off chunks & rubble which gravity pulled together and formed into the moon.

The blow spun earth on its current axis relative to the sun, and twirl speed that gave us our weather and the our 365 1/4-day year.

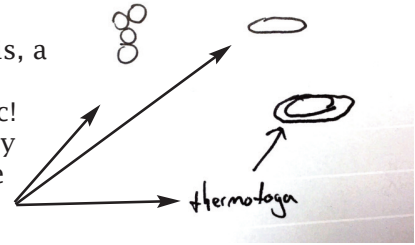
Without the moon, we might burn for six years, freeze for six years, and have 300 mph winds. Our moon-given climate allowed tenderfooted, relatively hairless people with non-aero bodies and tender skin to evolve and make bikes. Thanks, Theia!

earth rubble becomes moon. Thanks, Theia!



(4) 3.5 billion yrs ago: Life!

RNA, DNA, microbes, & bacteria eventually led to photosynthesis, a major contributor to an oxygenated environment. No oxygen, no bikes...so on behalf of bike riders worldwide, thanks, microbes etc! You might think the illustrations are childlike, but they're by a guy who studies microbes & sees them daily. He came to the store one evening, and the talk culminated in the illustrations you see here.



(5) 65 million yrs ago: Chicxulub kills the dinosaurs

About 3.3 billion years after the first forms of life, dinosaurs evolved and ruled the earth for about 200 thousand years, while mammals were tiny and lived in tree tops and underground. Then a 6-mile diameter meteorite we call Chicxulub, traveling at 10 miles per second, landed in what's now the Yucatan peninsula. The dust blocked the sun and killed plants, then the vegetarian dinosaurs, and finally the meat-eaters. The land dinos died, allowing mammals to come out in safety and evolve, eventually into us.



No Chicxulub meteorite, and the dinosaurs would have lived longer and changed the timeline of evolution, and people probably wouldn't have...been able to create bicycles. Sorry, dinosaurs, but thanks, Chicxulub!

Dino by Dave

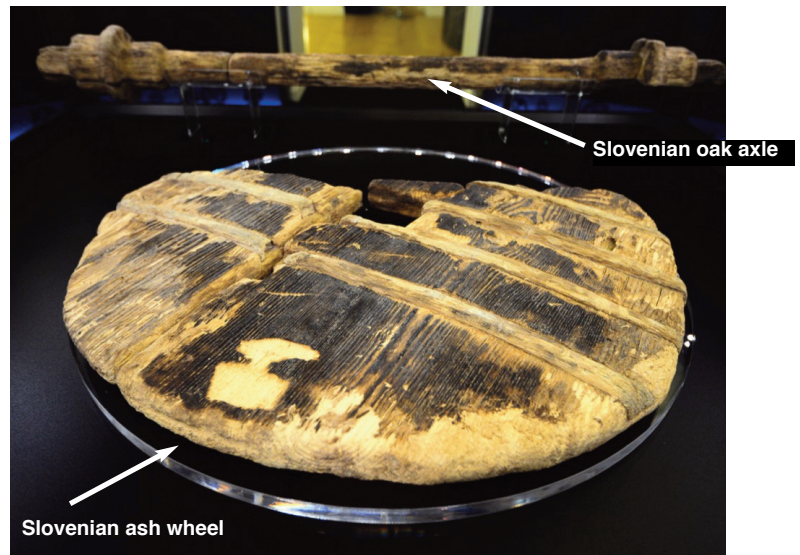


Without dead dinosaurs, the world wouldn't be the ultra-superb Shangi-La we all know and love, there'd be no bikes, and you wouldn't be here to read this.

(6) 5,400 years ago: da wheel Thanks, Slovenians

The oldest wheel ever found was found in 2002, in Slovenia. It's around 5,200 years old, is made of ash, is about 47-inches across, with a 48-inch oak axle. That's them. The mate's gone.

Why'd the wheel come after 195 thousand years of Homo sapiens?: No Bronze! Copper is too soft to cut wood, tin's too brittle, but combine them to get bronze, and you can make weapons, trinkets, and woodworking tools. The first wheels went on carts, then over the next thousands of years, on wagons, chariots, and carriages. You know rikshaws? They came from Japan, and came after bikes. Japan banned the wheel until the a bit after 1890. The rikshaw popped up immediately, and Miyata bikes popped up a few years later.



The barely visible thing on top is the oaken axle, and the pie-thing is the ash wheel, missing a chunk, but still showing how it wasn't just a stump with a damned hole in it. The axle hole is square, so the wheel was fixed. This was found in the Ljulbiana (or something like that) Marshes, Slovenia.



(7) 290 years ago (in 1815): Indonesia's Mt. Tambora erupts

It was 68 years before Indonesia's most famous volcano, Krakatoa. Tambora was many times bigger, and led to a Chixulub-like chain of events, but smaller. The summer of 1816 was known as "the year without Summer," around the world. The toxic ash killed stuff and blocked the sun. Plants in Europe didn't grow, so horses starved and died. A guy named Karl Von Drais, a baron, forest ranger, and carriage maker, couldn't patrol the forest on a carriage pulled by a dead horse, so he made a genuine horseless carriage. It was called the Draisinne, and like today's children's balance bikes, you

propelled it by paddling, not pedaling, and it led to the bicycle. The Draisinne is the first-known bikelike vehicle, & many Germans consider it the first bike, period. The French say No. In the mid-1800s there was a revolution in Germany, Democrat party lost, life got way worse for him, so he went to South America, then came back to Germany and died broke and sad. Thanks, Tambora!

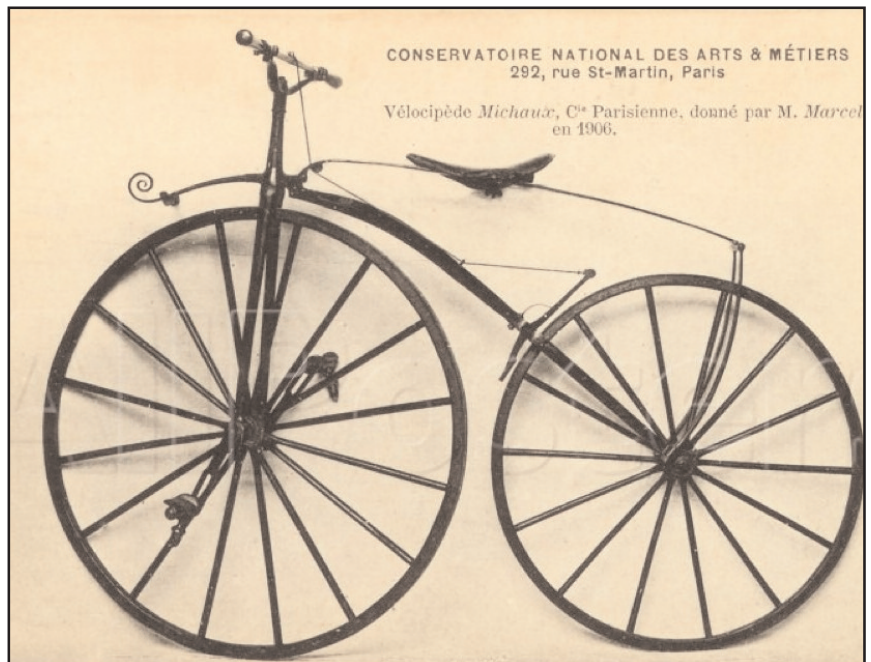


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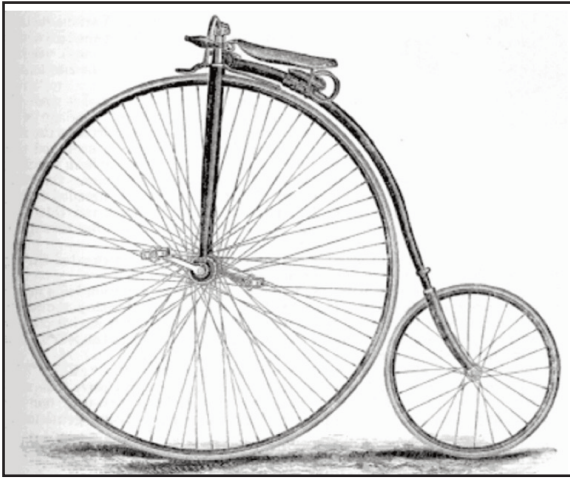
(8) 1863: The French pedal-bike

The debate rages as to whether it was Pierre LaLemant, or a collaboration with the Michaux clan. Regardless, the French saw the Draisinne and added pedals to the front axle. The rear wheel was 30-inches across, the front, 36-inches. Since the front wheel was the drive wheel, a larger diameter gave a bigger gear, which meant less spinning and faster speeds. Still, the 36-inch wheel gives a low gear (36-inches, to be exact), and that's the equivalent of about a 39 x 28 combo on a 700c wheel.

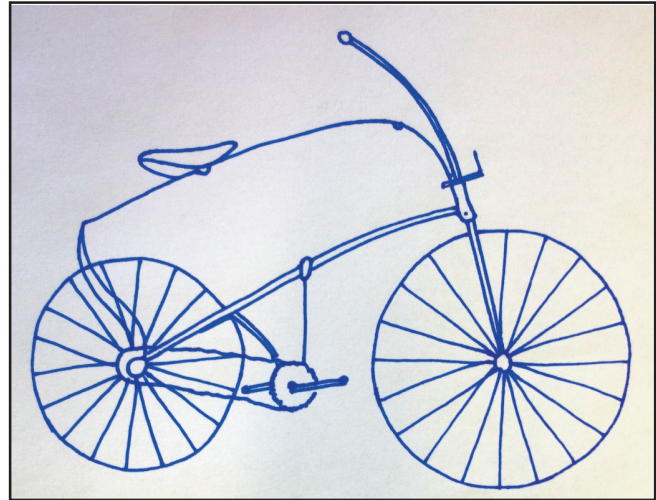
This bike was enough to kick off the first bike boom (France, 1865), and other countries immediately copied. In the U.S. the Civil War was raging and Lincoln was about to get shot, and Lallement's attempt to get Americans jazzed about bikes failed, although he did get a patent. But a year or so later, when we got wind that Europe was bike-crazy, we got that way, too.



America's first bike company, founded by Alexander Pope and not long after renamed Columbia, is still a bike company, is still (I think) in the same building in Massachussettes, but now the bikes are made in China, and the America-made Columbia stuff is groovy school furniture, presumably using tools or at least technology originally developed for making bicycles.



VS



(9)1869: The nutty, popular Penny-Farthing

This is the first racer-influenced design. Racers wanted more speed (others did, too, but racers required it), so they enlarged the front wheel. So the bike wouldn't be too heavy and long, they made the rear wheel tiny. The "high-wheeler" or "ordinary" as it was more popularly known, was faster, but it was hairy to ride, and it cost about \$130 in the late 1800s. Old people, sick or broken people, scaredy cats, and women (burdened by their floppy clothing) didn't take to it, so the only ones who did were rich, daring young men. There may have been one exception, but basically, it was a bike for young, rich & daring guys.

(9.5)1869: The first chain-drive bike, lost out to the P-F. Why?

Why at this point may be a matter of speculation, or maybe I just haven't read the story—but I've looked. Here's a guess: The small rear wheel derived from the 1863 French bike with the crank connected to the bigger front wheel. But that bike *needed* a bigger front wheel because it was the drive wheel, and when the rear wheel's the drive wheel, it needs to be bigger. The guys who developed this—Guilmet & Meyer—may have been smart, but they were unclear on that concept, which paved the way for the PF, with its outrageous proportions and inherent awkwardness, danger, and exclusivity. I think Meyer (of Guilmet & Meyer) developed the PF, too. Maybe he and Guilmet didn't get along, and he wanted to go solo, even with a crappier design. Or maybe the funkiness of this frame or the unreliability of the chain made this bike too weird to ride---on top of the too-low gear.

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(10) 1885: The first nearly half-decent Safety Bike, named Rover

People got tired of the scary "ordinary" bike, so after 16+ years of high-wheel domination, Englishman James Starley developed the first successful chain-drive bike, which almost immediatly killed the Penny-Farthing.

On this safety bike, women & children & injured & old people could ride. Everybody rode more safely, because the bike was easier to control, and if you fell, you didn't fall far. The first ones had ultra-funky steering, wood-and-iron wheels, and these days we'd consider them crappy, but people were sick of the big wheelers, and the first Starley safety bike, called the Rover, led, in a few years, to bikes that we modern riders would consider totally rideable.

THE ROVER SAFETY BICYCLE (PATENTED).

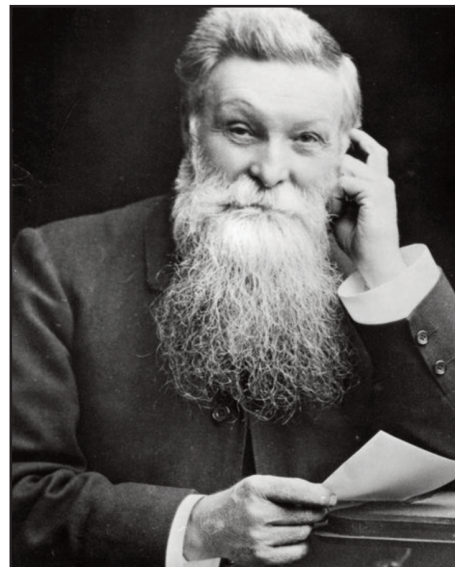


(11) 1887: Scotsman & veterinarian John Dunlop develops the first half decent inflatable tire

In October of '87, his son, Johnny, was complaining about the harsh ride of his tricycle. Dunlop had already developed inflatable harnesses to make horses more comfortable, and he used some of the same skills and technology to make the first practical (and second overall) inflatable tire.

Naturally, it revolutionized bikes. All the speed records were broken, and Johnny and his elders praised the ride. Bikes were more comfortable than ever, and the combo of Safety Bike + cushy tires led to the first American bike boom, from about 1890 to 1896.

Dunlop motor tires are still around, but not bike tires.



(12) The normalish bikes of the first bike boom (1890-1896)

The combo of tubular steel frames, light spokes, rear-wheel drive safety bikes, and pneumatic (inflatable) tires made bikes accessible to everybody, even old ladies and the infirm. They still cost a lot—a bike like this one ran about \$130 in a time when the average guy made about \$1,200 a year. But now that everybody could ride them, everybody also started making them...and parts and accessories, and media flourished and clubs formed, and it was just the thing to do. In fact, it became too much of “the thing to do” for early adopters who were in it partly for the social climbing it allowed them. The glut of bikes led to a market for used bikes, and then, heaven forbid, even black people started riding. In 1894, racist riders lobbied the League of American Wheelman to ban blacks from membership, even while Major Taylor was winning track races in the U.S. & Europe. Go damn figure, but it was like that. The bike industry was about to get its comeuppance, though. By 1897 the combo of high bike prices, competition from golf & tennis, a growing used bike market that stole sales from newbies, and then, what happened to Mr. Toad in *The Wind in the Willows* (1908) happened to every adult in America.



Say what you will about the evils of motors and dependence on oil and all that, and I'm with you, but imagine living back then...trying to get dates and seem like a big shot. You'd transform into a bower bird and get something like this to impress whomever you were trying to impress. The car's a 1929 Cord, the motorcycle below is a 1914 Indian. The belch and stench they produced were new, and part of the allure, not associated with fouling the environment like they are now.



(13) 1900s: Style, ease, and dates win out over lack of style, sweat, and no dates

Bikes were expensive still, golf and tennis were new imports that lured cyclists to the ball games, and it's not as though motorheads had been idle all this time. The steam-powered car had been around for a while, but it was the internal combustion engine that really kickstarted the autoboom.

Then all the people who'd been liking bikes (because they were easier than walking, and liked to flaunt their wealth) naturally took to motorcycles & cars, which were all that & more. Plus, let's say you were a young man trying to date young women. The car expanded your reach, was much more impressive, protected you from the weather, & had a back seat to boot.

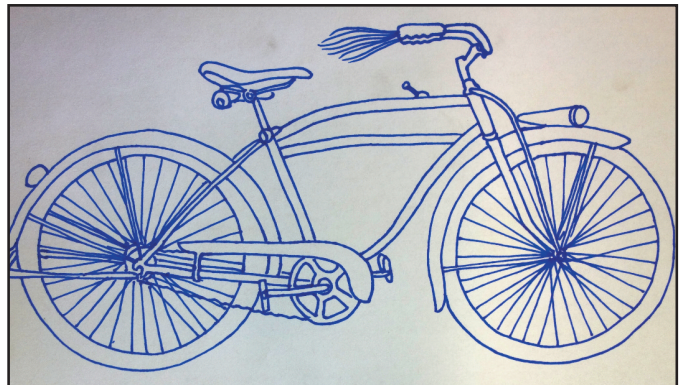
The Indian motorcycle was established in 1902, and a year later came Harley-Davidson. By 1911 or so these motorcycles looked boss and cars were getting spiffier too, because the best bike engineers switched to motor vehicles. If you could drive a car or motorcycle you did, and adults gave up on bikes. The only bike market in America was kids too young to drive.

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(14) 1900 to 1970: The first official bike slump.

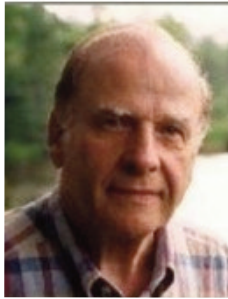
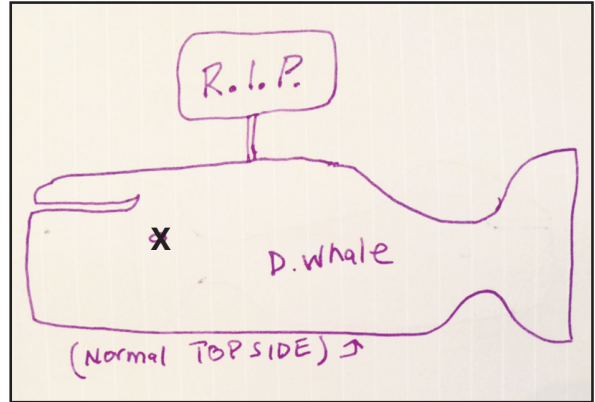
Motors took over and tons of bike makers folded. Prices fell from well over \$100 to about \$15 to \$20 for an early 1900's bike. And since kids wanted cars too, but tough luck, you're too young, bikes soon copied motorcycle attributes, with bigger tires, fake gas tanks, fenders (also like car wheel wells), and those handlebar streamers were fake exhaust, and had handlebars shaped like exhaust-pipes. (Euro-bikes didn't copy cars).

Authorities told kids to be happy with their bikes, because they were like pre-cars. But they couldn't wait for the real thing. Then post-WWII urban development made the bike impractical or at least ultra-inconvenient for shopping or commuting. The bike was for kids to ride around the neighborhood and maybe to school.



(15) Huge oil spill on 1/28/69 kills marine life, fouls the enviro, boosts bikes

On January 28, 1969, there was a huge oil spill off the ultra-pristine coast of Santa Barbara, California. It was the biggest oil spill ever to that date, and the repercussions were gigantic and immediate. Young people were sick of how the older generation messed up civil rights, war, the environment, & how they hated hippies & rock-and-roll. The oil spill was the turning point, and at least one oldster, the guy below, was on the right side of things.



(16) April 22, 1970: The first Earth Day, founded by Sen. Gaylord Nelson (D.-Wi)

Senator Gaylord Nelson, D-Wisc, founded the first Earth Day (April 22, 1970). I was 15 and hadn't ridden a bike for four years, and there were thousands like me. Back on the bike,



but this time as a symbol of environmental rebellion, so riding was dignified again, not just for kids. The sudden demand for bikes gave birth to a new modern bike infrastructure, with media, manufacturers, information, and bike coolness. All because of drilling holes in the ocean for oil to get gas for cars.

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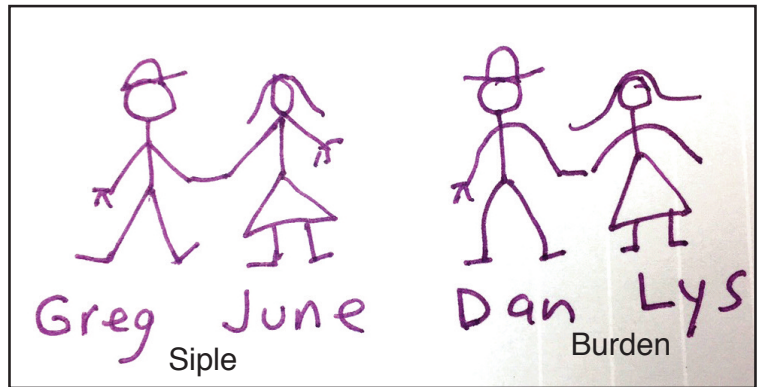
(17) In 1972, Hollywood kicks off BMX with a movie



Two years after Earth Day No. 1, *On Any Sunday* came out. It was about moto-cross riding, and since little kids were too small for that, they pretended on Stingrays instead. The photo is from the movie. Real BMX bikes would come soon after. I think Bob Haro was the main guy behind BMX, but *On Any Sunday* kicked it off, as much as anything.

(18) 1972-76: Bike touring explodes, and teens and 20s ride bikes happily for the first time in, like, 80 years.

Likely partly inspired by Earth Day, four 20-somethings from Ohio set out to ride from Alaska to Tierra del Fuego (tip of Chile). Half the team made it (read about the first leg in May 1973 National Geographic). Dan Burden got sick in Mexico, and he and Lys (Burden) returned home. Greg and June Siple completed the trip, known as Hemistour, and the four of them founded BikeCentennial (now Adventure Cycling) and kicked off bike touring and got thousands of young people into bikes with their mapped-out, cross-country ride, called BikeCentennial. That was the summer of '76.



(19) 1977: Mountain Bikes Born

It's an old story by now, so I'll be quick: You, all of your friends, some relatives, and Joe Breeze, Gary Fisher, Charlie Kelly, Tom Ritchey, and the Koski clan—all were there at the start, or came on instantly after, and helped make it all work. Designing, building, promoting, writing, innovating, making businesses, whatever it took, they did it.



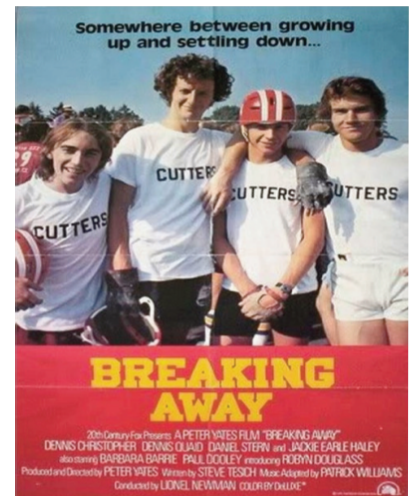
Joe Breeze with the one of his first two purpose-built mountain bikes.

I'm going to find out where this stone wall is and I don't know what I'll do then. Pose like Joe? I just want to know. It's probably in Fairfax. I can find out, 'cause I know Joe!

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(20) 1979: E.T. & Breaking Away help BMX & road racing

In one of the more actually worth-it product placement gambles of all time, Japanese BMX bike maker Kuwahara supplied bikes for E.T., and the last 15 minutes of that movie made kids want to ride bikes.



Breaking Away—kind of the *Napoleon Dynamite* of road-racing movies (but not as good as *N.D*) got lots of older teens interested in road bikes and road racing. Building upon the BikeCentennial push, bikes seemed to be almost mainstream.

muchas gracias, ET & Cutters and movie people!

(21) 1984-2006 Greg & Lance get tons of adults onto road bikes

Both American racers got a lot of riders, even old guys, onto bikes, and made the mainstream media cover bikes. Mountain bike racing took off in the late '80s...

Thanks, Greg & Lance.



(22) Early 2000s, bikes start copying motorcycles again

This person of unidentifiable gender is riding a pedal-powered mountain bike that copies motorcycles, just like kids rode from 1900 to 1962.



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(23) Here we go again!

Pedal bikes have always played second fiddle to motor bikes, and this time around they're getting pecked at by eBikes. The name eBike has perceptual influence.

If eBikes were juxtaposed with mopeds & motorcycles, they'd be considered downgrades of unproven technology, insufficient power, and a short life expectancy. Comparing them to pedal-bicycles allows the makers to market them as advancements and gifts to those who can't pedal. eBikes let you go farther faster; there are no license requirements, and since they aren't as fast as motor vehicles, they're not even allowed in car traffic—another bonus for a lot of people. eBikes come in all sizes, some even smaller than the one this smug young lad is straddling. The chance of him "graduating" to a pedal bike are small, but let's be optimistic!

We're often asked "what do you guys think about them, and will you do one?" I'm not speaking for everybody here, but I can speak for the direction we take, and we're not going to make one. I think any small company who does is going to get blown up by well-funded and experienced existing motor vehicle makers. BMW, Honda, Ducati, Vespa. How does an eBike compare with a Honda 50? You can't pedal the Honda, but it's easier than an eBike, it goes faster, it uses mature technology, and could be just as relevant in 20 years as it is now. There's no recharging. You can ride it on freeways and take up your own lane. SOME motorists will move to eBikes for town trips in good weather, but most of the eBike buyers will be cyclists. I've ridden eBikes, by the way. They are scarily addicting. Terrifyingly addicting. I barely escaped. For me, as long as I can pedal, I will.



A million reasons to blow off the next double-century

What they don't tell you about aerobics might bum you out later, when it's too late.

Aerobic exercise is good & fun when it's easy, bad & harmful when it's too long and hard, and lots of people who exercise hard are all mixed up about what it does for their lungs, heart, & muscles.

It has no effect on lung capacity. There's no room for lungs to grow, with the ribs and other organs in there and all. Your heart doesn't radically change its size as a result of exercise, either, and that's fortunate. It's about fist-sized and has no room to grow. Its stroke volume—how much blood it pumps per beat—can increase only barely.

Your lungs supply oxygen to your blood, and your heart pumps it to the muscles. When muscles don't get enough oxygen, they call out for more with that burning pain.

Think of the oxygen as little croutons that float through your blood. Your muscles try to eat them, and they get one chance per pass (per heartbeat). If you have lucky genetics and are anaerobically fit, your muscles open wide & eat enough oxy-cROUTONS to work comfortably. If you're less fit, your muscles don't gobble up-enough oxygen-cROUTONS. Then they burn, and you automatically respond by breathing deeper and faster to send a bigger dose of oxygen to feed your muscles.

One measure of fitness, and a good one, is how much oxygen your muscles can use, because the more they use, the harder you can grunt without suffering. *Anaerobic* means without oxygen. You and your muscles crap out fast without oxygen, but then adapt to the stress and better at gobbling oxygen the next time. Marathon runners, as misguided as they are, break through plateaus not by rest, not by more miles, but with anaerobic training. Anaerobic training builds muscle *and* aerobic fitness.

Aerobics grind away muscle, anaerobics build it. Marathon runners maintain just enough muscle to perform, and even break down muscle for energy. Combined with minimal body weight & economical running form shaped by mindnumbing repetition, they emaciate to a state that works for endurance events. On the contrary, sprinters run full speed for short bursts, and their bodies get stronger.

Here's how long intense exercise hurts you:

A normal heart at rest pumps about five quarts of blood per minute. At full effort, it pumps 30. You can run it at full effort only so much, and evidence suggests that hundreds of hours a year for decades is *too* much. It makes your heart get thicker, grow less flexible, and scars. This damage often leads to *atrial fibrillation*, where, instead of your heart gushing the blood out into your body with powerful contractions, it flutters feebly, and the blood dribbles and pools. Pooled blood clots, and clots cause strokes and heart attacks.

Don't join the club

Unfit people get heart attacks too, but there's the notion out there that lots of hard exercise is a way to prevent them, and that's b*llshit. The list of ultra-aerobic athletes who suffer and survive heart attacks or heart problems brought on by aerobic exercise continues to grow, and includes luminaries such as Jim Fix, Brian Maxwell, Micah True, Alberto Salazar, and Johnny G (all google-able). When the Greeks won the Battle of Marathon, a 40-year-old foot-messenger named Pheidippides ran 150 miles in two days to spread the good news. The final leg was 26.2 miles, and then he died—that's why marathons are 26.2 miles.

Safer alternatives to long, hard aerobics:

- (1) Hike, dance, paddle, chase frisbees, ride your bike non-heroically.
- (2) Full-on bursts of 15 seconds to a minute once a week minimum, but daily is probably fine.

People are the only animals who practice sustained, high-heatbeat exercise. The sleekest animals in nature walk, trot a little, and sprint like the devil only as long as it takes to catch food or escape being killed. In our 200,000-year reign, optional aerobics were rare or unheard of until the late 1960s. Considering our penchant for fashion, trends, and susceptibility to propaganda, how likely is it that we're the animals who got it right?

For more detailed reading on this topic—:

<http://velonews.competitor.com/cycling-extremes>.

If you want to read more on sort of the same topics, read either *Eat Bacon, Don't Jog*, which explains why you can't exercise fat off, or Gary Taubes's ultra-fine book, *Why We Get Fat*. Or read them both. Once you understand stuff about diet & exercise & weight, you'll find it easy to quit suffering long, hard rides for your health, and riding'll be fun again.

Have fun, live long, move like squirrel

Ride for kicks, transpo, and recreation—not sweat & local glory. Forget about pedaling with a steady cadence—pedal fast & slow, coast, sprint, roll around at a conversational pace, but don't jack-up your heart rate and keep it high for hours in the pursuit of health, because that's *unhealthy*. Watch squirrels, see how they vary it with short bursts & rests, and go jumps and shuffles in between. Despite, or maybe because of their Spanish peanut-sized brains and their limited ability to read, write, and communicate in general, they have exercise figured out.

Lance—

he's like you, me, and our dogs

Lance didn't besmirch a clean sport. Doping's been part of bike racing since the first guy doped and did better for it. Lance doped in the cheatingest doping decade of all time; the best doper in a murmuration of dopers. Winning required doping, and everybody associated with Lance's team doped or knew about it and lied about it. The coverup was just "honor among thieves," which, at some level, is more palatable than dishonor among them. Would you have wanted Sundance to turn in Butch?

Free Will & Lance

Most people figure Lance cheated of his own free will (FW), but to have FW is to not be influenced by history, learning, others, genetics, upbringing, peers, threat of punishment, or authority figures. People admit that they consider the consequences, but then detach themselves & make a "choice"— a consider-&-discard scenario. This kind of rumination is thought to be one thing that separates us from animals.

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Consider you're shopping for sunglasses and have narrowed it down to two styles and are paralyzed by "choice." At that point, anything that pushes you toward one and away from the other reduces the stress and makes the new favorite not just a little more likely, but much more. If a friend says "those shades look like the overglasses old people get from the eye doctor for the drive home" it helps you "decide" against the Wayfarers. But an unexpected compliment from an ultra-attractive stranger might swing it the other way. In both cases the pushes & pulls come from outside, not from an invisible internal event.

It's easy to assume an internal event (the choice) because we're used to causes coming before effects. But in behavior, causes come before effects *only* when the behavior's a reflex—somebody says "Boo!" and you jump, or you touch something hot and pull back. But most behaviors aren't reflexes, and in non-reflexive behavior, the cause is the consequence (kind of like natural selection is "caused" by the consequence of greater survival success). Being used to causes before effects makes it easy to assume an unseen choice as the cause of any action.

In this sunglass-shopping scenario, the cause is the comment that pushes you one way and reduces choice paralysis. If you value your friend's opinion more than the stranger's you won't buy.

Lance and Dogs

You'd never say a dog *decided* to roll over, shake hands, or fetch a duck, because the "cause" is clearly the snack or praise that follows, so you credit the trainer. When a person does something kind, mean, dangerous, or stupid, most people explain it by calling the person kind or mean or brave or foolish. The circumstances that trained the person are long gone, and the reward is often hard to pinpoint.

Language muddies the facts here. When you say, "I ate because I was hungry," it's a casual statement sane people let fly, not a rigorous explanation. More likely you ate to kill a hunger pang, or you needed the the mind-blowing comfort of chewing and swallowing gooey, semi-crunchy sweet stuff with a little salt, seasoned just so, with distinct yet complimentary flavors. It's hard to resist that kind of reward.

Lance's reward for cheating was more fans and money. If he turned himself in he'd suffer public shame and his teammates would hate him for exposing them as liars. Fear of getting caught didn't stop him because his doctors assured him they were a step ahead of the tests, and that seemed to be the case, since he passed all those tests. These are the forces that guided Lance; not will power or lack of it.

If you buy into the notion that our actions are not strictly self-generated, you have to give up the pleasures of demonizing scoundrels and seeing them punished. On the flip side, you have to give up credit for your own achievements, and you don't get to sincerely praise others for theirs. Nobody credits or blames a pinball or a marionette, because their forces are so obvious. When the consequence of a behavior is obviously driving the act, we don't credit or blame the person. For instance, if a bank teller hands a bag of money to a guy for no *obvious* reason, we blame the bank teller, but when he hands over the money when threatened, we blame the robber.

The robber may even *say* he chose to rob the bank, but if the proof of choice is the robbing itself, his testimony is a nowhere-bound loop of nonsense. More likely, the *cause* was a need for cash greater than his fear of jail. Successful bank robbers often repeat, using the same tactics on the same banks, wear the same masks that've already worked. Lance lived his own version of that. His was a different kind of need, but his successes pulled him along the same way.

Labels & Lance

You don't rob banks or cheat in bike races because you're a bank robber or a cheater. You earn the labels by robbing banks & cheating. It works with good stuff, too. Philanthropists are philanthropic only when they donate...they don't donate *because* they're philanthropic. The act explains the label, not the other way around. Lance didn't cheat because he was a cheater. He liked to ride his bike, got good at it early, and hooked up with a career that required cheating (remember, it was an era of cheaters) for success. How many butt-kicking, successful pro bike racers in the early 2000s didn't dope?

Genetics & blame and Lance

There's no evidence that cheating is genetic, but when you talk about inner qualities and use labels, there's a genetic component to that discussion. For the sake of argument, let's say there's a faint genetic influence, meaning cheating was part of Lance's essence. In that case, he can't be blamed for his cheating any more than anybody else can be blamed or credited for the cards their genetics dealt them. You don't expect albinos to choose their way out of the pinkish skin so they can enjoy the beach in summer, and you don't credit basketball players for choosing the proper height for their sport. If you *believe* Lance has cheating genes, you can't blame him for them.

In any case, there's no evidence that Lance had cheating genes, and if his behavior isn't genetic, he learned it along the way. If you say learning is a choice, what about inner city kids with crappy schools, no family support, and survival needs that make it hard to be fascinated by math? When children achieve academic greatness despite the odds, then give an inspirational Ted Talk in which they're the hero of their life for doing it all on their own, we clap for them because it's a great story. But Lance and everybody else has helpers or hurters along the way, even if they don't share the spotlight or blame.

God and Lance

An archbishop or vicar would say there's God's will, and God-given *free* will, and even though God can make anything happen, He tests us with this gift and wants us punished when we mess up. People don't generally blame God for ISIS and kidnappings, but many blame Lance for cheating.

Lance was a bicycle racer, the most famous one ever. He broke the law, but he didn't kill anybody. As he was going down & feeling the stress, he

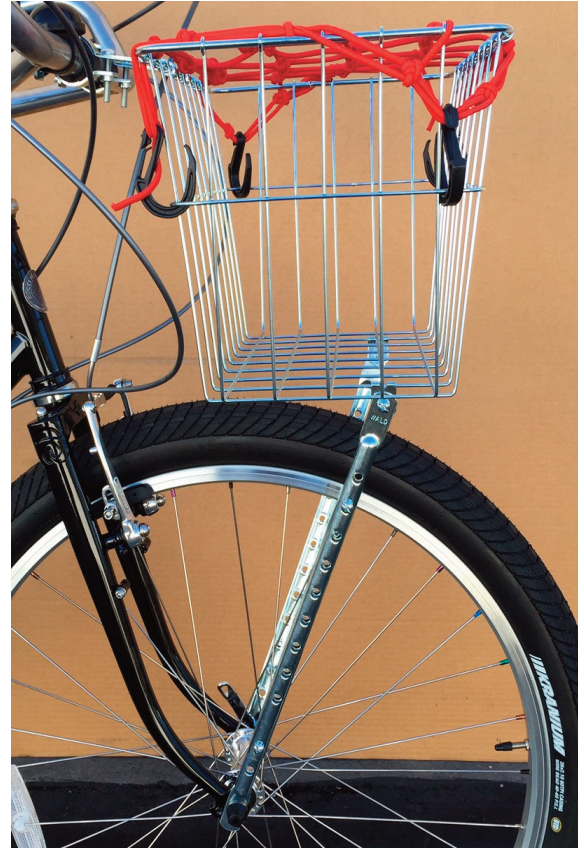
tried to protect himself & others. He said & did regrettable things, but calling him a bad person is an unfairly simplistic way to explain a complicated event. Would anybody who lived his life have done differently? Since there's no provable Yes to that question, why not give Lance the benefit of the doubt?

I think most fans want a fair & exciting race, and when most of the racers were doping, how *unfair* was it that Lance doped, too? Lance at least provided the excitement, and raised millions for cancer research. Whether he did that out of goodness or guilt or for whatever other reason, it is more-for-cancer than most of his critics have raised, and that's more important than bicycle racing, anyway. For the record, I don't know Lance, have never corresponded with him, and he'd probably hate my book.

Here's a thought

If we discard free will, how do we deal with serial murderers & child molesters?

Here's one idea. Lock them up so they can't repeat. Tell them, "Sorry—even though it's not your fault, you don't get a long leash anymore." *Then figure what & when made them go south. Ask, maybe they'll tell you. Maybe being abused, maybe a particular kind of parenting or bizarre family culture, maybe a genetic disorder, maybe a bonk on the head or drugs. Why would somebody choose to be that way? Explaining it with a label stops any hope of helpful inquiry before it even gets started. What are the events in a child's life that push him-or-her this way or that?*



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TOP: We stock a Medium (shown) & Large (not shown), to fit one or two grocery bags. Mount the baskets to racks, using bar tape or big zip ties or both. Cover w/Captain Hook nets, so you can shove & access things while the net is on. Good for commuting, shopping, touring, allaround life. And conveniently but not coincidentally, our Sackville Shopsacks M & L fit perfectly. Most RIVemps use this combo.

RIGHT: One for the rackless. This is our Clem Basket, and it comes w/ bar clamps & axle stays, and mounts on Albatross or Bosco bars or any others that aren't too fat or curvey. It comes with a bag of hardware, and it's easy to mount and adjust, so you can always get it level.

TWISTED: This Wald rack got crushed in an international shipment (even foreigners dig Wald!). The tough steel wire is mangled, *could* be bent back in a pinch, but will likely be an objet d'art in our showroom.



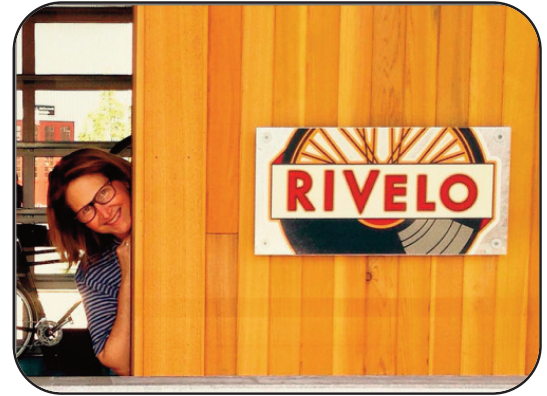
An American Classic, the Wald basket

Any bike that aspires to ultra-usefulness must have a toss-stuff-in/grab-stuff-out basket. No basket is more that way than a Waldo, and since the price is unZeusly low, it must be the best bargain in Bikedom. It would be that even at four times the price. Seriously—you'll easily get more than \$100 of use out of a Wald basket.

Wald's been making bike parts since 1905 and in Maysville, Kentucky since 1911—a record rivaling DiMaggio's in the unbeatability department. Most of that time Wald made hubs, cranks, stems, handlebars, pedals, and baskets for the kids bikes that comprised 99 percent of the market through about 1969. If your grandparents lived in America and rode bicycles, they rode Wald-equipped ones.

Those old Wald parts did the job, but weren't slick enough for fancy bikes. Wald steel baskets are worthy of royalty, though—and You!.

They're perfect, yet not snob-magnets.—if anything, they're the fantastic ultra-opposite. They could not be made one atom better, & they look great on any bike. If they cost \$200 each, I suddenly had none, and I got wind that Wald was going to stop making them, I'd buy eight for personal use into the distant future, a few for family, and a few for possible future progeny. They are light, strong, smooth enough to carry water balloons, and their rectangular shapes are perfect for every load I've ever carried. We stock three ultra-useful models. All rectangular, for easy loading.



After 12 years at Rivendell, former GM John Bennett & wife Darby open RIVELLO, a bike-&record shop in Portland, Oregon.

How did the idea of Rivelo come about?

We'd been running a Portland Rivendell Test Center in our garage for about a year, sending people out on rides in the evenings and on my days off, and I had another job I didn't like, and one day the ax just fell. I told Darby, "I'm going to borrow some money, talk to Grant, and maybe start a Rivendell dealership in Portland."

That was February 15, 2015, so within two weeks we started looking for a space, and I gave notice.

How did you find your spot, and what's rent like? And also, how long did it take you to stock it with stuff?

We found a good place quickly, near the new bike & rail bridge (Tilikum Crossing), and rent is just under \$1500 a month. We opened accounts with suppliers, bought fixtures, and by mid-May we'd filled it enough to open.

Do people confuse Rivelo with Rivendell?

At the beginning, yes, especially if they knew I'd worked at Rivendell. If they don't know my history there, I just explain who Riv is and point out that we're not a branch or a franchise.

I'd like to have franchises, but that's beyond my small sphere of knowledge and – I imagine it costs millions to get it going, so that won't happen. How's Rivelo going?

In general, well. We've had some good feedback about the way the shop looks, and customers are happy to have a Rivendell dealer in Portland, so they can see the gear and bikes in person. We should get out there more, though. Last summer, we had a series of special events, like our Grand Opening in June. At the end of July, we decided to be open every day until the end of September and the good weather. We need to do more of that.

That's good, but still, how are sales? That's what I meant. You can't live on comments and events.

Sales are OK, but inconsistent. They keep me awake a few nights a week.

Describe a good and a bad one, moneywise.

On a good day we get a dozen people spread over seven hours, and have \$300 to \$400 in sales. A bad day is zero to two customers and we sell a bar of soap.

We have days like that at our downtown Bike, Book, and Hatchet, and they're scary, I hate them. On a day like that, a \$20 sale is worth a hundred emotional dollars. I feel like I'd pay people to come in and buy almost anything. Well, how do you reach out, so you aren't just the passive hopeful shopkeeper?

Early on, we were lucky to meet local riders who knew Manny (Acosta). He and Ashley came up to Portland in April, just as we were getting things off the ground. Manny's friends like Rivendell, and some are Rivelo regulars, so we had kind of a built-in customer base that was a good boost. Manny introduced us to Andy (Schmidt), a local guy, who runs an online bike group, and Andy's been a lot of help drumming up interest in what we're doing.

On Instagram (rivelo_pdx), we have contests, like "Where is my Saluki?" The first one to guess the Portland location of my bike gets a prize. I also try to have other contests that work for everyone, not just locals. Those mostly feature old album covers and music. We've had two different winners from Sweden.

We've advertised on a local bike blog (bikeportland.org), and have sandwich boards out front, and a basic web site (riv-

elopdx.com), but I hope to expand that soon, and we're planning an event schedule throughout the year.

What do you sell besides Riv stuff?

Antique head badges, fender ornaments and old locks that Darby finds...and Woolpower clothing, and recently we added t-shirts with art by Jon Grant (the graphic designer who has done work for Rivendell, and designed the Ravelo logo). Then there's what I like to call, "The largest collection of new Bob Dylan records available in any shop in the world." Everything that's available.

Do people really buy Bob Dylan records? They should, but most 20-somethings couldn't name two of his songs....

They don't buy as much as I'd hoped, but I'm committed to it. I figured we could have a little bit of everybody, or a lot of one person, and who better than Bob? It's cool to have them around, regardless of how they sell. A whole wall of Bob Dylan LPs gets people's attention.

What's your biggest selling thing?

Probably John's Irish Strap and Grandpa's Pine Tar Soap. Everyone needs those items, whether they know it or not. We've sold some frames and a few complete bikes, so those would probably be our biggest sellers, in terms of paying the rent.

How stuck are you on selling only Rivendell bikes? If your customer start asking for \$400 bikes, what do you say?

There are so many places in Portland to buy \$400 bikes, but Ravelo's the only place to buy Rivendells. I can't compete with the \$400 bike guys, and I'm really only interested in selling Rivendells.

You aren't a bike mechanic, so how does that work with assembly and service?

I work with a guy who owns a bike shop near our house (Kai at UpCycles). He does first rate assemblies. I bring him all the parts, he assembles the bikes, and I pick them up a day or two later. Whatever he charges me, I charge the customer. Typically, it's about the same as Rivendell's assembly fee. Our former Rivendell co-worker, Andrew Drummond, has done a few things, but he has a full-time job and kids, so we're still figuring that out.

I can install fenders and kickstands and twine bars—I take the bikes home for that, because my work stand's in my garage.

We here can sell bikes all over the country, so our nicheness isn't the liability it could be for a small local shop. How much do you fret about survival?

It's always on my mind—as you said, there are more than 70 bike shops here, and if I saw them as competition, I'd fret even more. We have a fair amount of visitors at Ravelo who work at other shops, or in some aspect of the bike industry. They've been encouraging, and buy stuff from us that they can't get at their place of employment.

Rivendell continues to get orders from Portland, and I think that's a good thing. We need it, and all—but so do you.

What are your honest thoughts about that? Should we be encouraging locals to shop at Ravelo?

It depends. I send customers your way if they need something I don't have, and they want it right away. On the other hand, if they're not in a rush, and it's something coming in a near fu-



Commuting on a Riv Saluki, Bosco bars, Wald basket...and if I'm not mistaken, wearing some Danner 6490's..

ture order from Rivendell (like a Sackville bag) or something I can get for them in a day or two—so if they can wait, great.

You were always low key at Rivendell, and you had a yellow room all to yourself. You weren't on the front lines of helping customers, so how is it now, when you don't have your old yellow room?

I'm always myself, no matter what the situation is, whether I'm on the floor or in a yellow room. Customers come in to look and we talk about a wide range of stuff, including bikes. I'm the same everywhere.!

Are mail order/online sales in your future?

Sure. We've already done a little of that through our site. Mostly Ravelo-specific stuff, like our own patches, pins, and custom bandannas, but also some of the vintage items, like the head badges. We got in a trial run of copper water bottles a few weeks ago, and sold out in two hours when I put them on our Instagram page. We reordered, and put them on our web site.

I think our best bet for online sale are things Rivendell isn't selling. Rivendell's site will be the go-to for customers who want to order Rivendell merchandise online, but I hope we'll get locals who want to feel it. At some level it has to be mutually beneficial.

Maybe this will work, then. At Rivendell you had a long commute, more than an hour on bike and BART. That's got to be better here, right?

Yeah, my bike commute to Ravelo is about five miles of "urban picturesque"—side streets to a bike lane to the Eastbank Esplanade, then along the Willamette River for the last mile or so. I see barges, bridges, docks, the skyline over on the west side. Portland's still industrial, or at least has that feel.

When Ravelo has a lousy week, you have a BnB to back it up a little, right?

Yes, Darby runs it in our house—"The Knotty Grotto," is a pri-

vate lower level in our house. It's an old-fashioned rumpus room with a bar, fireplace, and pine-paneled walls. We've played it up with 50's furniture, a turntable, old records, and some board games. We built a new bathroom and bedroom suite, and we've been getting positive reviews. Without the Knotty Grotto there'd be no Ravelo, but everything slows a lot in the winter.

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..and on your days off?

Well, it seems like there's always something work-related that needs to be done, but I try and knock that off early in the day. We go to book stores, and I take pictures with my Polaroid

camera. We hit the used record shops, looking for stuff to play at Ravelo or in the Airbnb. Or maybe go for a bike ride that isn't for commuting.

When you own a business, it kind of owns you, because you're always thinking and planning, and I don't know about you, but on my after-hours I just shift to stuff I can't do during the day, and there's plenty of that. Are you enthusiastic, or scared, or do you feel trapped?

I am all of those things; sometimes concurrently, sometimes alternately.

On a good day, sales-wise, I am enthusiastic, and think, "Hey, this is really going to work. And it's fun." When we have a couple of slow days or a bad week, I get scared, thinking, "Man, this was a terrible idea."

It has definitely helped me focus more on the here and now. Even though we plan for future stuff, I regularly remind myself, "OK, none of the scenarios I'm worried about—losing all of our money, for example—is happening this minute."

Trapped? Not too much, except that since we can't afford employees, and our other business is the AirBnB. Vacations are doubly risky. If we shut down, we lose sales or bookings; and there's no such thing as a real day off, even if the shop is closed, because I'm always thinking about the business or ordering merchandise or answering emails.

I see myself as a boss, but also as an employee, so I have to keep myself on track, in terms of productivity, but at the same time, I try not to be too hard on myself. Not always an easy balance to achieve. Darby helps with that. She's definitely a mood elevator and perspective-setter when needed.

Shop RIVELO?

Oui! If you don't own a small business, you have no idea how much even a \$5 purchase means. Every dollar is worth three dollars in emotional currency, and a \$25 purchase is like a long powerful ultra-push up a steep hill. Ravelo has a terrific selection of stuff worth.



Fun with Crapsmanship

Experience the relief of low standards & the built-in excuse allowed by self-imposed tool restriction

You never see anything unexcellently made of wood, because when wood-things are chunky they're not showed off or sold; so you end up brutally surrounded by standards you can't live up to. Even cheap stuff looks perfect. Things like that remove all reasons to make something, & that's where Crapsmanship enters the picture.

Crapsmanship is making things good enough to use but not to sell, enjoying the process but not sweating over it; and not comparing your work with anybody else's.

A key Crapsmanship technique is handicapping yourself with one tool—an ax makes sense—and turning it into a multitool without the geek-seeking gadgetry. This is your main built-in excuse, but it also teaches you to get the most out of an ax and to not rely on too many tools.

Crapsmanship is good for simple things, generally two-dimensional (flat) spoons that hold yogurt and mascarpone, but not soup or peas; and butter knives and shoe horns that are totally unidentifiable unless they're on the job. Plus tent stakes that aren't yellow plastic made in China, hiking sticks that aren't aluminum, and great knife handles, although these require the shame of electricity.

You'll see some real knives here. They're made with knife blanks stuffed into Crapped handles. They're in slight violation of the highest Crapsmanship standards, because you have to drill out the wood to make room for the tang, and that means a shameful electric drill. But Crapsmanship also means making up your own rules.

Crapsmanship values productivity over perfection. It's easy to revere the guy who spends 60 hours on a single implement, but a crapsman could make between 40 and 200 crude but functional, charming,

fun-to-use things in the same time.

In the last year and a half I've made more than 500 butter knives, spoons, shoe horns, yogurt spoons, tent stakes, egg scramblers, Brussels sprouts pokers, hiking sticks, and knife handles. I've learned only a few things, but it's enough for true Crapsmanship. The most noticeable improvement is that a branch that last year would yield only two spoons now gives me six, with less waste. I've learned to shape the spoon end of a spoon downgrain, not upgrain, or else it'll lift and split. I can work around a knothole better than before. I know how redwood, pine, oak, juniper, and maple react to different kinds of cuts and shaves. Still, if you saw my results in person, you'd be embarrassed for me.

Which ax? I've used Gransfors #415, #418, and #420, and Wetterlings #111 and #119. No knives, sandpaper, or specialty tools allowed. Wait—make up your own rules.

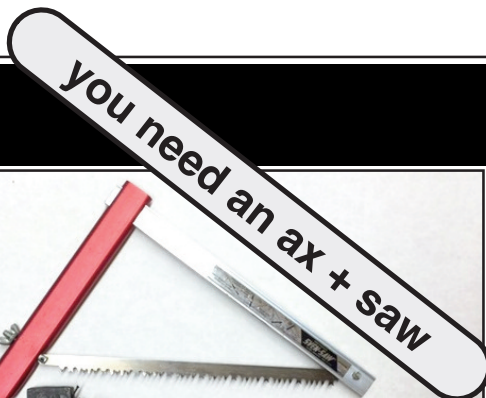
With Crapsmanship, you need never be disappointed in the outcome. If there's a rough patch or a lousy proportion or a crappily executed shape or whatever—even by the low standards of crapsmanship, it's still fine.

In the world of crapsmanship, smooth perfection make it look suspiciously like you fussed over it, which brings up the question: How much time should you spend on any detail? I'd say it's more a matter of how many passes/tries, rather than how many minutes. Pick your own number, but my maximum is four.

Every craftsperson began as a crapsperson, and you may end up going there, too. As a craftsman, you'll earn your ooohs & ahhs. With Crapsmanship, the highest praise you're likely to hear is a slightly insincere *hmm, neat*.



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1. SAW, for cutting logs & branches with flat ends, for easy handling during the axwork. Any saw designed for wood will work. I use a Bob Dustrude bucksaw or a Sven Saw (shown). Yes, we sell 'em. Small folders are good, too.

2. AX, for everything else. I like one with a 1.5lb head, and keep it sharp for knife-like use & fine shaving. The GB #420 & #418 and Wetterlings #119 & #116 are excellent.

If your finished thing is going to be used on food and washed, soak it for a couple of days in mineral oil, which doesn't go rotten and is "food safe." You can heat bein in a pan, then pour in equal parts mineral oil from the pharmacy. This goop doesn't count as a tool, because it is not made of metal and can't hurt you.

Five basic Crapsmanship skills needed to make a crude flat spoon

(use a flat stump or cutting board as a base)



1
SPLITTING

Balance the log on one flat end & tap the edge into it so it sticks. Lift both and whack down to split it. A 2-inch thick branch splits nicely in two to three blows.

Tilt the split at about 75 to 80 degrees and whack thinly at the lower half, then invert it and go at the other lower half (this protects fingers). Then do the other side. Repeat until it's 1/4-inch thick. Or so..(Crapsmen don't measure.)

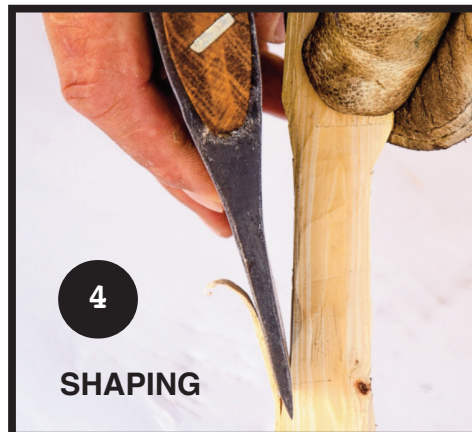


2
THINNING



3
SMOOTHING

Use the ax as a hand plane, pushing down on the wood to shave off smally and incrementally, until it's 3 to 4mm thick. (Smoothing also thins.)



4
SHAPING

Using the ax like a knife, push the blade through it, shaving the sides to shape. When you have to cut across the grain, cut down across it, or you'll lift & split the wood. If that doesn't make sense, it will when you do it wrong, and that's a better way to learn, anyway.



5
MORE SHAPING

This is the most satisfying part. This is a flat spoon, and you make the head by shaving with the ax head in a short, concentrated up-n-down motion while rotating the spoon-head. Ignore the white background--it should be resting on a stump or an old cutting board.

Three axes for Crapsmanship

1. Gransfors #420/Small Forest Ax (profiled in a few pages) 19.2-in. long
2. Gransfors #418/Hunter's Ax (like a #420 but with smooth back of the head and a slightly different handle shape)
3. Gransfors #465/Carpenter's Ax (shown here). Shorter (18-in) and with a straight, thin blade that's not for heavy whacking, but works great for this kind of stuff.



Top: Egg scrambler, letter opener/shiv.

Middle: Roman's mallet, knife handle, two-headed spoon, fork handle, two tent stakes, file handle, yogurt spoon, stirring stick, small spoon, shoehorn, butter knife, natural branch mallet.

Bottom: All-purpose billy club or baton.

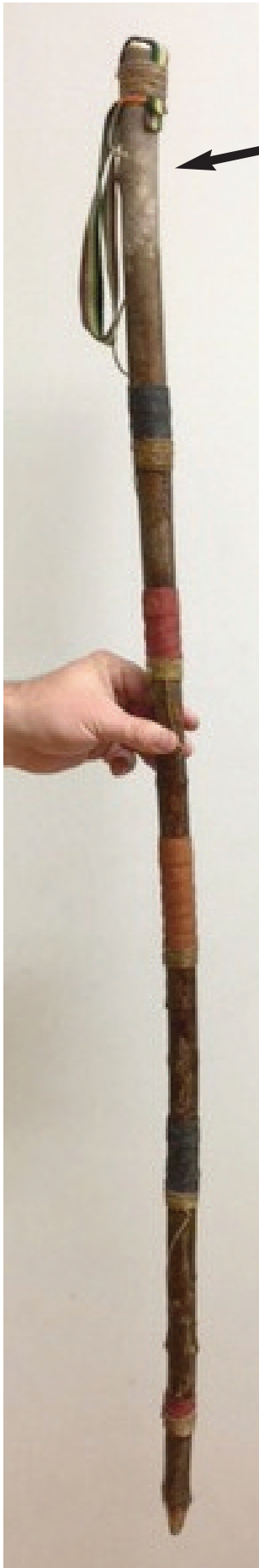
32



Will's mallet head showing beautiful crude detail. Ideally the handle would slide down thru the top of the head, its natural flare stopping it and keeping it on. But it's quicker to do it this way if you don't have the perfect flared branch-handle. You need to drill the hole with electricity. Oh well...



First, shape the wood handle, and don't taper it too much or it'll split when you force in the metal handle. Shown here is a pricey Snow Peak spork, but you can buy or find cheap old tableware somewhere, or buy it and cut the wide part off the fork or spoon. Then drill a hole. The metal should be a finger-tight fit to minimize the risk of splitting the wood when you jam 'er in there. Then, you just use your superb wooden mallet to tap in a carved wood wedge. The wedge should start higher than the spoon, to make tapping easy. Then you use an ax like a knife to notch the wedge at the edge, and then just break it off.



LEFT: A hiking stick is pretty basic, but there are tons of non-basic ones available for up to \$250. They're aluminum, they have features you don't need most of the time, and they click a bit.

You can make a 1000 percent functional hiking stick just by sharpening the bottom and rounding the top. This one here is fancier than necessary—it's wrapped with cloth bar tape, then shellacked and twined for fun, and has part of a John's Irish Strap for the strap. Straps aren't all that necessary, but they're easy. Anyway, anybody can make a hiking stick.



RIGHT: Here's the problem. The one on the left looks perfect. It's bamboo, and cost \$1.95 at a fancy grocery store. When you can buy such hippie-perfection so cheap, it's hard to justify making one yourself. The choppy one on the right is made of juniper, and lacks the bowl, so you can't eat soup with it, but it's still ideal for thick, gloppy things, and there's plenty of that around, if you only just look for it or make it.

Damascus vs Mustardus



Damascus: It's the capitol of Syria *and* a blade made by pounding & folding together two different steels 25 or more times, resulting in a blade with lots of close together stripes, formed by the two steels. Read all about Damascus steel on the world wide web!

Mustardus: Start with a new carbon steel (not stainless) blade & squirm mustard onto it. Shockingly enough, but totally explicable via chemistry, the vinegar in it separates at the edges & combines with the oxygen in a process known as mustardoxidation, forming the stripes and resulting in a blade that only a person with vision could tell from real Damascus.

Ax sharpening for people who haven't done much or any, but wish they could do a decent job of it

If you have grampa's ancient dullard, take it to a pro with electricity. But if your ax has just lost some of its bite, here's how to bring it back.

Nail the angle & hide the shadow

Plant the bottom of the handle on a surface that will semi-grab it. A lawn, a rug, the space of air between two slats of wood, whatever. The ax is vertical, head up, poll (back end) toward you. Lay the stone alongside the ax head, close to the edge. See the shadow? Angle the stone in until the shadow goes away (the shadow goes away when the edge angle is about 30-degrees). Then use a circular motion, top to bottom, on that side of the head.

Use medium grit stone and start with about 60 circular strokes in roughly 30 seconds, top to bottom on this one side. Medium pressure.

Strop lightly

When you sharpen the ax, a slight burr or micro-crested wave of infinitesimal granules of metal forms on the other side, and you just want to rub them off so they don't get into the sharpening mix. A strop is a leather slap you stroke the edge of the blade backwards on to get rid of the burr that forms during sharpening, and dragging the edge backward on leather wipes it off. Do it at the same 30-degree angle that you caused it with.

Some people put Simichrome, a polishing compound that's been around forever, on the strop. It's fine, good, but not necessary. You don't even need an official strop. Just rub it once or twice with any piece of leather (buy scraps online) or an old belt or the tongue of a desert boot. Get some leather somewhere, and nail it to a board. (Get a board somewhere, too.)

Flip it over and repeat

Use a glove or be careful, because you're stroking toward the sharp part, so it's easier to slice yourself. A glove helps, but so does being careful. Strop again.

Repeat with a finer grit, less pressure

This process works. There may be some cranky old tool-sharpener out there who takes issue with this unscientific approach, but this is what I do, and it gets the blades really sharp.

Sharpening tools

If you're poor, get a Lansky puck—a \$10, two-side natural stone shaped like a hockey puck and sized to fit into a pocket, like a tub of Skoal. It needs water.

Otherwise, get a double-sided Lansky folding paddle (\$32 from us). It doesn't need water.

If you've become a sharpening zealot, go for a Spyderco medium and ultra fine stone. They're big smooth ceramic rectangles, and allow mindless grinding with little risk to hands if you're doing it gloveless. We have those two, for \$62 each. They're luscious.

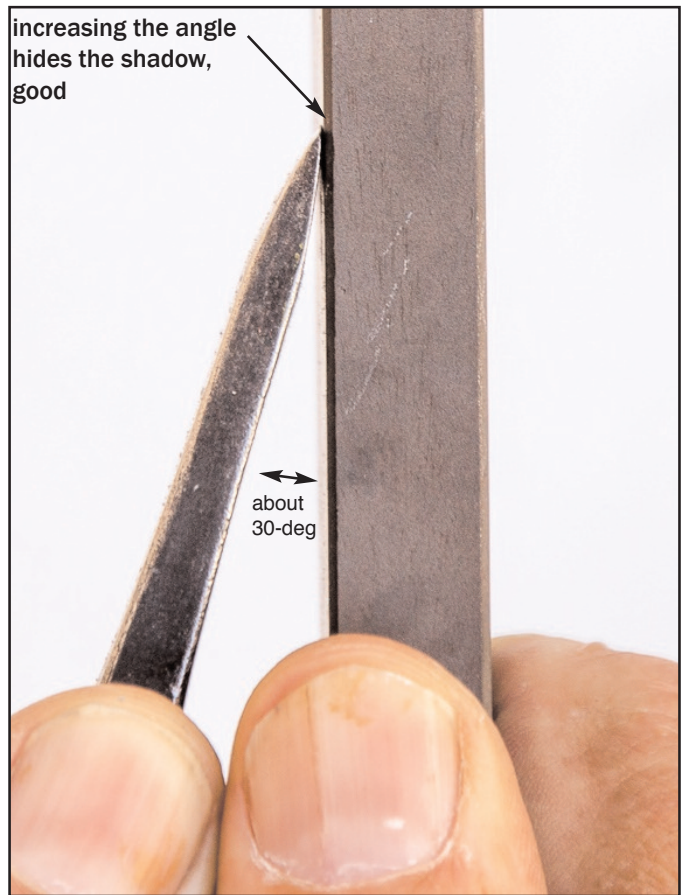
Ceramic and diamond are both harder than steel (the rock isn't) and don't require oil or water, so they're more convenient and less messy and allow for more on-the-spotness. That's what you want. You want to be able to pick up the ax, feel the edge, & grind it without any rigamarole.

Don't sharpen...

...the ax just before you put it away. I used to do that, thinking it was a good habit, and then I'd know it was super sharp and ready for any job. The thing is....when an ax is ultra razor-like, you might be reluctant to take that first whack with it. The earliest parts of a project usually are the splitting and rough hacking, and you don't need it razorlike for that. Sharpen it halfway through your job. Sharpen on a whim, sharpen it a lot, get ultra-comfortable sharpening, and don't be afraid of anything bad happening..



This is all you need to get your ax as sharp as it needs to be. Nothing else, this is it. You might not even need all of these. Maybe just two. Ready? Top left: A piece of woodlike leather, with or without polishing compound, such as Simichrome. Top right: The Lanksy Paddle. We sell it.. Bottom: Optional, a ceramic stone for ultra sharpness. This one's from Spyderco, and they call it a medium, but it seems finer than some fines. The Spyderco Fine is like glass.



If you were here you'd see a slight shadow between the stone and the edge—proof that the edge isn't in contact. The rule is to "kill the shadow" by tilting the ax head until the edge is on the stone. As shown to the right.

No more shadow, ready to start the circular-motion grinding. Remember to plant the handle of the ax on a no-slippery surface. See that ridge on my thumbnail? In high school I worked nights cleaning up a butcher department, and I was wiping down a big vertical circular saw, and ...son of a—! I've had the funky thumbnail since 1972. It grows and splits and catches.

The Gransfors #420 (Small Forest Ax)

A light-midweight all-around ax as good as any, maybe better

It's 19.2-inches long, with a head weight of 1.5lbs and total weight of 2lb.—good numbers for an all-around ax. You can swing it with two hands for chopping or splitting or limbing, or with one hand for lighter splitting. You can grab the head and carve. The 1.5-pound head is heavy enough to not require a good head of steam when it strikes; so you can swing it with more care and it still cuts well. This #420 is by far the most popular ax we sell.

A slightly fancier alternative to the #420, no better, is the #418 ("Hunter's ax"). The #418 has a straighter handle (no consequence) and a polished poll (backside of the head), which Swedish hunters use to push the hide off the meat without tearing the skin, but if that's not your deal, you just still get an ultra-comfortable polished poll, and the peace of mind that comes from knowing you could, in a pinch, skin a moose with it.

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Bronze ax heads, made by Danes.

The ax & Gransförs

The hand ax is about 1.75 million years old. Handles appeared about 10,000 years ago, and metal heads about 5,000 years later.

Gransfors-Bruk has made axes since 1902, and for almost 80 years made axes good enough for the construction, craft, and firewood needs of Sweden and a handful of countries it exported to. Business was fair

to good until the early '70s, when the chainsaw swept the world. The few ax-makers who survived—like Gransförs—survived by downsizing staff and production, buried and hidden, a lot like an ill mole.

Then in the '80s, a Swede named Gabriel Branby bought Gransförs & changed things. Instead of trying to survive with low price and higher volume, he remade Gransförs with a new dedication to traditional materials and labor-intensive processes that raised prices but made axes better. He eliminated tedious, mind-numbing processes that added polish without function, and dropped the toxic glues that allowed ax heads to stick on the handle even when the fit wasn't good. He forbade paints for heads and handles that weren't as beautiful as the unfinished heads, and leaked into the environment. To top it off, he eliminated quotas and created a work environment that puts his 25 employees first.

Gabriel has stepped back but his influence remains. One of his sons owns it now—and the other son owns Wetterlings, keeping Dr.Pepper & Mr. Pibb in the same family. The day-to-day is managed by Thomas Ericsson, a former executive at a telecommunications behemoth named, confusingly, Ericcson. But Thomas has always been a woodsman first, and now lives and works where he can fish, hunt, and hike in the woods more often. All's well, and this ultra-groovy company makes ultra-superb axes.





1986 Bridgestone MB-2 fixed up better

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Friction shifters were nervy in '86.

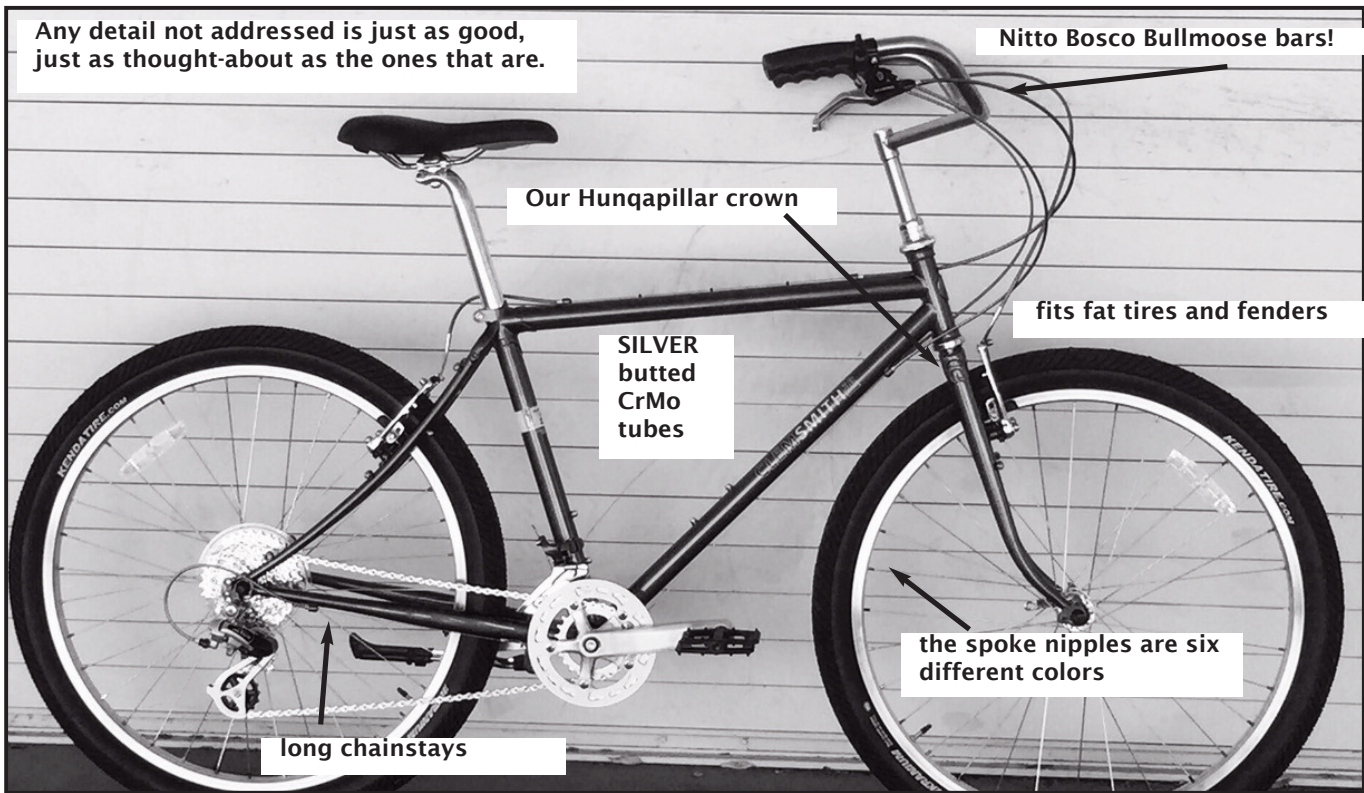


Biopace chainrings lasted three years. This bike had a monster 50T big ring and a 30T big cog in back. I'll keep the gearing, what the heck.

Nice people commonly call me/Grant up and ask if I want to buy their old Bridgestone (I worked there), maybe thinking I have a shrine to them and more room than I know what to do with, and the money to go along; but No to all of that, until this time. Paul from Honest Bike Shop in Rochester, MN got me with this one, and since I had no Bstone and the price was good, what the heck.

I barely remember this bike. It's a 1986 MB-2, a model I had zero to do with. (The 1986 MB-1 was the first model I influenced.) But as I said, the price was right, and now that I'm 61 I figure maybe I ought to have something from the olden days. I like it more now than I did back then. I was snobby & racery, and had no respect for long stays and slack angles, bolt-on wheels... And in my new unraced life, I have a new appreciation for it.

The MB-2 is not up to Rivedell's quality standard, and has some unacceptable funkiness, but overall I like the long (48cm) chainstays I used to hate. Don't like the Biopace (non-round) chainrings Shimano made for a few years; and I'm proud that we used fewer of them than anybody else, and quit them sooner. I never liked flattish bars or riser bars that don't angle back, so I switched this one to Albatross bars on a NITTO Tallux stem. Then I added rack, basket, fenders (I'll fix the fender line later...maybe), kickstand...and there it is. When Paul was talking about it to me, he emphasized how much of it was original (all but the tires) and I think he hoped I'd keep it that way, but I just couldn't. Now it absolutely fits & rides & feels better. I wonder how it would have done back then, looking like this.



'bout dem CLEMs

Why our new \$1,500 bike is worth \$1,500

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We've talked up the CLEM SMITH JR and its top tubeless variant CLEMENTINE before, but it really, honestly, is worthy of endless accolades.

History of the idea behind it

The '80s all steel mountain bikes were underappreciated in their heyday, but over the ensuing decades proved to be low-key superstars. They were simple, because the fat tires were the "novelty," so they didn't need any jazzing up with tech, awe-inspiring/death defying advertising imagery, or heavy-handed sales tactics. Fat tires & ruggedness were enough back then.

And they were not all about not-racing. Yes, the Repack downhill race gave the category a launching point, but have you ever seen photos of that race? It's wall-to-wall plaid and boots! Now mountain bikes have been hijacked by aliens, and three decades have passed, so even if you can find an old classic for \$150, it'll take at least \$800 in parts to make it half-rideable. You'll still have a 30-year old bike that looks like hell, and has a history you know nothing about. Better to get a CLEM.

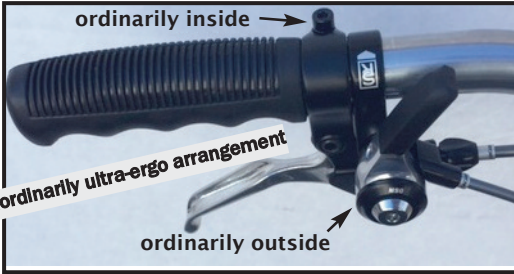
CLEMs do all those bikes do, and better. They're better designed, as townies *and* mountain bikes. CLEMs fit 2.35 tires, easily—so they're better off road. The bars are higher, so they're more comfy. The wheelbase is longer, so they ride better. There are more braze-ons for easier racking.

CLEM's tubing is the same tubing we use on \$3,800 bikes, and it is, in my opinion, the best tubing in the world for certain kinds of bikes. The frame quality is better than those '80s bikes. The fork crown is killer, the seat lug EXISTS and is ideal for this kind of bike--and looks great. The dropouts will never bend or break. The fork bend is lovely.

The CLEMs are wonderful and have no dark secrets that we're afraid to talk about. The details not mentioned here are as right as the ones we have.

We didn't wreck the frame's potential as a bike by putting econo-parts on it that you'd want to or need to replace in two to five years, and would bum you out in the meantime. There are some concessions to price, but they're clever, well-picked, & lovely in their sensibility. Nothing's groan-worthy, and every part makes sense, because we equipped the CLEMs to our personal taste.

As those who know us have come to expect, the CLEMs have a few parts quirks bound to scare the meek, but each thing is special and smart. The pictures tell the rest of the story, so I'll put a plug in it here and take it to the captions on the next page.



The grips are American made with the original Hunt-Wilde molds. Hunt-Wilde made 200 percent of the grips on every cheap & normal American bike from about 1909 to 1977.

Ultra-dig the Flipped-Around Superbness of the brake levers & shifters: The brake lever bolt usually goes on the inside but there's no actual reason for that, and in this case it made sense to use it on the left, bolt outside, so it didn't interfere with the shifter. That left shifter is also a right, intended to be used outside the bar, but inside is better, so we put it on the left. Everything's better even tho it's backwards.

The shifters have a confusing story: About 10 years ago SunRace bought Sturmey-Archer and continued making S-A shifters and internal-gear hubs. The S-A right shifter was indexed only, made for those S-A internal-gear hubs. We don't do index only, so couldn't use it, But Spencer here figured out an ultra-clever way to make these inside thumbies by combining just the right parts from S-A thumbies and bar-end shifters, and worked with the U.S. rep Dave to make it happen. They click but don't index in one direction, and are silent in the other. This is the most difficult to explain part we've ever stocked, but it works perfectly.



We can neither imagine the butt nor crotch that won't find pleasure in the plush cush of this seat post pad. It was the winner in a contest of 200 contestants. Nice shape. Ultra comfort. Not a thief magnet. It has that cheap saddle look, but that's not always a bad thing, and it's really comfy.



Say what you will about how unbecoming it is to brag, but the Silver crank beats the bejesus out of most other cranks on the market that cost \$100 more, and you're insanely lucky to get it on a \$1,500 bike. More on this crank elsewhere in this issue,

And Shimano's Claris front derailer is our favorite, despite its low price.



The best-designed derailer in the world, and we retail it for only \$28. It's worthy of any bike, at any price. Love those big pulleys!



You know, man...sometimes stuff happens, things are made, that are too good for the world, and it's almost debasing to even bring them to light in any sort of commercial way. This Tange headset is one of those things. The zig-zag teeth interface between the locking and upper bearing cup

is a familiar feature of ultra-cheapo headsets from the years of yore, but is tremendously appropriate technology for super fine headsets, too. It simplifies adjustment, locks IN adjustment better than the fancy way, and this style of headset has fully contained bearings that allow you to remove the fork without the bearings coming out, too. That matters only for Japanese train travelers, but it's kind of neat, too.



This seemingly-semi-cheapo VP pedal has the same CrMo axle and bearings as VP's \$80+ Thin Gripster. Its plastic body is some kind of fancy resin-plastic that holds up to BMX abuse, so it'll work for you on your Clem, too.

Making it work not by the book

Roll up all sleeves

take off all dunce caps

get all creative-like !



Roman's rigz

On a recent S240 (sub-24-hour overnight), Roman rode a Sam with rack & basket. He filled the basket & also used the underside, strapping on a sleeping bag & pad. In back, he had a rack and no panniers, so he used a Capt. Hook net to hold his bag and tent-stake mallet.

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Keep your bike triangled

The big triangles come with a sewn-in waistband for wearing around your waist. That's fine, but you have to remember to strap it on, and it could lead to wearing it around Trader Joe's looking like your head is screwed on an eighth of a turn too tightly. Rig it on the saddlebag, and nothing bad happens.



Quickdraw McGraw bag hooks

The leather straps with simple snaps that come with the Saddlesacks M and L work well. I loved 'em for 5 years, but I go in and out of these bags all damn day long, so now I use two hooks from our Captain Hook net (it comes with four, but you tape two of the net corners to the basket, which makes the net harder to steal, and frees up two hooks). I rig them to shock cord like this, and hook 'em to a rack if you have one. We sell the corded hooks for \$5/pr, and that's not a bad way to go, either. But they're easy to make if you have the hooks and the shock cord.

Make a Grabber-strapper

If you carry your bike a lot, presumably upstairs, the best thing to grab is a horizontal handle located relatively low on the bike, like right about here.

This one is on a Daughter's bike, and is made of handlebar tape. Don't get artisanal, just wrap it between the tubes enough, then spiral wrap over it. Shellac or not. This get-up won't wow-'em on the internet, but it works great and is cheap.



Will upside-downed the saddlebag holder so it would work on his tall Sam with the low rack.

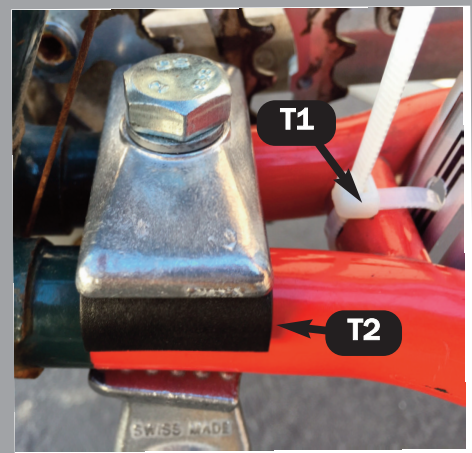
The bag holder (part no. 20109, \$100) is made by NITTO, and lets you mount your saddlebag to a Brooks saddle, then grab it and walk away, holding it like a suitcase...but that's beside the point. It's designed to angle UPward, but if you want the bag to reach downward, you flip it the Will Way.

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DIY fork-swing stopper for basketed bikes

This mess was made with twine so excuse the mess while the concept sinks in. The goal is to keep the fork on a rein loose enough to allow steering, tight enough to prevent a basket from flopping too much and toppling the bike. Here, I tied twine from behind the braze-ons to the fender tab, and took up some slack for a tight rein. It works great. Existing German devices that do this are made with plastic and metal and work great, but now & then it's fun to solve a low-tech problem with a home-made fix.



Thing One & Thing Two

- 1: If your chainstay bridge lacks a hole, ream a hole in the fender & zip-tie it to it. Snipping's optional.
- 2: Pletscher chainstay pad for gentle-mounting a kickstand to bikes without a kickstand plate. Good!

The ups & downs of a custom frame

For better or for worse, for the richer and the poorer. As long as it make sense.

“Custom bicycle” can mean a stock frame with your pick of parts, or a frame designed for you & built up with the same components as a million other bikes. Here at Rivendell, “custom” means I/Grant design a frame based on your wants-needs-use. It’s a short-leash definition that keeps the frame pure Rivendell but some people want a longer leash and figure they should be able to dictate the details. But if the frame shopper doesn’t share our values and style, I recommend a more flexible builder.

What we do: Lugged steel frames & forks that are safe, comfortable, ideal for the intended use, beautifully detailed, and long-lasting.

What we don’t: Racing bikes, suspension, internal gears, disc brakes, cargo bikes, or “classic” copycats.

The modern road bike is so single-pupose that it’s nearly dysfunctional outside of its narrow slot. All our bikes are useful, comfortable, and safe.

“How can you fit me if I’m not there?”

Oui! Some of the worst-fitting bikes we’ve seen have been designed in person with the aid of expensive high-tech fitting and irrelevant measurements. Our *free* method of fitting has worked for thousands and gives better results. We need only your height, weight, & Pubic Bone Height (PBH). It may be disconcertingly simple, but it works. Experience trumps cost.

Picking a builder

Experience counts, and an “active torch” improves skill faster than five frames/year over 30 years. If a builder has built thousands, that’s a good sign; and 150 frames in 3 years beats 200 over 25 years. Repairing frames—replacing tubes, for instance— counts as much as building fresh frames.

Good brazing + bad design = waste of everything

You can’t assume a good brazer is also a good designer. Some builders have been misfitting and misdesigning for decades, and change threatens them. Others figure you know what you want, or they go by what you’ve had and liked, and figure they can do the same basic bike, but make it prettier. Here, we tend to assume that whatever you have now is a bad fit (size/design) for you, because we’ve seen it too often. We’ve made bikes for people with several custom bikes, and ours was the outlier.

Sometimes you can tell by looking, sometimes not

I’ve seen show-finalists with delicately over-carved dropouts that didn’t leave enough metal to last a year under a 170lb rider. And many years ago we sent identical tubes, lugs, dropouts, fork stuff, and a design to four builders who wanted to build our customs. One guy with 20 years of experience & an excellent reputation sent back a beautiful frame. We didn’t hire him (personality conflict), but sold that bike to a guy who wanted a deal, knew its history, and the bike was 98 percent identical, geometry-wise, to the custom I’d already designed for him. He bought the bike, and six months later a tube pulled out of the lug & revealed that there was no brazing material there. We’d seen

the unpainted frame, which had a fine line of silver all around, but couldn’t see past the edge.

Do you need a custom frame? Consider...

(1) Is your body so odd that it requires one? If you’re between 5-2 and 6-5, probably not.

(2) From a fit perspective, the frame’s just a launching point for the saddle, handlebar, and pedals. Those contact points are what matter, and you can “customize” the bike by your stem, saddle, and handlebar. You can also negate an ideal starting point (a “perfect” custom frame for you) by blowing it with the stem, saddle, and bar.

(3) There’s no test required to call yourself a custom frame builder. It’s not like “oral surgeon.”

(4) Good reasons to get a custom are the shopping experience, uniqueness, attention, and patronizing small builders who can’t compete in the mass market.

Costs of materials & labor

Lugs cost \$100 to \$175 per set. Steel tubes, \$120 to \$260 per set in CrMo, and \$500+ in stainless. On a lugged steel frame, the big cost is labor. Our custom frames typically take about 22 to 27 hours.

Be careful what you ask for

Many riders feel too leaned-over/stretched-out on their drop-bar bikes and are sure it’s because they have long legs and short torsoes—and so, need a shorter top tube. It sounds reasonable, but on most men and taller women, long legs also mean long arms, which compensate for a short torso.

Some riders are reluctant to get a custom bike with upright bars, but we think uprights (of some kind) should be the default. Put on drops only if you’re emotionally locked into them and can’t break free. And make sure they’re high enough to be comfortable. It’s easy on our frames and with our stems, but it’s far harder on a carbon bike or a “classically styled” road frame, with a horizontal top tube.

How Albert Eisentraut made America the custom frame capital of the world, if not the universe.

... before 1970 you could get a custom from Schwinn (a custom Paramount), and less than a handful of other builders in the country, including Albert Eisentraut. But by the mid-’70s the Bike Boom was in gear and demand increased, and Albert started teaching others how to build fine bike frames in their garages and with minimal tools, and within a few years the best American builders were making frames equal to or better than those made by the most revered names from Italy, France, and England.

In 2016 there are more custom frame builders in the U.S. than there’ve ever been, and many are really good. Find one who makes the kind of bike you’re looking for, and he or she’ll probably be pretty good at making you one. If you don’t want to hassle with the search and risk, get one from us. I’ll design it, Mark N. will build it perfectly, and Joe Bell will paint it.

(FYI, THIS IS THE INFORMATION WE ASK IN THE EARLY STAGES OF A CUSTOM FRAME.

Name _____
Address _____ City _____ St _____ Zip _____
Phone _____ email _____@_____
Age _____ Height _____ft _____in. Actual current (not "future self") weight _____lb.
Years riding as an adult _____ Estimated yearly hours riding _____. Hilly or flat? _____
Typical ride _____
Most extreme ride with this bike? _____
Pubic Bone Height (PBH) _____cm Saddle Height (SH): _____cm
Current best bike: Model _____ Size _____ Will your Riv replace it or supplement it? _____
Comments:

Describe the bike you're looking for. If more than one applies, indicate that, and use a fresh sheet of paper or a long email, if that works better for you:

____ versatile, great-handling road bike for pavement; ____ all-around road bike, some dirt roads
____ loaded touring bike or trail bike; ____ commute bike/city riding; ____ mountain bike, ruggedest use
____ other, comments: _____

Wheel/tire size / volume: 700c ____ to ____ Mountain 26 ____ to ____ 650B ____ to ____

Toe clip overlap: If a design calls for it, you OK with that? _____

Use by percentage: on roads _____; on dirt _____.

Fenders (circle): Yes or No If Yes, what's the largest tire you'll ride with fenders? _____

Handlebar style (circle): Drops Moustache Albatross Bosco other _____

Cranks, pedals (if known): Crank brand/model _____ Length _____ Pedals _____

Stem type (circle): Standard (threaded steerer, quill stems) Clamp-on (for threadless steerers)

Kickstands are useful. Should we put on a kickstand plate?: Sure _____ No thanks _____

BRAKES (tire choice should heavily influence this)

If you know the brakes you want, write the brand and model here: _____

If you want our advice, check here _____ and we'll talk!

Other comments (take as much time and space as needed. A separate page, whatever...)

Price, delivery (thru February 2016): \$3,500 covers frame/fork, normal custom detailing, and Joe Bell paints it. Extras cost, but we keep it reasonable. Delivery: Call (4 months?) **Deposit:** \$500, balance before tubes are cut. If you bail at any time, you get half what you've paid in credit, and the rest covers the work before cancellation, and a penalty for the fake-out. Basically, this shouldn't be an impulse purchase.

Credit card number, expiry, cvc: _____ - _____ - _____ / _____ / _____

I've read & understand this, _____ / _____ / _____

Brazing in a nutshell

It's gluing the tubes together using molten metal (silver or brass), and is minimally invasive to the tubing itself. First, Mark brushes flux on the tube, lug, and area that's likely to get heated. Flux protects the metal from the flame and provides a good environment for flowing molten metal into the small (0.1mm) gap btw tube and lug.

The metal flows by heat and capillary action. Rather than push the brass in there like squirting leaves with a hose, he leads the metal where he wants it to go, like a donkey follows a carrot. The small gap between the tube and lug, like all small gaps everywhere, tends to suck in liquid—kind of like, but not exactly like a bathtub drain. The combo of heat and capillary action, and Mark's skill, and the flux...make the joint strong. Unlike welding, brazing leaves the tube intact, unmelted. It takes a lot longer, and is arguably a better way to make a joint. Although...it takes much more time before, during, and after brazing to make a lugged frame, which is why they cost a lot more.



Brazing a tough but gorgeous joint on Anna C.'s custom. November 2016.

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RIVENDELL customs are made by MARK NOBILETTE

In the early '70s the World's First Frame-building Classes were taught by Albert Eisentraut, and Mark (along with Bruce Gordon and others) were graduates and went on to their own things. Then in the '70s in *Bicycling!* magazine & *Velo News*, I'd see ads for Nobilette custom bikes. He was in Michigan back then.

I lost the fanciest race I was all set to win (I had a 50-yard lead) to a guy on a Nobilette. I got lost in the fog 300 yards from the finish and waited for the pack to catch up and guide me. They caught up and swooped by me, and Carl Roberts, who I think works at REI in Portland, won the race on a Nobilette. I got 6th.

The point is, I've known about Mark Nobilette for a long time. We haven't hung out—he's in Colorado now—but I know him through here and I have a good sense of him, and he has the highest ratio of competence to humility of anybody in any field I've ever met.

About ten years ago he'd been making his own customs and building for a few other brands when he called up asking if we needed extra help, and we did, and that's how he came

to us. Our bikes are hard to build, and in the early stages we critiqued his sample frames and provided the kind of feedback that most builders who'd had 31 years of experience at the time would have resented. Mark was the opposite. He listened and did them and oh my god, even thanked us for the feedback. Mark is one of those rare people (I know seven) about whom you can say with conviction that anybody who doesn't like him is a jerk.

He has built high-end tricycles and oddball bikes, which puts him in the tiny class of frame builders who is not just a brazer, but a creative thinker and problem solver. He builds our customs and whenever there's a special challenge, he always rises to it and does it beautifully.

One concern we subcontractors have in revealing who makes our customs...is that some customers will inevitably try to get the guy to build for them direct, and we're unscrewed out of the loop. With Mark I'm not concerned. It's a good relationship, maybe perfect.

Family?

I have a wife, Cherie, three kids in their 30's—Leah, Emily, & Andrew, and two grandkids—Sara & Lilly.

Born when, and how did you get involved with bikes?

1953, in Detroit, grew up in Ann Arbor. I got into bikes in high school, when I saw a bike with Campagnolo parts, which was so different to me at the time. I knew guys in high school who raced, but I didn't pay attention until my senior year. I bought a Raleigh Super Course when I graduated, and got a job at a bike shop. Two years later I took a frame building class in Chicago, taught by Albert Eisentraut, and after brazing my first frame on Christmas 1973, he asked if I'd work for him in California. I wasn't going to school, so I jumped on it, and learned a lot over about 14 months.

He must have seen promise. How many bikes have you built—under your name and for others, like us?

Around 2000 total—700 Nobilettes, and the rest Rivendell, GT (I worked there in the early '90s), Rene Herse, Morgul Bismark, and Velocult, and a few others. And I've built pedi-cab and recumbent frames, and 15 high-end tricycles.

How'd that happen?

A woman who lived up in the mountains here imported trike rear ends with the axles and hubs from England. I built the frames around them, and it started out OK. I figured out how to make them better, and she took my stuff and didn't pay me, so it fell apart. I've made a couple of trikes since, but I'm not planning any more trikes.

Way to go, lady—good job. Well, on another note, I've heard it takes 100 to 150 frames to get over the first hump, to refine your technique and become efficient. How was it with you?

I started with that Eisentraut advantage, so when I started building my own the biggest challenge was getting used to my new jig that I built at the community college. I've learned from building, but by the time I was making Nobilettes, I was pretty good.

I got away from lugs a bit during the mountain bike boom, but they're back on a lot of my frames these days and they dictate style a bit.

What's the most complicated bike you've built?

Probably the pedi-cab I built for a jazz pianist friend of mine, Mr. B., to haul a 350 lb. spinet piano. It needed a suspended platform that he could play on and travel with, and last year he rode it with a full band from Minneapolis to New Orleans. As far as conventional bikes—a couple of years ago I built a kind of tribute frame to the builders I've admired. It had a little of me, plus Jo Routens, Alex Singer, Rene Herse, Eisentraut, Shane Dawson, and Peter Johnson.

How long to build a frame?

A tig-welded frame with some brazing takes me 16-17 hours. I don't do pure tig, which is much faster. A fillet brazed frame takes about 20 hours, and a lugged one, about 24. A fork with a crown takes three to four hours on top of that. The most frames I've built in a year is around 100, when I was selling a production frame through Colorado Cyclist, a mail order company. Now, with just under 50 a year plus repairs, too, I'm always brazing.

What's the weirdest or just most unusual thing you've made?

Well, Trek was the builder of record, but in the early '80s I machined and brazed a lot of the parts for a 4-person vehicle (The Fusion) for the human powered speed record attempt. It didn't set the overall record, but it won for a multi person vehicle.

How are the stresses of supporting a family by building frames?

There are always stress being self-employed. I have either too much work or too little. When I have too little I worry about money, but Rivendell helps alleviate that.

I forget how you came to build our customs. How do you remember it?

Sure. A friend knew I was looking for more work, and suggested I contact you, I saw you at a booth at Interbike, but you were too busy so I didn't hang around. Then about two years later during one of those stressful times, I emailed you about building frames. You called me back within minutes & here we are!

It's coming back to me now. What do you look for when you look at a frame?

On lugged frames I look for clean lines

and crisp, even edges; and on tig welded frames I look for clean, even welds with no undercut. Everything has to look good together and be in the right place.

Any advice for a new framebuilder?

Well...know your skills before you drop thousands on equipment. Learn with as few tools as possible—I built the first 20 Nobilettes by mitering tubes by hand with snips and files. Those are good skills to have. And don't count on being able to support yourself. It's tough.

When do you expect or hope to retire? And if you had \$5 million now, would you still make frames as a business?

Well, I'm 62 and I've built full-time since I was 20, but if I had \$5 million I'd still build, because I love it. Maybe not as many, though.

Other interests?

I love music, live music, and mostly jazz. I love machinery & processes too, and have dabbled in making jewelry and furniture. Oh—and I like good art. My wife is a portrait artist and I've always considered my framebuilding an art.

If you were starting over & 20 years old and the bike market was like it is now—mostly carbon—would you take up frame building?

It would be harder. When I began, steel reigned. If it was a carbon-crazed world then like it is now, I might have gone into something else. My timing wasn't my own doing, but it was good.

You tig, lug-braze, and fillet braze. How's your personal bike put together?

I have a titanium mountain bike and cross bike, but the bike I ride most is a fillet brazed steel road bike with features and details inspired by some of the builders who inspired me. It's sort of a tribute to them.

Who 'them'?

Eisentraut, Jo Routens (old French builder), Hurlow (British), Bruce Gordon, and Peter Johnson.

Mark is nice and unworldly humble, and there seems to be no limit to what he can do with steel. He always figures out the most beautiful way to do it, too. We're so proud to have him building Rivendell customs. —Grant

Small ways that a Rivendell custom is different from a Rivendell non-custom



All 21st century Rivendell customs have Rivendell decals on the down tube.

As fanciness goes, any of our bicycles already have more of it than many custom bicycles, because we design it into the lugs, so there's no way around it. If your taste in bikes is so zen that you like generic/invisibility, our bikes just aren't right for you. Don't hide behind "low key" beauty. If there's nothing there, there's nothing there. It can still be a good bike, but it's kind of a shame.

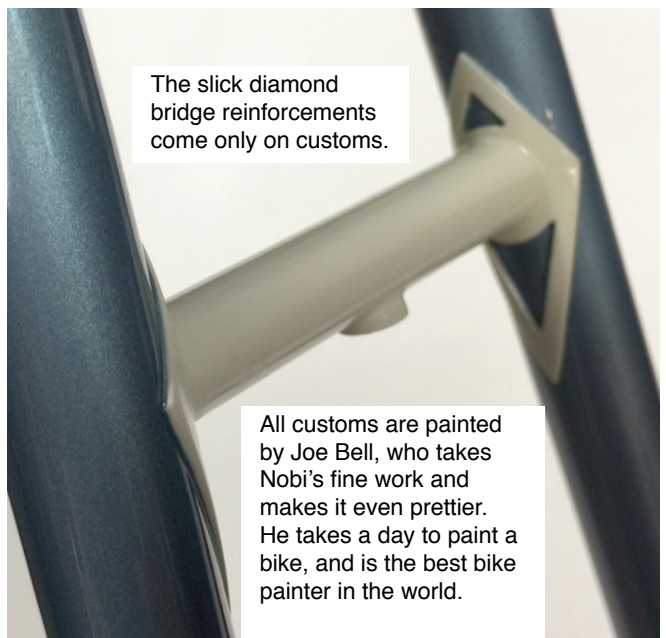
46 Our customs take it up one notch with subtle refinements that strangers won't notice (including a one-of-a-kind design just for you), and we show some of those here.

Your custom Rivendell can be personalized in various ways. One guy had a pump peg made out of a key. A dentist insisted on carving a tooth into the fork crown. Mark N. can oomph up our already fancy lugs and crowns by adding to or subtracting from them. (Adding costs more than subtracting.) But it is certainly not a waste to not go for anything other than the standard, pretty-enough package.

Customs can get vertical or horizontal (shown) dropouts, but non-customs, so far, get verticals only. Both are good.



There's not a huge visible or functional difference in joint integrity btw a custom & non-custom. Customs are brazed with silver, not brass. Both are good.



The slick diamond bridge reinforcements come only on customs.

All customs are painted by Joe Bell, who takes Nobi's fine work and makes it even prettier. He takes a day to paint a bike, and is the best bike painter in the world.

Custom? USA-non-custom? Taiwan-non-custom?

comparing options, quality, finish, price, value, etc.



You may already know a lot about our customs, but here's more. If you're extra thin or thick, we can address that with tubing and bracing. For +\$100 or so you can get extra carving on the already fancy lugs, for one-of-a-kindness.

Customs are painted by Joe Bell, who can do delightful trickery with decals & colors. (Other painters freely acknowledge his other-level skills.) We disallow neons and super glittery metallics, and if you request something that's open to interpretation, be ready to accept JB's interpretation of your request.

Customs wear Rivendell decals, not model-name decals.

If you're new to fine bicycles, \$3,500 may sound high, but shop around. There is no better builder than Mark Nobilette, nor a better painter than JB. Our lugs are beautiful, ornate but not over the top, and minimize stresses. I/Grant will design your bike, and I'm good at designing the kinds of bikes that we like—safe, comfortable, usable, versatile, & well proportioned. I've been at it a long time & I put all I've got into yours. For all that, \$3,500 is a bargain. Many lesser frames cost thousands more.

The wait for a custom varies, but you can expect four to ten months. The rare Bombadil and Glorius is also now made by Nobilette, is essentially a custom, but isn't painted by JB. A frame costs \$3,000, and with JB paint, it's the full \$3,500. It is a ton of work, but minus the paint & Rivendell decals, gets the full custom treatment.

Our non-custom USA-made frames are built & painted by Waterford Precision Cycles, in Wisconsin, the former home of the old Schwinn's Paramount shop. They've built more than a thousand frames for us since 1995, and are great friends with those guys.

The frames are built one-to-three at a time, with set geometries & tube sets, using more heat-treated tubing than we use in the less expensive frames (for a frame of this price people expect it, and were we not to use it, we'd be playing defense). In special cases we can substitute other tubes and add a braze-on, but any variations cost us something, and we pass that on to you. Now and then somebody'll sign up for a USA non-custom Rivendell, then ask for a list of custom options, but the price ads up fast, and in any case, the geometries are set, which helps consistency, efficiency, & cost.

We have a color selection, designed to minimize cost and confusion, while offering a good amount of flexibility, and by late 2015 we'll have the options up on our sites. Assembly is here, by Mark and Brian, which essentially means whatever parts you want on it, you get. Of course we weigh in heavily with our experience & opinions, but since they're built up from scratch, there are more options. A USA-built Rivendell generally costs about \$3,800 or so before accessorizing (racks, fenders, bags).

In the '80s Japan taught Taiwan a lot about making bicycles, because a re-valuation of the Japanese Yen made it too expensive to make bikes in Japan. It wasn't a pure gift: Big Japanese makers subcontracted work to Taiwan makers, and they didn't want their reps ruined.

Now 30 years later the top frame shops in Taiwan are making bikes that may lack the sentimental cache of the frames the Italian masters were turning out in their heyday, but are better & neater in every way. We are proud to have the Clem, Sam, Joe, and Chev made to our specifications in Taiwan.

They're \$1,000 to \$1300 less than a USA-built frame due to cheaper labor and higher volumes (we order 100 at a time). There's no customizing, but with the range of models and sizes, that may not be a problem. These are entirely hand-built frames with quality control checks along the way and at the end. They're painted by Vincent & his assistant, and the detailing borders are ultra-superb.

They're built with our SILVER brand CrMo steel tubing—metallurgically equal to any CrMo, but with smarter butting, at least by our standards, and the frames pass rigorous testing before production. Rock-solid, precision, beautiful hand-built frames from the island formerly known as Formosa.

General sum-up our bikes

special bikes with limited mainstream appeal

THEY'RE NOT FOR RACING. That's often our first sentence when people ask what they're for. Racing has become so weirdly extreme, and bikes have devolved accordingly. The modern carbon road bike is impressively light, but depressingly uncomfortable, specialized (not good for anything except racing), and one could argue—under oath—that it is both dangerous and short-lived.

OUR BIKES ARE MADE WITH CrMo STEEL, the best material for bikes, with tubes dimensioned to provide a reasonable margin of protection against surprise breaks and unexpected trauma. They're not immune to breaking, but we design them so they probably won't. They're stronger than most bikes, and as far as weight goes, we consider that a largely misunderstood topic.

The heaviest part of the bike is the engine. To make a bike more useful requires bags, baskets, racks, fenders, maybe even a kickstand. To make it more reliable means stouter wheels and tires. Weight can be useful, too. In any case, it's only when you compare them to pared-down carbon bikes that they sound heavy. By our standard for safety & longevity, the frames are as light as we want them to be.

They're expensive because they made with zero or minimal compromises. There are some concessions to price, but smart ones. For example, we're unimpressed with most of the parts you see on high-priced bikes. Often they're made well, but aren't well-designed for riding outside of racing. Even the best parts makers cater to the desires of the market. These "market-driven" bikes appeal with low-common denominators—price, weight, number of gears, and buzzwords, and the appeal here is safety, comfort/fit, function...and looks.

We make the best bikes we know how to, and they aren't "market-driven." They will outlive any trend, and will always be safe, comfortable, fun to ride, and versatile. We make only bikes we want to ride, know about, & feel comfortable with. It's not that others are bad, but if they're not right up our alley, we'd be phonies to make them.

Some popular features are conspicuously absent on our bikes—disc brakes, for instance. They have their uses, but are overpromoted, in the face of more than a century of rim-brake development & refinement that has resulted in phenomenally

simple, effective brakes for all but the slimmest conditions. A future tandem might have one.

Another example is internal gears. They're good in theory, but most of the affordable ones don't stand up to hard use, and they're more difficult to diagnose & repair. (There may be one exception.) External gears (derailer bikes) work well in foul weather, despite their exposure. Mere rain doesn't phase them. Ultra muck can jam them, but how often do you do that? And they're easy to de-foul. Most of all, derailer bikes are easier to deal with when you get a flat. We'd need a better reason to go internal than fleshing out our lineup or addressing another niche.

We like lugs for their function, beauty (we hope you like ours), and the extra measure of integrity they give a joint. They protect the underneath tubes like a cast protects an arm. We love fork crowns, even though perfectly good forks can be made without them. All of our bikes have metal head badges, because it seems like a good finishing touch for a beautiful bike. Ideally they'd be screwed or riveted on, but about 16 years ago we did that, and the rivets rubbed the steerer, and it was a hassle to fix that. We remain gun-shy on the rivets, so we sheepishly glue.

Our bikes aren't immune to breaking, but are highly resistant to it, and are repairable if they get in a bad wreck and need it. We expect the Rivendell you buy will still be pedaled around in 2065, whether by you or somebody else.

We are huge fans of chubby soft tires. They are more comfortable to ride, safer, and reduce stress on rider and bike. Can tires be too fat? An ultra-fatty is clearly better for snow, sand, and boulders, but on certain terrain, the booted foot makes more sense. It's not inconsistent to love bikes and to know their practical limits, but on the other hand, hey, go out and have fun.

There's a word for this type of riding we espouse, and it's *unracing*. Unracing repositions racing as the fringe activity it truly is. Unracing recognizes racing's value as entertainment value, but refuses to be influenced by it. We make only unracing bikes, perfect for the loftier goals of recreation, convenience, travel, and health.

MODEL	SKINNIEST TIRES REC.	WIDEST TIRE W/FENDER	RIDER MAX WEIGHT	TYPICAL HT. RANGE	LIGHT USE	HEAVY USE	FRAME C.O.R.	FRAME \$	BIKE \$
ATLANTIS	38mm	52mm	300	5-3/6-4	light road	road tour	USA	\$2,300	\$3,800
HUNQAPILLAR	40mm	55mm	360	5-1/6-5	light road	mtn tour	USA	\$2,000	\$3,800
A. HOMER HILSEN	32mm	40mm	300	5-3/6-7	light road	tote 25lb	USA	\$2,300	\$3,800
ROADEO	25mm	30mm	220	5-3/6-3	light road	tote 10lb	USA	\$2,300	\$3,800
SAM HILLBORNE	32mm	40mm	300	5-3/6-4	light road	tote 25lb	TAI	\$1,300	\$2,800*
CHEVIOT	35mm	42mm	240	5-1/6-3	light road	road tour	TAI	\$1,300	\$2,800
JOE APPALOOSA	38mm	50mm	300	5-1/6-5	light road	road tour	TAI	\$1,300	\$2,800*
CLEM SMITH JR	40mm	55mm	360	5-1/6-7	commute	mtn tour	TAI	\$800	\$1,500

* we are starting to get Sams and Joes as complete bikes, with a lower price.
not listed 'cause too close to custom: The BOMBADIL. Basically a Nobilette-built Hunqapillar-like bike, but not painted by Joe Bell.

Notes on all, but for ultra-particulars, latest details, availability, and live-with-human discussion, call (925) 933-7304 or visit rivbike.com

ATLANTIS: Our longest-running production (non-custom bike. Has toured the world, is an able mountain bike, but now that we have the Hunqapillar and CLEM, we figure if you're going to go loaded off-road, might as well get one of those. Still...the Atlantis is wonderfully capable, versatile. In the bigger sizes, it's available with or without the second top tube. The standard classic color is a clayish blue-green developed for the insides of Russian submarines, to keep cooped-up Russians calm, but we offer several other colors for zero to minimal upcharge. But Russian Sub color should be No. 1. Typical delivery: 3 months if we don't have it in stock. Canti- or V-brakes. Our design, Waterford-built.

HUNQAPILLAR: Our mountain bike, for off-road riding with loads up to 50lb. Practically, it can do more than that, but if you're riding off road with more than 50lbs, you need to carry less or get some new gear. The Hunqa has a diगतube that strengthens and stiffens the main frame, and may eventually get even longer chainstays. It as a 6-degree upsloping top tube, so it fits taller riders, and comes with a 9-ounce fork crown, the anvil-like yet gorgeous RC-05, so it fits a wider tire than the Atlantis. Canti- or V-brakes.

A. HOMER HILSEN: For all road riding short of loaded touring (you can stretch it for occasional trips). If you want a road bike but want ultra-versatility for loads up to 25lbs, bags and baskets and fenders for commuting and shopping...just all-around fantasticness, you can't beat a Homer...although the Sam ties it. Homer has a 2.5-degree upsloping top tube. Sidepull brakes are standard, but for +\$150 you can get it with cantilevers or centerpull brake-ons. The classic color is a gorgeous unusual blue, somewhere between royal and baby.

ROADEO: It's our sporty bike for unloaded road riding, and club riding. A more comfortable, more versatile, safer, longer-lasting, more beautiful alternative to the modern carbon road bike. Sidepull brakes are standard, but for +\$150 you can get it with cantilevers or centerpull brake-ons. The classic color used to be white with red or blue details, but lately we've been doing a wider range (see the website after Feb 2016). Our lightest and least versatile bike, but the best one for aggressive speed rides on roads, with minimal loads.

SAM HILLBORNE: Our more affordable Homer. We get them in maximum bunches of 30 per size...generally in one color (with cream details) that changes from batch to batch, and offer it both as a frame (with fork/headset/bottom bracket) or as a complete bike. Starting in 2016, it'll be available with your pick of drop bars or the new Choco bar. Sidepull brakes. The top tube slopes up 6-degrees, so it's easier to get the bars high and to fit taller riders. (If you ride a 59cm Homer, you'll ride a 55cm Sam.)

CHEVIOT: As versatile as the SAM, but with a diagonal tube for easier mounting. Old eyes see it as a girl's bike, but this style frame is ridden by men all over the world, & several of us Rivenguy's ride one as our daily. I totally love all of our bikes, but for purest of pure pleasure and marshmallow smoothness, I grab my Chev.

JOE APPALOOSA: Our loaded road touring and most versatile bike (unloaded, it's a great trail bike for sane riders). The Joe is new for 2016, and if you're looking for an all-rounder you can load up and go with, JOE's a killer way to go. As a frame or complete with our new Choco-Moose handlebar. Fits V-brakes or Cantis, but the complete bike has V-brakes.

CLEM SMITH JR: For decades we've heard, "Oh, I just love your bikes, but can't afford on yet." CLEM solves that by eliminating most but not all of the lugs. It's basically a much-improved, better designed, more versatile bike than the rockem-sockem mid-'80s CrMo mountain bikes. It's a better mountain bike than those. It's far better as a tourer or commuter. It's more comfortable. Compared to any other \$1,500 bike, it's untouchable. With no pretense of racing or the normal bravado that afflicts so many \$1,500 bikes, CLEM is free to be bold, honest, and better. Even the name was picked as a low-pretense alternative to mainstream bikes. If you're rich, buy it on impulse. If you're poor, save up for it.



Haley's plastic unicorn rode on her Wald basket!

it's not a unicorn!

Haley & Lizzy see all 48

They're friends & all-pupose adventurers who wanted to ride at least one iota of each of the the continental U.S. in half a year. And they did it! Haley rode a Hunqapillar, Lizzie, a Trek 720.

They showed up in October, 2015 on the last leg of the trip, and commerce & customer service slowed, as we ordered Indian food and then ate it while apologizing as we asked many of the same questions bicycle tourists get asked every time they run into strangers. Their answers were charming, funny, and detailed, and they became two of our favorite humans.



Haley's SunTour Sprint shifter mounted on the handlebar. The ratchet was missing, so she filed a washer to take its place. It's drilled for looks or lightness or both. If you're thinking what I'm thinking you're thinking—what do the four skinny cables do?—well, I didn't notice them till now, & I've never been more baffled by anything, ever, anywhere.



Here's the route, all 48 states of it. Rivendell's at the end of the low line—in Walnut Creek, about 26 miles east of San Francisco.



Lizzy's handlebar, and this is what happens to bikes on tour. They bags are full when you start, and herniate as you collect stuff along the way.

I've gotta say, I have a thing for clothes pins, I used to collect them and I still buy them a few times a year. They get used. When I look at this, the clothespin speaks to me. I try to keep a few clothespins on my cables or in a bag, always.

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Lizzie traveled with her rat, Denali, who stayed in a modified (with window) mailbox. He died & was buried in New Mexico.



H & L are both non-omnivores, and both carried cans of food under the downtube.

Handle paint boo-boos like a semi-pro

Paint chips and scratches are bummers when you first notice them, but over time as they become your bike's written history, they often go from tolerable to sincerely likable. In any case, they're inevitable, though, easily addressed, and here are some ways to do that.



all u-need for touching up messed up bike paint

Over the years at Bridgestone in the '80s & early '90s we accumulated thousands of bottles of dried-up toxic waste touch-up paint. So at Riv, we suggest nail polish or model paint and don't fret if it's not a match. Even the original paint, in brush-on style, doesn't blend like sprayed paint. It looks like calamine lotion or pimple coverup on white man flesh.

On the left is RUST REFORMER, one of many solutions that change rust to something black. You can leave it black or paint it. To the right of that, assorted

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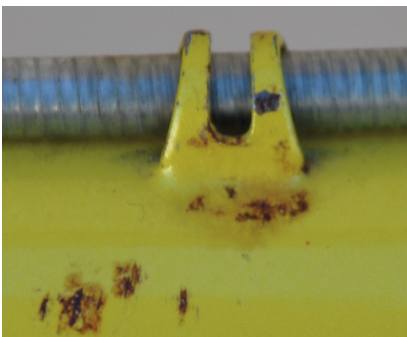
My/Grant's top tube, as good as new!



Jenny found a Vista Elite (?) frame, no fork, rust point. Sandpaper + a rust-stopper, and it'll be perfect.



Roman's chain-rattled chainstay on a Nashbar mountain bike. A good case for using a chainstay protector, easily made with handlebar tape.



Roman's Nashbar again. Roman doesn't really touch up his Nashbar.



Will touches up the ravaged chainstay on his Hunqapillar. He's using touch-up for an Atlantis, and it'll be fine! Please do us all a favor and ignore the zip ties. They're anti-chainsuck things that either he put on after the fact, or just didn't work. They have nothing to do with touching up the paint.

Short-, Medium-, & Long-term Plans Here

Nothing's secret, nothing's shocking, just throwing it out there...

Short

We lost Sean to school and Keven and Jared to other jobs closer to home, but hired Roman full-time, and Emma super part-time for the downtown Bike Book & Hatchet store. We're thinking about changing it into a Clem Smith Jr. bike shop for 2016.

Our goal was to open ten dealers for 2016. John has Rivelov store in Portland, OR. The other signer-uppers are new here, sound enthusiastic, and we'll try to make it work for them and us in 2016.

We're glad to be getting complete bikes from Taiwan from a builder and assembler we know well and

trust. This change to complete assembled bikes was possible only because we got a \$100,000 line of credit from our local bank. We've struggled for 21 years, and whole bikes could help. Will & Vince are playing bigger roles in the complete bikes program, and Dave, the not-so-new-anymore GM, is planning the production & delivery schedules. Roman helps all over, too.

We're simplifying our U.S.-built frames, tweaking the designs slightly, making options easier, and trying to keep prices down without cutting back on the bikes an atom.

This year we need to improve cash flow.. The Sam, Cheviot, CLEM, and new Joe Appaloosa bikes are ex-

pensive to make, slow to come, and we have to pay for them 40 days before we even get them. It's a killer, but it's life when you have little money & expensive tastes. We may advertise more, but that hurts cash flow, too. This should be a good year for our younger staff—Will, Vince, and Roman, with more responsibility & variety in new areas.

I think last year we were too big. Our new size requires more hustle, and work is hard by local standards, not by global standards. That's always good to keep in mind, and it comes in handy constantly. I want our employees to want to stay here a long time, and I want it to work out for them.

Medium

A tandem, maybe a folding scooter (I like scooters). A MUSA clothing line without the huge stress it is now. Or maybe we'll cut it back a lot, I don't know—it's a hassle and I hope Waterbury keeps making our bags, because they are so happy with them and so proud.

Sometimes I think we'll stick with ten dealers, sometimes I think fifty would be good. I don't want to have a business that lends money to bike dealers and never gets it back, or has to struggle and hire a credit & collections team to get it back, and that's how it was at Bstone and it's

pretty normal in the bike industry. I don't know if it's possible to have 50 dealers who are willing to pay for the bikes before we ship them. I'm guessing it isn't, but I've got enough worries and I don't want to stew at night about it.

If each of our ten dealers can sell at least 20 bikes a year, then it's kind of working. If they can't, then I've got to wonder how freaky we are that our bikes have so little appeal. I don't know how they could be better for the kinds of bikes they are, but I know it's a different bike world outside our bubble, and we're all open to the possibility that we don't fit

We're going to stick with the kinds of bikes we know and like—steel, unsuspended, unracing, lugged. Our tandem will have a disc option, but I don't expect we'll do that for our other bikes. The rim is an effective disc already, and lots of others are already doing nice disc-brake bikes.

I want to work more on Readers, but the daily stuff gets in the way. I'd love to do four a year & have two assistants to shoot the photos & do the time-consuming invisible work of it. Roman, maybe.

Long

I'm 61 now, but it sounds older than it feels. I feel like I've got another 20 years, but people don't work that long, do they? In the long run I think about what I want for Rivendell and how to arrange it. What I want is for it to be a career job for lots of good people, lots of those we have here. I don't know how realistic that is, but it's what I want. We're in the S.F. Bay Area, and a bad house here goes for \$400,000. Apartments rent for \$2,100 a month

for an unfantastic one-bedroom in a tolerable location. I was lucky enough to buy my house in 1989 when it was do-able with family help, and now it feels horrible to not be able to pay house-buying wages. Moving? I'd never move it and lose the people here, and I don't know where to move it that would let us keep them.

I have a certain amount of fame, from being a bigmouth for a long time in a small industry—but I'm not even close to rich. I think about

selling Rivendell, but I don't know how, and I don't have time to look into it. Do I try to sell it to another company, with the condition that these people would keep jobs? Do I sell it for enough that I could give away a bunch of money to make their transition easier? I have no idea, but it's still fun, and working with really good people is better than selling Rivendell to somebody who'd come in and wreck it all and split us up and just not understand what it is we're doing here.

Hmm...21 gears, suspension fork, twist shifting, everything works, although the front derailer is an ultra-funky noname that's no threat to Shimano. If its performance bugs you, mount a \$25 Shimano, and you'll have a cheap fun fat bike that works great.

Max saddle height is 71cm, so get a longer 28.6 post if your PBH is 82cm+.



LEFT: Steel tubes put into molds and shaped by water pressure, like a water balloon. It's not up OUR alley, but it's fine. TOP: Cheap but still cotterless crank, and-forged aluminum. Unfamiliar brand front derailer. RIGHT: Huffy? 650B fatties? Who'd have predicted that 5 yrs ago?

The Sub-\$200 Huffy 650B-Plus Fatty Bike

Want to dabble in the fat world? Want to see what a Huffy's like In 2016? Read on, pal.

A sign of the times and proof that Huffy is in serious makeover mode . Huffy has some fancier models, too.

Hasty Huffy History

First bike, 1892... from 1970 thru at least 1980 sold 2 million bikes a year, twice the combined totals of Trek & Specialized now...was the biggest employer in Celina, OH until they closed in 1998...couldn't compete with China, so opened its own mfr plants there...sells almost entirely in dept stores and direct.

About this Huffy

That Huffy has a "650+"-sized mountain bike is proof that 650B has arrived and stuck in.

So have fat bikes, and this new category with wheels that hover around 3-inches, may emerge as the winning fat size. It simplifies frame design, and for most ultra-fat needs, it's fat enough.

Some riders will scoff at the idea of a sub-\$200 fat bike but the fact

that they exist adds legitimacy to the whole category by proving it appeals across the price board.

The parts are cheap but work fine. The crank is forged aluminum, better than mid-priced cranks in the '70s. Rims are a good grade of aluminum, not steel. The hub bearings aren't sealed, but that's not a big deal, and although we didn't adjust them, they're totally adjustable (I'll do that; it takes five seconds).

The frame is TIG-welded high tensile steel, not as good as CrMo, but far from crappy—lots of early '80s Bstones & Miyatas were HT. It's better steel than old Huffy bikes had, and allows thinner tubes. This steel in thinner dimensions ruled out the hotter, cruder-looking MIG welds, so you get tidy TIG welds. It has flat handlebars, but zillion-dollar bikes have them,

too, so that's not an F for Huffy. If we keep the bike we'll give it an Albatross bar & a new shifter & front derailer.

How it rides in the local hills

No problem, rides fine. There's nothing weird or cheap about how it corners or descends. It weighs 40lbs, less than I expected from a 3-inch tire mountain Huffy. And there's nothing about this bike that'll bum you out or turn you off better ones (and Huffy has those, too). It's an easy way to ride big fun fatties, and if you want to get a spiffier fatty bike, give it away and make a poor, mid-sized kid happy on this 650B+ Huffy. That's what we're going to do with this one. How does one find a deserving poor kid without an invasion of privacy? Sleuthery!

I thought the printer said 54 pages was the maximum he could staple, so I made it 54 and that should've been that, but then he printed out a sample with two blank pages at the end, because, of course, printing on 11x17 means increments of four pages, and so from a stapling perspective (the controlling perspective), 54 pages of content requires 56 pages of paper..so rather than work on how to fill another two pages (or one, and waste the back cover), I'm going to throw in a poem here that Bob Dylan wrote when he was 21 and recited in his first concert in NY in 1962. He was a fan of Woody Guthrie, and when Woody Guthrie was dying of Huntington's Disease, he wrote this tribute to him. I've liked it for several decades (I know it by memory, proof that I like it), and I think anybody can relate to some of it. It's a pretty remarkable poem and without it being in your lap right now, you might not ever read it. Anyway, here it is. —Grant

Last Thoughts on Woody Guthrie

When yer head gets twisted and yer mind grows numb
 When you think you're too old, too young, too smart or too dumb
 When yer laggin' behind an' losin' yer pace
 In a slow-motion crawl of life's busy race
 No matter what yer doing if you start givin' up
 If the wine don't come to the top of yer cup
 If the wind's got you sideways with with one hand holdin' on
 And the other starts slipping and the feeling is gone
 And yer train engine fire needs a new spark to catch it
 And the wood's easy findin' but yer lazy to fetch it
 And yer sidewalk starts curlin' and the street gets too long
 And you start walkin' backwards though you know its wrong
 And lonesome comes up as down goes the day
 And tomorrow's mornin' seems so far away
 And you feel the reins from yer pony are slippin'
 And yer rope is a-slidin' 'cause yer hands are a-drippin'
 And yer sun-decked desert and evergreen valleys
 Turn to broken down slums and trash-can alleys
 And yer sky cries water and yer drain pipe's a-pourin'
 And the lightning's a-flashing and the thunder's a-crashin'
 And the windows are rattlin' and breakin' and the roof tops
 a-shakin'
 And yer whole world's a-slammin' and bangin'
 And yer minutes of sun turn to hours of storm
 And to yourself you sometimes say
 "I never knew it was gonna be this way
 Why didn't they tell me the day I was born"
 And you start gettin' chills and yer jumping from sweat
 And you're lookin' for somethin' you ain't quite found yet
 And yer knee-deep in the dark water with yer hands in the
 air
 And the whole world's a-watchin' with a window peek stare
 And yer good gal leaves and she's long gone a-flying
 And yer heart feels sick like fish when they're fryin'
 And yer jackhammer falls from yer hand to yer feet
 And you need it badly but it lays on the street
 And yer bell's bangin' loudly but you can't hear its beat
 And you think yer ears might a been hurt
 Or yer eyes've turned filthy from the sight-blindin' dirt
 And you figured you failed in yesterdays rush
 When you were faked out an' fooled while facing a four
 flush
 And all the time you were holdin' three queens
 And it's makin you mad, it's makin' you mean
 Like in the middle of Life magazine
 Bouncin' around a pinball machine

And there's something on yer mind you wanna be saying
 That somebody someplace oughta be hearin'
 But it's trapped on yer tongue and sealed in yer head
 And it bothers you badly when your layin' in bed
 And no matter how you try you just can't say it
 And yer scared to yer soul you just might forget it
 And yer eyes get swimmy from the tears in yer head
 And yer pillows of feathers turn to blankets of lead
 And the lion's mouth opens and yer staring at his teeth
 And his jaws start closin with you underneath
 And yer flat on your belly with yer hands tied behind
 And you wish you'd never taken that last detour sign
 And you say to yourself just what am I doin'
 On this road I'm walkin', on this trail I'm turnin'
 On this curve I'm hanging
 On this pathway I'm strolling, in the space I'm taking
 In this air I'm inhaling
 Am I mixed up too much, am I mixed up too hard
 Why am I walking, where am I running
 What am I saying, what am I knowing
 On this guitar I'm playing, on this banjo I'm frailin'
 On this mandolin I'm strummin', in the song I'm singin'
 In the tune I'm hummin', in the words I'm writin'
 In the words that I'm thinkin'
 In this ocean of hours I'm all the time drinkin'
 Who am I helping, what am I breaking
 What am I giving, what am I taking
 But you try with your whole soul best
 Never to think these thoughts and never to let
 Them kind of thoughts gain ground
 Or make yer heart pound
 But then again you know why they're around
 Just waiting for a chance to slip and drop down
 "Cause sometimes you hear'em when the night times
 comes creeping
 And you fear that they might catch you a-sleeping
 And you jump from yer bed, from yer last chapter of
 dreamin'
 And you can't remember for the best of yer thinking
 If that was you in the dream that was screaming
 And you know that it's something special you're needin'
 And you know that there's no drug that'll do for the healin'
 And no liquor in the land to stop yer brain from bleeding
 And you need something special
 Yeah, you need something special all right
 You need a fast flyin' train on a tornado track
 To shoot you someplace and shoot you back

continued from the page before

You need a cyclone wind on a stream engine howler
That's been banging and booming and blowing forever
That knows yer troubles a hundred times over
You need a Greyhound bus that don't bar no race
That won't laugh at yer looks
Your voice or your face
And by any number of bets in the book
Will be rollin' long after the bubblegum craze
You need something to open up a new door
To show you something you seen before
But overlooked a hundred times or more
You need something to open your eyes
You need something to make it known
That it's you and no one else that owns
That spot that yer standing, that space that you're sitting
That the world ain't got you beat
That it ain't got you licked
It can't get you crazy no matter how many
Times you might get kicked
You need something special all right
You need something special to give you hope
But hope's just a word
That maybe you said or maybe you heard
On some windy corner 'round a wide-angled curve

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But that's what you need man, and you need it bad
And yer trouble is you know it too good
"Cause you look an' you start getting the chills

"Cause you can't find it on a dollar bill
And it ain't on Macy's window sill
And it ain't on no rich kid's road map
And it ain't in no fat kid's fraternity house
And it ain't made in no Hollywood wheat germ*
And it ain't on that dimlit stage
With that half-wit comedian on it
Ranting and raving and taking yer money
And you thinks it's funny
No you can't find it in no night club or no yacht club
And it ain't in the seats of a supper club
And sure as hell you're bound to tell
That no matter how hard you rub
You just ain't a-gonna find it on yer ticket stub
No, and it ain't in the rumors people're tellin' you
And it ain't in the pimple-lotion people are sellin' you
And it ain't in no cardboard-box house
Or down any movie star's blouse
And you can't find it on the golf course
And Uncle Remus can't tell you and neither can Santa Claus
And it ain't in the cream puff hair-do or cotton candy clothes
And it ain't in the dime store dummies or bubblegum goons
And it ain't in the marshmallow noises of the chocolate
cake voices
That come knockin' and tappin' in Christmas wrappin'
Sayin' ain't I pretty and ain't I cute and look at my skin

Look at my skin shine, look at my skin glow
Look at my skin laugh, look at my skin cry
When you can't even sense if they got any insides
These people so pretty in their ribbons and bows
No you'll not now or no other day
Find it on the doorsteps made out-a paper mache«
And inside it the people made of molasses
That every other day buy a new pair of sunglasses
And it ain't in the fifty-star generals and flipped-out phonies
Who'd turn yuh in for a tenth of a penny
Who breathe and burp and bend and crack
And before you can count from one to ten
Do it all over again but this time behind yer back
My friend
The ones that wheel and deal and whirl and twirl
And play games with each other in their sand-box world
And you can't find it either in the no-talent fools
That run around gallant
And make all rules for the ones that got talent
And it ain't in the ones that ain't got any talent but think
they do
And think they're foolin' you
The ones who jump on the wagon
Just for a while 'cause they know it's in style
To get their kicks, get out of it quick
And make all kinds of money and chicks
And you yell to yourself and you throw down yer hat
Sayin', "Christ do I gotta be like that
Ain't there no one here that knows where I'm at
Ain't there no one here that knows how I feel
Good God Almighty
THAT STUFF AIN'T REAL"

No but that ain't yer game, it ain't even yer race
You can't hear yer name, you can't see yer face
You gotta look some other place
And where do you look for this hope that yer seekin'
Where do you look for this lamp that's a-burnin'
Where do you look for this oil well gushin'
Where do you look for this candle that's glowin'
Where do you look for this hope that you know is there
And out there somewhere
And your feet can only walk down two kinds of roads
Your eyes can only look through two kinds of windows
Your nose can only smell two kinds of hallways
You can touch and twist
And turn two kinds of doorknobs
You can either go to the church of your choice
Or you can go to Brooklyn State Hospital
You'll find God in the church of your choice
You'll find Woody Guthrie in Brooklyn State Hospital

And though it's only my opinion, I may be right or wrong
You'll find them both In the Grand Canyon at sundown

—Bob Dylan

* *Hollywood was the dominant brand of wheat germ sold in health food stores in the '50s and '60s. I ate a lot of it.